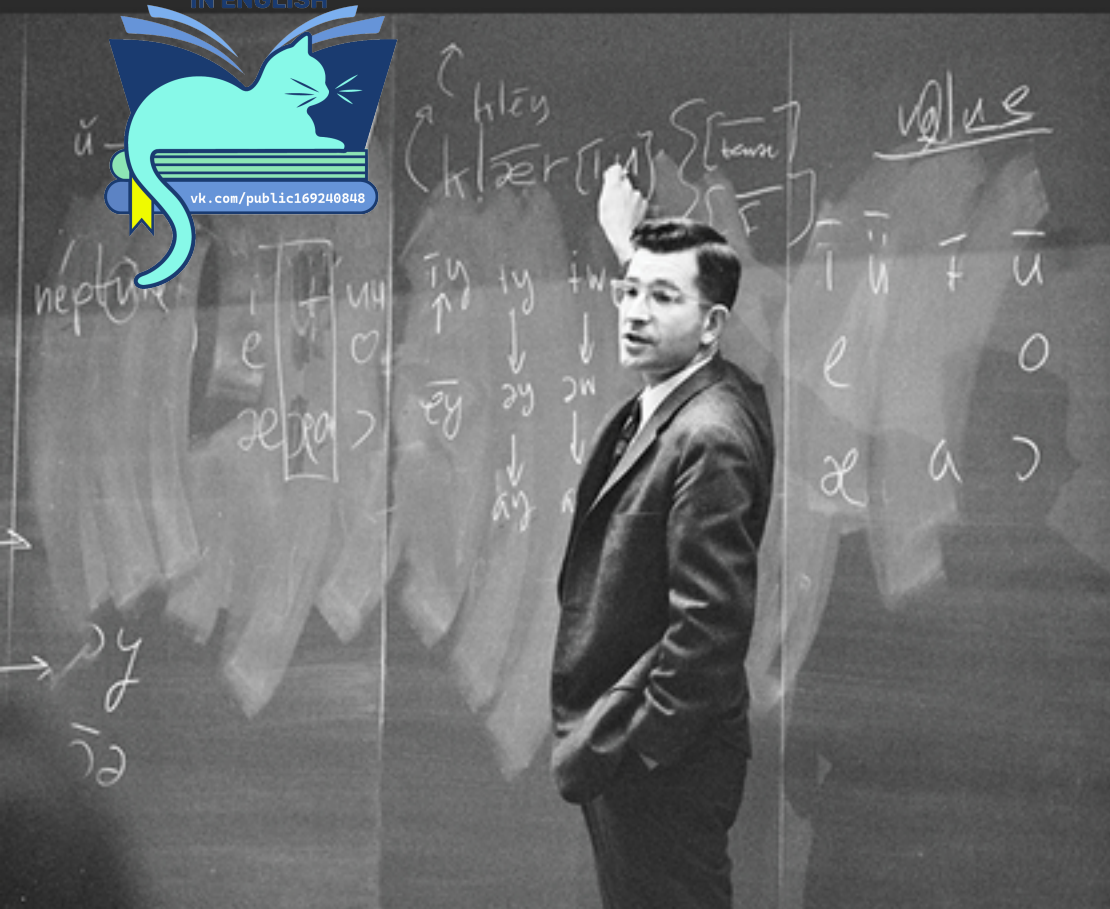


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R A N D Y
A L L E N
H A R R I S

The

Linguistics

SECOND
EDITION

WARS

CHOMSKY, LAKOFF,
AND THE BATTLE
OVER DEEP STRUCTURE

The Linguistics Wars

BOOKS & MAGAZINES IN ENGLISH



The Linguistics Wars

*Chomsky, Lakoff, and the Battle over
Deep Structure*

Second Edition

RANDY ALLEN HARRIS

OXFORD
UNIVERSITY PRESS

OXFORD

UNIVERSITY PRESS

Oxford University Press is a department of the University of Oxford. It furthers the University's objective of excellence in research, scholarship, and education by publishing worldwide. Oxford is a registered trade mark of Oxford University Press in the UK and certain other countries.

Published in the United States of America by Oxford University Press
198 Madison Avenue, New York, NY 10016, United States of America.

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First Edition published in 1993
Second Edition published in 2021

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Library of Congress Cataloging-in-Publication Data

Names: Harris, Randy Allen, author.

Title: The linguistics wars / Randy Allen Harris.

Description: New York : Oxford University Press, 2021. |

Includes bibliographical references and index. |

Identifiers: LCCN 2021004591 | ISBN 9780199740338 (paperback)

Subjects: LCSH: Chomsky, Noam. | Linguistics—History—20th century. |
Generative grammar.

Classification: LCC P85.C47 H34 2021 | DDC 410.9/045—dc23

LC record available at <https://lccn.loc.gov/2021004591>

DOI: 10.1093/oso/9780199740338.001.0001

1 3 5 7 9 8 6 4 2

Printed by Marquis, Canada

*For Tom and Dorteia Harris,
for life, the universe, and everything*

*And now also for Jeff Jones and Kevin Greene, in memorias,
for opening up the best parts of that universe to me*

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Preface to the Second Edition

Linguistics, strangely, did not stand still after this book first came out. Much has happened in the field, so much has changed with this new edition. But most of those linguistic happenings have direct, if not exactly smooth, trajectories out from the battle over Deep Structure that sparks this story. They follow a clear and coherent narrative; in fact, two clear and coherent and mutually informing narratives, each of them international in scope, though each radiating from one of the two American coasts.

From the one coast, with Noam Chomsky's MIT-rooted programme of generative grammar, the story grows through multiple, somewhat looping iterations of a framework with an atomistic picture of meaning, a procedural ethos, and the computational allegiance that has always been Chomsky's, and MIT's, calling card. It grows toward an evolutionary framework of the sort many people thought it should have had all along, all the while somehow maintaining its fundamental idealism, and has now adopted the label *Biolinguistics*. From the other coast, out of a Berkeley hot house teeming with figurative, encyclopaedic, latticed approaches to meaning based in the moment-to-moment creativity of everyday speakers, grows a narrative arc that flourished into a framework known as *Cognitive Linguistics*. In most of these overlapping developments, one finds a guy with perhaps the greenest thumb in linguistics, George Lakoff.

While these two trajectories might still look like the two solitudes suggested by the acrimony from which they sprung, I am hopeful. "Every discourse on metaphor," Umberto Eco has said, perhaps thinking mostly of the arguments that could be heard around Berkeley, against the backdrop of MIT,

originates in a radical choice: either (a) language is by nature, and originally, metaphorical, and the mechanism of metaphor establishes linguistic activity . . . or (b) language (and every other semiotic system) is a rule-governed mechanism, a predictive machine that says which phrases can be generated and which not, and which from those able to be generated are 'good' or 'correct', or endowed with sense; a machine with regard to which the metaphor constitutes a breakdown, a malfunction, an unaccountable outcome. (Eco 1983: 218)

But there is a plot development shared by our two narratives that indicates theories of language may not have to live always and exclusively either in Eco's (a)-world or Eco's (b)-world: the long, slow, attenuation of hostilities. The productivity of our

two stories, and the great energy that linguists have poured into each of them, and the (alas, not universal) decline of antagonism in linguistics bodes promisingly for the Chomskyan and Lakovian frameworks to become as mutually informing as their narratives. Languages *are* creative junctions of our personal and cultural lives, rich with figures and lattices of meaning, under daily renewal. They are also systematic and predictive instruments. It's time the twain shook hands.

So, the book has changed a good deal. The reception the first edition got has been wonderfully valuable in making these changes. Uniformly, on a personal level, the reception has been encouraging. I can't go to a linguistics conference without a handful or so of kind strangers asking me if I am the author of *The Linguistic Wars* and then telling me how much they enjoyed it. Often in recent years they have also taken to asking about whether I plan to write about Minimalism or Biolinguistics or Frame Semantics or Construction Grammar or the Cognitive Linguistics program more generally, because of their perceptions that these developments are natural outgrowths of the wars. (I have also been asked if I will write about Chomsky's and/or Lakoff's politics. No.)

On a scholarly level, there have been two phases of the book's reception, the initial reviews and its uptake into academic and journalistic accounts of Chomsky, Lakoff, and linguistics. I have to say that my favourite example of its uptake in the academic literature is "Idiostylistic Peculiarities of Fabricated Knowledge in the Monograph *The Linguistics Wars* by R.A. Harris" in the *Russian Linguistic Bulletin*, with its irresistible compliment, "The author makes the most use of fantastical knowledge in these spheres to create a persuasive system of images to realize his cognitive and communicative intention" (Menshakova 2016:1). But my love of that article does not diminish my appreciation of the others, even the ones that have used swear words like *post-modern* and *Foucauldian* of my work. I am especially grateful to the comments that have provided correctives to the book or pushed me into fuller perspectives of the history. I have responded to them as best I can, often quietly incorporating them but sometimes taking them up in the text or its notes.

One especially good thing in the *Linguistics Wars* literature is that Noam Chomsky and George Lakoff (who did not like my book much at all the first-time round, and who I have no reason to believe will have any more affection for it this time) have each now published a few accounts of the Deep Structure battles and their fallout. The reasons for their disagreement with my telling of those developments, therefore, is now public; Chomsky has also commented in a few places directly on the book itself. I have incorporated their accounts, though not uncritically, and they can be checked out independently. The three versions, Chomsky's, Lakoff's, and mine are all quite discrepant. They are likely all true (mine certainly is, to the best of my ability, and I give them both the benefit of the doubt). I will only plead that their truths are personal. Mine is historical.

The book has changed, but in some senses not enough. The major regret I have with this edition is that the scholarship on the history of linguistics has grown impressively in the decades after the first edition, giving a much rounder picture of both the Bloomfieldians, whom I largely caricatured in that edition, even more than I realized at the time, and also of Chomsky's rise. In an early draft of this edition I incorporated the insights and findings of that scholarship, but the manuscript ballooned up so alarmingly (to the publisher) that I had to trim it way back, and all of that material ended up on the cutting-room floor, along with some bits and pieces from the post-bellum coverage.

I know there are people who may feel an apology is due to them with my rewriting of *The Linguistic Wars*, some for neglecting what may have been better advice than I thought it to be at the time, some for overlooking or forgetting their critiques, but some also for my being 'hard' on them in the text. It is a solid bet that I have offended at least one particular person. But it is a tough business being responsible to facts and conclusions that may be inconvenient to some people without being unkind, which I have tried very hard to do. If I have not always succeeded it was not for lack of effort. It was, rather, that the scales pulled too completely toward accuracy, clarity, and the strength of the interpretation that emerged from those facts and conclusions. For anyone who feels ill-treated, I offer a blanket, sincere, but rather shapeless apology that the record, as I saw it, got in the way your sense of self. But I also want to offer one highly specific apology as well: sorry, Jamin, Ms. Piggy did not make the final cut.

I also apologize to the many people who have helped me with this project who I am now slighting in this preface. There are just far too many of you to name, or even remember, but I am grateful for our discussions and correspondence. There are a few, however, whom it would be criminal to omit. I repeat my profound thanks to Haj Ross, Paul Postal, George Lakoff, Noam Chomsky, Ray Jackendoff, and the lamentably late Jim McCawley, as well as the many others catalogued in the first-edition preface, listed at the head of the Works Cited list, or scattered among the pages of the book, who gave me so much support when I was finding my way into this story. I thank my Oxford referees for their generosity in giving me such extensive and detailed suggestions on a swollen and lumpy earlier draft of this edition, including the one who seems to have been very angry with it. I thank the lamentably late John Ohala, and Manjari Ohala, for the wonderful photograph on the cover. It may not go especially well with the "edgy" and "confrontational" design that OUP hopes will give the book more shelf appeal, but it is such a perfect image of Chomsky in the period it had to be included. Among my many interlocutors on these topics over the years, I need to single out Noam Chomsky (again), John Goldsmith, John Joseph, Robin Lakoff, Paul Postal (again), and Geoff Pullum, and to single out from among those singulars Frederick J. Newmeyer. Beyond all his specific, individualized help,

Fritz's continually inspiring scholarship has set the bar in this field for rigour and lucidity.

Much has happened in linguistics since the first edition of this book; so, too, in my rather smaller corner of the cosmos, life-shaking and life-making happenings. Their names are Galen and Oriana, the bright one and the golden one, though both are golden, both brighter than bright.

It all starts, and will never end, with Indira.

Milton, Ontario

R.A.H

Preface to the First Edition

Approach

There is, most unfortunately, a widespread ignorance and trepidation about linguistics—peculiarly so, since language is unutterably fundamental to our humanhood. Look at this odd comparison Herbert Spencer offered in the nineteenth century (when linguistics was making spectacular advances):

Astonished at the performances of the English plough, the Hindoos paint it, set it up, and worship it; thus turning a tool into an idol. Linguists do the same with language. (1865 [1852]:33)

The comparison, in addition to inventing some mythically idiotic Hindoos, has it exactly backwards. Linguists would take out their wrenches and screwdrivers, pull the plow apart, and try to figure out how it works. The ignorant worship and fear. Scientists worship and investigate. But the attitude Spencer displays—something we might call *linguiphobia* if that term didn't conjure up a fear of certain sexual practices or pasta cuts—has not abated. Continuing to pick on the British, we can cite one Auberon Waugh, who finds contemporary linguists to be so evil as to play into the hands of Neanderthal conservatives:

Linguistics [has been] reduced by Chomsky and his disciples to a positively mind-boggling level of stupidity and insignificance. If ever [the Prime Minister] wants an excuse to close down a university, she has only to look at its department of linguistics. (1988)

Ignorance is a kind word for Waugh, who is in need of kind words, but his isn't a unique ignorance.

This book—a “popular science” look at linguistics by way of narrating an influential dispute in the sixties and seventies—attempts to clarify what linguists do, why they do it, and why everyone else should care about what they do.

My hope is that linguists will find this book useful, since many of them have a shaky or partisan view of their own recent history, but my greater hope is that non linguists will find an entertaining and informative account of the science of our most profound and pervasive human attribute, language.

Technical Notes

The bibliographical references in the text are quite standard. Citations are given by author, year of publication, and page number—usually in the main text—with the Works Cited accordingly organized primarily by author and year of publication. (A lowercase letter is suffixed to the year of publication, in the text and the Works Cited, when there is more than one bibliographical entry in the same year by the same author.) But there are two wrinkles.

First, there was a great deal of underground literature circulating during the period of interest, only some of which eventually surfaced, so that time-of-composition is often more important than time-of-publication, and I have tried to provide a bit of a road map here by including year-of-composition, in brackets, after year-of-publication. For instance, George Lakoff's claim that "a generative semantic theory may well be simpler and more economical than an interpretive theory" shows up as "Lakoff (1976a [1963]:50)." Consistency called for me to maintain this style for most other authors as well, leading at times to some awkward looking citations like "James (1981 [1907])" for his *Pragmatism* lectures. The only authors for whom I have avoided this style are the ancients—preferring the conventional "Aristotle (*Rhetoric* 1358b)" to the ugly and overly specific "Aristotle (1954 [c355 B.C.]:32)."

Second, the research for this book blurred at times into an oral-history project, generating hundreds of pages of interview transcripts, hundreds of pages more of letters and e-mail printouts, and almost as many pages of telephone bills. When quoting from this material—which I do quite extensively in the later chapters there is no citation at all. An embedded quotation, then, like "In Ross's terms, Lakoff 'is fearless, absolutely fearless,'" without further attribution, is by default a remark made directly to me by Ross.

Acknowledgments

I would like, very gratefully, to acknowledge the contributions and assistance of a great many people to this book.

First, I thank the many scholars who responded to my letters, e-mail, phone calls, and hallway ambushes with (mostly) good will, candor, and generosity: Dwight Bolinger, Guy Carden, Wallace Chafe, Bruce Derwing, Matthew Dryer, Joseph Emonds, Charles Fillmore, Susan Fischer, Bruce Fraser, Gerald Gazdar, Allan Gleason, John Goldsmith, Joseph Greenberg, Geoffrey Huck, Robert Kirsner, E. F. Konrad Koerner, Yuki Kuroda, Robin Lakoff, Judith Levi, George Miller, Stephen Murray, Greg Myers, Margaret Nizhnikov, Gary Prideaux, Geoffrey Pullum, Wallace Reid, Sally Rice, Sarah Grey Thomason, Don Walker, and Anna Wierzbicka.

Second, and with even more gratitude, I thank the scholars who set aside valuable time to speak with me at length, also with (mostly) good will, candor, and generosity: Thomas Bever, Noam Chomsky, Jerry Fodor, Morris Halle, Ray Jackendoff, Jerrold Katz, Jay Keyser, Susumu Kuno, George Lakoff, Howard Lasnik, Robert Lees, James Mccawley, Frederick Newmeyer, Paul Postal, Haj Ross, Jerrold Sadock, and Arnold Zwicky.

Bolinger, Chafe, Chomsky, Gleason, Jackendoff, Lakoff, Lasnik, Mccawley, Murray, Myers, Newmeyer, Postal, Prideaux, and Ross deserve still more gratitude, for reading and commenting on various earlier bits and pieces of this book, as do Victoria Bergval, Allen Fitch, Michael Halloran, Lou Hammer, Pete Matthews, Leo Mos, Terry Nearey, Cynthia Read, Nicolette Saina, and Jim Zappen. Cynthia, my editor, gets another large measure of gratitude for cheerfulness beyond the call of duty. Many thanks also to Susan Hannan, Kim Honeyford, Sylvia Moon, Jean Mulder, and Philip Reynolds.

Not all of these people agree with what this book says, of course, or how it says what it says, and most will happily insist that any flaws are mine alone, but two people disagree so violently with the substance of this book as to require special notice, Chomsky and Lakoff. Both had very extensive comments on the same previous incarnation of the book, comments which I found mostly very profitable, and for which I remain extremely grateful, but both had very strong negative responses to the overall arrangement and orientation. Their responses were essentially inverse, Lakoff finding me to have sided with the interpretive semanticists, Chomsky finding me to have told the generative semantics version, both feeling that I slighted or ignored their own impressions or interpretations of the dispute. I should stress that the version they saw is very different in many ways from the one in your hands, but I have reason to believe that neither of them will be much more pleased with this version (their displeasure, in fact, may very well increase, since some of the latent elements that they found objectionable in the earlier version are stated a little more directly here; my correspondence with them sharpened my judgments on several matters, sometimes in directions neither of them would have preferred). Indeed, Chomsky even objects strenuously to my characterization of him in this preface; he sees no "symmetry" between his and Lakoff's opposition to the book. I am naturally distressed by their negative reactions, but it would have unquestionably been impossible to satisfy both; perhaps by satisfying neither, I am closer to neutrality than either of them believe.

I also thank the interlibrary loan people at the University of Alberta, and especially, at Rensselaer Polytechnic Institute, for above-and-beyond-the-call assistance; Madam X, for diverting to higher education a little time, money, and photocopying resources that the State of New York had not allocated to higher education; the many people at Bell-Northern Research who supported my work, especially Bill Hosier, John Phillips, and Andy Sutcliffe; the Heritage Trust Fund,

Rensselaer Polytechnic Institute, the Social Sciences and Humanities Research Council of Canada, and, particularly, the estate of Dorothy and Izaak Walton Killam, for financial assistance; the editors and publishers of *Historiographia Linguistica*, *Rhetoric Review*, *Rhetoric Society Quarterly*, *College English*, *Word*, and *Rhetoric and Ideology* (Kneupper, 1989) for permission to reprint the portions of this book that have appeared elsewhere; and the staff and students of the department of linguistics, at the University of Alberta, for stimulating discussions of my work and theirs.

Lastly, and therefore most importantly, I thank my wife and guiding light, Indira Naidoo-Harris.

Waterloo, Ontario

R.A.H.

1

Language, Thought, and the Linguistics Wars

But from what cause does it happen, that a good speaker no sooner conceives what he would express, than the letters, syllables, and words arrange themselves according to innumerable rules of speech, while he never thinks of these rules? He means to express certain sentiments; in order to do this properly, a selection must be made of the materials out of many thousands. He makes this selection without any expense of time or thought. The materials selected must be arranged in a particular order, according to innumerable rules of grammar, logic, and rhetoric, and accompanied with a particular tone and emphasis. He does all this as it were by inspiration, without thinking of any of these rules, and without breaking one of them.

—Thomas Reid (1827 [1788]:496)

Language is the liquid that we're all dissolved in. Great for solving problems, after it creates a problem.

—Isaac Brock (2004)

Language is the strangest and most powerful thing ever to exist on this planet. All the other, more mundane and less powerful things, like nuclear weapons, quantum computers, and antibiotics, would be literally unthinkable without language. Even volcanoes and tsunamis pale in comparison. But it is only noise and thought. Molecules pelt ear drums. Cascades of electro-chemical charges fan out into a brain, into consciousness, evoking thought. Or alternatively, photons pelt retinas with abstract pictures of noises (letters). Clacking tongues or clacking keyboards make material impressions that trigger mental impressions and, somewhere in there, we're thinking.

This book tells the story of a few remarkable linguists, of the coöperative and cantankerous pursuit they share, linguistics, and therefore, of the way we clack and the way we think. From now on, we'll mostly refer to the activity at the clacking end of the process as *form*; at the thinking end, *meaning*.

Figuring out the network of correspondences that get us from form to meaning is the job of linguists. They sort out why it is that one set of forms (say, the ones that might be uttered at the breakfast table conventionally represented as “Pass me the herring, will you please, Ragnar?”) seamlessly coordinates action but another set (say, “The me you herring pass Ragnar please will”) makes people think you’ve had a stroke. We have a grammar, linguists say, a largely submergèd shared awareness of how our languages work, or we couldn’t use them. In seamless-coordination events, no one notices grammar; in wonky-language events, the grammar seems to be broken. But what does that grammar look like? That’s at the heart of our story.

It’s a tough job, linguistics. Language is full of conventions, so it’s social. Language resides in brains and percolates through minds, so it is neurocognitive. Evolutionarily, it showed up along the way and made us the peculiar sorts of symbol-using animals we are, so it’s biological. Language is creative and communicative, emotive and informative, full of music and full of data . . . making linguistics a tough job.

Our story centres on a merry band of linguists who, setting out to work on these problems in the famously fractious decade of the 1960s, determined the course of twenty-first century language studies. At the center of it all is Noam Chomsky—in one common epithet, the “Einstein of linguistics”—with assorted students and colleagues. Chomsky and this band were for an exuberant while working together, then at cross-purposes, then in embittered opposition, and ultimately in different silos. In a gross caricature of the dispute, but one that often characterized it at the time: One side thought form drove meaning, that getting the herring from Ragnar begins with the rules that determined “Pass me the herring” was good piece of English; the other, that meaning drove form, that everything started with concepts like HERRING and PASS and ME.

The form-in-the-driver’s-seat side of the dispute flew a number of flags, but we’ll mostly call that program *Interpretive Semantics* because its model of semantics (the what-does-that-mean? part of linguistics) only came into play after the forms were already lined up nicely in place. For them, *syntax* was generative. Chomsky was the intellectual and spiritual leader of the Interpretivists, and also forged most of their weapons.

The meaning-in-the-driver’s-seat side rallied enthusiastically round one flag, *Generative Semantics*, because in that model, meaning generated form. It was mostly leadership by reluctant committee on that side, but one guy was the most eager flag-bearer, someone who grew from a Chomskyan acolyte to an opponent of such proportions that he now rejects, point-by-point, virtually every aspect of Chomsky’s work: George Lakoff. As we will see, Chomsky has done *a lot* of work, contributing to *a lot* of fields—psychology, philosophy, mathematics, computer science—and Lakoff has repudiated virtually all of it. He has also become

perhaps the most influential linguist of this current century, much of that influence orbiting around a notion quite alien to Chomsky's framework: metaphor.

So, our brains, our culture, our evolution, even our machinery are all commingled among the coöperating and competing views that shaped the Linguistics Wars and defined the course of linguistics since, and we will get to all of them in the course of our chronicle. But it all starts with Chomsky. In the decade before the dispute he pulled together several converging lines of thought in linguistics, logic, psychology, and mathematics, splicing them into a radically new framework for studying language and understanding us humans. The clash that defines our story would have been inconceivable without Chomsky's dominating synthesis; and the linguistics we now have would be equally inconceivable without the frayings and the branchings of that framework through ceaseless renovations and periodic rejections of that framework, over more than sixty years, starting with the Generativist Heresy.

Chomsky's version of our story is strikingly anomalous: Generative Semantics "threw a war" but he didn't go; or, rather, okay, when urged by a former student, he reluctantly answered a few of their arguments, in a solitary surgical strike, flying in and out of Texas for a conference in 1969. Other than that, he was wholly uninvolved and out of the loop. So far from opposing Generative Semantics, he says, he actively supported its leading figures. Besides, he was too busy opposing something else, the Vietnam War, to find the time or the energy for such a trifling matter, even if he wanted to, which he didn't, so there. Any claims to the contrary are just laughable, absurd, delusional, "fabricated," he says, "by enthusiastic postmodernists" (Hughes 2006 [2001]:86). This account is the one he gives to anyone who asks, and occasionally it gets published as fact. Here is how it looks in his most notorious biography:

I was never really part of it. . . . My one participation in the debate was in 1969, at a conference in Texas, where I flew in and flew out immediately at the impassioned request of a former student there, Stanley Peters, who wanted me to make some public response to the by then rather hysterical tone of the generative semanticists, all pretty childish in my opinion. (Letter to Barsky, April 3, 1995; Barsky 1997a:151)

Chomsky is virtually alone in this version of events,¹ and this book charts out a quite different story from the one he tells, but we can let it stand for a few chapters, while we fill in the necessary background.

Lakoff, too, has an alternate version, more intricate and extended than Chomsky's, but no less personal: lots and lots happened, and he was everywhere, making it happen. He invented Generative Semantics having little more than bored awareness of Chomsky's work, he says, from one uninspiring

undergraduate course he took as part of his English literature degree at MIT. He invented it as a story grammar for his 1962 undergraduate thesis. It was a flame he fed through the years as more data and more ideas came to him, as collaborators and enemies appeared, as opportunities and barriers arose, as errors and omissions and solutions and insights and shifting hierarchies of values continually defined and redefined his understanding of language, the mind, and being human. Chomsky, barely a bit player at the start of Lakoff's version, enters as a looming malevolence once Generative Semantics goes public, the villain whose machinations drive the plot through to its climax, in the 1970s, when Lakoff disproved both Generative and Interpretive Semantics himself, and turned toward forging Cognitive Linguistics, with its distinctive integration of literary and rhetorical notions, like metaphor and metonymy.²

I don't mean to say that the accounts of neither Chomsky nor Lakoff can be believed. Chomsky certainly had other things on his mind, and his published output reflects mostly a theoretical disinterest in Generative Semantics work after 1969. Lakoff, meanwhile, *was* everywhere, a whirligig of theoretical, methodological, and data-mongering energy. Neither version serves very well to characterize the field overall, in my view, serving largely to structure each man's personal self-image. But keep them both in mind as we proceed, and when we get to the end, you can map them against the account I lay out in the chapters ahead.

Rhetoric is part of our story as well, not just because of the way its notions enter into the substance of the dispute, but because of all the rhetoric—the arguments, the appeals, the patterning of issues—that constitutes the dispute.

The first people who drew a paycheck for studying and teaching about language—the ancient grammarians—were aware of the mutual intellectual debts rhetoric and grammar owe each other (as well as to the shared debt both fields owe philosophy; all three of these fields show up throughout our story). In Suetonius's *Lives of Illustrious Men: Grammarians and Rhetoricians*, there are no masters of one who are not also scholars of the other, and the truly accomplished can be called “a rhetorician among grammarians and a grammarian among rhetoricians” (Suetonius 1998 [c.119].2:395). In Suetonius, one also finds, rather as we find today, that the *Grammatici* were generous, collegial, scrupulous; mean, paranoiac, underhanded; indolent and industrious; loyal and treacherous. Staberius Eros was so fearlessly open-hearted that he taught the children of assassinated state enemies for free. Lucius Orbilius Pupillus of Beneventum, intemperate to rivals and students alike, and even to the parents of students, earned himself the nickname *plagosum*, “the flogger.” Lucius Crassicus, at the height of his fame and wealth, was overcome by humility and disbanded his school to become a Stoic.³ One finds among the grammarians savants and cranks, confederates and adversaries, patrons and disciples, friends and enemies, benefactors and crooks; one finds, that is, people. We find them in our story too.

Linguistics and linguists are the subject of this book, but so is language. That gives us a special problem. Language is the method and the material, the chisel and the stone—points which, language being language, often slip noiselessly away while more immediate matters occupy us, but which, language being language, also crash in from the shadows when we least expect them. Sometimes we seem to look right through language, hear right past it, and apprehend directly the ideas behind the writing on the page, the words in the air; sometimes we can't get it out of the way. When we're actually in the business of languaging, as you and I now are, we want a frictionless flow, an invisible medium connecting us, head to head. Not linguists. Not when they're working. They come at language from the other end. Their job depends on making language visible, everything from the tiniest features of single sounds to meanings and intentions.

And they come at it obstreperously, Emmon Bach tells us in an echo of Suetonious. "Linguists," Bach said before our dispute had even begun, "are notoriously cantankerous creatures" (1965b:128). Bach would know. He was one, an exceptionally good one who shows up in the thick of our story a few times. But for now, let's just take his point: linguists don't always agree, even about the most fundamental matters. We're not just talking about Chomsky and Lakoff here, who came to occupy the North and South Poles of Planet Language, but the whole lot of them. Since many of these disagreements arise in the story of the Linguistics Wars, maybe we can air them with a quick survey of the *dramatis personae*. Here are the principal characters, with two of whom you are already acquainted:

Noam Chomsky (1928–): Hero of the Cognitive Revolution, architect of a theory of language and mind that defined the battleground of the Linguistics Wars, the most influential linguist of his, or any, generation; a legend of epochal proportions.

Jerrold (Jerry) Katz (1932–2002): A philosopher, among the earliest scholars to join Chomsky's project, helping to craft its first theory of meaning; an antagonist of both camps after the Wars broke out.

Paul Martin Postal (1936–): An early ally of Chomsky, a trenchant and abrasive advocate who worked closely with Katz to integrate semantics into the developing program, but who soon found himself on the outs and became an intellectual leader of Generative Semantics; its most resolute theorist.

George Lakoff (1941–): An eager but transient Chomskyan, coiner of the term *Generative Semantics*; a tireless and ebullient, also restless and protean, evangelist for the movement; its most wide-ranging and creative force; husband of Robin.

Robin Lakoff (1942–): A Chomskyan enthusiast whose extension of his program to the depths of Latin diverged from his interests in a way that

pushed the grammatical theory envelope toward Generative Semantics; wife of George.

James D. (Jim) McCawley (1938–1999): One of Chomsky’s students who became an early and forceful advocate for Generative Semantics, producing some of its most compelling arguments.

John Robert (Haj) Ross (1938–): One of Chomsky’s students, whose work was immensely influential on both sides of the debate, a close confederate of Lakoff’s in sparking what was soon seen as the Generative Semantics revolt.

Ray Jackendoff (1945–): Yes, yet another one Chomsky’s students, only a couple years after Ross and McCawley but, coming on line in the wake of the Ross-Lakoff revolt, he became the chief articulator of Chomsky’s technical shifts and one of his strongest partisans in the Wars.

Chomsky, Chomsky, Chomsky; the common denominator among our personae. One of them *is* Chomsky. The others all have trajectories that move from reflection to rejection of Chomsky in variously differing but utterly fundamental ways, though—and please don’t miss this part—various lines of agreement were also maintained. Nor, ahem, has Chomsky’s trajectory been particularly uniform, with Chomsky₁₉₆₇ and Chomsky₁₉₈₀ and Chomsky₂₀₀₂ and Chomsky_{he-may-not-be-done-yet} variously reflecting and rejecting, as well as deflecting, earlier versions of his own research program.

All of these people, and more, drive the story of the Linguistics Wars, and all of them figure very prominently in its wake, which has determined the current shape of the field—that is has given us our best theories of what language is, how it works, and where it comes from, the web of correspondences between forms and the meanings they (somehow) evoke.

Forms, most immediately, are linguistic *sounds* but also the letters of written languages (like English), the characters of pictographic languages (like Mandarin), and the gestures of signing languages (like American Sign Language). They are observable, measurable material things: noises, marks, movements.

Meaning is where clarity ebbs. It runs the gamut from logical and grammatical concepts (like negation and subject/predicate relations) to the blurrier domains of implication and suggestion—like getting Ragnar to pass you the herring not by requesting it, but by expostulating “Jeez, Ragnar! You gonna hoard all those herring to yourself?!” At this end of the correspondences, we have the private/collective interface of understanding. It’s not just our knowledge of the code that matters in this expostulation (what meanings are tethered directly to forms like *hoard* and *herring*, or what we know about how sentences work), but our knowledge of the situation and even the personality of the speaker. Perhaps it’s a threat (you regularly box Ragnar’s ears for herring-hoarding), or a reminder of some

kind (mother is coming and she dislikes the herring anywhere but the center of the table); maybe there's irony or anger or desire in play.

But even if we filter off the personal and the situational (as most linguists tend to do) and ratchet things back only to bare forms, the various things going on are still pretty tricky, vastly trickier than the people who make linguistic noises suspect. Most native English speakers give a little puff of extra air when they make the sound at the beginning of the word *kill*, but they don't puff for what seems to be the the very same sound—it sounds the same to me, my mouth seems to be doing the same things, we write it with the same letter, *k*—when it shows up in the closely related word, *skill*. And here's where it gets really weird: no one will believe you that there is a difference in air-puffage without elaborate demonstrations, but swap things around and they hear the difference plainly. You can do the demonstrations yourself, in the comfort of your own home, but you need some special equipment for the swapping. Here's the demonstration: Say *kill* with a match or a Kleenex close to your lips. The match will flicker or go out. The Kleenex will move. Now say *skill*. There will be much less, or no, action at all with your props. Voila, puffage! For the swap-test, you need digitally slice the two sounds out of their home ground and patch them into the other word. You take the first sound of *kill* (let's call it [k^h]) and second sound of *skill* (plain old [k]) and then trade them for each other. You'll hear what sounds like *gill* for the puffless-k version of *kill* and Marilyn Monroe sounding hyper breathiness for the puffed-up-k version of *skill*. Weird, weird, weird, but it's the slight violations of these hidden practices that give people accents in foreign languages.

It's a tough job, linguistics. This *kill/skill* example is one very minor and mundane illustration with two words in one language, not even the tip of an iceberg; more like a chromosome in the cytoplasm of a bacterium on the head of a flea on the head of a mouse on the tip of an iceberg. The languages of the world are an utter tumult (or, if you're a linguist, a swollen treasure chest) of such puzzling correspondences. Describing them is far more difficult than describing the trivial structures of something like a galaxy or a computer chip. It's no wonder linguists don't all do it all the same way.

We won't be dealing very much with sound in this book. We'll mostly be dealing with words and rules; or, as linguists put it for a long time, with dictionaries and grammars. That distinction will eventually blur under the attention it gets in this book, but in prototypical terms, "Grammar deals with the general facts of language, and [dictionaries] with special facts." That was the great Danish linguist Otto Jespersen talking to us. He elaborates:

That *cat* denotes that particular animal is a special fact which concerns that word alone, but the formation of the plural by adding the sound -s is a general

fact because it concerns a great many other words as well: *rats, hats, works, books, caps, chiefs*, etc. (Jespersen 1965 [1924]:32)

He might have added the observation that *cat* can follow the word *black* with or without that -s but can only follow *two* when dressed in that plural. That's also a general fact in these terms, a fact of grammar; *black cat* is fine, in other words, but *two cat* is ungrammatical. (Actually, linguists have a special way to signal ungrammaticality, an asterisk, so the proper way to express it around them is **two cat*.) All of the ways that forms combine with other forms are points of grammar in this view. Grammar is combinatoric.

Keep in mind, too, that we're talking about the knowledge and the use of language when we're talking about words and their combinatoric rules. The relevant dictionary is not the one published by Oxford or Merriam-Webster. The relevant dictionary is in your head. Same with the rules. That's why Jespersen also says words and rules are "part of linguistic psychology or psychological linguistics" (1965 [1924]:29). . . . though, er, not all linguists would agree, and even when they do agree, they might agree for different reasons.

But it's not a war of all against all in linguistics. They're cantankerous, but they aren't idiots. (I use, of course, the technical sense of *idiot* here—separate, distinct, isolated—that we see in words like *idiosyncrasy*.) There are two basic approaches that chart the way different groups of linguists deal with words and rules: a *what-goes-with-what* orientation and a *how-did-we-get-here* orientation; or, as historians of linguistics, John Goldsmith and Geoff Huck, put it, the *distributional* orientation and the *mediational* orientation (Goldsmith & Huck 1991; Huck & Goldsmith 1995:5–58). Distributional tribes are preoccupied with the *black-cat-but-*two-cat* issues, sorting out the grammatical expressions from the ungrammatical ones. The mediational tribes are preoccupied with how it comes to be that when you pair forms like *black* and *cat* you can make the concept of a furry little mouser (that is, a *Felis catus domesticus*) show up in other people's heads with the property of blackness. *Tribes* is not the best word, I admit. Distribution and mediation are tendencies, allegiances, for linguists, not all-consuming, opposing gestalts they fly as battle standards. It's not that linguists can only see the faces of distribution or only see the candlestick of mediation. All linguists care deeply about the mediational job of language, about mapping the road between form and meaning. And all linguists care deeply about the distributional vehicles. But, well, they do sometimes go to war, as we will see, over the distributional "surface" correspondences and the mediational "deep" correspondences in language.

Conventionally, those correspondences run from the hard currency of sound to the mysterious payoff of meaning, from patterns of bouncing molecules to patterns of sparking neurons. *Phonetics* is the field that studies the acoustic

dimensions of linguistic sound (speech noises). *Phonology* studies the clustering of those acoustic properties into recognizable sound units, corresponding very loosely to letters. Our *kill/skill* example operates in the phonetics/phonology borderlands. The two different sounds we make (with the puff of air and without the puff of air, [k^h] and [k]) are phonetic data. The fact that we think of them as the same sound, so long as they obey certain placement rules, is a fact of phonology. *Morphology* studies the clustering of those cues into meaningful units (affixes and words—so, *kill* and *skill* but also the *-er* of *killer* and the *un-* of *unskilled*; in Jespersen's example, it covers both *cat* and *-s*). *Syntax* studies the combination of those meaningful units into expressive sequences (phrases and sentences—so, *the herring* and *Pass me the herring*). *Semantics* studies the composite meaning of those sequences (claims, propositions—the fact that *I'm hungry* basically means that the speaker wants food). *Pragmatics* studies how those composite meanings do their daily situational work of cooperation and competition; that *I'm hungry* might be an announcement, or a complaint, or yet another way of getting Ragnar to pass the herring, depending on when and where and by whom it is uttered.

For anyone unfamiliar with linguistics, those terms and definitions may remain murky for a while. As they become relevant to our story, they should become clearer. Again, sound (so, phonetics and phonology) are peripheral to our story, but as a crash course in the other four, consider these sentences:

- 1 a Everyone on 'Yalis Island speaks two languages.
- b Two languages are spoken by everyone on 'Yalis Island.

Morphology concerns the units, the words and meaningful subwords—that *language* is a noun, that *-s* marks the plural of that noun; that *speak* is a verb which can also take an *-s* (but this time, it is an agreement marker, not a plural; I told you languages were tricky), and has yet another form, *spoken* (technically, a past participle); and so on. That bridges us to syntax because words build into larger form-meaning units, phrases, and sentences. Syntax concerns the arrangement of words into phrases, and phrases into sentences—that *speaks two languages* is a verb phrase in 1a, that *two languages* is a noun phrase that 'belongs' in the verb phrase, that *Everyone* is another noun phrase, that the whole thing is a sentence. Syntax also tells us that lots of sentences have associated sentences—here, that 1a and 1b are the same basic words in systematically different arrangements. We see the same systematically different arrangements in these sentences:

- 2 a Ragnar passed the herring to me.
- b The herring was passed to me by Ragnar.

Semantics concerns the proposition expressed by sentences—for instance, that 1a is true if and only if every member of the population of a place called ‘Yalis Island’ speaks two languages and that 2b is true if and only if a guy named Ragnar performed some action with the herring that satisfies meaning conditions of *pass*. Pragmatics, . . . well, let’s wait a moment on that one; James McCawley will help us with it shortly.

The events at the heart of this book—the work of Noam Chomsky, the semantic extensions it triggered, the rebellion those extensions begot, and the impact the resulting wrangle had on modern linguistics—have everything to do with thought and being human. The story begins with Chomsky’s compelling arguments that fundamental aspects of human behavior (linguistic creativity, in particular, and language acquisition) are inaccessible without his innovations. It develops further when his followers, principally the Lakoffs, McCawley, Ross, and Postal push this work deeper into the territory of thought than Chomsky was comfortable going. And it erupts into open warfare when Chomsky, soon abetted by the work of a newer rank of followers (headed up by Jackendoff), retrenches aspects of his approach to head off such extensions and to repudiate the extenders. How it ends, even *if* it ends, is controversial, but the Chomskyan view is that George Lakoff and company were routed for their irrationality and errors, and that linguistics is much the better for their defeat. Perhaps. *Generative Semantics* became something of a snide joke in linguistic orthodoxy for a generation or two. The movement deserves some of its shame; Chomsky’s camp, some of its glory. But one of the aims of this book is also to show that Generative Semantics was not without nobility or virtue, and that its lasting impact on linguistics was valuable; nor, inversely, was Chomsky’s camp engaged in pristine error correction with exclusively wholesome results for linguistics.

The events at the heart of this book also have everything to do with borders; more specifically, with border disputes. The borders involving phonetics and phonology saw very little action in the debate, but those among morphology, syntax, and semantics—the provinces more closely affiliated with meaning—were all flashpoints. At one end, some Generative Semanticists argued that language was one big schmoosh, with no place at all for borders, even in principle; sound was at one end of the linguistic continuum, meaning at the other, and a small group of uniform rules knit them together. At the other end, Chomsky’s camp, the Interpretive Semanticists, seemed to be boundary fetishists, redrawing their borders daily; one day a piece of data was syntactic, the next day morphological; one day it was semantic, the next syntactic. Each saw the other side as perverse, and each opened its guns on the perverted.

Such internal border wars are largely a matter of pitting one theory against another, much the same as disputes in other fields between a cloud-like subatomic model and a mini-solar-system model, between fixed continents and

drifting ones, between Darwinian and Lamarckian evolution, between quantum theory and string theory. One of the ways science gets done is in the crucible of dispute. Generative Semantics wanted to leave the language pie pretty much as a whole, describing its shape and texture noninvasively. Interpretive Semantics wanted to slice it into more manageable pieces. But as the battle became fiercer another border war arose, an extra-theoretical one, concerning the definition of the entire field, the scope of language study, the answer to the question, *What is linguistics?*

Every science needs to slice their pies *somewhere*, though, or it can't produce coherent explanations. Nature is in dizzying flux, abuzz with colliding, chaotic, bleary events; it is a realm of infinitesimal detail and immeasurable vastness. Our senses have adapted to this by tuning to only a tiny range of those events, the ones most relevant to our survival and propagation. We see only a certain narrow band of optical frequencies (*light*), hear only a small range of aural frequencies (*sound*), smell and taste and feel only the grossest of data. Everything else is filtered off by our incapacities. Sciences do exactly the same thing. Collectively they have overcome many organic limitations, augmenting some of our capacities astonishingly well with telescopes and microscopes and sonographs. But they also make far more exclusive choices than our sensual machinery. Even in the outlandishly general schemes of physicists working away on a Theory of Everything, only the narrowest of phenomena would be covered; a Theory of Everything would not explain, for instance, a moth drawn to a flame, a wolf baying at the moon, a physicist writing a grant proposal. Nor should it. Science, like any other form of apprehending the world, would be impossible without its self-imposed limits.

Chomsky argued forcefully that in linguistics such limits should be drawn between our *knowledge* of language and our *use* of language. Take the difference between knowing how to play chess and making a specific move. The first is relatively tidy—the rook goes horizontally and vertically, the bishop goes diagonally, the knight does a buttonhook. But actually *playing* your rook or your knight depends on a welter of ephemeral conditions—past moves, adversarial skill, emotional state, even the amount of light on the board or the cough of a spectator. The first can be described comprehensively by a body of rules. The second can only be described broadly, and never predicted with anything approaching certainty by an observer; among other things, that's what makes it a game. In language, this kind of basic knowledge is relatively stable after childhood acquisition, though vocabulary and conceptual knowledge grow and decay. *Use* is altogether different. It is subject to all the vicissitudes of life—stress, distraction, altered states of consciousness. A speaker who knows the pronunciation of *two* and *martinis* might still claim to have had only “tee martoonies” if pulled over for erratic driving, especially in a golden era TV sitcom. Chomsky and the

Interpretivists felt the only way to isolate tractable problems for linguistics to solve was to focus on knowledge and filter off the haphazard factors of use.

Generative Semanticists started from the same place, but soon found this approach absurd and arbitrary, regarding accounts of linguistic knowledge to be completely misleading when separated from the application of that knowledge. McCawley's analogy for the Interpretivist separation of form and function was to a theory of the stomach that ignored digestion. And, of course, language is neither chess nor digestion. It is far messier and far less exact than chess, far more ramified than digestion, though perhaps not so messy. Nor is separating knowledge from use all that easy. However common the language-as-chess analogy is—and it is one of linguists' most venerable topoi—'knowledge of chess' is not quite as uniform as it suggests. Garry Kasparov's knowledge of chess is very different from my knowledge of chess and it results in different play, no matter what the light conditions are. Generative Semanticists, some of them, said there was no defensible separation at all. Responding appropriately to "Hot enough for you?" was equally as important for them as matching pronouns to their antecedents. For their part, Interpretive Semanticists seemed to shift their definitions daily. Yesterday's knowledge was today's use; today's use, tomorrow's knowledge—whatever allowed them to defend their own claims and attack their enemies'. Each side saw little more than depravity in the other's methodological proclivities.

The story, then, is in large measure about how much is too much, about how big a bite of language is more than linguistics can chew. Chomsky charged the Generative Semanticists with trying to swallow every conceivable phenomenon with the most oblique relation to language. The return accusation was that Interpretive Semanticists took only conservative, tasteless, nutritionless little nibbles from the immense, immensely challenging, human phenomenon, language.

By *language*, our linguists initially pretty much meant just *sentences* when they started to diverge, and their focus was on grammaticality. What does it take for some assemblage of words to be a sanctioned sentence of some language (be *grammatical*)? What does it say about a given language, or the whole notion of language, if assemblage X belongs to a language (is *grammatical*), but assemblage Y doesn't belong (is *ungrammatical*)? Our 'Yalis Island sentences (1a and 1b) both belong to English. They're grammatical. One is an active construction (1a), the other is a passive construction (1b). But now take a gander at this thing, courtesy of McCawley:

- 3 a Spiro conjectures Ex-Lax.
(Parret 1974 [1973]:252)

Whatever this clump of words is, at first pass it certainly doesn't look like a grammatical sentence.

The issues and appeals surrounding 1a and 1b are very narrow, highly technical, and concern a single question about a single principle—should it stay or should it go? So, let's set them aside for a while as good little English sentences with curious implications for theoretical machinery. But the issues and appeals surrounding 3a are very wide, largely informal, and go way beyond a single principle or a piece of theory.

By the time 3a surfaced as linguistic data, about six years after the first volleys, the Interpretive–Generative Semantics differences had outgrown and exhausted the term *debate*. What began as a compact, in-house disagreement over a single principle within Chomskyan linguistics had mushroomed to foundational proportions. Both sides saw the relevance of 1a and 1b very clearly, and both sides saw a resolution within reach. But the years of acrimony and diverging arguments between those sentences and the wonky-looking 3a had altered their vision. Interpretive Semanticists didn't even see 3a as data (not without an asterisk, it's not!), and regarded its invocation by the other camp as clear and damning evidence they were no longer even doing linguistics; Generative Semanticists saw the dismissal of data like 3a by the other camp as clear and damning evidence that they were practicing a brand of linguistics so sterile and ingrown as to be vacuous. Even the political and whimsical elements of 3a (*Spiro* was Spiro Agnew, Richard Nixon's much ridiculed vice president) defined the chasm that had grown between the former associates.

When 1a and 1b were relevant to our story, all the arguers agreed closely about their consequences for theory, and about what sort of enterprise linguistics should be; with 3a, there was so little agreement that the word *arguers* hardly applies. But we are only catching the vaguest image of the conflict here, the shadows on the wall. In the mid-1960s, when the Linguistics Wars began, Interpretive and Generative Semanticists agreed with one another about how to study language, certainly, but they stood arm in arm against their immediate predecessors, whom we'll call the *Bloomfieldians*. Chomsky's early polemics had painted that generation as confused and bumbling amateurs, not real scientists, from whom his Transformational-Generative theory would rescue linguistics. By the mid-1970s, with Spiro's laxative conjecture, the Bloomfieldians were still anathema to Chomsky's immediate charges, the Interpretivists, but the Generative Semanticists now began to find points of agreement with pre-Chomskyan linguists. This shifting ground of agreements—that is, history—forms not only the defining backdrop for the Interpretive–Generative Semantics dispute, but for all the *whys*, *whats*, and *hows* of language study.

Before we get into that story, though, our Spiro “sentence” is still hanging around waiting for some sense to be made of it. McCawley's point that when you take 3a in isolation, as Chomsky always prefers his data, it is just a hopelessly jumbled clump of words, ungrammatical because the verb, *conjectures*, doesn't

have the right companions. *Conjectures*, you see, has certain basic requirements that must be satisfied to earn a grammaticality seal of approval; don't meet them, you get an asterisk. *Conjectures* requires an embedded sentence and can't immediately precede a proper noun (like *Ex-Lax*). So, 3a is screwy (it's got a proper noun), but 4 is perfectly fine (an embedded sentence):

4 Spiro conjectures the moon is made of green cheese.

In short, the combinatorics of 3a are awry. *Conjectures* should be combining with an embedded sentence, not something else. That's all true for isolated data.

But, if you take 3a out of isolation, find it a context (the way Generative Semanticists grew to prefer their data), put it into some real-world use of words like *conjectures* and *Ex-Lax*, rather than just pinned into some textbook or academic argument about what sorts of verbs need what sorts of companions, then 3a is perfectly okay; namely, as a response to a question like 3b:

3 b Does anyone know what Mrs. Nixon frosts her cakes with?
(Parret 1973:252)

2

The Beauty of Deep Structure

The hidden harmony is better than the obvious.

—Heraclitus (Fragment B54)

In general, as syntactic description becomes deeper, what appear to be semantic questions fall increasingly within its scope.

—Noam Chomsky (1964b [1962]:936)

The Chomskyan Revolution

“Nobody in academia had ever witnessed or even heard of a performance like this before,” Tom Wolfe said of Noam Chomsky’s famously dramatic rise in linguistics:

In just five years, 1953–57, a University of Pennsylvania graduate student—a *student*, in his twenties—had taken over an entire field of study, linguistics, and stood it on its head and *hardened* it from a spongy so-called social science into a real science, a *hard* science, and put his name on it: Noam Chomsky. (Wolfe 2016:86)

Wolfe’s account is hyperbolic bullshit. Even the chronology is ludicrous.¹ Chomsky was certainly starting to make an impression by 1957, but it would be more than a decade before his influence approached something one might justly call “taking over the field,” fanning out through allies like psychologist George Miller, an important co-architect with Chomsky of the cognitive revolution; Morris Halle, a close friend from his days at Harvard who hired him into the MIT fold and created a linguistics graduate program with him; Robert B. Lees, a chemical engineer who became the first student of that program and one of its most aggressive polemicists; Robert Stockwell, a philologist and early convert to Chomsky’s Transformational Grammar (TG) who founded the influential linguistics department at UCLA; Paul Postal, an early recruit, talented theorist, and intellectual gladiator who never waited for a thumbs-up/thumbs-down signal before slaying his opponents; Jerrold Katz and Jerry Fodor, philosophers who were attracted by TG’s semantic possibilities; Charles Fillmore and Emmon

Bach, energetic young linguists and transformational autodidacts who developed and promoted Chomskyan linguistics, in Ohio and Texas respectively—to name a significant, but far from comprehensive, set of his supporters. These scholars, in their own technical articles, conference talks, teaching, textbooks, and hallway proselytizing, spread the word.

Chomsky was unquestionably at the helm, with a dazzlingly prolific series of articles and books, some key conference appearances, a suite of brilliant arguments, and two landmarks that flank the revolutionary period: *Syntactic Structures*, his highly persuasive case for Transformational Grammar (1957a), and *Aspects of the Theory of Syntax*, a remarkable synthesis of collaborative semantic and syntactic research growing out of his first proposals and anchored by the highly evocative notion of Deep Structure (1965 [1964]). Over that period, he attacked the preceding generation of linguists remorselessly (he mostly called them *taxonomic linguists*, to portray them as mechanical collectors and categorizers, trivializing their interests, but history generally calls them *Bloomfieldians* now, or *neo-Bloomfieldians*, after the great Leonard Bloomfield, who codified much of the agenda for American linguistics in the 1930s, 40s, and 50s²).

Chomsky also went outside the paradigm to attack their favored psychology, behaviorism, in a blistering review of B. F. Skinner's *Verbal Behavior*. This review was widely admired, adored even, repeated far and wide, for its compelling arguments that behaviorism should be thrown unceremoniously overboard to clear the decks for a new cognitive psychology. He forged alliances with computer science in the early years of artificial intelligence (AI), the other leg of the revolutionary cognitive tripod (along with psychology and Transformational-Generative Grammar, Chomsky's trademarked approach). He pushed the topics of child language acquisition, mathematical modelling, and mental structure to the rhetorical forefront of the field.

Chomsky was unquestionably at the helm. But he was far from alone. The Chomskyan revolution in linguistics—a real thing that did in fact remake linguistics in Chomsky's image, for a time—extended deep into the 1960s.³

Here are the specifics. The crucial revolutionary period is between the years 1957, when *Syntactic Structures* was published, and 1965, when *Aspects of the Theory of Syntax* appeared. The revolutionary trajectory certainly continued afterwards, peaking perhaps in the mid 1970s in terms of the general intellectual community, with various surges and flows, and recurrent changes of emphasis or direction. But the bulk of what Chomsky is known for, and the essential components of his framework, were forged in those years. We'll diagram things out later (Figure 2.3), and talk lots about the whens and whys of various developments, but the schematic version for now is that *Syntactic Structures* outlined a dramatically new model of linguistics, a rule-based, procedural

grammar that built sentences which could be altered or combined by transformations into other sentences. From that foundation, and with help from a growing community of scholars, Chomsky developed a more detailed, technically sophisticated, and richer grammatical model; in the process, he presented it as an utter rejection of the previous generation's linguistics; strongly connected it to innate, universal cognitive capacities; and associated it with certain philosophical and psychological frameworks; computer scientists and psychologists saw it as fundamentally linked to their own revolutionary agendas, quickly becoming advocates and proselytes; English studies folks, especially in composition and rhetoric, were not far behind.

What the end of that period saw, with *Aspects*, was a model of language that looked like this: a base component of Phrase Structure Rules, which defined canonical syntactic patterns, and a lexicon, which provided words; out of the base came Deep Structures, abstract representations of sentences; Deep Structures were made available to a set of Semantic Interpretation Rules, which rendered the meaning of those sentences; Deep Structures also underwent various transformational operations to produce Surface Structures, abstract representations that were much closer in terms of order and content to the sentences that come out of our mouths or off our keyboards. The upshot? Transformations mediated form and meaning.

Still, I've quoted Wolfe's fairy tale for two reasons. For one, it epitomizes the standard Chomskyan lore. The contours of that lore, despite Wolfe's screwy details, are basically true: a young man with a towering intellect and commanding personal charisma goes to work and fundamentally reshapes a discipline to his personal specifications. But, second and more important for our chronicle, it is not all that far from how the early Chomskyans, the generation of linguists at the narrative core of this book, saw their own history. That generation felt they were boarding the kind of messianic rocket ship Wolfe describes. They imbibed this vision with their theories and their methods, reinforcing it with each other over coffee and beer and mimeographed discussion papers—especially the part about making linguistics a science. In a very influential piece—a highly promotional review article that was certainly written with Chomsky's input and approval—Robert Lees cast Transformational Grammar as broaching “a comprehensive theory of language which may be understood in the same sense that a chemical [or] biological theory is ordinarily understood by experts in those fields” (Lees 1957:377).

Most of the recruits believed, and were encouraged to believe, that linguistics was a hopelessly misguided and spongy pursuit, not much better than stamp collecting, before Chomsky came along and transformed it into a hard science, with his powerful ideas and his crushing dismissals of the Bloomfieldians. Lees's own dismissal of the Bloomfieldians portrayed them as preoccupied with the

“mere reorganization of data into a new kind of library catalogue” (377), interested only in “collection and classification” (379). Chomsky’s focus on building grammatical models is what “mark[ed] off the brilliant scientist from the dull cataloger of data” (380). “Which would *you* rather be?” was the implicit question. In the early years of his program, almost as soon as *Syntactic Structures* hit the shelves, Chomsky’s arguments always came as a package, setting his ideas against the backdrop of Bloomfieldian error. “I was told that my work would arouse much less antagonism,” he said a few years later, when the Bloomfieldian dust had been trampled and he had in fact taken over the field,

if I didn’t always couple my presentation of transformational grammar with a sweeping attack on empiricists and behaviorists and on other linguists. A lot of kind older people who were well disposed toward me told me I should stick to my own work and leave other people alone. But that struck me as an anti-intellectual counsel. (Mehta 1971b:190–91)

Noam Chomsky has never been one to leave other people alone. From his perspective, he might choose to say he doesn’t want to leave other *ideas* alone. They need to be rooted out like weeds for his own ideas to thrive. But ideas have sponsors and he has never been very careful about detaching the two.

As Chomsky’s work swept linguistics, it also moved into neighboring fields, with psychology and computer science, its close allies in the cognitive upheaval, leading the way—though in somewhat different terms. Psychology was pretty well established academically and intellectually and had already been mingling with linguistics before Chomsky arrived on the scene. But the interactions went up dramatically with the rise of transformational theories. Computer science, almost indistinguishable from AI at the time, was a fledgling field that grew up alongside the Chomskyan wave. Other fields—English studies, rhetoric, composition, philosophy, eventually political science and media studies—all found Chomsky an arresting presence as well, adapting what they could of his work in large, not always well digested, chunks.

The scope of Chomsky’s success is a tribute to the power of his arguments, the initial welcoming embrace of most linguists (based in part on the close association of his work with a major Bloomfieldian, Zellig Harris), the zeal of his troops, the influx of capital into U.S. higher education in the two decades after *Syntactic Structures* (much of it from the military), and his own calm and righteous personality. But, also, the time was ripe.

The latter 1950s and early 1960s were times of existential dread, with two “superpowers” escalating nuclear arsenals and sponsoring proxy conflicts that threatened to erupt into global conflagration. “The entire intellectual upheaval” of the cognitive revolution, Chris Knight has argued, “was driven by *industrial* and

military imperatives bound up with the Cold War” (2016:47; Knight’s emphasis). There was an eager audience for the big claims circulating around Chomsky’s program. “A lot of people, inside and outside the academy,” David Golumbia writes,

were looking for someone to say that the human mind is wildly different from other minds, that it does not use capacities animals do, that “rationality” itself is somehow hard-coded into it, and that the mind is essentially a “machine” or a “computer,” however metaphorical those concepts may be. (Golumbia 2018)

This new view of the human mind came together exquisitely in George Miller’s textbook with Eugene Galanter and Karl Pribram, *Plans and the Structure of Behavior* (1960). It fully epitomizes the themes and trends of the first wave of the cognitive revolution, and nowhere, outside of linguistics, is the influence of Chomsky more pervasive. It is a version of Chomsky, portrayed as the architect of a plan-based, information-processing cognitive psychology, that Chomsky later repudiated but which fits snugly with many of his arguments at the time. Directly counterposing his theory of mind to Skinnerian behaviorism, for instance, he describes language acquisition in terms of “the built-in structure of an information-processing (hypothesis-forming) system,” (Chomsky 1959a:58), using terms he shared with the emerging field of AI.⁴

Close upon the heels of *Plans* came the field-defining *Psycholinguistics: A Book of Readings* (Saporta 1961). It includes four pieces by Chomsky, all extracted from *Syntactic Structures* (not, on the surface, a book much concerned with psycholinguistics, but by the early 1960s being read through the lens of Chomsky’s explicit mentalism), as well as papers by Halle, Miller, Eric Lenneberg, and other Chomsky comrades from Cambridge. Psycholinguistics was overwhelmingly cognitive by the mid-1960s, deeply influenced by Chomsky and cemented by his collaborations with Miller on important chapters of the *Handbook of Mathematical Psychology* (Luce et al. 1963)—“holy writ,” Eric Wanner calls them. Even twenty-five years later, Wanner was saying, “These chapters seem to me the clearest foundational statement of the field” (1988:143).

More broadly, the powerful cognitive turn in psychology had not only Chomsky’s corrosive attack on Skinner to steer psychologists from the shoals of behaviorism but also the positive beacon of his Transformational Grammar to guide them into new and teeming waters; his arguments, widely adopted and propagated, “had shown that an activity could be rule governed and yet infinitely free and creative” (Neisser 1988:86). Chomsky appears, deservedly so, as a full-chested revolutionary hero in most histories of cognitive science (Gardner 1985;

Baars 1986; Hirst 1988; Boden's definitive two-volume *Mind as Machine*, gives us sections like "Chomsky Comes on the Scene," "Transforming Linguistics," and "Chomsky as Guru"—2006).

Computer science had a negligible but distributed and expanding presence, in academics, industry, and the military. A few institutions scattered through various engineering and math departments offered assorted courses (the first independent department came in 1962, at Purdue), with many offices, corporations, and think tanks lining up for the new machines from International Business Machines and Digital Equipment Corporation. In computer science research, *Chomsky* was among the biggest names. The journals and conference proceedings show recurrently how Chomsky's work hailed "an entire community of technologically-minded intellectuals" across the new landscape: "logicians, computer scientists, and technicians . . . looking for someone to lead them down the glory road to 'machines speaking'" (Golumbia 2009:38).

Chomsky's effect on English studies was more diffuse, but equally rapid. American linguists of the earlier decades had little to offer people studying literature and composition: little, that is, except scorn. Bloomfieldian work was heavily sound-based, rarely extended in any systematic way to units as big as sentences, and was congenitally nervous about meaning. In themselves, these characteristics were enough to discourage composition folk, rhetoricians, and literary critics—people who spend a great deal of time with written texts, who are very interested in sentences, paragraphs, discourses, and who fret constantly about meaning. At best, Bloomfieldian work left the English people cold and empty-handed.

At worst, it found them hostile and brandishing torches. Bloomfieldians regularly coupled their self-promotions with strident attacks on so-called "traditional grammar," the only place where these people could find text- and sentence analyses of any depth. Alienation was almost complete; noisy, nasty skirmishes broke out regularly over such issues as prescription and description, the English department types wanting to pursue norms that they could prescribe for little Johnny to make him speak and write correctly, while the linguists insisted that Johnny already spoke his language just fine, thank you very much, and that the only role for a scientist was to describe the way language came out of his mouth. Vladimir Nabokov's novel *Pnin* characterizes "modern scientific linguistics" as

that ascetic fraternity of phonemes, that temple wherein earnest young people are taught not the language itself, but the method of teaching others to teach that method; which method, . . . perhaps in some fabulous future [being] instrumental in evolving esoteric dialects—Basic Basque and so forth—spoken only by certain elaborate machines. (1996 [1957]:303)

The Bloomfieldians looked like philistines to the English mavens. Linguists responded like chimpanzees waving their scientific genitalia from the other side of the academic watering hole, as in the exclamatory polemics of Robert A. Hall Jr.'s *Leave Your Language Alone!* (1950), where he speculates that prescriptivists had turned Americans into a species of linguomasochists, wanting to "to be humiliated and abased by someone telling us our language is 'bad' or 'ungrammatical'" (Hall 1950:6).

The mood was not good. But the market was.

Humanities folk very much wanted to get something they could use from the scientists, and after the Bloomfieldians, Chomsky's program was a dream come true for them. Chomsky starts with the sentence, not the sound. His work comes out of Zellig Harris's discourse studies; he promises to help crack meaning; he endorses the pre-Bloomfieldian traditional grammars on their shelves; and he champions creativity. The consumer base was in a lather. There was a little bit of traveling salesmanship, a few well-placed papers and conference appearances by Stockwell, Lees, and Postal, contrasting Bloomfieldian vices with Transformational and Generative virtues. But it was barely necessary: Chomsky and Stockwell met one English professor, Paul Roberts, at an important 1958 Texas conference, and he practically leapt into their arms, publishing several books and articles over the next few years, often with Chomsky's close coöperation (Roberts 1962:viii; 1964:vii). Roberts had some allegiance to Bloomfieldian methods, so he didn't engage in the negative polemics of Lees or Postal, but he sang the virtues of Chomsky's program far and wide in English circles—"This grammar is traditional grammar made explicit and rigorous" he propounded (1963:334)—and very shortly there was an English choir raising the roofbeams with claims that it was impossible to engage grammar "without using the brilliant work of Noam Chomsky" (Catwell 1966:xix).⁵

Chomsky's impact on philosophy was different again, but perhaps the most successful of all in terms of the long game. He is now widely acknowledged as one of the most important philosophers of the late twentieth century. He had significant contacts in philosophy from the very beginning of his career, preceding even his contacts with psychology. At the University of Pennsylvania Chomsky took several courses with Nelson Goodman, who helped get him into the Harvard Society of Fellows with a very strong recommendation. The society in turn brought him into the ambit of, among others, Joshua Bar-Hillel, Willard V. O. Quine, and J. L. Austin—an ambit which featured a fertile mixture of agreement and disagreement with Chomsky's ideas. The field was philosophy, after all. Bar-Hillel, for instance, was an enthusiastic supporter of the formal tack on syntax pioneered in linguistics by Chomsky's supervisor, Zellig Harris; there were a few crucial differences (some of them visible in an

early Chomsky paper that aggressively takes issue with Bar-Hillel's criticisms of Harris⁶), but they played out against a background of shared assumptions about language and its models. The two of them worked together in MIT's Research Laboratory of Electronics (RLE), one of the incubators of Chomsky's program. Austin, on the other hand, disagreed with much of that background, but he was nevertheless quite impressed with *Syntactic Structures*, incorporating it into his final Saturday Morning Meeting group back in Oxford (Warnock 1973), and Chomsky found Austin's general, ordinary-language approach to meaning very congenial. Quine's famous criticism of logical positivism resonated with Chomsky, as did his complementary endorsement of the role simplicity played in science, though Chomsky disagreed rather violently with Quine's behaviorist semantic notions.

By the mid-1960s, philosophers were lining up around the block. "I can vividly remember the shock wave that rolled through philosophy," Daniel Dennett recalls of the period, "when Chomsky's work first came to our attention. . . . His fame soon engulfed us all" (1995:385). Soon, one was hearing that "nothing has had a greater impact on contemporary philosophy than Chomsky's theory of language" (Harman 1974:vii), in large measure because of its conception of the mind. Chomsky became well known in philosophy, that is, not just as the leading figure in a related discipline, but as one of their own, the most forceful advocate of an erstwhile-discredited theory of mind (rationalism), which his arguments helped to resurrect.

Meanwhile, back in computer science, Chomsky was a rock star. Many of the specifics of Chomskyan mathematico-mechanical formalisms were enough to take a computer scientist's breath away, especially one with AI allegiances—the algorithmic rewriting rules, the set-theoretic definitions, the elegant and familiar notation. But the very idea of modeling a language as a small set of axioms, with formal rules that could be used to prove (er, "generate") theorems (ah, "sentences") was paradigmatically seismic on its own. Chomsky's grammar looked like a sorting device for legitimate ("grammatical") and illegitimate ("ungrammatical") strings, common in computer science. It was mind blowing. For computer scientists, Chomsky's Transformational Grammar was inextricably bound to a series of models, a ranked series of which it was the prize on the top. That series was later memorialized as the *Chomsky Hierarchy*.⁷ Citations to the paper that first outlined the hierarchy, "Three Models for the Description of Language," were ritualistic in computer science, with *Syntactic Structures* a close second, with assorted other works getting scattered nods.⁸ Invocations of the Chomsky Hierarchy were obligatory then and are still showing up very widely in the literature over sixty years later. Chomsky could have gotten tenure in any computer science department in the world; by the 1970s, in fact, he would have

been a prize catch, a superstar, in almost any computer science department he chose. “I must admit to taking a copy of Noam Chomsky’s *Syntactic Structures* along with me on my honeymoon in 1961,” computer science giant, Don Knuth, confessed much later. “Here was a marvelous thing: a mathematical theory of language in which I could use a computer programmer’s intuition” (Knuth 2003:iii).

The mathematical form of Transformational Grammar made *everyone* swoon, not just the computer scientists. *Syntactic Structures* models language like physicists model matter, chemists model reactions, and astronomers model the heavens. It has two sets of rules, adapted from earlier work in syntax, but smoothly integrated and expressed in Chomsky’s own quasi-mathematical formalisms. There are Phrase Structure Rules, like those in 1, pretty spectacular little devices (also called *Rewrite Rules*, because they work like instructions to rewrite the symbol to the left of the arrow as the symbols to the right of the arrow), and the even-more-spectacular Transformational Rules, like those of 2:

- 1
 - a $S \rightarrow NP + VP$
 - b $NP \rightarrow Det + Adj + Noun$
 - c $VP \rightarrow AUX + Verb + NP$
 - d $AUX \rightarrow T + (have + en) + (be + ing)$
 - e $Det \rightarrow the$
 - f $Noun \rightarrow girl, bunny, Galen, Oriana, Bonzo, etc.$
 - g $Verb \rightarrow be, help, feed, conjecture, etc.$
 - h $Adj \rightarrow bright, golden, entertaining, etc.$
(Chomsky 1957a:26)⁹
 - i $T \rightarrow PRES, PAST$

Legend

NP = Noun Phrase

VP = Verb Phrase

AUX = Auxiliary Complex

Det = Determiner

Adj = Adjective

S = Sentence

T = Tense

- 2

T_{Pass}	$NP_1 Verb NP_2 \Rightarrow NP_2 be -en Verb by NP_1$
T_{Adj}	$Det Noun is Adj \Rightarrow Det Adj Noun$
T_{Nom}	$NP + VP \Rightarrow to + VP$
T_{Af-hop}	$X + Af + Verb - Y \Rightarrow X + Verb - Af + Y$
T_{Conj}	$X + W + Z; X + W + Z \Rightarrow$ $X + W + Z and X + W + Z$
T_{So}	$X + W + Z; X + W + Z \Rightarrow$ $X + W + Z and so X + W + Z$

Legend

NP etc. = As above

Af = Affix

X, Y, Z = Variables
(any constituent,
possibly null)

There is a lot going on here, in these few formulas. Most crucially, the Phrase Structure Rules (1a–i) give us sentences like 3–6, and the Transformational Rules

(2) take those sentences and transform them into sequences (not all of them are sentences) like 7–12:

- 3 Galen helped Oriana.
- 4 The girl fed Bonzo.
- 5 The boy is bright.
- 6 It was entertaining.
- 7 Oriana was helped by Galen. (From 3 by T_{Pass})
- 8 Bonzo was fed by the girl. (From 4 by T_{Pass})
- 9 The bright boy (From 5 by T_{Adj})
- 10 Galen helped Oriana and the girl fed Bonzo. (From 3 and 4 by T_{Conj})
- 11 Galen helped Oriana and so Bonzo was fed by the girl. (From 3 and 4 by T_{Pass} and T_{So})
- 12 To feed Bonzo was entertaining. (From 4 and 6 by T_{Nom})

You can see, I'm sure, why these sorts of rules would make the hearts of computer scientists beat faster, even if you're not the sort to take them on your honeymoon with you: they look like a blueprint for a language machine, and they pattern just like logic derivations. For cognitive psychologists, too, we get a set of procedures that humans could be following when they speak. In English studies, the rules could be brought into the classroom and given to little Johnny to show him how language is put together and made grammatical. Linguists? They were moved by the high-science purity of it all, and the ability of these rules to describe syntactic facts with hitherto unapproached precision. *Syntactic Structures* was a hit.

Sentences 3–6 are basic sentences—*kernel sentences*, Chomsky calls them—and 7–12 are *derived sentences* (or, with 9, a derived phrase). They are derived in exactly the way a mathematical or logical proof is derived. Just as one might derive “ $x + y$ ” from “ $y + x$ ” by “applying” the principle of commutation, the *Syntactic Structures* model derived 7 from 3 by “applying” the Passive Transformation (T_{Pass}), 11 from 3 and 4 by way of Passive (T_{Pass}) coupled with the transformation that conjoins sentences by way of the sentence adverbial, *so* (T_{So}).

There are seductive layers of abstraction here, too, for the academicians, not just in the way this system puts a kind of algebraic net over concepts like *sentence* and *verb*, but in the very configuration of the model. Look especially at the transformation known as *Affix-hopping* (T_{Af-hop}).¹⁰ If you're catching on to the formalism now, you can probably figure out what it does pretty easily. If you haven't bothered to map my claims back against the rules and the sentences, you can keep taking my word for what's going on. Either way, Affix-hopping is a game of pin-the-tail-on-the-verb. *Af* is a variable that ranges over morphemes like *-ing* and *-en*, just as

x might be a variable that ranges over rational numbers. So Affix-hopping finds an affix sitting around in front of a verb, and jumps it over top that verb, attaching it to the verb's hindquarters. But why? Where does that affix come from anyway, and why isn't it already on the verb? That's all part of a system of abstractions for getting the distribution of the forms right while maintaining some kind of low-wattage link with meaning. This story will take a little time, but Affix-hopping was one of most rhetorically successful rules in Chomsky's system, so bear with me. The rule and its accompanying arguments were picked up and circulated recurrently through textbooks, lectures, journal articles, and popularizations, to illustrate the beauty and power of Transformational Grammar.

Remember the two dispositions that characterize linguistic programs, towards *distributional* coverage and precision on the one hand, and form-meaning *mediation* on the other? The Bloomfieldians were especially keen on distribution, and Affix-hopping is the distributional crown jewel Chomsky's program. Even better, syntax was a significant weak point for the Bloomfieldians. They were great with sounds and words, but their syntactic descriptions relied on a body of "heterogeneous and incomplete methods" (Wells 1947b:81), so they were mostly partial and inconsistent. Add to that: English verbal affixes are a tough nut to crack anyway. Even Phrase Structure Rules can't do it. Chomsky's solution was a *tour de force*.

Affix-hopping played directly to the central Bloomfieldian preoccupation of getting all one's descriptive ducklings in a row. To see how tough it can be to get the Auxiliary-verb ducklings to line up neatly in English, compare sentence 13a with 13b (progressive aspect), 13c (perfective aspect), and 13d (perfective-progressive aspect):

- 1 a Zöe rises.
- b Zöe is rising.
- c Zöe has risen.
- d Zöe has been rising.

So: 13a, simple present-tense agreement. No biggie. Just change the verb. But: 13a, the progressive, utilizes *is* (a form of *be*) along with a verb ending, *-ing*; 13c, the perfective, gives us *has* (a form of *have*) along with yet another verb ending, *-en*; and 13d, when the perfective and progressive double up, we get a row of alternating verb and affix ducklings. What's weird, though, is that it's actually more like a row of duckling-parts, because the bits doing one kind of work are interrupted by other bits doing different work: *rise* gets between *be* and *-ing* in 13b, and between *has* and *-en* in 13c, and *be* gets between *has* and *-en* in 13d. It's actually even a bit trickier than that, but if you're still with me, I invite you to build a rule following the template of the rules in 1 that will handle this kind of severed-duckling distribution.¹¹ For the record, these things are called

discontinuous dependencies (*be* and *-ing* are mutually dependent, but not continuous; ditto for *have* and *-en*), and they are a headache.

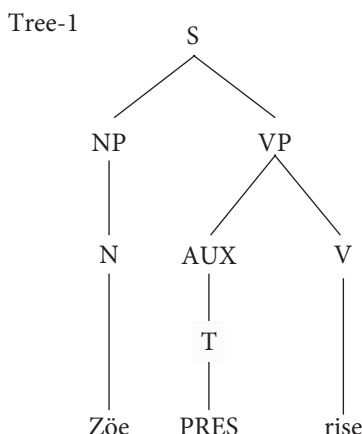
First, before we get on with Chomsky's solution, I have a confession. That business about deriving sentences from sentences was a fib, a convenient fib, a shorthand that everyone uses about Transformational Grammar, and a fib I will repeat, but a fib nonetheless. Sentences don't derive from other sentences. Sentences derive from *underlying structures*, some of which they share with other sentences. So, technically, it's more accurate to say that sentences 7–12 derive from the underlying structures of 3–6, not from the sentences themselves.

Those underlying structures were another one of the most compelling calling cards of Chomsky's grammar. So, we need to think a bit bigger than the strings of words I've been using to illustrate the rules so far. The structures have a few different overlapping names, but colloquially they're just *trees*, a name that captures their shape pretty well. They are full of branches. But they look more like upside-down genealogy trees than like trees in the forest. They are hierarchical arrangements of syntactic details, with words and other bits hung onto the very bottom. Trees may seem like one more level of arcana, but they are really expressive and were extraordinarily popular, especially as Chomsky's influence moved out into grammar and foreign-language classes. We'll see a lot more of them.

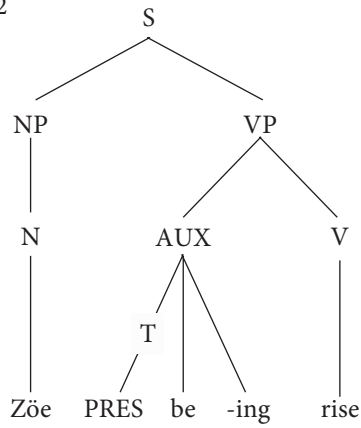
Okay, back to Affix-hopping.

Trees 1–4, respectively, are the ones associated with Sentences 13a–d, but here are the terminal strings of those trees (the words and affixes hanging onto the bottom of the trees), for convenience:

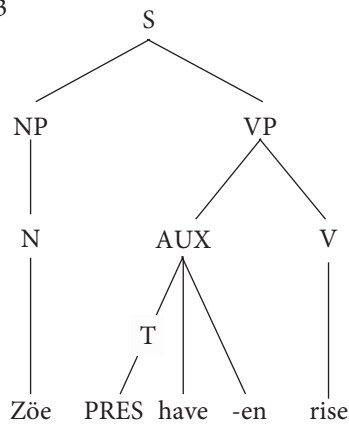
- 13' a Zöe PRES rise.
 b Zöe be -ing rise.
 c Zöe have -en rise.
 d Zöe have -en be -ing rise



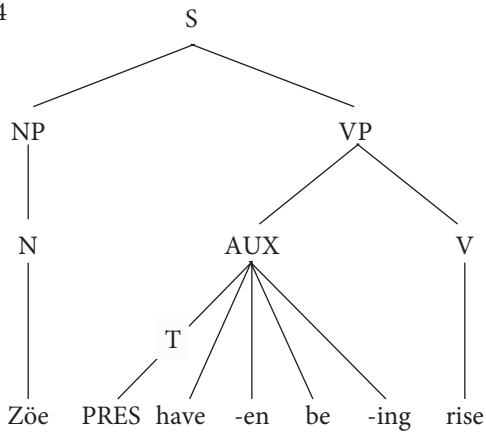
Tree-2



Tree-3



Tree-4



No one ever says such things as Trees 1–4, of course, or even such strings as 13'a–d, but that's not what *Syntactic Structures* claims. These are *underlying*

forms, abstract structures that represent something crucial about English—namely that *be* and *-ing* work together to evoke the meaning, progressive, and so do *have* and *-en*, for perfective, and if they show up at the same time, *have* and *-en* always start things off—but they are wholly abstract.¹² So, the Phrase Structure Rules give us the order (see 1d), capturing important conceptual information, solving a *mediational* problem. *Be* and *-ing*, *have* and *-en*, belong together conceptually.¹³ But, solve one problem, create another.

The paired elements go *together* when we want to express the subtle meanings associated with progressive and perfective aspects but they don't go *side by side*. So, the trees (and 13'a–d) get something right, but only by introducing something wrong. $T_{\text{Af-hop}}$ to the rescue! It is an obligatory rule. It always applies when structures like Trees 1–4 show up. It causes *-ing* to hop over *rise*, and get pinned on its tail (for *rising*); *-en* hops over *be*, and gets pinned on its tail (for *been*); and so on. Voila! We get representations of things that people *do* actually say. (Figure 2.1 shows Affix-hopping in action.)

Not all transformations are obligatory, firing every time some particular pattern shows up in the underlying trees. Transformations like T_{Pass} and T_{Nom} are optional. They can apply or not—depending on, one would guess, the stylistic choice of the speaker, though that is left out of the picture. If T_{Pass} or T_{Nom} (or both) apply, you get one sentence; if not, you get another sentence. But $T_{\text{Af-hop}}$ is always on duty. It always applies when the Phrase Structure Rules generate trees like 1–4 and straightens the distribution out: the sequence Af Verb is turned into Verb-Af, much the way a mathematical function transforms one set into another, or one polygon into another.

This formal leap-frogging maneuver was one of “Chomsky’s best rules from the public relations point of view; its apparent success in reducing chaos to an unexpected kind of order won many converts to Transformational Grammar” (Sampson 1979:361). But if Affix-hopping doesn’t make your heart go pitter-pat as fast as it did for the Bloomfieldians, there were some other set-pieces that populated articles, blackboards, conference papers, and the like, that excited others, many of them well outside of linguistics.

T_{Pass} was one of the biggest stars because it killed two birds with one stone. There were some hints in *Syntactic Structures* that the rule comes close to capturing two meanings with one stone, saying that “there are striking correspondences between the structures and elements that are discovered in formal, grammatical analysis and specific semantic functions” between sentences related by the Passive Rule. Indeed, the formal and semantic parallels between such sentences as 3 and 7 or 4 and 8 on page 24, or this pair, are “undeniable,” spake Chomsky (1957a:101):

- 14 a Chomsky invented Affix-hopping.
b Affix-hopping was invented by Chomsky.

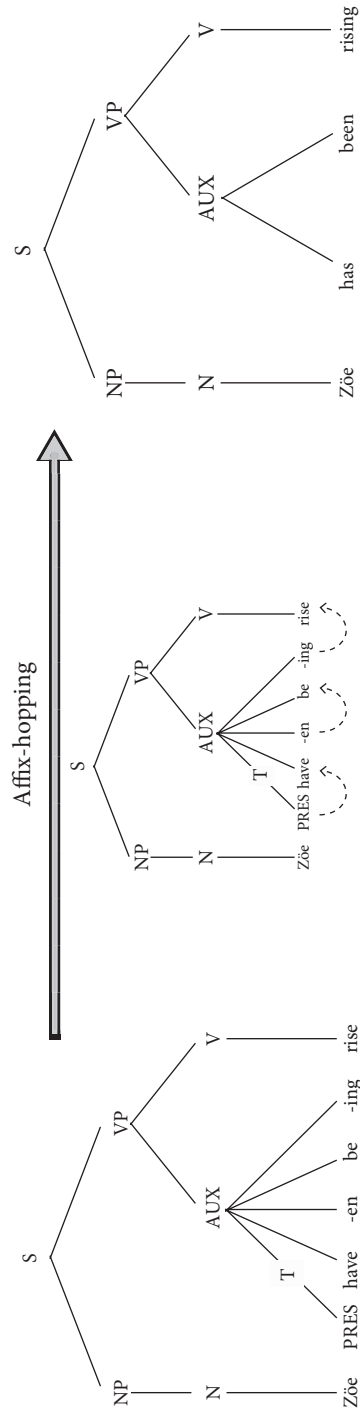


Figure 2.1 The Syntactic Structures Affix-hopping Transformation. Adapted from Chomsky 1957a: 39-40.

These kinds of sentential synonyms—same underlying form, different transformational activity— would become incredibly important for Chomsky’s program, but in *Syntactic Structures* he keeps them at arm’s length, noting that the active (3, 4, 14a)/passive (7, 8, 14b) form/meaning correspondences are somewhat “imperfect” (Chomsky 1957a:101). What he trumpets instead is how the Passive Transformation reduces “inelegant duplication” (1957a:43). A simple Phrase Structure grammar would have to generate sentences like 3 and 7, 4 and 8, 14a and 14b, independently—making them look like just any old pairs of random sentences, no different than a pair like, say, 3 and 14b or 4 and 7. But 3 and 7 are *related*, 4 and 8 are *related*, 14a and 14b are *related*. We feel that relatedness as English speakers. Grammarians have always said as much. So, a grammatical theory which didn’t include the facts of those relations would be deficient.

The most famous of the underlying-structure advocacy arguments, however, was undoubtedly the argument based on Sentences 15 and 16:

15 John is easy to please.

16 John is eager to please.

These two sentences have the same apparent structure: a noun phrase, a copula, an adjective, and an infinitive verb. They even appear to have the same kind of functional relationship. They both predicate something about John and about pleasing, but—drum roll, please—when you go deeper, you find important distinctions that only Chomsky’s grammar can explain; namely, that there is a crucial difference in who is doing the pleasing, and who is being pleased. Accounts like the following, taken from a 1964 *College Composition and Communication* article, were common in English studies, psychology, philosophy, and general-readership journals well into the 1970s (it’s a long passage, but is nicely representative in the way it spins all the central appeals around the easy/eager-to-please sentences):

The interpretation of sentences, the way we understand them, is based on their underlying structure. In [15 and 16] the basic sentences that were transformed to form the new sentences are preserved. . . .

What is crucial here is not the mere ability of Transformational Grammars to produce the right set of sentences, in terms of the final strings produced, but to provide these sentences with the correct Structural Descriptions [that is, Trees], which means, to generate them in such a way that the process of generation imposes on the sentences the correct grammatical relations between their elements—the relations which determine how we understand sentences.

But more important even than the insight into the particular sentences of a particular language—such as, for instance, the specification of the differences underlying such constructions as “eager to please” vs. “easy to please” . . . is the general insight into the way human beings use and understand language. For

now that we have a precise definition of the notion “grammatical relation” we can see how the transformational process combines the grammatical relations of underlying simple sentences in complex sentences. Thus in “John is eager to please” the underlying subject-verb relation of “John pleases” is combined with the subject-adjective complement relation of the sentence into which the underlying structure has been incorporated by the transformation.

Rising to the crescendo, our author proclaims, “We now have a universal hypothesis about language.” The hypothesis is about meaning, about how sentences are understood, not by way of their surface appearances but by way of their deeper, underlying structures:

Sentences are understood in terms of the grammatical relations of the basic simple structures; and there is a universal synthetic process, the transformations, which out of the finite set of these basic structures builds up complex structures, the number of which is without limit. It is here that the “infinite creativity” of language lies. (Viertel 1964:79–80)¹⁴

All of the clarion notes of the program are struck here—traditional grammar, universality, a difference in meaning that underlies superficial sameness, and infinite creativity—and all of these themes evoked the central preoccupation of English studies, style.

Meanwhile, back at the Bar-TG Ranch, as these broad infiltrations into other fields were going on, Chomskyan theories were undergoing major reformulations. The post-*Syntactic Structures* years, particularly with the increase of researchers, saw a lot of activity—Lees’s work on nominalizations, Halle’s work in phonology, Katz and Fodor and Postal’s work splicing semantics into the shifting transformational model. Nor was it just Cambridge insiders contributing to the growth and development of that model. Linguists across the United States were becoming Transformationalists.

Bach (at Texas) published a very successful (and briefly definitive) textbook, *An Introduction to Transformational Grammar* (Bach 1964), that helped take the framework into undergraduate classrooms; and Fillmore (at Ohio) made a major and enduring contribution to what became known as the “transformational cycle” (Fillmore 1963). Indiana was graduating philosophical doctors in Transformational Grammar, including someone named George Lakoff, and places like UCLA, with Stockwell as the founding chair, and the University of Illinois, with Lees taking the same role, were effectively branch plants of MIT. Transformational Grammar increasingly dominated North American linguistics conferences, and was making a splash internationally as well. The journals were filling up.¹⁵

A bibliography published in 1965 included nearly a thousand items on Transformational Grammar, reams of them appearing in *MIT Quarterly Progress*

Reports, and over forty including Chomsky on the byline, but many also far-flung about the United States and the world. The bibliography, by William Dingwall, stretches the definition of *Transformational Generative Grammar* (its title) a fair amount, and includes mimeographed articles, conference presentations, and other ephemera; a crude 50 percent coefficient to control for these tendencies would give us a somewhat more authentic account of the movement's academic impact. But five hundred items, only eight years after the publication of *Syntactic Structures*, in a still-modest discipline, is a remarkable footprint all the same, including work by scholars in the Soviet Union, Hungary, East Germany, Czechoslovakia, England, and Wales, and at American universities like Wesleyan, Pennsylvania, Indiana, Illinois, Ohio, Michigan, the University of Texas, and Georgetown (where Dingwall had just received his own doctorate).

Research was beginning to diversify linguistically as well as geographically. Dingwall's bibliography cites Transformational Grammars of several dozen languages, including Postal's work on Mohawk, G. H. Matthews's work on Hidatsa, and assorted theses, dissertations, or other studies on such languages as Arabic, Azerbaijani, Cantonese, Estonian, Finnish, French, German, ancient and modern Greek, Hindi, Italian, Japanese, Mandarin, Russian, Tamil, and Winnebago.

The theory was changing almost daily, and we will see a host of elegant and increasingly persuasive maneuvers in this chapter—trigger morphemes and Δ -nodes, base recursion, the cycle, lexical insertion rules—some to expand the scope of the theory, some to simplify the machinery, some just regulatory (a change in one procedure to adjust for a change made somewhere else for reasons of scope or simplicity or both). Many of these moves, if not most of them, were driven by the nexus of semantic aspirations in Katz and Fodor's work. We can glimpse the speed with which the theory was changing in Kenneth Hale's review of Bach's textbook:

The book under review constitutes a successful attempt to present, in a single volume, a coherent account of the transformational generative framework as of early 1964. That some parts of the work are now, by late 1964 and early 1965, obsolete is by no means an indictment of the author or of the work itself but, rather, an inevitable state of affairs in any vital field where insights are deepening at a rapid pace. (Hale 1965:xxx–xxxi)

The belief that annual, if not monthly, obsolescence is an inevitable index of vitality was common at the time, signaling an overweening confidence far more than the anxiety one might suppose to attend constant change.

There were transformational groups developing in many quarters, and MIT was a hive, the hallways constantly abuzz with the newest ideas or the latest attack. But while there was an increasing number of people doing a wider range of work, there was no question it was all being done in the orbit of one massive

intellect, prompting and proposing and promoting and polemicizing. While not every early Transformational Grammarian may agree with Lees's self-deprecating assessment that "we all rode on Chomsky's coat tails," none would deny that his work was driving everything and everyone else.¹⁶

Into the Great unNoam

Noam is not a human being. He's an angel.

—Jay Keyser (personal communication, 1986)

[Chomsky is] the devil's accountant.

—Avishai Margalit (quoted in MacFarquhar 2003)

Now that we have seen his phenomenal rise but before we look into the war which erupted out of the crowning document of that rise, *Aspects of the Theory of Syntax*, perhaps we can step out of the chronology for an excursus on Chomsky's personality. We are in dangerous and enigmatic territory here. Opinions really do range from Keyser's angel to Margalit's bean-counter-to-Beelzebub, with very substantial logjams at both ends, and there really is ample motivation for both extremes, and I certainly have no special competence for the job of disentangling the elements of his character that have sponsored, in almost equal measure, devotion and demonization. The one consolation I have is that very few people have special competence about Chomsky's character; as Jay Parini entitled one of the scores of profiles of the man, "Noam's an Island" (Parini 1988). Haj Ross, who was his student, his colleague, and his opponent, who worked under him and with him for more than two decades in the MIT linguistics department, says he is almost completely in the dark about the man's personality:

Chomsky is a real mystery man. What he's like as a person, I don't know. . . .

There was never any personal contact outside of the university. When people came, they would meet Noam in his office, never even go to lunch or anything. You never go to Chomsky's house for a party or something, even among staff members, faculty members. . . .

I know very little about Chomsky, where Chomsky's heart is.

Even the full Chomsky biography that has seen his most active coöperation (Barsky 1997a) "offers hardly any clear glimpses of Chomsky's personal life, despite being so rich in quotations from him that the blurb touts it as 'the autobiography that Chomsky says he will never write'" (Pullum 1997a:776).

Keyser's assessment has to do more with the seemingly super-anthropic level of Chomsky's intelligence than with the sweetness of his disposition; Margalit's, more with political argumentation than with a fiendishness in daily affairs. Of the people involved in our story, probably Halle is the one, outside his immediate family, who best knew where Chomsky's heart lay.

But there are some rather extreme and inescapable characteristics which contribute to virtually every aspect of our tale and which call for some reckoning, so reckon I will try. I have already alluded to several—in particular, his towering intellect and eristic gifts—and these qualities alone are enough to provoke reactions from worship to loathing, with side orders of envy. A few more traits belong on our ledger.

First, his graciousness. "When I was 15," someone with the handle @natalieisonline tweeted (2:19 AM, December 7, 2018), "I emailed Chomsky with some asinine questions about life, philosophy, and whether writing could make a positive dent on the world." What came back floored her: "To my shock, he responded with an essay-length reply." @natalieisonline is not alone. Her story has been multiplied many, many, times over, perhaps thousands, or tens of thousands, of times. "If you email him," a journalist noted, "he will email you back. He's known for that. Even if you're a stranger with a random question" (Bartlett 2016:B8). One of his biographers, Wolfgang Sperlich, estimates he receives and responds to about two hundred emails daily (2006:10). It is worth noting, too, @natalieisonline's addendum to her story. "I think about that a lot," she adds, "when I meet academics who think they're God's gift."

Chomsky will talk to you, too. He lectures tirelessly, he works long, hard hours, he publishes several books a year, and he will spend hours with absolutely anyone who is interested in talking with him. Sometimes the wait is a long one—his calendar is booked months in advance—but he will patiently, kindly, and in exactly the right level of detail, explain his ideas to linguists, to laypeople, to undergraduates, to other people's students, to journalists and directors and candlestick makers, and carefully explore their ideas with them. People come to MIT in droves to see him (yes, he is still teaching, now over ninety years old). His linguistics classes, which usually have quite small enrolments, are held in a lecture theater to accommodate the scores of visitors every week. He gives away ideas for free. He has a deeply admirable commitment to scholarly exploration, at all levels.

To students, he is ceaselessly helpful. Virtually all the theses he has supervised (over one hundred), and a large number in which he has had no official role, at a wide range of universities, include heartfelt acknowledgments of the time and thought he has given the work. "I remember well that Noam welcomed me with a smile when I was very nervous at our first meeting," one remembers. "I will treasure forever the opportunity to work with him!" (Obata 2010:ii–iii).

“An incredibly warm, supportive, and down-to-earth person . . . I am deeply grateful to him for the time he so generously devoted to my cause despite a mind-boggling schedule,” says another (Ott 2011:ix). Just three more, from noteworthy members of our *dramatis personae*:

To Noam Chomsky I owe my conception of linguistic description as well as thanks for long hours of discussion of the theoretical intricacies of the formal grammatical devices used in this work. (Postal 1963:i)

I would like to express my most sincere gratitude to my advisor, Noam Chomsky, who has had a profound influence on my thinking and has been a continuous source of intellectual stimulation such as I had never encountered before coming to M.I.T. (McCawley 1965:7)

What I owe to Noam Chomsky is incalculable. (Ross 1967:ix)

But second, there is a startling counterpoint to that graciousness: his splenetic expressions of contempt for many individuals and for great swaths of thought. Chomsky slings mud with abandon. His published comments can be dismissive in the extreme. His private comments can reach shocking levels of rancor, though almost always delivered deadpan, even kindly, as though he is trying to help someone see their own intellectual and moral inadequacies. “Chomsky can be brutal in argument,” Larissa MacFarquhar has noted, “but except for the words themselves there is no outward indication that he is attacking. The expression on his face doesn’t change. He never raises his voice” (2003). He doesn’t raise his voice in print, either. He may never have used an exclamation mark in his life.

Chomsky has many targets of scorn, from people to intellectual traditions, but one in particular is a source of incredible divisiveness in linguistics: every linguist—often cloaked in a collective noun such as “the field,” since he seems to regard himself as outside that field—who holds opinions about language and linguistics which depart from his, sometimes only very slightly. He often speaks, for instance, about the immaturity of linguistics, contrasting it with the “more mature” sciences, and the context of these remarks invariably betrays forked intentions. He does not mean simply that linguistics is in an earlier developmental stage than physics or chemistry, that linguists have only to solve methodological problems and reach empirical consensuses that workers in those other sciences have already achieved. He also means that linguists are whiny, irrational, petulant children. There are, he always allows, “a few quite serious people,” just “a tiny minority in the field”—who happen coincidentally to be sympathetic with his own goals—but virtually everyone else in linguistics is intellectually and emotionally and even morally callow.¹⁷

In part, this attitude seems to reflect a need to work in an us-and-them, or even a me-and-them, intellectual climate. In part, it is delusion. His program is hugely successful, yet he always seems to feel embattled. One of the most influential thinkers of the last six decades, a person who has sponsored some of the most powerful intellectual currents of the twentieth century, and who may not be done yet, Chomsky is ever the scrappy underdog. In part, it is just complete, utter, magisterial arrogance. He's right; so very many others, with divergent views, are wrong. The rhetoric that flows from his embattled and righteous sensibility can be blistering.

In one form of this alone-against-the-world (or, at least, alone-against-the-bigwigs) ethotic stance, Chomsky has recurrently broken from his teachers and mentors, accusing them of incomprehension and neglect, most scandalously with Zellig Harris, his teacher and supervisor at Pennsylvania University, who was extraordinarily influential in Chomsky's development and highly beneficial to his career (see R. A. Harris 2018a, 2018b). Marcus Tomalin, for instance, remarks that "despite Harris's early interest in Chomsky, the two men drifted apart as Chomsky matured," citing one of Chomsky's frequent assertions that Harris never looked at his work (2006:110–11). Tomalin goes on:

Strangely, the basic pattern of Chomsky's relationship with Harris (or at least Chomsky's own account of it) is identical to the basic pattern of his relationship with Goodman. [Tomalin sketches Chomsky's account of that relationship.] . . . Chomsky's memories of his friendship with Quine outline a similar pattern. . . . This general pattern of initial closeness followed by sudden separation is clearly of interest and it raises various questions: Why did Chomsky come to be spurned by his early mentors, and precisely which aspects of his work offended them? (2006:111–12)

One might add the linguistic titan Roman Jakobson to "this general pattern" as well, and perhaps Bar-Hillel. Victor Yngve, who employed Chomsky at MIT's Lincoln Labs, did not remember him fondly. There are no doubt others of that generation who could be added to this list. But Tomalin's questions may be the wrong ones. There is little evidence that there was something offensive in Chomsky's *work*, in his theoretical developments, something different for each replication of this pattern, that somehow repelled his early mentors and friends. There is more reason to believe that it was his perennial sense of being misunderstood and oppressed, his own turning away, that caused the friction. Tomalin's "drifted apart [from his mentors]" is probably better rendered as "pushed them away."

Third (or maybe it's 2a), Chomsky is obsessively argumentative, not just in terms of everyday quarrelsomeness, though there is some of that—one member of Harris's family, with whom Chomsky visited for long hours as a young

man, recalls that he “would follow you from room to room arguing, arguing, arguing you down to dust!” (Nevin 2010:105)—but in a more abstract and technical sense of always, relentlessly, building arguments, dismantling arguments, recombining arguments. Chomsky’s compulsive argumentation manifests in all aspects of his character. He clinically assembles a case for P, and dismantles one for Q. He waxes splenetic about Smith, graciously buttresses Jones. He liberally offers data and connections and analyses to students and other scholars, without the slightest concern for ownership. He also absorbs the work of other scholars without, sometimes, the slightest concern for ownership.

He is, in any event, responsible for some very elegant argumentation. His “Three Models” is beyond classic as an argument in AI. Various incarnations of it circulated widely for decades in linguistics, psychology, and scattered other disciplines, and it still occupies a crucial role in the cursus of computational linguistics (see Linz 2011:296 for a recent account). His poverty-of-the-stimulus argument (latterly rechristened as *Plato’s Problem*) is still a centerpiece of debates about learning theory, language acquisition, and rationalism (Clark & Lappin 2011). *Syntactic Structures* is a long, scrupulously precise argument for Transformational Grammar, running numerous subroutines, looping back to recurrent topoi, and sustaining thematic appeals: it placed as the single most important book in the history of cognitive science, in a list of the top 100 assembled by the University of Minnesota’s Center for Cognitive Sciences in 2000, and even made a top-100 list of the most influential books ever written, in all cultures, for all time—a little bit behind the Bible, Confucius’s *Analects*, and Plato’s *Republic*, but on the list all the same.¹⁸

Ray Jackendoff is positively rapturous about Chomsky’s argumentative eloquence. *Syntactic Structures*, he says, is beautiful. “Remarks” is beautiful. “Also a great part of *Reflections on Language*, where [Chomsky] starts talking about mental organs and bringing in the biological analogies for the first time. . . . ‘We don’t learn to have arms instead of wings.’ . . . I practically cried when I read that.” But there can also be something of a community-of-blessed effect for Chomsky’s arguments. If you are disposed to his views, he seems to hit every note with sureness and grace; and the intellectual world was certainly disposed to respond well to *Syntactic Structures*: the syntax-hungry, formally inclined, scientifically insecure linguists; the language-eager, formally inclined, algorithmically enamored computer scientists; and the process-oriented, model-preferring proto-cognitive psychologists. It was equally ready for the review of Skinner’s *Verbal Behavior*, largely banishing behaviorism from the study of language for decades.

That’s not to say Chomsky did not provide a compelling structure of reasons in those works. I’m not saying he’s a lucky stiff, the right guy at the right time with the gift of gab. But there were arguments for transformations, for mathematical precision, for scientific rigor, and against behaviorism in circulation, that Chomsky marshalled and augmented. Much like Aristotle or any crowning thinker,

Chomsky collated and winnowed those arguments, synthesized, blended, and extended those arguments more powerfully and effectively than anyone else.

And *Aspects*? Chomsky's earlier works had laid the track, had set the table, had built the foundation, had groomed the intellectual world and a new generation of linguists for *Aspects*. It was spectacularly successful.

But for audiences less disposed to his views, especially those invested in other frameworks, the arguments can ring hollow, or incite antipathy. "People say [the same things]," Jackendoff adds, forecasting where we will be a few chapters hence, "about *Lectures on Government and Binding*. That certainly revolutionized things, but it's not my era. I don't see the same force in it." Others, particularly those who had Chomsky's oppositional rhetoric turned on them directly, react more bitterly. We will see many arguments and exchanges before we are through, but one brief example of an extemporaneous political wrangle that happened while the Linguistics Wars were in full throttle will give us a flavor of Chomsky in action.

William F. Buckley Jr., a renowned pundit of the right and fanboy of American foreign policy, of which the Vietnam War was the most culturally inescapable excrescence at the time, had a television show, a *mano a mano* interview show in the 1960s that served alternately as a platform for his political friends, like Richard Nixon and Henry Kissinger, or a whipping post for his foes, a category into which Chomsky fell. Buckley invited him onto the show to rough him up and expose him as an unpatriotic, left-wing, ivory-tower egghead. Early in the interview, he threatened Chomsky that if he got out of hand, "I'd smash you in the goddamn face," before breaking into his trademark smirk.¹⁹

In the middle of an apparently minor semantic exchange about the definition of *disinterested* with reference to imperial activity (the point at broader issue being whether America was acting disinterestedly in Vietnam, simply to help the populace of the country, or in its own economic self-interest), Chomsky suggests that there "is a *conceptual* distinction [to be made], but in actual fact, the history of colonialism shows that . . . I mean, there are exceptions—probably the Belgians in the Congo are an exception—but by and large the major imperialist ventures have been in the material interest or in the perceived material interest of . . ."

Buckley breaks in here, as was his wont, with "I'm not interested in the mathematics of the . . ." trying to both derail Chomsky and to tar him as a milquetoast academic. Simultaneously, calmly, Chomsky says, "Let me finish." But Buckley continues the smug bullying: "You have already conceded that it is not merely conceptual difference. You say that there are exceptions." Sproinnng!

Here is how Chomsky snaps the trap:

CHOMSKY: There are a few exceptions.

BUCKLEY: All right. Okay. All right. Let's talk about the exceptions then.

CHOMSKY: Well, now wait a minute. The exceptions I mentioned—for example, the Belgian Congo—there they didn’t even *pretend* to have a civilizing mission. There it was pure imperial self-interest. These are the exceptions. There are, as far as I know, no exceptions on the other side. . . . The few exceptions are of pure predatory imperialism, without even any pretense of doing anything [beneficial], but these are quite rare.

The exchange goes on, but the snare was set (“there are exceptions”) and sprung (“pure predatory imperialism”), and—go visit YouTube—you can see it dawning on Buckley’s face.

Buckley, who prided himself on his great erudition and especially his knowledge of history, is prodded, with a few deft strokes, to reveal himself on his own pulpit as a shallow historian and a shallower thinker. This moment is pure Chomsky. He is brilliant at setting the agenda in any argument, usually without the person on the other side of the exchange having any idea they have now taken up his terms. Chomsky controls the debate throughout, carrying the day seemingly without effort.

Chomsky is apparently capable of more circumspect argumentation as well. Journalist Glenn Greenwald tells of sharing the stage with Chomsky one night. Prior to going on, he reports Chomsky turned to him with

CHOMSKY: You know, there’s this interesting essay by Albert Camus, written during his first visit to the United States, in which he described his surprise at what he regarded as the poor clothing taste of Americans, particularly men’s choices of ties.

ME (slightly confused): Are you sharing that anecdote because you dislike my tie?

CHOMSKY: Yes.

That, Greenwald adds, is “how you receive a fashion critique from the world’s greatest public intellectual” (Greenwald 2016).

Fourth, not unrelated to the reason he was sharing the stage with Greenwald, his compassion: Chomsky is clearly very moved by, and very moving about, the downtrodden, especially when his own government or its agents are the oppressors. Fred Branfman, someone who worked with Laotian refugees in the late 1960s, victims of a cruel covert American bombing campaign, tells of the time that he was helping Chomsky understand their situation. “I was . . . stunned when, as I was translating Noam’s questions and the refugees’ answers, I suddenly saw him break down and begin weeping.” Branfman was especially stunned, he says, because while overwhelming compassion is the appropriate human response to suffering on this scale, story after story of mounting horror, he had

brought journalists and activists to the camp before and translated the same atrocities only to find them casually taking notes, perhaps steeling themselves against those emotions (Branfman 2012).

Compassion, with Chomsky, kindled action. Remember how Ross, his student and colleague, said “I know very little about . . . where Chomsky’s heart is?” He wasn’t done. He continued, “except that [his] heart is for people who are oppressed by nasty politics. He works very hard for people like that.” His political activism began in 1964: “It got so horrible [in Vietnam]” he said, “that I couldn’t look at myself in the mirror anymore” (quoted in Knight 2019:59). “The Responsibility of Intellectuals” came out a few years later in the *New York Review of Books* (Chomsky 1967d), still a bracing manifesto of political engagement, in which he took on Establishment demigods like Henry Kissinger and Arthur Schlesinger. Chomsky opposed the war in Vietnam, and the leaders responsible for it, and the intellectuals supporting them, with every ounce of attention and strength he could wrest from his linguistics. What this meant, in the climate of the time, was not just writing political essays, though he did lots of that, but also

speaking several nights a week at a church to an audience of half a dozen people, mostly bored or hostile, or at someone’s home where a few people might be gathered, or at a meeting at a college that included the topics of Vietnam, Iran, Central America, and nuclear arms, in the hope that maybe the participants would outnumber the organizers. (Chomsky 1987:54–55)

He had the courage to match his compassion, and as the antiwar movement gathered some steam, he gravitated to the forefront of the protests, leading marches, engaging in civil disobedience, getting arrested, and inevitably, ending up on Nixon’s enemy list (“Has any other linguist received [that] accolade?” asked Dwight Bolinger admiringly—1991 [1974]:28).²⁰ It was those activities, of course, that landed him on *Firing Line* in the first place, Buckley itching to give Chomsky his comeuppance for denouncing American imperialism shortly after the publication of his first political book, a collection of scathing essays entitled *American Power and the New Mandarins* (Chomsky 1969).

His political interests have not subsided, nor has the time he pours into them, which eats deeply into his linguistics work. The rationing of his energies between the two domains (with *two* as a rather gross rounding error, each of them having multiple and diverse “subfields” that are enough on their own for any one person’s career) has oscillated over the years but by the 1970s he had almost completely abandoned his work in phonology, in mathematical modeling, and in the history of linguistics, “up to the point of barely reading about them” he says (Chomsky 1982a:57). While he has continued to write and speak on linguistics, philosophy,

psychology, and evolutionary theory since his “retirement” in the late 1990s, his political writings and speaking engagements now outpace his linguistic ones substantially, and the huge bibliography of his political writings is now markedly longer than the huge bibliography of his linguistic and philosophical writings, despite the fifteen-year head start of the latter.

He is gracious. He is obstreperous. He shows great compassion. He shows great contempt. He is courageous. He is acrimonious. He works very hard. He is very smart. He is unwaveringly dedicated to the pursuit of ideas generally, fiercely dedicated to the propagation and defense of several specific ideas. He argues congenitally, inexorably, ruthlessly.

These characteristics are unmistakable, and dramatically magnified through the tremendous stature Chomsky rapidly achieved. As early as 1970, just a little more than a decade after the publication of *Syntactic Structures*, he was the subject of a monograph in the Fontana Modern Masters series, alongside Einstein, and Freud, and Marx (Lyons 1970a). That book had gone into its third edition by the 1990s (Lyons 1991), the only one in the series to have done so, and it has been joined by hundreds of other celebrations—several more with only his name as title, along with such entries as *On Noam Chomsky*, *Reflections on Chomsky*, *Chomsky: A Guide for the Perplexed*, *The Cambridge Companion to Chomsky*, *Chomsky’s System of Ideas*, *The Chomsky Effect*, *Chomsky Update*, *The Chomskyan Turn*, *Chomsky for Beginners* (a comic book, with a cover illustration of Chomsky in a superhero outfit), even *The Noam Chomsky Lectures: A Play*—not counting the thousands of books which assume or teach or attack or mangle his notions in more general terms.²¹ Chomsky, in fact, is one of the all-time citations kings—again in the company of Freud and Marx, also Yahweh, and a long way beyond Einstein—with hundreds of thousands of references to his work. By the early 1990s, according to the Institute for Scientific Information, the Top Ten list of sources cited for U.S. academic journals over the prior seven years looked like this (Kesterton 1993):

1. Marx
2. Lenin
3. Shakespeare
4. Aristotle
5. The Bible
6. Plato
7. Freud
8. Chomsky
9. Hegel
10. Cicero

Chomsky was the only one on the list with a pulse, let alone an active role on the intellectual stage, and his career was then only about two-thirds along.²² A web search on the single term *Chomsky* will return tens of millions of hits, not quite in *Kardashian* territory as we go to press, but Chomsky is assuredly in the influence game for a much longer haul. Geoffrey Pullum, not known for empty encomia, calls Chomsky “the most lionized intellectual of the twentieth century and most famous linguist in history” (1997:776). A Brazilian newspaper goes somewhat further, dubbing him “o deus dos intelectuais,” the god of intellectuals (Angelo 2009). “Reason’s earthly embodiment,” says Jay Parini (1988:37). “In linguistics and cognitive sciences,” Ashish Mehta adds, “he is routinely named as the greatest mind in the last 2,500 years” (2018). Clearing away even the disciplinary boundaries, we get “one of the greatest minds in human history” (Al Jazeera 2015). So: incredibly smart, hugely influential.

At some point, the phonologically inevitable happened, and one can now purchase Gnome Chomsky the Garden Noam™, a 17-inch figurine with nerdy glasses, tweed jacket, and a pointy cap; he is clutching two books, *The Manufacture of Compost* and *Hedgerows not Hegemony*. (Chomsky owns one himself, given to him by his grandchildren [Tanenhaus 2016]).²³ He is, as Tom Bartlett puts it, souvenir-level famous (2016). There are mugs, posters, T-shirts, bookmarks, greeting cards, a graphic novel (Wilson 2019). In the Viggo Mortensen movie *Captain Fantastic*, a counterculture, family-off-the-grid flick, the family does not celebrate Christmas. They celebrate Noam Chomsky Day, on December 7th (his birthday), complete with decorations, gift exchanges, and carols (“Uncle Noam! It’s the day of your birth!”—M. Ross 2016).

While this is a point of contention—little that implicates Chomsky is not a point of contention—there is no doubt that his fame/notoriety is bolstered from two sides, academic and political. Tom Wolfe spins off into figurative paroxysms here, but he gets deep-level facts of Chomsky’s trajectory right.

Chomsky’s politics enhanced his reputation as a great linguist, and his reputation as a great linguist enhanced his reputation as a political solon, and his reputation as a political solon inflated his reputation from great linguist to all-around genius, and the genius inflated the solon into a veritable Voltaire, and the veritable Voltaire inflated the genius of all geniuses into a philosophical giant . . . Noam Chomsky. (Wolfe 2016:104)

This mutual reinforcement is to be expected, of course. How could renown in one field not affect renown in another, and how could they not, together, confer greater overall renown? Compounded fame is certainly not uncommon. We see it in Linus Pauling’s career, Bertrand Russell’s, Albert Einstein’s.

Returning to the 1960s and to Chomsky’s more local influence, on his students, and on their students, rippling out into the ethos of the field, his

graciousness and his spleen had immediate and lasting consequences. He has supporters, vehement ones. He has opponents, vehement ones. His withering polemical style has led emulators to embarrassing extremes, and he has many emulators on this score, both defending him and attacking him. James McCloskey has wondered why it is that “phonologists, morphologists, and semanticists can all survive and coöperate in courteous disagreement, but syntacticians seem to thrive on a more robust diet of anger, polemic, and personal abuse” (1988:18). There is nothing inherently factionalizing about syntax, and there may be several answers, but unquestionably one of the most significant is “Noam Chomsky”. His demeanor has defined the field, not just because he hurt some feelings by displacing the Bloomfieldians and quashing the Generative Semanticists and contemptuously dismissing stray attackers, but because of the truculent style he uses to those ends, and because of the people he has attracted and trained and provoked with that style. Largely because of him, a gunslinger mentality suffused the field in the early 1960s, continued on for decades afterwards, and still sponsors both scornful aggression and dismissive neglect of work between the major frameworks.

The first ripples of Chomsky’s tsunamic influence on the ethos of the field, once the Bloomfieldians were dispatched, began with his followers’ exegesis of *Aspects*, alongside other volumes of *Chomskyan* writ—a process epitomized by the shift in perspective the Generative Semanticists had toward their former leader. At the outset, they “all felt they owed an allegiance deeper than professional commitment to Chomsky—it verged on worship,” Robin Lakoff remembers. But “once Chomsky was seen not to be an idol,” once his erstwhile disciples fell under the bludgeoning of his terrible rhetoric, “he was recast as satanic, the Enemy” (1989:963, 970).

This process began, innocently enough, with the exploration of *Aspects*’ central notion, Deep Structure.

Stalking the Hidden Harmonies

The syntactic component of a grammar must specify, for each sentence, a deep structure that determines its semantic interpretation, and a surface structure that determines its phonetic interpretation. . . . My concern in this book is primarily with deep structure and, in particular, with the elementary objects of which deep structure is constituted.

—Noam Chomsky (1965 [1964]:15, 16; emphasis in original)

Deep Structure is arguably the most famous and pervasive of Chomsky’s coinages, but the basic notion it regularly evokes goes back to the very first speculations about language. Ultimately, there seems to be something behind, underneath,

preceding, sponsoring, underlying—in any case, prior and determining—the words that come out of our mouths. There is thought, we feel, which determines our speech, and the whole apparatus of language seems like a process or a mechanism that “takes” thought and “makes” talk. That’s why mediational models are so attractive. They don’t just mediate sound and meaning. They mediate the inner and the outer, the deep and the superficial. Deep Structure is Chomsky’s nexus for the inner and the outer, the deep and the superficial. It is where meaning coalesces.

One of the principal weapons in Chomsky’s thrashing of the Bloomfieldians was their failure to look underneath the surface of language. That’s why they couldn’t account for the active-passive relation or explain discontinuous dependencies. That’s why the underlying structures of his model were so compelling. Aside from a few mopping-up operations (Chomsky’s counterattack on Reichling and Uhlenbeck; Lakoff’s counterattack on Hockett; McCawley’s attack on Hockett; Postal’s attack on everyone who endorsed constituent structure; Postal’s attack on Bloomfieldian phonology; Postal’s attack on Martinet; Postal’s counterattack on Dixon . . .),²⁴ the rout was all but complete by 1965, when Deep Structure debuted in *Aspects of the Theory of Syntax*, Chomsky’s magnificent summary of the developments introduced or incited by *Syntactic Structures*. In the geekspeak of 1960s Transformationalism, *Syntactic Structures* was the Old Testament, *Aspects*, the New.

The labels are apt for the near-scriptural authority of those books, but they are exactly wrong in textual terms. *Syntactic Structures* has the clarity, univocality, even, in a sense, the narrative drive, of the New Testament; *Aspects*, a book full of refinements and extensions, has fewer of those qualities. The tone can also be more oracular in places, and, while there is no Old Testament wrath, we do get more belligerence.

Syntactic Structures is also pretty much a one-man show; it relies on innovations by Zellig Harris, and shows the influence of Charles Hockett, but little beyond that. By 1965, Transformational Grammar had been thoroughly transformed—added to, subtracted from, permuted. While the *Aspects* theory was still very much Chomsky’s, it showed signs of refraction through a committee. *Aspects* is more comprehensive, broader in its implications, and much more detailed technically than *Syntactic Structures*. But it is also blurrier around the edges, and cagier in its assertions. This caginess is nowhere more apparent than with the central hypothesis of the *Aspects* model, the Katz-Postal Principle—the pivot for our whole story—which says that transformations are semantically transparent, that they have no impact on meaning, preserving it from the underlying structure up through to speech. The Katz-Post Principle guarantees a free ride from ideas to soundwaves, which makes Deep Structure a kind of universal semantic solvent, dissolving the welter of problems that had long kept meaning at bay in linguistics.

Aspects' endorsement of Katz-Postal rings clear and loud in the main text. If anything, there are indications it might not go far enough, that syntax and semantics might absorb one another (1965 [1964]:158–59), so that there is no “level” representing meaning at all, that meaning could percolate up directly from thought. But then there's this footnote that hints, on the other hand, maybe the principle could be “somewhat too strong” (1965 [1964]:224n5). Maybe some aspects of meaning aren't deep at all. Maybe they show up on the surface. *Aspects*' hermeneutical potential, that is, looks much closer to the dense, prophetic books of the Old Testament than to the uncomplicated stories and modest parables of the New Testament, and subsequent generations of linguists have found support in it for an amazing range of positions.²⁵

The first two positions to grow out of *Aspects*—Generative Semantics and Interpretive Semantics—can in fact be traced to exactly that tension between the main text's claims about the Katz-Postal hypothesis and its but-then-again footnote. Chomsky says perhaps it is too weak. The proto-Generative-Semanticists took that as their mission statement. Make it stronger. But then again, Chomsky says, well, perhaps it is too strong. The Interpretive Semanticists, with some coaching, took that as their mission statement. Undermine and disconfirm it. Both sides took *Aspects* as their defining document; Chomsky, as their spiritual leader.

The Inevitability of Deep Structure

It would be absurd to develop a general syntactic theory without assigning an absolutely crucial role to semantic considerations.

—Noam Chomsky (1966b [1964]:20)

There is a “main division of grammar,” Jespersen says, that proceeds “from the interior or meaning,” a division that deeply implicates logic and universality. “We call this syntax,” he says (1965 [1924]:45). He might have been defining the linguistics research at MIT between *Syntactic Structures* and *Aspects of the Theory of Syntax*.

Much, perhaps most, of the Transformational-Generative energy was expended in and around MIT to migrate from kernel sentence, a loose and still relatively superficial notion heavily reliant on Zellig Harris's work, to Deep Structure, the nexus of meaning, and definitive of Noam Chomsky's work. There is a good deal of wishful thinking in the direction of a kind of super-kernel from early on, even if the name, *Deep Structure*, was still a twinkle in Chomsky's eye. “It would be a great step forward,” Lees said, in his highly influential *Syntactic Structures* review, “if it could be shown that all or most of what is ‘meant’ by a sentence is contained in the kernel sentence from which it is derived” (Lees 1957:394). Then, in his

paradigmatic monograph, *Grammar of English Nominalizations*, he added, “It is possible that the problem of explaining how sentences mean might be reduced to the simpler problem of the meanings of kernel sentences” (Lees 1968 [1960]:7). Most tellingly, Chomsky says in *Aspects*, once Deep Structure has been forged and put into place, “This is the basic idea that has motivated the theory of transformational grammar since its inception,” an inception he backdates all the way to the seventeenth century (Chomsky 1965 [1964]:146; 221n33).

The overall program reduced the power and range of transformations, distributing their activities elsewhere and preventing them from changing meaning. The program had three distinct subroutines: building a lexicon, a formal dictionary, a home in the grammar for the words; beefing up the Phrase Structure Rules, which did all of their work pre-transformationally; and eliminating one whole class of transformations altogether, so-called Generalized Transformations, the ones that most obviously altered meaning.²⁶

The lexicon, and much else, appears in a collaborative paper by Jerrold Katz and Jerry Fodor (along with sundry companion pieces by Katz) that was a self-conscious attempt to do for semantics what Chomsky had done for syntax, probing such issues as anomaly, ambiguity, and redundancy. Katz and Fodor took up the job to explain semantic interpretation, which fell on two components—a lexicon (they called it a *dictionary*, but linguists have subsequently preferred the more technical *lexicon*) and a set of Semantic Interpretation Rules (they called them *projection rules*). The lexicon contained word entries specified for semantic content, but also for syntactic behavior (they ignored pronunciation).

The meaning of *bachelor*, for instance (more specifically, one meaning of *bachelor*), was represented as [+noun, +male, +human, -married] (a plus indicates the word includes the following concept, a minus that it lacks that concept).²⁷ The syntactic feature, [+noun], specified that *bachelor* could participate in a noun phrase, like the ones in these sentences:

- 17 Tristan is a bachelor, not a spinster.
- 18 Tristan is a married bachelor.
- 19 Tristan is a quantum bachelor.
- 20 Tristan is a bachelor, and he's unmarried too.

The semantic features determine various meaning relations. The feature assignment [+male], for instance, gives *bachelor* a SEX-ANATOMY relation with the word *spinster* in 17 (which, you guessed it, is [-male]), a relation that defines great lexical swathes of English (“*man* and *woman*, *aunt* and *uncle*, *bride* and *groom*, *brother* and *sister*, *cow* and *bull*” Katz & Fodor 1963:187); we are in an academic era when bachelorhood and sex-anatomy were on the minds of philosophers,

who were predominantly [+male] and either bachelors or perhaps wished they were. The feature [-married] makes 18 anomalous and 20 redundant. As for [+human], it eliminated confusion with another usage of *bachelor*, which Katz and Fodor gloss as “young fur seals . . . without a mate during breeding season” (1963:185).

Katz and Fodor’s goal was to provide a theory of semantics that could run in parallel with Chomsky’s syntax. *Syntactic Structures* was preoccupied with separating grammatical sequences from the ungrammatical sequences. The first job Katz and Fodor set for their rules was to separate sense from nonsense, to determine whether a given sequence of English elements was anomalous or not. They also had their rules detect two other familiar features of meaning that philosophers wrangle with, ambiguity and sameness of meaning. The features did all this rather elegantly, at least for the test cases they provided. So, a [+married] adjective modifying a [-married] noun, like the *married bachelor* in 18, is anomalous; or, for the rhetoricians in the crowd, oxymoronic. The pair of [-married] words in 20 (*bachelor* and *unmarried*) mark their respective clauses as paraphrases. And with [+human] of *bachelor* in 19 alongside the [-human] of *quantum*, we just get nonsense.

Katz and Fodor built a new wing for the grammatical house blueprinted in *Syntactic Structures*, but they were unhappy: “It would be theoretically most satisfying,” they sighed, expressing a general MIT sentiment, “if we could take the position that transformations never changed meaning” (1963:206). But they couldn’t, not yet.

In fact, there were transformations whose *job* was to change meaning, like T_{not} which linked sentences like 21a to their own negation (21b) by introducing a *not*.

- 21 a Nirm kissed Jeff.
 b Nirm did not kiss Jeff.

Jerrold Katz, though, was on the case—this time with Postal, in their (1964) *Integrated Theory of Linguistic Descriptions*—ferreting out and inoculating such transformations against meaning changes. For T_{not} , Katz and Postal adopted NEG, an abstract marker now supplied by the Phrase Structure Rules (1964:73f), something like this (modifying our Rule 1a on page 23 above):²⁸

- 1 a’ $S \rightarrow (\text{NEG}) + \text{NP} + \text{VP}$

The parentheses mean that the NEG is optional (like the *have -en* and *be -ing* of 1d), so the derivation of Sentence 21a is unchanged, but 21b now has a new underlying structure, 21c, and T_{not} would kick in automatically whenever it saw that NEG (and not otherwise).

21 c NEG Nirm kissed Jeff

Sooo (listen: you can hear the sound of Katz and Postal drumming their fingers on their desktops), . . . Phrase Structure Rules can introduce special meaning-bearing elements, can they? And these thingys can also trigger transformations, can they? Hmmmm, . . .

Eureka (cue the light bulbs over their heads)! If we can have a NEG marker, how about some others? Question Transformations, T_Q and T_{wh} , change meaning slightly, so let's give them a trigger (T_Q and T_{wh} make questions by moving around auxiliary verbs, and T_{wh} also inserted a wh-word, like *who* or *what*; don't worry about the details).²⁹ So does the imperative-forming transformation, T_{Imp} , so it's going to need one, too. Now familiar sentences like 22a, 23a, and 24a show up in the grammar with underlying structures like 22b, 23b, and 24b.

22 a Could Nirm have kissed Jeff?

b Q Nirm could have kissed Jeff

23 a Who could have kissed Jeff?

b Q Δ could have kissed Jeff

24 a Kiss Jeff!

b IMP you kiss Jeff

(see Katz & Postal 1964:79–117)

If you're paying attention, you noticed that there is an abstract symbol in one of these examples that I didn't warn you about, the Δ , called a *delta node*, or *dummy symbol* (1965 [1964]:122). If not, go back and look at 23b. That Δ was suggested by Katz and Postal (1964:72–73), but it is Chomsky who really brings the notion home (1965 [1964]:122 *et passim*). *Syntactic Structures* derived 23a from kernels like 22a, and from kernels like *Shelly kissed Jeff*, *Lynda kissed Jeff*, *RuPaul kissed Jeff*, and so on, virtually an infinite set of possible relations. We get some weird metaphysics here. It's almost as if the answer to who did the kissing was somehow known in the *Syntactic Structures* universe ahead of time, and the transformation strips out that knowledge.

Whatever. The complication for Katz and Postal's mission for rendering transformations semantically inert is obvious: T_{wh} caused virtually infinite meaning loss; whoever the kisser might have been was known to the kernel, and then gone by the time the question surfaces. But we know that the word *who* (like *which*, *what*, and so on) only functions in English questions precisely because it is wholly ambiguous over the range of *Nirm*, *Shelly*, *Lynda*, *RuPaul*, and all other conceivable kissing entities. The beauty of Δ is that it is a place holder for precisely such ranges. Delta nodes were exciting, and their many, many descendants would see

a lot of action in generative grammar subsequently; they're still around. Robin Lakoff calls Δ nodes "an open sesame" to a cave of riches that fueled the Wars and filled Chomsky's coffers for a long time to come.

Katz and Postal's assortment of abstract symbols cleaned up a lot of semantic complications, but the biggest remaining problem was with a class of transformations, called Generalized Transformations, that spliced together different kernels—like 25a–25d, which could end up combined in sentences like 25e–25g—and therefore had all kinds of semantic effects.

- 25 a Jackson repaired the car.
 b Jackson repaired the toaster.
 c Joan approved something.
 d They took it out on the road.
 e The car's repair by Jackson was approved by Joan, and so Jackson repaired the car and they took it out on the road.
 f The toaster's repair by Jackson was approved by Joan, and so Jackson repaired the toaster and they took it out on the road.
 g The car's repair by Jackson was approved by Joan, and so Jackson repaired the toaster and they took it out on the road.

We'll get to the rather obvious semantic effects shortly, but there's a more immediate problem, an issue that Lees dubbed the "traffic rules' problem" (1968 [1960]:1, 53–57). Keeping transformations from crashing into each other on the derivational roadways could be tricky indeed. How, for instance, would one get 25e from 25a–25d? A small clutch of transformations is implicated, producing the nominalization, *repair*, the possessive, *toaster's*, embedding some version of 25b into 25c, and joining that spliced sentence with 25a, and so on, but Passive is part of the process as well, at two distinct points in the derivation (preceding and following the embedding), and of course, we need our regular mopping-up transformation, Affix-hopping, at least three times, one for each kernel.

Try it yourself. Get a pencil and a sheet of paper and plot it out. You might need an eraser, too, some extra sheets of paper.

...

Take your time.

...

Back so soon? That's okay, in *Syntactic Structures* derivations present a confusing tangle of roadways. To sort out the traffic, reducing accidents and infractions, it took a couple of guys smarter than you and me—Chomsky, of course, but also Charles Fillmore, who came up with the flow chart we get in Figure 2.2.

The flow chart may look a bit kludgy, but it would be difficult to diagram a coherent flow to the rules before the innovations Figure 2.2 represents.³⁰ There were some specific ordering restrictions, but, really, it was a free-for-all. All the transformations wedged in together, trying to get somewhere, blaring their horns and expostulating expletives, with occasional bursts of action when a clog broke loose. New Delhi traffic. Figure 2.2 is Fillmore's proposal to get the transformations moving together. We can bypass the specifics, but the big advance is in the arrows that reverse the flow, so that all the rules are not just jamming forward. What this means is that the Simple Transformations get to run recurrently between the running of the Generalized Transformations. Fillmore calls this a "re-cycling framework" (1963:16) and it introduced what became

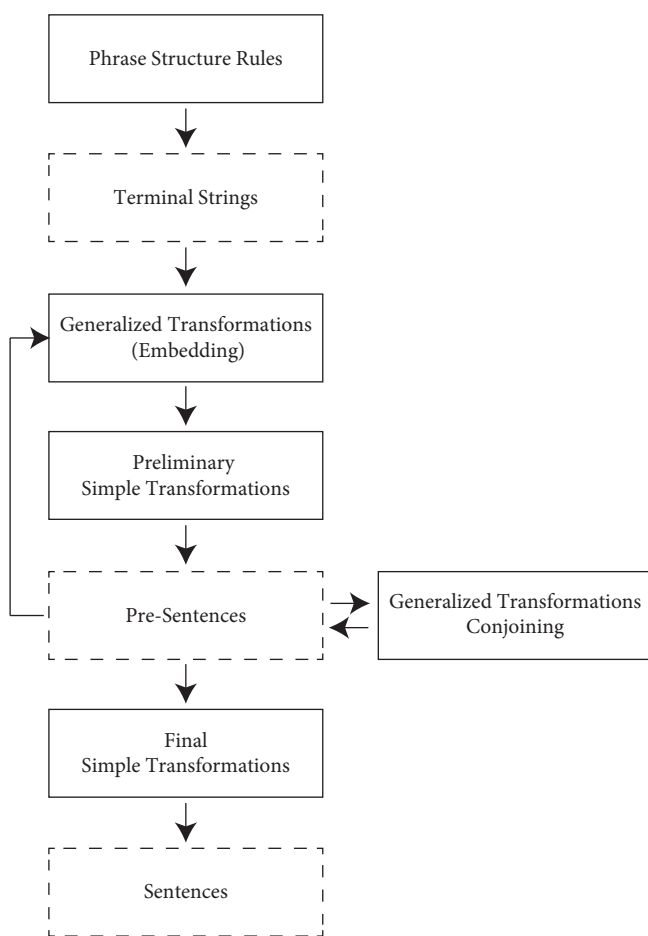


Figure 2.2 The interaction of Simple Transformations and the two types of Generalized Transformations in the *Syntactic Structures* model. Adapted from Fillmore 1963:209.

known as the Transformational Cycle, which proved among the most enduring ideas in Chomskyan linguistics.

The *Syntactic Structures* model became more efficient, more elaborate, and semantically richer the way science usually advances: lots of people pulling in the same direction: Fodor, Katz, Postal, and Fillmore, and Lees, among the most prominent. But there is often someone who pulls everything together as well and ties off the bundle. That would be—no surprises here—Noam Chomsky. He provided the masterful finishing touches that culminated with *Aspects* (and now we're returning directly to the meaning-alteration issues we suspended to talk about traffic issues). Chomsky combined Fillmore's insights with a Katz and Postal dummy-symbol suggestion (1964:120ff), and some of his own earlier work with Halle (Chomsky, Halle, & Lukoff 1956, Halle & Chomsky 1960)—really, a kind of erector set of available hypotheses—under the general mandate to redistribute transformational duties to other components of the grammar and concentrate meaning in the underlying structure, hugely reducing the semantic perturbations of the now-diminished transformations. The payoff? One-stop semantic shopping at a level of analysis he called *Deep Structure*.

Generalized Transformations combine sentences in various ways (if you look back to our list of transformations, they are represented by T_{Conj} and T_{So}), so they completely undermine semantic concentration of the Deep Structure sort: no amount of finagling and enriching of the underlying phrase markers can predict the semantic consequences of incorporating another sentence. But Generalized Transformations were absolutely crucial for an aspect of language Chomsky regards as the single most important criterion for languagehood, recursion.

Recursion is what gives language creativity—gives *us* creativity—the ability to generate infinite output from finite input. I'll say that again, because it is a really big deal for Transformational Grammar: for what Chomsky was up to in developing it and for what almost everybody (computer scientists, English studies people, psychologists) found to be most compelling about Chomskyan linguistics: it models a situation whereby finite resources—a bag of words and a slate of rules—generate infinitudes of structures, from “The cat is on the mat” to “There are more things in heaven and earth, Horatio, than are dreamt of in our philosophy” and “I do not like that Sam-I-Am,” and everything in between. Recursion shows up when some operation replicates its own elements in a potentially iterative way: 25a–25d are all sentences, but T_{Conj} and T_{So} take those sentences and make new sentences (25e–g). And either of them could take those new sentences and make newer sentences, and do it over, again, and again, and again—to the end of time in principle, and beyond.

Sentences 25e–g, that is, are just the tip of the infinity iceberg. Maybe they aren't very creative if we put *Green Eggs and Ham* or *Hamlet* on the table, but they

are technically creative in the sense of producing new, never before produced utterances. Waxing somewhat creatively (though shy of Shakespearean and Seussian levels) Howard Lasnik says of the *Syntactic Structures* model that “the infinitude of human languages is the responsibility of generalized transformations” (2015:169). But, in a brilliant and sweeping move, Chomsky eliminated them entirely, hanging onto creativity in the bargain. He reassigned recursion.

Chomsky made a few small changes to the Phrase Structure Rules that had big implications. He did it in a few deft ways, but let’s just look at the noun phrase rule, to which he added an optional Sentence:

26 NP $\rightarrow$ Det + N + (S)

Voila, recursion in the base: the Sentence Rule (1a) introduces NP into a derivation, but now the NP rule can introduce a sentence, which can introduce an NP, which can introduce a sentence, which . . .³¹ In *Syntactic Structures*, we would need a special Generalized Transformation to produce relative clauses. But with a rule like 26 we can get potentially infinite recursive sequences of this sort:

27 The horse stepped on the tail of the dog that barked at the cat that chased the bird that sung the song that woke the boy who . . .

Base-recursion was a grand and dazzling and typically Chomskyan stroke. On the surface, the development had no semantic motivations at all, just a way to bring some efficiency to the grammar. But all the discarded transformations were troublesome meaning-changers. Chomsky’s move also, for good measure, eliminated an entire class of Semantic Interpretation Rules that Katz and Fodor had matched to Generalized Transformations (a proposal that caused some embarrassment—1963:207), leaving behind a tidier set of semantic rules as well. Things were getting better all the time, and the improvements warranted a terminological change. *Kernel* was out. *Deep Structure* was in.

There were flies in the semantic ointment, and they would soon come out to buzz. Briefly though, Chomsky produced a triumphant testament to a centuries-long program to mediate form and meaning, and one that did pretty well getting the distributional ducklings in order as well. *Aspects of the Theory of Syntax* was the shining synthesis of a remarkably productive period in linguistic history, Deep Structure its brightest jewel. “The notion of Deep Structure caught the imagination of thousands of scholars in half a dozen disciplines,” Pullum notes, and “changed the whole mood of language study: Linguistics wasn’t a matter of classifying parts of sentences anymore; it was about discovering something deep, surprising, and hidden” (2015).

The Model

Thus the syntactic component consists of a base that generates deep structures and a transformational part that maps them into surface structures. The deep structure of a sentence is submitted to the semantic component for semantic interpretation, and its surface structure enters the phonological component and undergoes phonetic interpretation. The final effect of a grammar, then, is to relate a semantic interpretation to a phonetic representation—that is, to state how a sentence is interpreted.

—Noam Chomsky (1965 [1964]:135)

The *Aspects* transformational model was a hit, first in the burgeoning Chomskyan community and then out into the academic world at large. Deep Structure was technically breathtaking and rhetorically powerful, suggesting that cognitive bedrock had been reached.

The *Aspects* grammar, diagrammed out in Figure 2.3 next to its predecessor, is certainly more technically detailed, perhaps more intimidating, than the simple—really, in retrospect, rather quaint—model of *Syntactic Structures*. But, firstly, remember what happens when you open that box labeled *Transformations* in the *Syntactic Structures* model, as Fillmore did: you get a snarl of different and largely unregulated rules. Its simplicity is deceptive. And, secondly, the *Aspects* model is far more complete, more richly detailed, and, for those reasons, more responsible. Look! There are semantics! There is a lexicon! With its own rules!

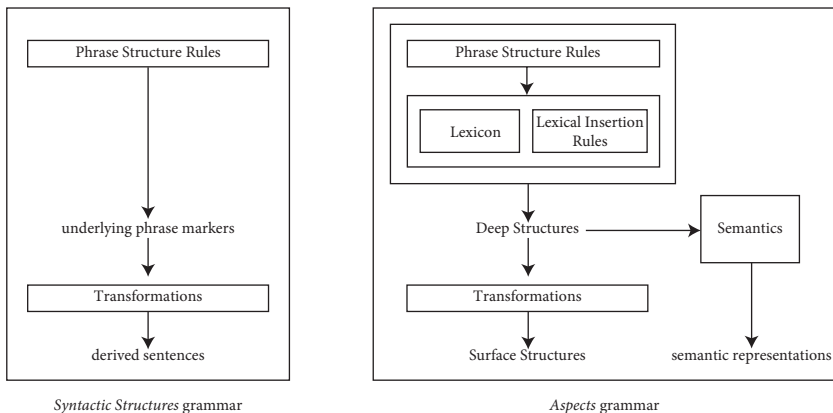


Figure 2.3 The *Syntactic Structures* and *Aspects* grammars

And it worked *beautifully*. Haj Ross, the post-*Aspects* boy wonder, still waxed lyrically, thirty years later, about putting the machinery of *Aspects* to work solving the hard problems of syntax:

There's this mechanical thrill of having got this set of rules ordered trickily and you send these constructions through them, and then, by God, here comes this long fucker twenty words long out the end, and it works! There was this real Gyro Gearloose thrill of linguistics, doing that kind of thing then. And there was also this feeling that we basically knew about 85 percent of the correct answer. There was still some stuff we didn't know about, like maybe superlatives or purpose clauses, but that was peripheral. We'd get to it, and the basic stuff was in place and if we twiddled the knobs a little bit . . . (Huck & Goldsmith 1995:126)

Syntax had been tamed, and meaning was on the horizon. With Katz and Fodor's work, Ross recalls, "We'd been given permission to think about semantics" (Huck & Goldsmith 1995:122). *Integrated Theory* had folded those semantic insights into the grammar, formulating the principle that gave Deep Structure the pivotal role, the Katz-Postal Principle that transformations don't change meaning.

If some parts of the diagram are still a little vague, don't worry. They were vague at the time, too. Some of the arrows and boxes in Figure 2.3 were little more than that, arrows and boxes, with no clear specification of what they meant. No one bothered to specify what a Semantic Interpretation Rule was, for instance, beyond the programmatic remarks of Katz and Fodor (1963), or to specify what a semantic representation looked like. The whole right side of the diagram was shrouded in obscurity. But it was suggestive obscurity, pregnant obscurity. Phrase Structure Rules were pretty well investigated by this point, and so were transformations. Deep and Surface Structures bloomed profusely in all the papers of the period. Productive, innovative, challenging, Gyro-Gearloose, knob-twiddling work was afoot.

No one was much concerned about the lack of detail concerning the semantic component. It would come, and, in any case, Katz and Fodor had defined semantics as an essentially residual matter. Their equation was "linguistic description minus phonology and syntax equals semantics" (1963:172), what was left over when the sounds and the syntax were taken care of. Syntax wasn't finished quite yet (nor was phonology, but that's another story).³² Syntax, in fact, was expanding, or, in the terms of the period, it was getting deeper: becoming more abstract; welcoming arcane theory-internal devices like triggers and dummy symbols; and embracing the content of sentences much more directly, with feature notation and selectional restrictions. There was a lot of semantic action in the *Aspects* model, that is, but most all of it was happening on the syntactic side of the diagram. The form/meaning "relation is mediated by the syntactic

component of the grammar,” in Chomsky’s words, “which constitutes its sole ‘creative’ part” (1965 [1964]:135–36).

Deep Structure was the star of the show but it is literally inconceivable without its other half, Surface Structure. One had more cachet but it was their pairing that made the *Aspects* model so appealing. “In the mid-1960s, Deep Structure was an exciting idea,” Eric Wanner recalls, but when he describes that excitement, he features both structures: “[Deep Structure] provided a formal justification for the intuitively appealing notion that sentences have an underlying logical form that differs from the surface arrangement of words and phrases” (1988:147).

It was easy to lose sight of the fact that neither structure has any privileged position in the theory; they were mutually dependent. The charismatic power of the term *Deep Structure*, and the fact that deep syntactic relations were starting to merge with semantic relations—and frequent statements from Chomsky like “one major function of the transformational rules is to convert an abstract Deep Structure that expresses the content of a sentence into a fairly concrete Surface Structure that indicates its form” (1965 [1964]:136)—led almost everyone to think of Deep Structure on a much grander scale: the long-awaited grammarian’s stone linking the drossy material of speech to the golden realm of thought.

Chomsky was front and center in creating these impressions. He made Deep Structure the keystone of his bridge to Universal Grammar in *Cartesian Linguistics* (1966a), which celebrates an earlier period of grammatical wisdom; and gave Deep Structure a starring role in his academic best-seller, *Language and Mind* (1968), in which he argued that his transformationally mediated deep-to-surface-structure grammar was the architecture of a universal cognitive endowment for language; and featured it in numerous talks and articles across the disciplines.

For an audience of philosophers he foregrounds the term *philosophical grammar*, and describes the “underlying deep structure that conveys the semantic content” of a sentence as “a system of . . . propositions, present in the mind when the physical sentence is produced and understood” (1965b:18).

For English teachers and professors, Deep Structure, thought, and universalist principles all march together in an advance-of-reason narrative. The story, beginning in the seventeenth century and linked to Descartes, goes like this:

Universal grammar developed in part in reaction to an earlier descriptivist tradition which held that the only proper task for the grammarian was to present data, to give a kind of “natural history” of language (specifically, of the “cultivated usage” of the court and the best writers). In contrast, universal grammarians urged that the study of language should be elevated from the level of “natural history” to that of “natural philosophy”; hence the term “philosophical grammar,” “philosophical” being used, of course, in essentially the sense of our term “scientific.” (Chomsky 1966: 587)

That was a golden time, too, he reminds his readers, in which the English professor's cherished notion of creativity was a defining concern of language scholars. But the Camelot of Cartesianism was short-lived. The backward forces, the cataloguers, the mere curators of data, took over yet again, with the achievements of the universalist school being "very rapidly forgotten, and an interesting mythology developed . . . [that] its assumptions about language structure have been refuted by modern 'anthropological linguistics.'" *Au contraire*:

This is not only untrue, but, for a rather important reason, could not be true. The reason is that universal grammar made a sharp distinction between what we may call "Deep Structure" and "Surface Structure." The Deep Structure of a sentence is the abstract underlying form which determines the meaning of the sentence; it is present in the mind but not necessarily represented directly in the physical signal. The Surface Structure of a sentence is the actual organization of the physical signal into phrases of varying size, into words of various categories, with certain particles, inflections, arrangement, and so on. The fundamental assumption of the universal grammarians was that languages scarcely differ at the level of Deep Structure—which reflects the basic properties of thought and conception—but that they may vary widely at the much less interesting level of Surface Structure. But modern anthropological linguistics does not attempt to deal with Deep Structure and its relations to Surface Structure. Rather, its attention is limited to Surface Structure—to the phonetic form of an utterance and its organization into units of varying size. Consequently, the information that it provides has no direct bearing on the hypotheses concerning Deep Structure postulated by the universal grammarians. And, in fact, it seems to me that what information is now available to us [through the breakthroughs of Transformational Generative Grammar] suggests not that they went too far in assuming universality of underlying structure, but that they may have been much too cautious and restrained in what they proposed. (Chomsky 1966d:587–88)

Competence and Performance

To think of a generative grammar in these terms is to take it to be a model of performance rather than a model of competence, thus totally misconceiving its nature.

—Noam Chomsky (1965 [1964]:150)

The *Aspects* model is a beautiful model. But what is it a model of?

For the Bloomfieldians a grammar modeled data, in the form of corpora (a corpus being a collection of linguistic specimens). Initially, Chomsky adopted the Bloomfieldian idiom, talking a lot about corpora and their relation to linguistic theory in *Syntactic Structures*. “A grammar of English is based on a finite corpus of utterances,” he said (1957a:49). But that might have been the last kind thing he said about corpora, which he has subsequently scorned throughout his career. Among the Bloomfieldians, he had absolutely no compunction about ignoring actual corpora, and implying their irrelevance. Illustrating a syntactic relation, he would simply pluck some examples out of his head (say, the good and bad combinatorics of some word). In one discussion, for instance, casually disparaging corpora, Chomsky said “the trouble with using a corpus is that some authors do not use the English language,” and cited an example from Veblen who wrote the expression “performed leisure.” Chomsky declaimed that “the verb *perform* cannot take such an object . . . [Veblen] has broken a law.” There is a grammatical law against combining *perform* and *leisure* in this way.

Chomsky elaborated. The Bloomfieldians were alarmed. Chomsky was challenged to explain how he knows about the law if he doesn’t have any data, if he has not abstracted it from a corpus:

CHOMSKY: The verb *perform* cannot be used with mass-word objects: one can perform *a task*, but one cannot perform *labor*.

HATCHER: How do you know, if you don’t use a corpus and have not studied the verb *perform*?

CHOMSKY: How do I know? Because I am a native speaker of the English language. (Hill 1962c [1958]:29)

As it turns out, Chomsky was too rash in his *perform* pronouncement. You can disprove his intuition yourself in a few seconds with a corpus search of your own, of the internet. I found almost ten thousand examples of “perform labour,” going back to the eighteenth century, in the Google Books corpus.³³ But what comes next in the exchange with Anna Granville Hatcher is nicely instructive. Archibald Hill intercedes to say that both types of evidence serve their purposes—in an example of what we would call *mansplaining* these days—but when Hatcher is allowed back into the discussion, she promptly comes up with an incisive counterexample, *perform magic* (Hill 1962c [1958]:31). Chomsky is temporarily chastened and admits to a hasty generalization:

CHOMSKY: I think I would have to say that my generalization was wrong.

HATCHER: The generalizations of the speaker of a given language are usually wrong. (Hill 1962c [1958]:31)

Hatcher justly rapped Chomsky's knuckles, but we can see that her own generalization is wrong, too; she has pressed her point about intuition and corpora too far. She has not had the time, even with Hill's interruption, to pull a collection of utterances out of her bag and root around in them until she found what she needed. Her counterexample is the generalization of a native speaker, Anna Granville Hatcher, not the product of diligent corpus research.

Chomsky goes on, taking up Hatcher's observation. Okay, he says, now we have some data we can work with. We can ask what's different between *magic* in this context and other mass nouns? Why is *perform magic* fine, but *perform justice* bad? Chomsky and Hatcher don't get anywhere on this second question—what *Aspects* would call the selectional restrictions of *perform*—and Hill has nothing to offer, but the moral of the story is clear: everyone in the discussion is using intuitions to do linguistics.

Intuitive data is a perfectly reasonable way to do some linguistic work. You have been putting up with my invented examples now for almost two chapters. You had never read or heard "Galen helped Oriana," I'm willing to bet, until you encountered it here. It probably doesn't exist in any corpus that doesn't include this book (at the time of this writing, Google couldn't find that sentence anywhere in *its* gargantuan corpus). But as Hatcher demonstrates and Hill suggests, the notion of using such data was not completely alien to the Bloomfieldians.

One rising Bloomfieldian star, in particular—Charles Hockett, whose career was subsequently somewhat stunted with the mounting anti-Bloomfieldian rhetoric that accompanied Chomsky's rise—had required of grammars that they go beyond the corpus to predict the structure of nonobserved utterances (1954:34). Chomsky echoes Hockett on this point (without citation) in *Syntactic Structures*. The grammar, Chomsky says, must "*project* the finite and somewhat accidental corpus of observed utterances to a set (presumably infinite) of grammatical utterances" (1957a:15; Chomsky's italics). But Chomsky's indifference to corpora was outrageous for Bloomfieldians, and his heavy reliance on intuition was a major shift in the methodological winds.

The shift toward intuition, away from corpora, was liberating. It opened up vast worlds of cheap, easily obtainable data. No tape recorders, no transcripts, no luck-of-the-draw about whether you'll get enough embedded passives in the progressive aspect to understand such constructions; just find an armchair, settle in, knead your temples, and puzzle it out. It also radically changed the nature of that data, especially in the emphasis it put on negative data, non-sentences, the trademark asterisked sequences of Chomskyan argumentation. Chomsky and Hatcher's data might easily be arrayed as in 28 and 29, for instance.

28 Kayla performed magic.

29 *Kayla performed justice.

(For the record, however, Chomsky's **perform justice* generalization—law?—doesn't fare much better than his initial **perform* [mass noun] generalization; on February 25, 2021, Google returned “about 225,000” hits for that sequence, by its own reckoning.)

There are two issues at play in the Hatcher/Chomsky exchange. The first is the responsibility of the grammar. It is accountable not just to describe the attested patterns of the corpus, but to predict nonattested examples, and even “excluded” examples. For Chomsky, the corpus doesn't generate the grammar. The grammar generates the corpus. A Chomskyan grammar (eventually, when it is fully and accurately specified) generates some ultimate, ideal, and infinite, super-corpus-in-the-sky. Plato would have loved it.

The super-corpus might look like the answer to the question we started with here: what does the *Aspects* model model? But not so fast.

Chomsky's interest in language, by the time he had this exchange with Hatcher, was increasingly psychological. As early as the waning years of the 1950s—collaborating with George Miller, excoriating B. F. Skinner, consulting on *Plans and the Structure of Behavior*—Chomsky isn't interested in what's in the sky, but what's in our heads, our *competence* as he calls it in *Aspects*, which comes with a perennial traveling companion, *performance*. We will see a good deal of these terms before we're through, but for the moment the important points about them are that they signal, respectively, knowledge and use. Competence is ideal, abstract; in principle, well-defined, and therefore a suitable object of scientific study. Performance is messy, concrete; by definition, highly variable, at best a pool from which data might sometimes be fished.

A production model—what a Chomskyan generative grammar decidedly isn't, at least by the early 1960s—represents how speakers formulate and produce utterances. A competence model, of the *Aspects* variety, represents the knowledge inside a language user's head, *not* the techniques, strategies, and neuromotor activities for getting pieces of it out of her mouth. When you put down this book for a few minutes and grab a snack or use the bathroom, you're not using language, not reading or speaking. But your knowledge of language doesn't go away. Whatever it is that is just sitting in your head, waiting until you come back to the book or activate it in some other way, the faculty or power or grammar that *is* your knowledge of the language, that's competence. Now, when you're reading, you are performing your language, putting that knowledge to work.

Knowledge of the set of natural numbers, $\{1, 2, 3, \dots\}$, represents some arithmetic competence that can be called on in an arithmetic performance in some situations, but it is not the actual process of counting a herd of goats.

More generally, competence is the hardcore knowledge someone has of her language—that subjects and verbs agree in number, that adjectives precede nouns, that *easy* takes one type of complement, *eager* another, that—if you are

Chomsky—*perform* goes with *magic* but not with *justice* or *leisure*. It is ultimately variable, person to person. We don't have the same competence in English, you and I. But language is relatively stable after childhood acquisition and sufficiently generalizable over a community so that it can be formalized, and, for Chomsky, it is the single proper focus of linguistics. Performance is the application of that knowledge in speech and other linguistic activities. It is quite variable—subject to fatigue, exhilaration, situation, molecules (like alcohol) that degrade articulation—much more difficult to formalize in a meaningful way, and, for Chomsky, largely a wastebasket of uninteresting facts.

The differences between competence and performance can be subtle, as are most differences between social and psychological accounts of the same phenomena, or between any internalized activity and its external realization. But we can grasp the difference easily in principle. We all know how to do push-ups, but after enough of them even the most fit of us start shaking and halting and stop altogether. We haven't forgotten how to do push-ups. The knowledge is still there. But our push-up performance ceases to reflect that knowledge reliably.

The analogy only goes so far, though; language is somewhat more complicated than calisthenics, and there was considerable confusion at the time about what Chomsky was modeling because of the actual mechanics of his grammar. Those rules we looked at earlier (1a–i and the six transformations in 2 on page 23) look like instructions for how to speak. That's why computer scientists and plan-based cognitive psychologists liked them so much. Carleton Hodge, for instance, took it for granted that Transformational Grammar concerns "the putting together" of sentences, that it seeks to answer the question "How does one proceed, not to describe a sentence, but to make one?" (in Hill 1969:38). Hodge was a typical late-Bloomfieldian linguist and typical in his assumption. Many people thought Chomsky was marketing a production model, a representation of how speakers build sentences. But that's performance.

The construal was natural, in part because of the unclarity at the time about what it means to model the mind, but equally in part because of the terminology of the theory. Chomsky wanted to model a mental *state*, but his terminology strongly supported a model of a mental *process*. His relentless emphasis on creativity didn't help matters, a notion with inescapably dynamic implications. For Chomsky, creativity is a crucial potentiality of linguistic competence, not a direct factor of performance. But lots of people saw his work as something "that explains how we produce [sentences]," showing how "Professor Chomsky . . . is thus interested in the creative rather than the interpretive side of grammar" (Francis 1963:320, 321).

Even members of the inner circle seemed pretty hazy at times. Lees, for instance, proposes a separation between optional and obligatory rules in his paradigmatic *Grammar of English Nominalizations*, because from this separation,

“we might expect to gain a deeper insight into how a grammar can be used by a speaker in the production of sentences” (1968 [1960]:3), and in one conference exchange, Postal responded to a question about why some data might be unclear with:

One answer is that there is a limitation on memory. It may be that in the course of derivations of unclear cases, many complex rules are involved and the informant has difficulty in tracing the path of derivation. (Dallaire et al. 1962:26)

Behind all of this was Chomsky’s analogical framing, his assembly-line vocabulary for Transformational Grammar. No single word is more troublesome here than *generative*; Hodge, in fact, uses *sentence generator* as a synonym for *transformational grammar* (Hill 1969:39). In principle, *generate* identifies an abstract notion, like *delineate*, *define*, or *enumerate*, but it was often interchanged with the quite different *produce*, which signals a concrete notion, like *make*, *build*, and *assemble*. Here is Chomsky describing the workings of his model:

To produce a sentence from such a grammar we construct an extended derivation beginning with *Sentence*. Running through the rules . . . we construct a terminal string that will be a sequence of morphemes, though not necessarily in the correct order. We then run through the sequence of transformations $T_1, \dots, T_j$, applying each obligatory one and perhaps certain optional ones. . . . We then run through the morphophonemic rules, thereby converting this string of words into a string of phonemes. . . . This sketch of the process of generation of sentences must (and easily can) be generalized to allow for proper functioning of such rules as [the Conjunction Transformation, T_{conj}] which operate on a set of sentences, and to allow transformations to reapply to transforms so that more and more complex sentences can be produced. (1957a:46)

How does one *avoid* thinking in production terms with verbs like this (*produce*, *construct*, *run through*, *apply*, *convert*, *operate* . . .), appearing in the very widely read, anthologized, paraphrased, and epitomized text, the manifesto of the revolution, *Syntactic Structures*? That book, by the way, contains forty-one instances of *produce*, and another twenty-eight of *generate*, in largely indistinguishable contexts. Much of Transformational Grammar’s success outside of linguistics, in short, and some of it within, was based on the belief that it was a performance model of language production, a belief that escalated well into the 1960s.

Small price to pay, Chomsky and the Chomskyans must have thought. They had, in a few short and feverish years, hammered out an elegant framework which accomplished the ultimate goal of all linguistic work from at least the

time of the Stoics. They had formally mediated sound and meaning. The fulcrum of this beautiful theory was the underlying syntactic representation, the evocatively named *Deep Structure*. It was the direct output of the base component, a beefed-up descendant of *Syntactic Structures*' Phrase Structure Rules. It was the direct input to the transformations, the early theory's titular technical device. Most crucially for all concerned, with the Katz-Postal Principle in place, it was the locus of meaning, a promise "that generative grammar would at last provide a key to meaning, the holy grail of the study of mind" (Jackendoff 2002:73). Barbara Partee calls these *Aspects* idylls, when the biggest and most enduring questions of linguistics seemed in reach, "The Garden of Eden Period" (2015b; see also R. Lakoff 1989:944).

The New Grammar

In the language curriculum [developed for Oregon high-school programs] we have tried to rely upon sound linguistic scholarship and to give students a scientific approach to the structure of their language and an appreciation of what language is. . . . The grammar is transformational, beginning in the seventh grade with the basic structure of the "kernel" sentence, defined in eighteen phase structure rules. These are organized so that they can be expanded periodically as students are better able to comprehend linguistic complexities. The eighth grade introduces transformations, both single base (e.g., questions and passives) and double base [generalized transformations] (compound structures, relative clauses leading to adjectives, possessives, etc.).

—Michael F. Shugrue (1966:32)

In a photograph accompanying a 1965 *Newsweek* article entitled "The New Grammar," one can see second-grade students literally stacking and arranging the Chomsky-inspired building blocks of sentences.³⁴ The blocks each have different words on them and are color-coded for different parts of the sentence. The children assemble sentences, and then by rotating the blocks they can perform a kind of lexical substitution exercise to discover that "although the words change, the sentence structure doesn't ('Sam and I kick' becomes 'Pete and Susy play,' and so on)." The article reports on the impact Chomsky's theory is having on education, how Transformational Grammar, the New Grammar, was lining up alongside the New Math and the New Biology to revolutionize education. It cites Transformational Grammar curricular reform efforts in several states, a new series of textbooks for grades three through nine by Harcourt-Brace, a multi-year study across sixteen schools in San Francisco, heavily funded by the United

States Office of Education (USOE),³⁵ and, of course the many advantages to be gained by these efforts.

The old grammar is “totally mechanical . . . that’s my criticism,” Chomsky is quoted as saying in the article. Once you’ve learned “the nomenclature,” he adds, “you don’t know any more about the language than you did before.” The New Grammar teaches the logic behind sentence structure. There are fewer rules. Students get a “much more explicit understanding of grammaticalness” (quoting Paul Roberts this time). The article is preparative, so you’ll know what to do, one evening, when your child comes home from school and tells you that one sentence is a transform of another, or reels off the “‘morpheme’ string, THE + BOY + plural + present + BE + ING + SWIM + IN + EDWIN + LAKE.” There is a sidebar, a “Transformer’s Guide” to terms like *Kernel Sentence*, *Noun Phrase*, *Verb Phrase*, *Matrix*, and *Insert Sentence*.

The linguistic blocks were an especially powerful teaching tool for the New Grammar advocates. “In the thirty-three years I’ve been teaching,” a second grade teacher (Juanita Carr, fifty-seven) in an upper-income neighborhood said, “I’ve never seen such a change in students.” We get a similar message from Jane Lord, twenty-five, a second grade teacher in a school “serv[ing] a Negro slum.” The blocks were emblematic of the “creative” advantages regularly touted at the time, that Transformational Grammar provides for understanding and shaping language. Their developer, Robert Ruddell, says the blocks emphasize “the importance of syntax and the idea that you can transform sentences in certain ways” (Schantz 2002:96). While computer scientists and psychologists were thrilled with the way Transformational Grammar could represent knowledge, what raced the pulse of English teachers was its implications for prose style.

How involved were card-carrying Chomskyans in these developments? That’s not clear. Aside from Roberts, a very early Chomsky disciple who kept in frequent contact with him and with Stockwell, none of the primary scholars engaged in the pedagogical research, grammar book publication, and educational policy formation appear to have been very closely aligned with the leading Transformationalists. Nor were Transformationalists entirely sympathetic to much of this work; Robin Lakoff, for one, complaining that it tended to rely only on “a hollow shell of [transformational] formalism” and taught undigested “new formulas” by rote (1969c:130; see Newmeyer 1983:135–37). It was also, inevitably, out of step. The *Newsweek* article features kernels and Generalized Transformations at exactly the time *Aspects* was writing them out of the theory.

But, while direct involvement was limited, these educational reforms and scholarly expansions were certainly encouraged—indeed, urged on in the familiar revolutionary rhetoric—from Transformation Central, MIT (Lees 1963 [1962]; Viertel 1964; Chomsky 1966d, 1967c).

Things were going very well indeed for Chomsky and his grammar. The *Aspects* model was elegant and compelling. It linked sound and meaning. It represented knowledge of language. It housed the alluring Deep Structure. It gained rapid renown in psychology and computer science, in philosophy, in English studies, in education policy, and among the intelligentsia everywhere. Chomsky and his New Grammarians were showing up in *Time* and *Newsweek* and the *New York Review of Books*. Their work was the talk of coffee houses hither and yon. The *Aspects* model was elegant and compelling, but it leaked.

3

Generative Semantics 1: The Model

Imitation alone is not sufficient

—Quintilian (*Institutio Oratoria* 10.2)

Disciples are usually eager to improve on the master, and . . . the leader of a movement sometimes discovers he cannot or does not wish to go quite as fast to the Promised Land as those around him.

—Gerald Holton (1988:35)

Trouble in Paradise

The Chomskyan universe was unfolding as it should in the middle of that optimistic and captious decade, the 1960s. The Bloomfieldians had been driven to the margins. There was a cadre of feisty, clever, dedicated linguists and philosophers working on generative grammar. Young linguists everywhere were clamoring for their wisdom. The MIT graduate program was up and running, generating an impressive, in-demand, soon-to-be-influential string of philosophical doctors. MIT was a stronghold of truth and purity in language studies, and branch plants were starting to dot the hinterlands—California, Illinois, Indiana, Ohio, Texas. Chomsky was the uniformly acknowledged intellectual leader, *Aspects* the new scripture.

The defining concern of the work codified, extended, and enriched in that scripture was to get beneath the literal surface of language and explore its subterranean logico-semantic regularities, to find its Deep Structures, to get at meaning. “In general,” Chomsky told the troops, “as syntactic description becomes deeper, what appear to be semantic questions fall increasingly within its scope; and it is not entirely obvious whether or where one can draw a natural bound between grammar and ‘logical grammar’” (1964d [1963]:51). The talismanic Deep Structure is the basic motivating idea for Transformational Grammar, realizing a “very fruitful and important insight . . . as old as syntactic theory itself” (1965 [1964]:221n33). It’s old, it’s new; it’s the reason we get out of bed in the morning and do linguistics.

Everybody was happy. But no one was content (well, maybe Katz). Postal expressed his unwillingness to stay put by digging deeper and deeper under

the surface, working in a direction which rapidly came to be known as *Abstract Syntax*, and several other linguists joined this project—most notably Robin and George Lakoff, John Robert (Haj) Ross, and James (Jim) D. McCawley. Together they pushed syntax deeper and deeper yet, until—to the extent that semantics had substance at the time—their Deep Structures became virtually indistinguishable from semantic representation. It would not be an exaggeration to say that their Deep Structures were the closest things to explicit semantic representations in mid-1960s Cambridge. They took Chomsky at his word and developed a grammar in which Logical Form had a central place. At one point, early in 1967, the program mutated into Generative Semantics. Deep Structure was the first casualty. Who needs Deep Structure when you have a Semantic Representation and a Surface Structure?

Meanwhile, there was this new student at MIT, Ray Jackendoff, moving in a different direction altogether, one that compromised the Katz-Postal Principle, loosened Deep Structure's stranglehold on meaning, and shifted attention to the hitherto "much less interesting level of Surface Structure" (Chomsky 1966d:588).

Chomsky? He stunned everyone. Having coaxed the semantic genie out of the bottle, he spent the next several years trying to stuff it back in again, in partial alliance with Katz, Jackendoff, and a few others, mostly his students, against the increasingly agitated resistance of the Generative Semanticists. Arguments collided, or sailed past each other, and the field divided, then fractured, then reformed itself largely around two polarities; Chomsky at one pole, Lakoff at the other.

But these are just the bones of the story. There is sinew and gristle, hair and hide, wet stuff and dry, yet to tell. We can start, as in all fleshy matters, with the progenitors.

Home-Brewed Dissension

As of 1965, and even later, we find in the bowels of Building 20 [the home of the MIT linguistics department] a group of dedicated co-conspirators, united by missionary zeal and shared purpose. A year or two later, the garment is unraveling, and by the end of the decade the mood is total warfare. The field was always closed off against the outside: no serpent was introduced from outside of Eden to seduce or corrupt. Any dissension had to be home-brewed.

—Robin Lakoff (1989:943–44)

Paul Postal, studying under Floyd Lounsbury at Yale in the late 1950s, met Chomsky on one of his speaking visits. Postal converted almost overnight:

I was very impressed, first with the power of his thought, but also it seemed that this stuff was from a different planet, in the sense that it was based on an entirely different way of thinking from anything I had come into contact with before.

He hitched his corrosive polemical style to the new movement, and his classmate, Jay Keyser, remembers the note-passing beginnings of his campaign against the Bloomfieldians:

I remember sitting there [in class at Yale], listening to Bernard Bloch lecture on morphemic postulates. Bloch would be saying something, and Paul would write me a note with a counterexample. I thought to myself “Jesus. Postal’s right. This is just not working.”

Eagerly escaping the Bloomfieldian confines of New Haven, Postal finished his dissertation in Cambridge as part of the Research Laboratory of Electronics (RLE) and joined the MIT staff, where he helped shape the first transformational generation, and, of course, hammered out some of the properties of Deep Structure with Katz. He also began working on a program of increasing abstraction and semantic perspicacity that excited a number of linguists; most notably, George Lakoff.

George Lakoff first encountered generative grammar as an MIT Humanities undergraduate in 1961, taking classes from Chomsky and Halle. He reports finding it all pretty dry and uninspiring. But when he went off to do graduate work in English at Indiana, he began to read the material on his own, found it a good deal more compelling, and embarked on some unorthodox work trying to transform the principles of Propp’s *Morphology of the Folktale* into a Generative story grammar. Returning to Cambridge in the summer of 1963 to marry Robin Tolmach, he met Ross and McCawley, and found a job on Yngve’s machine-translation project in the RLE. Katz and Postal were down the hall, working on *Integrated Theory*, and he spoke with them frequently. Through this regular participation in the MIT community, he became more directly interested in language and returned to Indiana to work on a doctorate in linguistics, under transformational early-adopter, Fred Householder. The following summer he attended the Linguistic Institute, at which Postal was teaching, renewing their friendship. So, when Householder left for a sabbatical during Lakoff’s dissertation year, he naturally headed back to Cambridge, where Postal effectively directed his dissertation, and John Robert Ross became his very close associate.

Haj Ross, son of a nuclear physicist, grandson of a Nobel Peace Prize laureate, did his undergraduate work at Yale, where Postal was chafing at the Bloomfieldian bit, and Bloch was the reigning theorist. He studied under both, but was, as he puts it, a “typical fatuous undergraduate and [did] zero work.”

Ross was “interested in language always,” but that didn’t have any effect on his studying:

I was trying to grow up a little bit through the helpful tutelage of playing poker about forty hours a week and football and being on the radio station and in a fraternity and drinking a lot and going to class occasionally and never going to the library or doing any studying. (Huck & Goldsmith 1995:121).

Understandably, when he went off to MIT to talk to Halle about enrolling in its increasingly important linguistics program, Halle was singularly unimpressed, suggesting he go somewhere and “prove himself.” He did. In fact, he went off to Chomsky’s old stomping grounds and completed a master’s thesis under Zellig Harris at the University of Pennsylvania. When he returned to MIT he secured enrollment in its brink-of-the-*Aspects*-theory linguistics program. One of the shining stars in a stellar class, he went on to produce a mammothly influential dissertation. He also began collaborating closely with Lakoff, particularly on Postal’s abstract genre of analyses, and gained the friendship of James D. McCawley.

Jim McCawley, in the estimation of his teacher, colleague, friend, and opponent, Noam Chomsky, was “one of the smartest people to have gone through the field.” Lees places him among “the sanest and most astute linguists of our time.” Ross and Lakoff go on at great length about his intelligence, sensitivity, humor, warmth, inventiveness, pedagogical gifts, musicianship, culinary talents . . . He was “the generative grammarians’ Shiva, the many-handed one of transformational theory” (Zwicky et al. 1970:vii), an important, diverse, challenging linguist. He grew up precocious in the extreme, skipping several grades, gaining early admission to the University of Chicago, moving quickly into graduate school, and earning an MS in mathematics at twenty. He took up a Fulbright Fellowship in mathematics and logic in Germany, where he lost interest in mathematics and started taking language courses. When he returned to the University of Chicago, under faculty expectations that he would be taking a doctorate, he poked around the library for anything that would support his new love of languages. “I came upon *Syntactic Structures* and it really turned me on,” he remembered.

Not long after that I saw the announcement for the new linguistics graduate program that they were starting at MIT. I applied, got accepted, went there, became a linguist, and have been enjoying life much more ever since then. . . .

Languages are weird and wonderful things. As long as you are perceptive enough there is plenty to keep you happy and busy. (Cheng & Sybesma 1998:26)

By the time he entered MIT, McCawley spoke several languages fluently, played several instruments just as fluently, and was supporting himself by translating Russian math books (Lawler 2003:614). He also had a thick Glasgow accent, overgrown eyebrows, a quick and lively smile, and a receding stutter (at the time, only in English, and then not at all).

He entered the Halle-Chomsky linguistics program in 1962, distinguishing himself rapidly for both the clarity of his thought and the deftness of his wit. He was more intrigued by phonology than syntax and produced a brilliant dissertation on Japanese tone phenomena (1968b [1965]), earning the second doctorate awarded by the new department. But he soon found himself back at the University of Chicago, now teaching linguistics, and having to offer courses in syntax. He educated himself in the area by spending a great deal of time on the phone with two friends in Cambridge who were directing a syntactic study group at Harvard, Ross and Lakoff.

Each of these four men has been credited with engendering the theory (though Ross only, in his words, “as George’s sidekick”).¹ Susumu Kuno, a distinguished Harvard linguist who knew all the principals, working closely with several of them, says, “I have no doubt that George was the original proponent and founder of the idea.” Arnold Zwicky says that the theory was the joint issue of Lakoff and Ross. Newmeyer says that it was born out of work by Lakoff and Ross, under Postal’s influence. Ross, for his part, says “it’s basically Postal’s idea. He was basically the architect. [George and I] were sort of lieutenants and tried to flesh out the theory.” But Postal says that “McCawley first started talking about Generative Semantics,” and that McCawley’s arguments first got him interested in the movement. McCawley says that Lakoff and Ross “turned me . . . into a generative semanticist.” Lakoff, notably the least humble of the four, says that the idea was his, but that Postal talked him out of it for a period of about three years, when McCawley then convinced him it was correct, while he was working with Ross, on some of Postal’s ideas.²

However muddled this genesis is, the moral is clear: most big ideas don’t have fathers or mothers so much as they have communities. Generative Semantics coalesced in mid-1960s Cambridge—partially in concert with the *Aspects* theory; partially in reaction to it. Chomsky, who is not particularly interested in Generative Semantics’ parentage says, simply, “It was in the air,” and there is much to recommend this account.

As transformational analyses of syntax grew more probing and more comprehensive, from Harris on, they increasingly involved semantics. At some indistinct point—or, rather, at several different indistinct points, for several people—this program began to seem exactly wrong. It began to appear that syntax should not be borrowing from semantics so much as exploring its own semantic roots; that syntax should not be feeding semantics, semantics should be feeding the

syntax—that semantics should be generative rather than interpretive. At some indistinct point, there was Generative Semantics.

But “in the air” is far too vague. There were clear leaders. As Chomsky, quite suddenly, began to show less inclination for this type of deep syntactic work, and as Generative Semantics began to take shape against the backdrop of *Aspects*, it was obvious who these leaders were: George Lakoff, Haj Ross, Jim McCawley, Paul Postal. Others had influence in various ways, especially Robin Lakoff, Jeffrey Gruber, Charles Fillmore, and several MIT instructors—Edward Klima, Paul Kiparsky, and the alpha silverback, Noam Chomsky.

“I sort of believed [Generative Semantics] myself back in the early sixties,” Chomsky has said, “and in fact more or less proposed it.” The popular arguments in *Cartesian Linguistics* (1966a) and *Language and Mind* (1968) certainly support that claim. In the former, for instance, he says that “the Deep Structure underlying the actual utterance . . . is purely mental [and] conveys the semantic content of the sentence. [It is] a simple reflection of the forms of thought” (1966a:35)—as clear as articulation of Generative Semantics as ever there was. But there are large differences of scale between the Four Horsemen of the Apocalypse—as Postal, Lakoff, Ross, and McCawley became known—and everyone else.

Chomsky, in particular, certainly never adopted Generative Semantics as an active program, and everywhere that he comes close to endorsing something that looks like Generative Semantics, there is a characteristic rider attached. Just as he had a footnoted qualification about the Katz-Postal Principle in *Aspects*, after he equates Deep Structure and thought in *Cartesian Linguistics*, he says, in a footnote, that this connection is a “further and open question” (1966a:100n8). The Horsemen expressed no such reservations.

Robin Lakoff, who similarly expressed no such reservations, whose published dissertation was celebrated by one reviewer as “post-Chomskyan,” who engaged in a few skirmishes, who was prolific in this period (and afterward), who was one of the movement’s most influential teachers, and who led the movement into pragmatics, was neither the proselytizer nor the large-scale theorizer that the others were. Bucholtz and Hall call her the “lone Horsewoman,” not without cause; certainly, as they argue, she had a central enough role that she doesn’t fit very easily or even fairly into the “everyone else” category. She has never been credited with “inventing Generative Semantics,” as were George, Paul, Jim and Haj, in various ways and combinations. But she was among the Abstract Syntax avant-garde and was much more directly involved in the development, growth, and propagation of Generative Semantics than Gruber or Fillmore. But if we try to fully assimilate Bucholtz and Hall’s phrase to the Generative Semantics origin story, spelling it out as “Horsewoman of the Apocalypse,” its application is somewhat less compelling. Robin Lakoff is not well known for breathing fire. In her own words, she is “basically a wuss” who never particularly liked conferencing

or the cut-and-thrust of public argumentation that characterized so much of the Wars. She had little confidence, she says,

as I was listening to papers and discussion, whether thoughts coming into my mind were interesting to anyone else, so I could never raise my hand to ask them. Instead I would scribble something and show it to George, and if he thought it worthwhile he might ask it. But I guess I was sort of invisible.³

Gruber is perhaps the most interesting case of the other linguists who have been connected to the origins of Generative Semantics. His dissertation under Klima (Gruber 1965 & 1976), working in an *Aspects* framework that assumed transformations preserved meaning, argued for “a system which comes close to what might be called a derivational semantic theory, as opposed to an interpretive one” (Gruber 1965:1). His system posited a semantically rich pre-lexical level, “deeper than the level of ‘Deep Structure’ in syntax” (Gruber 1965:2), which prominently featured semantic roles such as Agent, Source, Goal, and Theme. But he relocated to Africa largely for religious reasons just as the disagreements were starting to surface, and left linguistics altogether for two years to teach English in a Botswana village school (Collins 2014).

Fillmore, on the other hand, was very much engaged in generative linguistics through the period (and for decades beyond), publishing regularly, attending conferences, always on the cutting edge. He developed a syntactic model with key similarities to Gruber’s approach and highly compatible with Generative Semantics, including over the totemic matter of the existence of Deep Structure:

It is likely that the syntactic Deep Structure of the type that has been made familiar from the work of Chomsky and his students is going to go the way of the phoneme [which was rejected in an argument by Halle that became an instant classic for Generativists]. It is an artificial intermediate level between the empirically discoverable “semantic Deep Structure” and the observationally accessible surface structure, a level the properties of which have more to do with the methodological commitments of grammarians than with the nature of human languages. (Fillmore 1968:88)

His approach to “semantic Deep Structure” took shape in a new model he proposed, Case Grammar, largely via a set of theoretical primitives with remarkable (but apparently independent) similarities to Gruber’s semantic roles (Fillmore 1968:117n14). These relations—“deep cases” to Fillmore—are now ubiquitous in linguistics, wearing such labels as “thematic roles,” “theta-roles,” and “participant roles,” a ubiquity that is due mostly to the influence of Case Grammar, the passionate commitment of Fillmore’s scholarly activity, and the power of his

arguments (along, no doubt, with the relative inactivity of Gruber). But Fillmore was not an MIT insider and—not coincidentally—had a far more ecumenical approach to linguistics than could be found among the Cambridge sectarians of the time.⁴

The kernel of Generative Semantics was a dissolution of the syntax-semantics boundary at the deepest level of grammar—the axiom that the true Deep Structure was the semantic representation, not a syntactic input to the semantic component. This dissolution, in real terms, began with Postal, though George Lakoff was the first to propose it actively.

Lakoff's Proposal

The approach taken by Katz, Fodor, and Postal has been to view a semantic theory as being necessarily interpretive, rather than generative. The problem, as they see it, is to take given sentences of a language and find a device to tell what they mean. A generative approach to the problem might be to find a device that could generate meanings and could map those meanings onto syntactic structures.

—George Lakoff (1976 [1963]:44)

The first step toward Generative Semantics was a paper by George Lakoff, very early in his graduate career, which, after some preliminary hole-poking in Katz-n-Fodorian Interpretive Semantics, says, “There are several motivations for proposing a generative semantic theory” (1976a [1963]:50).⁵ Well, okay, this is not a step. This is a hop, skip, and hyper-jump. In three lunging moves, Lakoff wanted to replace Katz and Fodor’s just-published semantic program, to bypass Katz and Postal’s still-in-the-proofs integration of that program with transformational syntax, and to preempt Chomsky’s just-a-glint-in-his-eye Deep Structure. Yowza!

He took the paper, “Toward Generative Semantics,” to Chomsky, who was, Lakoff recalls, “completely opposed” to his ideas, and sent him off to Thomas Bever and Peter Rosenbaum for some semantic tutelage. Chomsky remembers nothing about the paper except that “everybody was writing papers like that” in 1963—a remark that is, at best, difficult to corroborate; at worst, a baseless dismissal. Bever and Rosenbaum were at MITRE corporation, an Air Force research lab in Cambridge where linguistics students went in the summer to spawn transformations.⁶ Bever and Rosenbaum didn’t like it either, and Lakoff remembers a huge, three-hour argument. No one budged, though Ross, another MITRE summer employee, sat in as an onlooker and thereafter began his close, collaborative friendship with Lakoff. Lakoff ran off

some copies and gave one to Ross, another to McCawley, another to Postal, and sent a few more off to people he thought might be interested. It was not a hit. No one held much hope for his proposals, and no one adopted them. Lakoff does not give up easily, but he respected Postal immensely and took his advice. He abandoned the notion of Generative Semantics (or perhaps more accurately, suppressed it), and went back to work in the interpretive framework of the emerging *Aspects* theory.

The most important word in Lakoff's label wasn't *generative*, but *semantics*, in pointed opposition to *syntax*. The Katz and Fodor and Postal work, for all its inroads into meaning, under Chomsky's heavy influence, clearly left syntax in the driver's seat. Not so Lakoff. He wanted to put meaning behind the wheel.

But, aside from proposing the label, *Generative Semantics*, and raising some of the issues that engulfed that label several years later, Lakoff's paper is, as Ross puts it, "only good for historical gourmets." Nor, even though a similar model a few years later would sweep through the field like a brush fire, is it really very hard to see why Lakoff's proposal fell so flat. The paper is very inventive in places, which everyone could surely see, but it is also naïve in the extreme in other places, and is prosecuted in a tone, an arrogant certainty, that Chomskyans were used to seeing in one another's polemics against the Bloomfieldians, but not directed at their own internal mechanisms. The first half of the paper, remember, attacks Katz and Fodor and Postal's recent innovations. In particular, the Katz-Postal Principle requires that sentences with the same meaning have the same Deep Structure, but Lakoff casually adduces counterexamples like 1–3, where the a and b sentences all mean essentially the same thing, but the Deep Structures are quite different.

- 1 a I like the book.
 b The book pleases me.
- 2 a I made that clay into a statue.
 b I made a statue out of that clay.
- 3 a Yastrzemski hit the ball to left field for a single.
 b Yastrzemski singled to left field.

These present problems for the *Aspects* theory, all right, but hardly incapacitating ones; there are fairly clear ways around them, none of which Lakoff explores. He just says Katz-n-Fodorian semantics run into trouble here, and blithely proposes tossing out the whole approach. Then comes the second section of the paper, the one in which he offers his replacement, and we find an even larger measure of certainty, about matters which are obscure in the extreme. Lakoff talks of semantic laws, for instance, and rules for embedding

thoughts into other thoughts, and even formalizes a few thoughts. Take this rule as an example, the rule which introduces subjects, predicates, and objects—presumably (though Lakoff does not specify) replacing Chomsky’s iconic $S \rightarrow NP + VP$ phrase structure rule.

$$4 \quad T \rightarrow [s.pred.] \left(s.subj., \left\{ \frac{s.obj.}{0} \right\} \right)$$

The T stands for ‘Thought,’ so the rule says that every thought must have a semantic predicate and a semantic subject, but need not have a semantic object (hence the zero). Oh, and what does a specific thought look like? As it turns out, a great deal like the bundles of features hanging down from the bottoms of Deep Structures; 5 is the thought rendered into English as “Spinach became popular.”

$$5 \quad \begin{bmatrix} s.pred. \\ -DS' \\ +change \\ -space \\ +directed \\ +direction \\ -dummy \end{bmatrix} \left(\begin{bmatrix} s.obj. \\ -p.o. \\ +state \\ +quality \\ -dummy \\ | \end{bmatrix} \begin{bmatrix} s.obj. \\ -p.o. \\ +state \\ +quality \\ -dummy \\ | \end{bmatrix} \right)$$

spinach popularized

The content of 5 is not especially important here (if you need a sample, $-DS$ is “do something,” negated; the popularization just happens, without any agent causing it). It’s just that we see Lakoff here—brainy, cocky, and taking the cognitive claims of generative grammar far more literally than anyone else at the time—talking sanguinely about thoughts, plopping representations of them down on the page, at a time when Katz and Fodor are just starting to explore what meanings might look like in Chomskyan terms, Katz and Postal just starting to etch out how they might fit into a Transformational Grammar, Chomsky just putting the final recursive touches on Deep Structure. The ink was barely dry on these ground-breaking works, by the architects of the theory, and Lakoff, just a year from his (Humanities!) BA, was happily, confidently, throwing them in the dustbin.

The final section of Lakoff’s highly speculative paper is “Some Loose Ends,” implying that he had completed the hard work at the grammar loom and only a few stray threads need be woven back into the rug of Chomskyan—or, with these advances, perhaps Lakovian—theory. The section reveals much about Lakoff, particularly the tendency to view his own work in the most grandiose

and comprehensive terms, to look constantly at the big picture. But no one else was similarly moved by his case. Chomsky apparently saw little in it, Bever and Rosenbaum ditto, Ross and McCawley quickly forgot about it, and Postal suggested Lakoff curb his rogue enthusiasm and try to help revise the incipient *Aspects* model, rather than drop it altogether. He did just that, shortly setting to work on his dissertation, which not only revises the *Aspects* model, but stretches it about as far as it could go without breaking.

Abstract Syntax

As we proceed ever further with our investigations, we come of necessity to primitive words which can no longer be defined and to principles so clear that it is no longer possible to find others more clear for their definition.

—Blaise Pascal (1952 [1670]:431)

George Lakoff's dissertation was "an exploration into Postal's conception of grammar" (G. Lakoff 1970a [1965]:xii), and the published title—*Irregularity in Syntax*—reads like a diagnosis of the main defect Postal saw in transformational modeling. There was something wrong with the innards of Transformational Grammar, constipation maybe, which was hampering progress and clarity. The diagnosis led Postal to embark on a line of research soon known as *Abstract Syntax*.

The fact that Abstract Syntax had its own label tells us it was seen to be a distinct track, at least in some measure, but it was not a new theory of grammar, as Generative Semantics and Fillmore's Case Grammar would bill themselves. It was a program within the *Aspects* framework to continue the deep, deeper, deepest trajectory that moved syntactic description further into semantic territory, so that it was no longer obvious if there was any separation at all (Chomsky 1964d [1963]:51). No one felt Postal's project to be at odds with all the other feverish activity surrounding *Aspects*. Or maybe we should say "almost no one" felt it to be at odds, because, . . . well, Chomsky. The thrust of Postal's work was to reduce complexity in the base down to an axiomatic minimum of primitive categories, which entailed some moves Chomsky may have found unappetizing—Newmeyer reports "the first public signs of division" in some of Postal's arguments at a 1965 colloquium that adjectives were verbs at some deep level (Newmeyer 1980a:93; 1986a:82).

But once again we come into difficulties of demarcation; in particular, it is not at all obvious *when* this work became uncongenial to Chomsky. Certainly

the divergence was one of degree, organized around a few technical proposals, rather than one of kind. There was no sharp change in either the argumentation or the direction of Postal's research; if anything, it was just a moment ahead of the established Chomskyan arc. The trend in generative work from the outset was toward increasingly greater abstraction, a trend that gathered considerable momentum in the early 1960s with the introduction of trigger morphemes and Δ -nodes. Certainly no one remembers any kind of flare-up around Postal's deep-verb colloquium.

Postal was attacking a growing problem in the early theory. The post-*Syntactic Structures* developments featured an unchecked mushrooming of categories. Much work in early transformational research simply projected the wide variety of surface categories onto the underlying representations, and even work that winnowed off some of those categories still retained an alarming number of them; Lees's exemplary *Grammar*, for instance, had dozens of underlying categories (e.g., 1968 [1960]:22–23), though it dealt with only one small corner of English syntax and used the power of transformations to reduce the surface categories—something Schachter complained about, saying the trend “was staggering to contemplate; it seems likely in fact, that each word would ultimately occupy a subcategory of its own” (1962:137). This consequence was particularly glaring in a theory that marketed itself on the virtues of simplicity and generality.

Postal took up the mission to pare back the number of deep categories. He argued in classes, papers, colloquia, and at the 1964 Linguistic Institute, that adjectives are really deep verbs (G. Lakoff 1970a [1965]:115ff); that noun phrases and prepositional phrases derive from the same underlying category (Ross 1986 [1967]:124n9); and that pronouns weren't “real,” that they were a figment of superficial grammatical processes (Postal 1966a). This was textbook Transformational Generative argumentation, by one of its sharpest practitioners, but as Postal pursued this course, and as Ross and the Lakoffs joined him so thoroughly and enthusiastically that it became something of a program, Chomsky apparently lost his taste for it.

Ross's most effective work along these reductionist lines was to argue that there is no special category of auxiliary verbs; a verb is a verb is a verb.⁷ Auxiliaries, as traditional grammar usually held them to be, were categorically nothing special, and so they didn't need their own Deep Structure category, as in *Syntactic Structures*. Again, we have standard-issue Generative argumentation relying on the kind of feature notation we saw with Katz and Fodor's work, but don't forget that Affix-hopping was one of the star attractions of Chomskyan linguistics, and Affix-hopping leaned on the special category of auxiliary verbs. Ross's proposal, then, may have caused some friction with Chomsky. Ross

was certainly aware of whose proposals he was overthrowing to make room for his no-special-auxiliary-category proposal. Of course, many of *Chomsky's* proposals in fashioning the *Aspects* framework, such as base-level recursion and the elimination of Generalized Transformations, overthrew his own earlier analyses. But revising your own previous work is not always the same as someone else revising it.

Friction or not, Ross's case is persuasive. He is one of the most sensitive analysts in the transformational tradition and, at the time, one of the most dedicated to its tenets. So, while some of his conclusions are at odds with *Syntactic Structures*, the arguments are models of Chomskyan reasoning. Ross's case depends on two of Chomsky's most important early themes, naturalness and simplicity, and on the descriptive power of transformations. Ross points out that a wide range of transformations must somehow refer to the complex in 6.

$$6 \quad \text{Tense} \left(\left\{ \begin{array}{c} \textit{have} \\ \textit{be} \end{array} \right\} \right)$$

(Don't worry that this doesn't look exactly like the rule 1d, on page 23, which introduces some of these elements. This just describes a configuration that can arise from that rule; namely, that the tense affix 1d puts into the verb phrase can be followed by either *have* or *be*, and multiple transformations needed to reference that configuration.)

The negative (T_{not}) transformation, for instance, needs this complex in the *Aspects* framework, to account for data like this.

- 7 a Pixie had shown off her shoes.
 b Pixie had not shown off her shoes.
- 8 a Pixie was showing off her shoes.
 b Pixie was not showing off her shoes
- 9 a Pixie showed off her shoes.
 b Pixie did not show off her shoes.

What this data tells us is that *not* has to line up after the first auxiliary verb, if there is one (*have* in 7b, *be* in 8b, but if there is no auxiliary verb, one needs to be introduced (*do*, in 9b). Now, harking back to our old friend, Affix-hopping, remember how this would go: the Deep Structure for 7a includes the sequence PAST *have* -en *show*, hopping occurs to produce the sequence *have* PAST *show* -en, which becomes *had shown* at the surface. With 8a it is PAST *be* -ing *show*

transforming to *be* PAST *show* -ing, surfacing as *was showing*, and with 9a it is a simple case of PAST *show* becoming *show* PAST becoming *showed*. Beauty.

But introducing *not* seems to gum that pattern up a bit. The transformation T_{not} gives us the respective underlying sequences PAST *have not* -en *show* (for 7b), PAST *be not* -ing *show* (for 8b), and PAST *not show* (for 9b). The complex Ross is complaining about (6) is exactly what seems to be needed here for the rule to operate: the landing site for *not* is after the TENSE (9b) and *have* if there is one (like in 7b) or *be* if there is one (like in 8b). There's even a cool example of a Gyro Gearloose kind of thrill here, since 9b has this specially imported auxiliary verb that has to be explained somehow. The established account was that T_{not} "stranded" the tense if there was no base-generated *have* or *be*, separating it from the verb it would otherwise hop over. So another rule, another *Syntactic Structures* stalwart which was known as *Do*-support, comes to the rescue: in 9b we would then get a sequence like PAST *do show*, with *Affix-hopping* then giving us the sequence *do* PAST *show*, which in turn surfaces as *did show*.

But it isn't just T_{not} that seems to require 6. Take a look at these examples:

- 10 a Had Pixie shown off her shoes.
b Which shoes had Pixie shown off.
- 11 a Was Pixie showing off her shoes.
b Which shoes was Pixie showing off.
- 12 a Did Pixie show off her shoes.
b Which shoes did Pixie show off.

You got it: Question transformations (T_Q and T_{wh}) need to reference the complex in 6 as well. The TENSE and *have* or *be*, if they are present, get moved around by the question transformations, putting in front of *Pixie* one of the following (i) the TENSE on its own, or (ii) the TENSE and *have* (if present), or (iii) the TENSE and *have* (if present). And, again, we witness a "stranding" situation in 12a and 12b, where the tense is moved in front of *Pixie*, with no auxiliary verb to hop over, and *Do*-support shows up to wear the tense (*did*). It is exactly these kinds of coordinated rule activities that made Transformational Grammar so exhilarating to so many people at the time. The vast, contingent, variable mass of human linguistic activities seem to fall neatly into a powerful descriptive calculus. The transformational relations among the relevant structures is a slick account of the knowledge English speakers have about negatives and questions.

Back now to the worm Ross found in the *Aspects* apple, that this elegant structure of rules has to refer to a kludgy thingamajig like 6. In terms of the *Aspects* model, or almost any other one you might want to name, 6 is not even a natural constituent, like a Noun Phrase or a Verb Phrase. As Ross puts it, a rule which calls on something like 6 has no more credibility in relation to *Aspects* than a rule which calls on 13.⁸

$$13 \quad \text{Noun} \left(\left\{ \frac{\text{toast}}{\text{and}} \right\} \right)$$

Toast? And? Ross's fantasy complex exhibits the creeping jocularity that was showing up in some Generative argumentation—and, speaking of friction with Chomsky, might not someone who perceived themselves to the target of such jocularity think rather of another term for it, such as *ridicule*, might not they see themselves as the butt of the joke; minimally, might not they see their whole serious enterprise as being infiltrated by juvenilia?

What Ross proposes actually capitalizes on one of Chomsky's major advances in *Aspects*, which had expanded and refined Katz and Fodor's adumbrations about syntactico-semantic features. Ross suggests that, instead of 6, all the rules in question refer to any element bearing the features [+V, +Aux]. He then assigns those features to *have* and *be*, whereas a verb like *show* is [+V, -Aux], and the majority of other words in the universe, like *Pixie* and *toast* and *and* are [-V, -Aux].⁹ This solution is certainly more natural on the surface than Chomsky's analysis, in the sense of replacing a seemingly arbitrary grouping with a defined class, and it manifestly simplifies both the base and the transformational component.

It is, of course, more abstract than Chomsky's analysis, since it depends on lexical features, and there is some irreverent nose-tweaking in the noun-*toast-and* comparison to a venerable *Syntactic-Structures*-sponsored, *Aspects*-endorsed complex. But Ross's proposal absolutely falls within the purview of mid-1960s Transformational Grammar. Indeed, it is less abstract than much of *Aspects*.

The argumentation for Ross's suggestion appeals to naturalness and simplicity in both the base and the transformational component, but a very welcome by-product of work in Abstract Syntax was to make Deep Structure (and thereby the entire grammar) more transparently semantic. So, his argument included subroutines like the following. Consider 14a and 14b:

- 14 a Hudson doesn't need to chase the platypus.
 b Hudson needn't chase the platypus.

In the *Aspects* model, 14a and 14b have distinct Deep Structures (in 14a, *need* is a main verb; in 14b it is an auxiliary verb). If the category distinction is erased, as in Ross's proposal, then the two (semantically equivalent) sentences have the same Deep Structure.

As this subroutine shows, the Katz-Postal semantic neutrality hypothesis governed virtually all of the work in Abstract Syntax. Abstract Syntax was the child of Paul Postal, and Postal was part of the duo that not only formulated the hypothesis, but paired it with this heuristic:

Given a sentence for which a syntactic derivation is needed, look for simple paraphrases of the sentence which are not paraphrases by virtue of synonymous expressions; on finding them, construct grammatical rules that relate the original sentence and its paraphrases in such a way that each of these sentences has the same sequence of underlying [trees]. (Katz & Postal 1964:157)

Katz and Postal's heuristic is a blueprint for Abstract Syntax and, throwing our metaphors to the wind, a roadmap to Generative Semantics.

Nobody played out this heuristic more thoroughly, or more astutely, than the Lakoffs. Robin's Harvard dissertation was published as *Abstract Syntax and Latin Complementation* (1968 [1967]), and George's Postal-guided *Irregularity in Syntax* is an Abstract Syntax treasure trove. George's most renowned proposal falls under the general label *lexical decomposition* and starts by following the heuristic to sentences like those in 15, which he notes are effectively paraphrases of each other.

- 15 a Alba killed the bogies.
 b Alba caused the bogies to die.
 c Alba caused the bogies to become dead.
 d Alba caused the bogies to become not alive.

Lakoff adduced a number of strong arguments that all four derive from the same Deep Structure, 15d; or, more properly, that all derive from 15e, which is populated not with the concrete verbs of English but with deep, possibly universal abstract verbs (coded in small-capital letters):¹⁰

- 15 e Alba CAUSE the bogies to BECOME NOT ALIVE

Most of the arguments for these abstract analyses were syntactic, in the expansive *Aspects* what-appear-to-be-semantic-questions-fall-increasingly-within-its-scope sense of *syntactic*—that the object of *kill* and the subject of *die*, for instance, have exactly the same relevant feature assignments (e.g., they both must be [+alive]; so *bogies* is okay, *rocks* is not)—but once again the most persuasive component of the case is that an analysis which treats *kill* as composed of more elementary meanings is “more semantically transparent” (McCawley in G. Lakoff 1970a [1965]:i) than treating *kill* as a lexical atom.

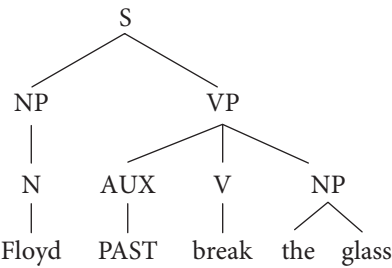
Chomsky had predicted with trepidation in the 1950s that “if we should take meaning seriously as a criterion, our analyses would be wildly complex” (1958:453), and it doesn’t take very much imagination to see that’s exactly where these sorts of analyses were heading. Think, for instance, of how one would represent the component meanings of lexical items like, just sticking with Lakoff’s fatality theme, *slaughter*, *garotte*, and *assassinate*; the last would have to be, conservatively, something on the order of CAUSE X TO BECOME NOT ALIVE FOR POLITICAL REASONS IN A COVERT MANNER, WHERE X IS A REASONABLY IMPORTANT HUMAN. Or, here’s a real example from the period, 16b, a proposed Deep Structure string for 16a:

- 16 a Did I give you the other book?
 b There is a set of books that both you and I know about and the cardinality of that set is some number n and you and I have just had in mind a subset containing $n-1$ of those books and I am now calling your attention to the remaining n th book. There was a time when I had that book in my possession and I am now asking you to tell me whether I did anything in the past which would count as causing that book to be in your possession. (Fillmore 1972 [1969]:15)

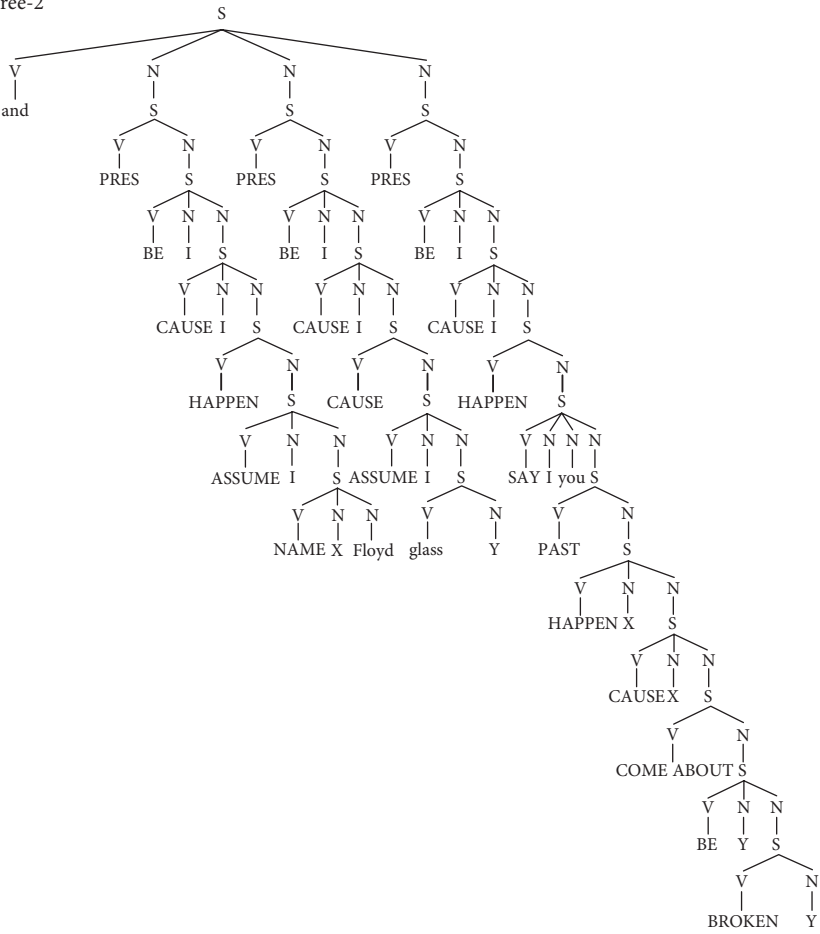
The most famous of these wildly complex Deep Structures, featured frequently in Lakoff and Ross’s talks, and which even made the *New York Times* (Shenker 1972), is their analysis of 17. *Aspects* would assign a Deep Structure to this sentence much like that of Tree-1, but Ross and Lakoff assigned it an underlying structure like that of Tree-2 (both trees, however, are somewhat elided).¹¹

17 Floyd broke the glass.

Tree-1



Tree-2



Keep in mind that Tree-2—although it looks like, and has been taken to be, a *reductio ad absurdum* vitiating the theory that produced it—is the serious proposal of two very good, very dedicated linguists. Lakoff and Ross knew it looked goofy. Merriment was always part of their schtick, and the Floyd tree was the butt of many jokes. Ross had a ceiling-to-floor mobile of it hanging in his office, made from coat-hangers and Christmas-tree balls. But Lakoff and Ross were loyally tracing out the *Aspects* trajectory, with the Katz-Postal Principle lighting the way, to its natural consequences.

The Katz-Postal Principle and its start-with-the-paraphrases heuristic required taking meaning as a guiding criterion for grammar construction. The more one did so, the deeper and more abstract the analyses became. Notice three things before we move on, though. First, that representations at least as detailed as 16b and Tree-2, since they represent meanings, are inevitable in any grammar which wants to get the semantics right. Deep Structure string 16b, in particular, foreshadows a major twenty-first-century mainstay, Frame Semantics, and if we tried to render it into a tree it would be far more gangly than Tree-2. Second, since the meaning of *kill*, or some significant part of that meaning, is “cause to become not alive,” that fact has to be treated somewhere, even in a wholly Interpretive Semantics. And, third, notions like causation and negation and becoming (the technical term for this last one is *inchoation*) are fundamental parts of the human meaning-making repertoire.

And here’s the thing: despite the enthusiasm for meaning that suffused the *Aspects* program, that book really has very little semantics in it at all. One philosopher remarked about the *Aspects* framework that “semantic interpretation [is] provided, or rather not provided, by a separate (and highly ad hoc) ‘semantic component’” (Lycan 1984:6). That component remained very sketchy as Abstract Syntax moved ahead, but everyone realized that whatever an articulated semantic representation in the *Aspects* model might end up looking like, it would be distended in the direction of the Floyd tree. Meaning is a complicated beast.

For some observers, Lakoff and Ross were not going far enough or fast enough with their elaborate trees. Anna Wierzbicka, who had been studying linguistics in Warsaw with Andrzej Bogusławski, a serious semanticist if ever there was one, visited MIT just as the Abstract Syntax arboretum was expanding. She found it all a bit tame and recalls urging the brink-of-Generative-Semanticists to follow through on the implications of their work and get *really* abstract (Newmeyer 2014:257).

The important point for the moment, however, is much more straightforward than whatever the appropriate semantic representation of “Floyd broke the glass” might be: many Chomskyan linguists found the arguments surrounding the abstract Floyd tree (Tree-2) very persuasive in the post-*Aspects* context, and it became a touchstone for Lakoff and Ross’s evolving perspective.

Logic

Consider for a moment what grammar is. It is the most elementary part of logic. It is the beginning of the analysis of the thinking process. The principles and rules of grammar are the means by which the forms of language are made to correspond with the universal forms of thought. . . . The structure of every sentence is a lesson in logic.

—John Stuart Mill (1867:15)

The elaborate Floyd tree shows just how much traction Postal's reductionist campaign had got: lots of things were now deep verbs (adjectives, prepositions, conjunctions, tenses, quantifiers, some nouns); phrase types dissolved (no adjective phrases or prepositional phrases); articles arose transformationally. Devoutly following Chomsky's repeated injunctions toward simplicity, Abstract Syntax arrived at a small core of deep categories: NPs, Vs, and Ss. Every other category was introduced in the course of the derivation.¹²

This core was especially attractive because, as McCawley and George Lakoff began to argue, it aligned very closely with the atomic categories of symbolic logic: arguments ($\approx$ NP), predicates ($\approx$ V), and propositions ($\approx$ S). Further: the reduction of the Deep Structure inventory meant a corresponding reduction of the phrase structure rules, which now fell into an equally close alignment with the formation rules of logic. Further: the formalisms of symbolic logic and Transformational Grammar also fell nicely together.

None of this is surprising on the long view, of course. "Since the times of the Greeks," Ernst Cassirer reminded linguists in the first issue of *Word*, "there was always a sort of solidarity, of open or hidden alliance between grammar and logic" (Cassirer 1945:103). More immediately, Transformational Grammar itself was developed specifically by men with considerable knowledge in, and equal affection for, twentieth-century formal logic—Harris and Chomsky. But on the short view—that is, in the 1960s, Cambridge-based, transformational hothouse—it came to some as a revelation.

Take a simple statement in symbolic logic.

18 $\text{love}(x,y) \ \& \ \text{man}(x) \ \& \ \text{platypus}(y)$

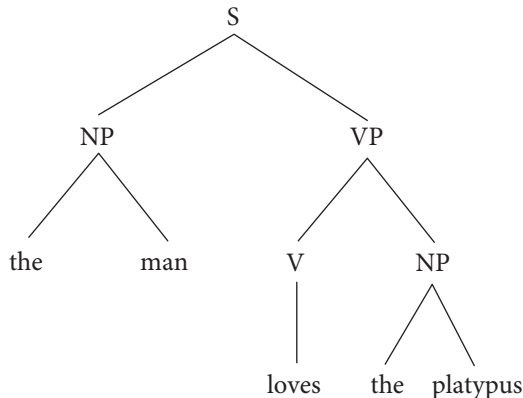
We have a two-place predicate (*love*) that (therefore) takes two arguments, x and y , and two one-place predicates (*man* and *platypus*) that take one argument each, respectively x and y ; they are assembled into one proposition by way of a pair of Boolean conjunctions (i.e., two instances of $\&$). It says that x , the man, and y , the platypus, are related through the predicate, *love*, such that

the x holds that state with respect to y . That is, the whole assemblage means, pretty much (ignoring tense and other minor complications), what sentence 19 means.

19 The man loves the platypus.

These two entities, 18 and 19, are similar in crucial respects. The word *love* in 19, for instance, just like the predicate *love* in 18, links up two “arguments”; it is a transitive verb that requires a subject and an object. But they also look pretty different in other ways (What’s with the variables? And why do we need those &s?). Not to worry. Lakoff, in true Abstract-Syntax fashion, argues that the differences are only skin deep. So, we know that sentences are represented in phrase structural terms as labeled trees, like Tree-3.

Tree-3

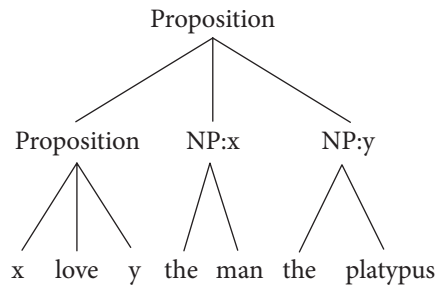


But there was an alternate and fully equivalent formalism for representing constituent structure, namely, labeled bracketing, like 20:¹³

20 ((the man)_{NP} (love(the platypus)_{NP})_{VP})_S

Put this way—18 and 20 are both bracketed strings, and 20 is equivalent to Tree-3—you can probably see the dénouement as clearly as Lakoff and McCawley did: just reverse engineer the logical bracketing formalism of 18 into the tree formalism and you get a representation like Tree-4. The formalisms of symbolic logic and Transformational Grammar, in other words, are fully equivalent. That’s Step One. Step Two, in the Transformationally heady, magic-bullet, post-*Aspects* days, was a minor one: build an operation to get us from Tree-4 to Tree-3.

Tree-4



This realization—that Deep Structure coincided with symbolic logic, the traditional mathematico-philosophical language of meaning—was a mind-blowing confirmation that Abstract Syntax was on exactly the right track. It was, in fact, the conversion experience that effected Generative Semantics.

Logic is ultimately an empirical product, the distillate of word and sentence observations by Aristotle and his contemporaries, so it should be rather unremarkable that it can be brought to function prominently in linguistic theories. But the developments it went through over the millennia gave it an aura of purity, and of psychological or even metaphysical priority—not something that comes from language, but something that determines or regulates language.

The Deep Structure convergence with logic, too, seemed to be just what Dr. Chomsky had ordered. Very early in his career he suggested that his approach might “constitute a bridge between vernacular language in all its variety and complexity and the restricted language of the logician” (1957b:291). From his MA thesis, which bears the unmistakable imprint of Rudolf Carnap’s *Logical Syntax of Language* (1937 [1934]; Newmeyer 1988a; Tomalin 2006:159–60); through his massive *Logical Structure of Linguistic Theory*, through *Aspects* up to *Cartesian Linguistics*, in which *Deep Structure* and *Logical Form* are synonymous—through his entire career to that point—Chomsky courted symbolic logic.¹⁴ The Abstract Syntacticians thought it was time to end the courtship. They were ready to elope.

There was one more factor—beyond the increase in semantic clarity, the amenability to tree formalisms, and the natural fulfillment of Chomsky’s trajectory—which contributed enormously to the appeal of symbolic logic for Generative Semantics: its relation to thought.

Exactly what logic says about the way humans acquire, manage, and perpetuate knowledge is a far from simple or uncontroversial matter, with different logicians and philosophers giving different answers. But “logic, under every view, involves frequent references to the laws and workings of the mind” (Bain 1879.1:1), and, in the strongest views logic directly reflects the governing

principles of mind. McCawley explicitly took this position, aligning himself with one of its strongest expressions, George Boole's foundational 1854 logic monograph, *An Investigation of the Laws of Thought* (McCawley 1976b [1968]:136).

Logic was therefore bringing the Abstract Syntacticians much closer to the mentalist goals that they had imbibed with their early transformational milk.

The Universal Base

The latent content of all languages is the same.

—Edward Sapir (1921:218)

Along with vitamin M, Mentalism, the early Transformational milk included another essential nutrient, especially when Chomsky hitched his program to the goals and mechanisms of pre-Bloomfieldian traditional grammar, vitamin U, Universality. In *Aspects* Chomsky associates this nutrient with one specific module of his grammar, the base component:

To say that the formal properties of the base will provide the framework for the characterization of universal categories is to assume that much of the structure of the base is common to all languages. This is a way of stating a traditional view, whose origins can . . . be traced back at least to the [Port-Royal] *Grammaire generate el raisonnée*. (1965 [1964]:117)

More strongly yet, in *Cartesian Linguistics*, which outlines a traditional, philosophical grammar he associates most strongly with the seventeenth century Port-Royal *Grammaire* he goes further. He traces the notion of a Deep Structure to the Port-Royalists that “is common to all languages, so it is claimed, being a simple reflection of the forms of thought”—1966a:35), unambiguously bringing Deep Structure and meaning into the mentalist universal-base suggestion, all but proposing Generative Semantics. Well, okay, not so unambiguously—there is that telltale Chomskyan hedge, “so it is claimed”—but the early Transformationalists overlooked the hedge too, and Chomsky's suggestion caught fire. It rapidly evolved into the uppercase Universal Base Hypothesis (nicknamed *UBH*)—an explicit proposal about Universal Grammar which claimed that at some deep, deep level all languages had the same set of generative mechanisms—and became identified exclusively with Abstract Syntax. The Lakoffs both found it beguiling. George endorsed it in his thesis (1970a [1965]:108–109), as one possibility for getting at the universal dimensions of language, and by 1967, at a watershed conference in La Jolla, California, his enthusiasm had gone way up (Bach 1968 [1967]:114n12).

Robin endorsed it in similarly hopeful terms in her thesis. The thesis had a mainstream Chomskyan title, “Studies in the Transformational Grammar of Latin: The Complement System,” but by the time it was published it was waving the new banner, as *Abstract Syntax and Latin Complementation*. In it, she spells out the UBH implications for the *Aspects* model clearly and points the way toward a common-denominator approach for finding base rules which can underlie both Latin and English. Betraying some of the schismatic spirit that had begun to infuse Abstract Syntax, she identifies this position with “some of the more radical transformationalists” (1968:168) and opposes it to “more conservative transformational linguists (such as Chomsky)” (1968:215n5). Bach was also influential in the development of the hypothesis (1968 [1967]), and Fillmore leveraged it in his influential Case Grammar (1968:1–2).

But the two figures most closely associated with the Universal Base hypothesis are McCawley and Ross. McCawley is important because, although he was not one of the chief marketers of the proposal—may never, indeed, have conjoined the words *universal* and *base* in print—he wrote an important paper in which many found strong support for the Universal Base, and because arguments he made for a deep verb-subject-object (VSO) order were very harmonious with a base component that produced universal structures compatible with symbolic logic.¹⁵ Ross is important because the explicit claim “that the base is biologically innate” appears to have been his (Lancelot et al. 1976 [1968]:258); because of his recurrent use of the hypothesis as an appeal for Generative Semantics (for instance, in a paper directed at cognitive psychologists—1974b:97); and because he gave the hypothesis its most succinct, best known, formulation:

THE UNIVERSAL BASE HYPOTHESIS

The Deep Structures of all languages are identical, up to the ordering of constituents immediately dominated by the same node. (Ross 1970b [1968]:260)

Ross’s definition makes it inescapably clear what is being said: that the dizzying variety of linguistic expression in all known languages, in all unknown languages, in all possible human languages, derived from a common set of base rules, with the trivial exception of within-constituent ordering differences (acknowledging, for instance, that adjectives precede nouns in English noun phrases, and follow them in French noun phrases). In fact, Ross and Lakoff were confident enough in the hypothesis to begin working on such a set of rules, and their confidence was infectious.

Once again, we can see that the themes and methods of the claim had the *Aspects* seal of approval, a book preoccupied with the universal: universal properties that determine the form of language (35); a universal vocabulary from

which grammatical descriptions are constructed (65, 66, 117, etc.); linguistic universals (29, 36, 209, etc.); universal conditions (120, 121, 209, etc.); universal semantic (144) and lexical rules (112); universal categories and functions (116, 220); and universal phonetics (31). *Aspects* incessantly trumpets the overarching, governing theoretical commitment to a Universal Grammar (5–7, 28, 65, 118), an inheritance from traditional grammar (5–6), which had been unfortunately opposed by “Modern [aka Bloomfieldian] linguistics” (6).

Not the least of the attractions for the Universal Base Hypothesis, then, was its inverse relation to the irredeemable Bad Guys of American linguistics, who Chomsky repeatedly accused in classes and public lectures and books, of holding that “languages could differ from each other without limit and in unpredictable ways” (Joos 1957:96). The Chomskyans regarded this notion as repugnant in the extreme, the epitome of woolly-mindedness and unscientific confusion, and they regularly shook Joos’s remarks aloft at conferences, in books and in articles, like the head of a vanquished foe (Thomas 2002:355ff).

But the Universal Base Hypothesis, in a typical scientific irony, actually got much of its drive from the genius that ruled Joos’s comment—attending to a wide (or at least, wider) variety of languages. The overwhelming majority of Transformational-Generative research in its first decade was on English, and *Aspects* reflects this emphasis. The Abstract Syntacticians were certainly not in the Bloomfieldians’ league in terms of experience with non-European languages, but they began thinking more deliberately about taking Generative principles beyond English. Postal’s thesis was on Mohawk, McCawley’s was on Japanese, Ross’s was widely cross-linguistic, and most of them studied under G. H. Matthews at MIT, who taught portions of his influential generative grammar of Hidatsa (1965); Robin Lakoff’s was on Latin, not that far afield, but a language with its own peculiar demands because there were no native speakers to query or intuitions to probe. Perhaps most importantly, though the fuller influence of his work was still several years off, Joseph Greenberg had just published the second edition of his typology of linguistic universals (1966), which surveyed the morphological and syntactic patterns of a great many, quite diverse languages.¹⁶

Now, since the base component sketched in *Aspects* depended on English, attempts to universalize it inevitably led to assorted hiccups. The *Aspects* base included adjectives, for instance, but Postal’s work on Mohawk had shown him that not all languages have a separate category of adjectives, distinct from verbs, which led rather directly to his adjectives-are-deep-verbs arguments. The *Aspects* base included a verb phrase of the form V + NP, but Japanese, Latin, and Hidatsa can’t easily accommodate such a VP; other languages seem to have no VP at all. The *Aspects* base included auxiliary verbs; not all languages do. The *Aspects* base included prepositions; not all languages do. The *Aspects* base included articles; not all languages do. The *Aspects* base ignores causatives and inchoatives (CAUSE and

BECOME, respectively, in the conventions of Abstract Syntax), which are often covert in English; in many languages, they play very overt roles. The *Aspects* base adopted the basic order of English; Greenberg demonstrated very convincingly that there were several distinct basic orders.

The rub, then: while following out many of Chomsky's general comments, Abstract Syntax was forced to reject or modify lots of his specific analyses. Where there is a rub, there is friction.

Filters and Constraints

We would like to put as many constraints as possible on the form of a possible transformational rule.

—George Lakoff (1970a [1965]:21)

The Abstract Syntax move toward a Universal Grammar underneath the literal skin of languages had another reflex: the shift in emphasis from phenomena-specific and language-particular rules to general grammatical principles.¹⁷ Early Transformational Grammar was rule-obsessed. The motto seemed to be “Find a phenomenon, write a rule; if you have the time, write two” and the search for phenomena was heavily biased toward English, fueled by the Chomskyan propensity for working from personal intuitions about grammaticality.

Once again, Lees's *Grammar of English Nominalizations* is the best illustration. A brief monograph, focusing on a small neighborhood in the rambling cosmopolis of English, it posits over a hundred transformations (while noting frequently along the way the need for many other rules that Lees doesn't have the occasion or the mandate to work out), most of which are highly specific. Some rules refer, for instance, to particular verb or adjective classes, some to individual words or morphemes, some to certain stress patterns or juncture types, and a good many of them have special conditions of application attached to them. Take this transformation (21), which handles a specific deletion (Lees 1968 [1960]:103–104):

$$21 \quad X - P - \begin{bmatrix} \text{that} \\ \text{for} \\ \text{to} \end{bmatrix} \implies X \begin{bmatrix} \text{that} \\ \text{for} \\ \text{to} \end{bmatrix}$$

[where *that* introduces a Factive Nominal, *for* and *to* introduce Infinitival Nominals]

What this rule is up to isn't particularly important at the moment (or, really, at all), but notice how incredibly mucky it is with respect to general grammatical principles—how gummy it is to move from a rule that depends on the presence of specific English words to a principle holding of all languages—and the defining trajectory of Abstract Syntax was toward general (better, universal) grammatical principles.

A principle-oriented approach to grammar was clearly not going to achieve a very convincing Universal Grammar with transformations as detailed as 21. In fact, one of the axioms of “Postal’s conception of grammar,” Lakoff relates, was that “transformations may not mention individual lexical items” (G. Lakoff 1970a [1965]:xii) like *that* and *for*. We can see this axiom at work, for instance, in Ross’s smoothing out of the auxiliary system, where *have* and *be* are discarded for [+V, +Aux]. Ross indicts Chomsky’s auxiliary treatment for the use of individual lexical items like *have* and *be*, and the central virtue he cites in favor of his own analysis is that it permits generalizing several transformations so that they refer to a natural class of items rather than to a seemingly arbitrary list of words. A transformation that refers to a class of items with the features [+V, +Aux] has a much better chance of getting a job in a Universal Grammar than a transformation that refers to a class of items like the set {*have*, *be*} or {*toast*, *and*}.

The first truly important work on general transformational principles was—can you guess?—uh-huh, Chomsky’s. *Describing languages*, Chomsky had said of the Bloomfieldian descriptive mandate, is only part of the linguistic enterprise, and the least interesting part; one can describe languages with myriad specific rules like 21. The tough, rewarding, truly authentic linguistic work was in *explaining Language*, and explaining Language, in Chomsky’s terms, involved keeping the transformations from running amok. Transformations were necessary to capture crucial generalizations about language. Your theory would be too weak without them. But with them it becomes too powerful. Transformations could produce all sorts of ungrammatical gobbledygook alongside their productions of grammatical structures and strings. So long as one saw linguistic rules as tools to describe what people do when they speak, that’s not a problem.

But if you see linguistic rules as part of the *explanation* for what people do when they speak, mechanisms with some kind of psychological and genetic reality, mechanisms with evolutionary roots, mechanisms that baby humans have to acquire in some way, the fact that they can make gobbledygook as easily as (in fact easier than) they make good pieces of language becomes a rather urgent problem. So, transformations need to be reined in.

One way to do this is just by fiat, such as Postal’s stipulation that transformations couldn’t refer to individual words, or (with Katz) that transformations couldn’t change meaning. These conditions came from formal considerations. Certain stipulations—call them *axioms*—just make the system work better. But

another way to curb the power of transformations was by empirical investigation: look for activities that transformations can do, by virtue of their definition, but which they don't appear to do, according to the data, and develop a corresponding principle, on the assumption that something systemic must be 'blocking' that activity.

Movement is one source of transformational gobbledygook. Transformations can easily move any constituent anywhere in a sentence, which means all languages should have completely unconstrained word order. But they don't. So, if transformations are part of natural human grammars (an article of faith among *Aspects*-era Chomskyans), there must be something blocking some kinds of movements. Chomsky started looking for the sorts of potential movements that don't seem to be exploited by natural languages; or, putting it in his terms, started looking for constraints that must be operating to block those non-occurring movements.

The constraint Chomsky proposed (later named the *A-over-A Principle* by Ross) began as a loose suggestion about the tenaciousness of certain locations, which don't seem to want to hand over their constituents to transformations. The conclusion was that this local tenacity would need to be wired into Universal Grammar, prohibiting movement out of those locations.

Unfortunately, A-over-A was a bust. When Chomsky discovered that it made the wrong predictions in certain cases, he—quickly, quietly, and reluctantly—dropped it, adding a prophetic and hopeful “there is certainly much more to be said about this matter” (1964c [1963]:74n16a; 1964d [1963]:46n10). There was indeed. The one who said it was Ross, in his epochal, Chomsky-supervised, dissertation.

With a cautiousness and modesty uncommon to the mid-1960s MIT community, with a cross-linguistic sensitivity equally uncommon to Transformational Grammar of the period, with an eye for abstract universals unprecedented in syntactic work, Ross plays a remarkable sequence of variations on the theme of Chomsky's A-over-A Principle, coming up with his theory of syntactic islands.

The notion of islands is quite arcane, but the metaphorical long and short of islands is that certain grammatical constituents are surrounded by water, and transformations have no boats. So, here we go: 22a is fine (from 22b), but *23a isn't, because transformations can't move constituents off a “complex noun phrase” island; 24a is fine (from 24b), but *25a isn't, because transformations can't get constituents off a “coördinate structure” island; and *26a is bad because transformations can't move constituents off a “sentential subject” island (there is no grammatical equivalent to 26b, no corresponding Surface Structure, but notice that 26b and 26c are effectively the same type of Deep Structure string, so the Phrase Structure Rules need to generate 26c in order to get the corresponding grammatical sentences).

- 22 a Which spud do you believe Brenna peeled?
b you believe Brenna peeled which spud
- 23 a * which spud do you believe the claim that Brenna peeled
b you believe the claim that Brenna peeled which spud
[where *the claim that Brenna peeled which spud* is a complex noun phrase]
- 24 a What was Brenna eating?
b Brenna was eating what
- 25 a * what was Brenna eating spuds and
b Brenna was eating spuds and what
[where *spuds and what* is a coordinate structure]
- 26 a * what that Brenna will eat is likely
b that Brenna will eat what is likely
[where *that Brenna will eat what* is a sentential subject]
c That Brenna will eat spuds is likely

Tricky stuff, I know.

Ross suggested his syntactic-island constraints as an integral part of the innate mechanism guiding language acquisition, and his work is volcano-and-palm-trees above similar efforts at the time. The constraints would be hardwired into Universal Grammar, so that there would be no possibility of a grammar in which transformations could produce monstrosities like 23a, 25a, or 26a.

Meanwhile, other Abstract Syntacticians were exploring similar restrictions. In particular, Postal worked out his Crossover Principle (1971a [1968]), so-named because it prohibited the transformational movement of a noun phrase in a way that “crosses over” another noun phrase which has the same real world referent. He drafted the principle to explain a number of grammaticality facts, like the ones in 27 and 28. So, 27a is fine, while *27b and *27c are bad because *Rob* and *himself* cross over one another when the Passive rule moves them; and 28a is fine, while 28b and 28c are bad, because *Rob* and *himself* cross over one another by the rule *Tough*-movement.

- 27 a Rob shaved himself.
b * Rob was shaved by himself
c * himself was shaved by Rob

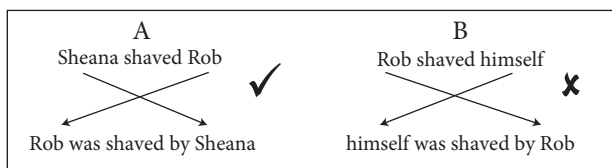


Figure 3.1 Illustrations of Postal's Crossover principle.

- 28 a It is tough for Rob to shave himself.
 b * Rob is tough for himself to shave
 c * himself is tough Rob for to shave

Figure 3.1 shows the principle in action: In example A, there is no crossover violation (so it gets a check mark), because *Rob* and *Sheana* have different real-world referents. The crossover in example B, which corresponds to 27b and 27c, *does* violate the principle (getting an x), because *Rob* and *himself* have the same real-world referents.

The beauty of Postal's principle is that it allows much more general formulations of the individual rules. Continuing to pick on Lees's *Grammar of English Nominalizations*—but only because it is a quite extensive application of the *Syntactic Structures* model to one specific corner of English grammar—that approach could only account for facts like the ones in 27 and 28 by placing individual conditions on Passive and on *Tough*-movement (and, in fact, several other rules). But a single condition for all movement rules can be stated once, and none of the relevant transformations will misfire. It makes the overall system more elegant.

There is a related *Aspects*-era phenomenon, in the sense of excluding bad Surface Structures, that Chomsky called *filtering* and assigned to the transformational component. In addition to their regular job of making grammatical sentences, he says, transformations also had the job of weeding out any erroneous structures that the base component might produce: filtering off Deep Structures that couldn't achieve grammatically. The *Aspects* base component generated structures like 29a and 29b, for instance:

- 29 a the cat the cat chased the dog had a nap
 b the cat the kangaroo chased the dog had a nap

The base component presents these structures to the transformational array, which has no trouble with 29a. The transformation T_R (for Relative Clause) changes the second occurrence of *the cat* into the relative pronoun *which*, yielding a perfectly grammatical sentence containing the relative clause *that chased the dog*, 29c.

29 c The cat that chased the dog had a nap.

Not so with 29b. T_R calls for two identical noun phrases: it doesn't find them in 29b, so it can't apply and therefore prevents the offending structure from surfacing (Chomsky 1965 [1964]:137–39). It filters off deviant structures.

This process, the blocking of derivations from problematic Deep Structures by way of T_R 's inability to fire, was part of a general filtering condition called *Recoverability of Deletion* (yet one more influential innovation coming from Katz and Postal). One of the things transformations do is erase certain Deep Structure constituents which either don't belong or just aren't wanted in corresponding Surface Structures (like the second occurrence of *the cat* in 29a). Chomsky advocated the Recoverability of Deletion condition to control these erasures (transformations can't just go around rubbing out any old constituent) and to otherwise ensure good output from the grammar. Deleting *the kangaroo* from 29b, for instance, would be unrecoverable, because there would be no evidence of what was deleted, but deleting an instance of *the cat* from 29a is fine because it still leaves one instance behind, testifying to what was erased. Among the more interesting features of this proposal is that erasures "leave a residue" (Chomsky 1965 [1964]:146). In the derivation of 29c, effectively it leaves behind *that*, but often they leave behind wholly abstract markers, with no phonological presence at all.

Filtering became a significant line of post-*Aspects* research, along with various theories of transformational residues, with contributions on all fronts, but rhetorically it was claimed by Interpretive Semantics.

The Performative Analysis

"I do take this woman to be my lawful wedded wife)"—as uttered in the course of the marriage ceremony.

"I name this ship the Queen Elizabeth"—as uttered when smashing the bottle against the stern.

"I give and bequeath my watch to my brother"—as according to a will.

"I bet you sixpence it will rain tomorrow."

examples cited by J. L. Austin (1962:5)

If Abstract Syntax was largely an effort to increase the scope of the *Aspects* model, the largest push was to continue the semantic expansionism of Katz and Fodor, most dramatically in another development closely associated with Ross, which radically exploded the notion of meaning in Transformational Grammar, the performative analysis.

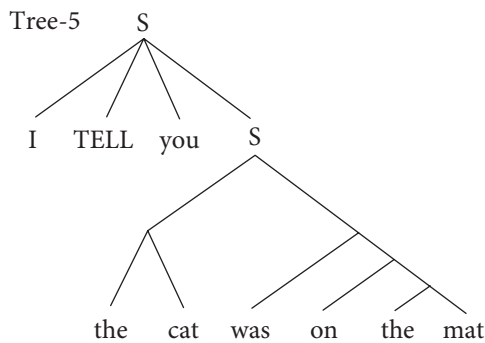
For much of the twentieth century, meaning was more the focus of philosophy than of linguistics; it's no coincidence that the first people to work on semantics in the Chomskyan framework were card-carrying philosophers, Katz and Fodor. So, as Transformationalists started to expand their repertoire into semantics, they found the ground occupied—by logicians on the one hand, whose work Lakoff and McCawley adapted, and by ordinary language philosophers on the other. There was a big difference in the sort of meaning these two groups cared about, though. Logicians were concerned, centripetally, with very narrow propositional meaning, with reducing the ambiguity, messiness, and contextuality of day-to-day linguistic traffic. Ordinary language philosophers moved in the other direction entirely, centrifugally out onto the highways and into hallways of daily linguistic engagements.

Ordinary language philosophy developed somewhat in parallel to Chomskyan linguistics; indeed, it was a parallel revolution, according to one of its founding voices. J. L. Austin not only unequivocally declared the movement *a revolution*, but hints rather broadly that it is “the greatest and most salutary” revolution in the history of philosophy (1962 [1955]:3)—adding, however, that given the history of philosophy the claim is a modest one. The title of Austin's 1955 book, *How to Do Things with Words*, identifies the driving theme of ordinary language philosophy—that people do things with language—a ridiculously obvious but remarkably long unnoticed notion in philosophy and linguistics (not so in rhetoric or literary studies). Austin's starting point is that philosophy had generally only noticed one of the things that people do with words—assert propositions—and had consequently paid virtually all of its attention to truth conditions. This was largely the territory of the logicians, and it's why Katz and Fodor were focused on notions like synonymy, paraphrase, entailment, antonymy, and anomaly—matters in the orbit of truth conditions. If it's true that Tristan is a bachelor, then it's true that he is unmarried, and it's true that he's male, and it's true that he's human, and so on.

But people also inquire, Austin says, and order, and warn, and threaten, and promise, and christen, and bequeath, and bet, and insult, and joke; we perform a copious range of actions with our talk, us language users, actions in which truth conditions are often either subservient or wholly irrelevant. Austin calls these activities *speech acts* and the sentences that perform them, *performative sentences*.

Despite Austin and Chomsky's familiarity with each other, early Transformational Grammar and Speech Act Theory saw very little cross-talk, but Katz and Postal broke the ice in a footnote that entertained the idea that base-generated structures might come with performative verbs and other paraphernalia (1964:149n9); so “Wash your hands!” might derive from “I order you to wash your hands,” with the first bits erased transformationally. They reeled off some of the virtues this proposal had over the course they actually did take (that is, derivation from something more like, “IMP you wash your hands”), then added, “Although we do not adopt this description here, it certainly deserves further study.” Enter Ross, stage left.

Robin Lakoff's dissertation suggests a few abstract performative verbs for Latin (1968:170–217), and McCawley also sketched out the approach in an important paper for the Texas Universals conference (1976b [1967–1968]:84–85). But the “performative proposal,” as it became known, clearly belongs to Ross, and to his paper “On Declarative Sentences” (1970b [1968]).¹⁸ The principal claim of the paper is that the Deep Structures of simple statements have a topmost clause of the form “I TELL you,” as in Tree-5 (forgive me for abbreviating its full Abstract-Syntax glory), which was usually excised by a rule of performative deletion.¹⁹ By extension, the same mechanism would take care of questions, imperatives, promises, and the entire remaining panoply of speech acts—giving topmost clauses like “I ASK you” and “I COMMAND you” to questions and imperatives, and clauses like “I BET you,” “I WARN you” “I CHRISTEN it,” and so on.



Ross offers a battery of arguments—*copia* is Ross's most prominent stylistic signature—but let's take just one of them, based on reflexive pronouns. In English, reflexive pronouns agree in person and number (and sometimes gender) with their antecedents. Using the instruments of Transformational Grammar, the most efficient way to explain the grammaticality of 30a and 30b but the ungrammaticality of *30c is to assume underlying antecedents that get deleted (as in the truncated Deep Structure string, 30d):

- 30 a Savanna thinks that the sandcastle was built by Auston and myself
 b Savanna thinks that the sandcastle was built by Auston and yourself
 c * Savanna thinks that the sandcastle was built by Auston and themselves
 d I TELL you that [Savanna thinks . . .]

With 30d as the Deep Structure, 30a is okay (since *I* and *myself* agree in person and number). Ditto for 30b (since *you* and *yourself* agree in person and number). But *30c is out (since there is no third-person plural antecedent, such as *they*,

anywhere in 30d). Simple and clean. And without that underlying “I TELL you” clause, the grammar has to come up with some other explanation for why 30a and 30b are grammatical sentences, but 30c is not.

The case for an underlying “I TELL you” clause has a certain force to it, especially with the stack of arguments Ross produces, and all of the data that Ross offers are compatible with the facts illustrated by 30a–d, syntactic facts—facts about the distribution and cooccurrence of words in sentences—in the best, most rigorous *Aspects* tradition. But it escaped no one’s attention that Ross’s proposal increased the semantic reach and perspicacity of the Deep Structure. Ross likely wouldn’t even have noticed the facts in 30a–d, of course, or of all his other arguments, if he wasn’t taking the Katz-Postal heuristic into Austinian territories.

The performative proposal was yet one more downward push of Deep Structure, moving it ever deeper, toward abstraction, yes, but also toward meaning: the defining trend of Abstract Syntax. In McCawley’s diagnosis of the situation,

Since the introduction of the notion of “Deep Structure” by Chomsky, virtually every “Deep Structure” which has been postulated (excluding those which have been demonstrated simply to be wrong) has turned out not really to be [the] Deep Structure [appropriate for the given analysis] but to have underlying it a more abstract structure which could more appropriately be called the “Deep Structure” of the sentence in question. (McCawley 1976b [1967]:105)

Deep Structures, in sum, begot deeper structures, which begot deeper structures yet. “This,” McCawley added, “raises the question of whether there is indeed such a thing as ‘Deep Structure.’” Lakoff and Ross were in the front row. They had an answer to that question. They put up their hands.

The Opening Salvo

We believe semantics may be generative.

—George Lakoff and Haj Ross (1976 [1967]:159)

In the spring of 1967, Ross wrote a letter to Arnold Zwicky outlining the work he and Lakoff had been doing, in telephonic collaboration with McCawley, and the conclusions the three of them had all come to about the interpenetrations of syntax and semantics in Transformational Grammar. Zwicky recalls being “very impressed” by the letter, and Ross decided to circulate it more widely. By this point Ross’s collaboration with Lakoff had become a sort of Lennon and McCartney affair, where it didn’t really matter who wrote what; both names went on the letter, the important passages were mimeographed, and copies quickly made the

rounds. By the following year it was circulating through the Indiana University Linguistics Club (the central clearing house at the time for working papers, theses, and cutting-edge speculations) under the title, "Is Deep Structure Necessary?"

No, the letter answers.

The Ross/Lakoff brief against Deep Structure was sketchy at best, but the letter was very compelling, for Zwicky and for most of its secondary readers. McCawley says the letter is what turned him "from a revisionist interpretive semanticist into a generative semanticist" (1976b:159). He was not alone. Where Lakoff's "Toward Generative Semantics" sputtered, the joint letter sparked, kindling a brush fire not so much because of the immediate force of their arguments, but because of all the rich and intriguing work amassed behind it in the name of Abstract Syntax. The letter plugged directly into a feeling that had begun to pervade Generative linguistics, that Deep Structure was just a way station. Chomsky had said, after all, that the deeper syntax got the closer it came to meaning and the Abstract Syntacticians were getting awfully deep. Look at how many fathoms down McCawley was in the spring of 1967, just weeks before Ross licked the stamp and posted his letter to Zwicky:

On any page of a large dictionary one finds words with incredibly specific selectional restrictions, involving an apparently unlimited range of semantic properties; for example, the verb *diagonalize* requires as its object a noun phrase denoting a matrix (in the mathematical sense), the adjective *benign* in the sense "noncancerous" requires a subject denoting a tumor, and the verb *devein* as used in cookery requires an object denoting a shrimp or a prawn. (1976a [1967]:67)

Selectional restrictions in the *Aspects* model were considered syntactic, but, clearly, calling [$\pm$ Tumor] or [$\pm$ Prawn] features parallel to [$\pm$ N] or [$\pm$ Plural] destroys any traditional notion of a semantics/syntax boundary. Lakoff and Ross, in fact, use McCawley's argument as damning evidence against Deep Structure.

Once McCawley was nudged from Abstract Syntax to Generative Semantics, he began to develop the strongest arguments against Deep Structure, including a rather notorious and ingenious one pivoting on the word *respectively*. But his most damaging argument was not a negative argument that Deep Structure had to go. It was a positive proposal that one could get along just fine without it.

McCawley built on some of the lexical decomposition ideas in Lakoff's thesis, his argument that "*kill*, *die* and *dead* could be represented as having the same lexical reading and lexical base, but different lexical extensions" (1970 [1965]:100): they would all involve the primitive definition for *dead* (something like NOT ALIVE), but *die* would additionally undergo the transformation, Inchoative (bringing in BECOME), and *kill* would be further undergo Causative

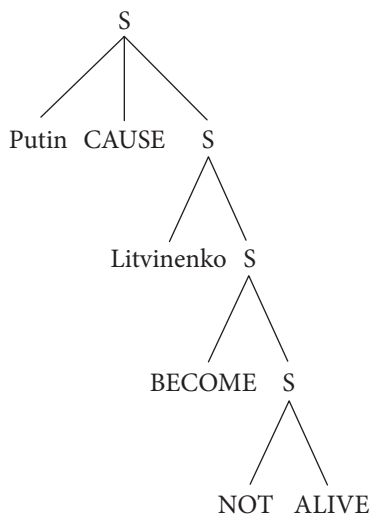
(CAUSE), capturing rather smoothly that *dead* means NOT ALIVE, *die* means BECOME NOT ALIVE, and *kill* means CAUSE TO BECOME NOT ALIVE.

This was not all about meaning, or even primarily about meaning. The most attractive part of this suggestion was a simple increase in scope. These transformations were necessary for the grammar anyway, Lakoff argued, to account for the range of syntactic properties in words like *hard* (as in 31); he just increased their workload.

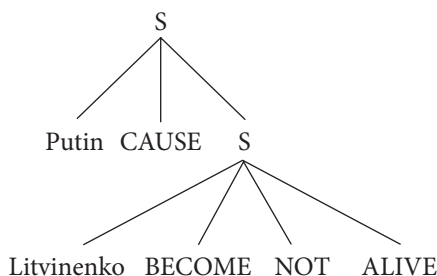
- 31 a The metal is hard
 b The metal hardened. [i.e., became hard]
 c Colton hardened the metal. [i.e., caused it to become hard]

McCawley proposed a new rule which “includes as special cases the inchoative and causative transformations of Lakoff” (1976b [1967]:159)—more scope increases—and collects atomic predicates into a subtree to provide for lexical insertion. The new rule, Predicate-raising, was about as simple as transformations come. It simply moves a predicate up the tree and adjoins it to another predicate, as in Trees 6, 7, and 8.²⁰

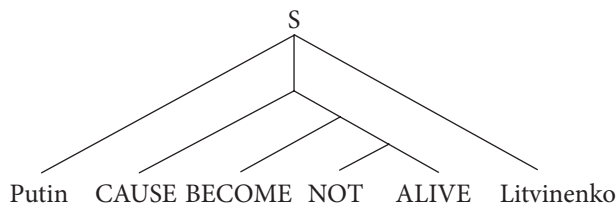
Tree-6



Tree-7



Tree-8



Lexical insertion could take place on any of these trees, yielding any of the synonymous sentences in 32.

- 32 a Putin caused Litvinenko to become not alive.
 b Putin caused Litvinenko to become dead.
 c Putin caused Litvinenko to die.
 d Putin killed Litvinenko.

Moreover, the dictionary entry for *kill* in the grammar no longer needs the detailed semantic markerese of the *Aspects* model; it could be expressed simply “as a transformation which replaces [a] subtree” (McCawley 1976b [1967]:158), like the conglomeration of abstract verbs in Tree-8. The entry for *kill* could, for instance, simply be the relevant transformation in Figure 3.2.

The implications of this proposal are sweeping, and many Transformationalists found it extremely persuasive. In particular, as promised in the title of the paper in which McCawley proposed it, “Lexical Insertion in a Transformational Grammar without Deep Structure,” it showed linguists how to make do without *Aspects*’ biggest drawing card. With this paper, McCawley presents a “model [that] unifies a theory of syntax with one of semantics and formally says the rules which govern the distribution of forms in sentences are those which govern the distributions of meanings in words” (Vroman 1976:38). Yowza!

Lakoff and Ross’s mimeographed assault on Deep Structure was important, but it was almost exclusively corrosive. Their arguments gnawed away at Deep Structure without a solid proposal for what to do once it had been chewed up and swallowed, once it was gone. One of the criteria they cite and then denounce for Deep Structure is its role as the locus of lexical insertion, the place where the words show up in a derivation, but their dismissal is incredibly curt. “We think we can show,” they say, that “lexical items are inserted at many points of a derivation” (1976 [1967]:160): ergo, that there is no one specific location, no Deep Structure, where all lexical items enter a derivation. This bold claim is followed

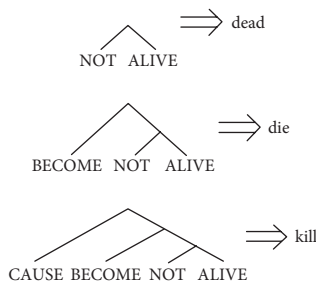


Figure 3.2 McCawley’s lexical insertion transformations (from McCawley 1976b [1968]:158; only the one for *kill* is provided there, the other two are extrapolated).

by a one-sentence wave in the direction that such a proof might take, and they're on to other matters. At best, this move looked like chucking out the lexical-insertion baby with the Deep-Structure bathwater. Their apparent recklessness and lack of positive substance are the main reasons that Lakoff and Ross's letter had virtually no impact on Postal at all. Even if he agreed that Deep Structure was compromised by Ross and Lakoff's arguments—a conclusion, as one of Deep Structure's architects, he could not have been eager to embrace—there was nothing left for him to grab onto.

When Postal says that "the fomenter of [Generative Semantics] was McCawley; I've always considered it to be his," it is primarily these lexical insertion arguments he has in mind.

Postal was off at the IBM John Watson Research Center in Yorktown Heights by this point, closer to Cambridge than McCawley, actually, but further out of the academic loop. He had stayed in contact with Lakoff and Ross, but not closely enough to find their patchy claims very compelling. His response to their arguments, in fact, was much the same as it had been to Lakoff's solo arguments four years earlier: the case was suggestive, promising even, but too perfunctory and vague to warrant abandoning the interpretive assumptions that had grounded his research from the outset. It was the more explicit, more closely reasoned, and more positive arguments of McCawley that got him to drop Deep Structure and work on the emerging Generative Semantics framework.

With the dissolution of Deep Structure, and the four leading figures all on their semantic steeds, there is still one more point to make before we can get to the Generative Semantics model directly, a sociological and rhetorical point: the campaign against Deep Structure was in many ways a campaign against Chomsky. For all the sense of a natural outgrowth from *Aspects*, all the reproduction of its themes and its arguments, all the warranting drawn directly from Chomsky's work, all the compatibility with his universalist, logical, and mentalist programs, there was also a sense that they were leaving him behind.

Ross's letter doesn't even mention Chomsky, or *Aspects* for that matter, but look at what McCawley says when he questions the existence of Deep Structure:

As an alternative to Chomsky's conception of linguistic structure, one could propose that in each language there is simply a single system of processes which convert the semantic representation of each sentence into its surface syntactic representation and that none of the intermediate stages in the conversion of semantic representation into surface syntactic representation is entitled to any special status such as that which Chomsky ascribes to "Deep Structure." To decide whether Chomsky's conception of language or a conception without a level of Deep Structure is correct, it is necessary to determine at least in rough outlines what semantic representations must consist of, and on the basis of that knowledge to answer the two following questions, which are crucial for the choice between these two conceptions of language. (1) Are

semantic representations objects of a fundamentally different nature than syntactic representations or can syntactic and semantic representations more fruitfully be considered to be basically objects of the same type? (2) Does the relationship between semantic representation and surface syntactic representation involve processes which are of two fundamentally different types and are organized into two separate systems, corresponding to what Chomsky called “transformations” and “semantic interpretation rules,” or is there in fact no such division of the processes which link the meaning of an utterance with its superficial form? (McCawley 1976b [1967]:105–106)

This passage, about the clearest and most succinct expression of the central issues that dominated the Generative Semantics debates, isn’t directed against “current views” or “the *Aspects* model” or any collective notion of a framework or theory. It’s personal, and the person is Chomsky. McCawley mentions him four times—no Katz, no Fodor, no Postal, rather central members of the team which developed Deep Structure, the lexicon, and Semantic Interpretation Rules, and which wired in all the various technical adjustments that gave those instruments their power (base recursion, abstract symbols, selectional restrictions, and so on). This argument hails Chomsky and lays out explicitly, in the language of binary choices, that there are some new kids on the block.

The Model

In syntax meaning is everything.

—Otto Jespersen (1949 [1931]:4.291)

The new kids on the block advocated the grammatical model, simple in the extreme, given as Figure 3.3.

Leaving aside the *Homogeneous I* label for now, it isn’t hard to see where the model came from, or why it was so appealing. The defining allegiances in the

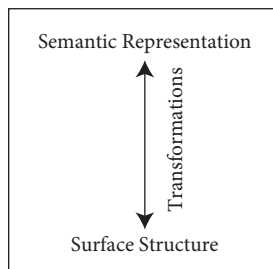


Figure 3.3 The Generative Semantics model, Homogeneous I. Adapted from Postal 1971 [1969]:134.

historical flow of science—call them movements, paradigms, programs, schools, call them by any of the hateful of overlapping terms of the trade—are all to conglomerations, to knots of ideas, procedures, instruments, values, and desires. There are almost always a few leading notions, a few themes head and shoulders above the pack, but it is aggregation that makes the school, and when the aggregate begins to surge as one in a single direction, the pull is, for many, irresistible. Witness William James's enthusiasm over the manifest destiny of the philosophical school of pragmatism in 1907:

The pragmatic movement, so-called—I do not like the name, but apparently it is too late to change it—seems to have rather suddenly precipitated itself out of the air. A number of tendencies that have always existed in philosophy have all at once become conscious of themselves collectively, and of their combined mission. (1981 [1907]:3)

Precisely this teleological sense pervaded the Abstract Syntacticians in the mid-1960s, the sense that they were witnessing a company of ideas marching ineluctably toward the position that meaning and form are directly related through the iterative interplay of a small group of transformations: simplicity and generality argued for a few atomic categories; these categories coincided almost exactly with the atomic categories of symbolic logic; symbolic logic reflected the laws of thought; thought was the universal base underlying language. Meaning, everyone had felt from the beginning of the program, was the pot of gold at the end of the transformational rainbow, and Generative Semantics, if it hadn't quite arrived there, seemed to offer the most promising map for getting to that pot. Listen to the unbridled excitement of someone we haven't heard from for a while, someone who was there at the beginning of the transformational program, Robert Lees:

In the most recent studies of syntactic structures using [transformational] methods, an interesting, though not very surprising, fact has gradually emerged: as underlying grammatical representations are made more and more abstract, and as they are required to relate more and more diverse expressions, the Deep Structures come to resemble more and more a direct picture of the meaning of those expressions! (Lees 1970a [1967]:136)

Elsewhere, he exclaims that “the deepest syntactic structure of expressions is itself a more or less direct picture of their semantic descriptions!” (1970b [1967]:185).

There are a number of noteworthy features to the directionality-of-abstractness appeal—as Postal awkwardly dubbed it (1971b [1969])—all of them illustrated by Lees's passage. First, the word *fact* appears prominently in them;

that Transformational Analysis led to semantic clarity was an undoubted phenomenon, in need of explanation the way the fact that English passives have more morphology than English actives is in need of explanation. Second, there is usually a combined expression of naturalness to the finding (as in Lees's "not very surprising") and enthusiasm for it (as in his exclamatory endings). The naturalness follows from the conviction shared by most Transformationalists (1) that they were on the right track, and (2) that the point of doing linguistics was to mediate form and meaning. The enthusiasm follows from the immense promise of the result.

If the *Aspects* model was beautiful, Generative Semantics was gorgeous. The focus of language scholars, as long as there have been language scholars, has always been to provide a link between sound and meaning. In the *Aspects* model, that link was Deep Structure. To the Generative Semanticists, Deep Structure no longer looked like a link. It looked like a barrier. As Ross expressed it to me, still rapturous decades after the fact, once you break down the Deep Structure wall, "you have semantic representations, which are tree-like, and you have surface structures, which are trees, and you have a fairly homogeneous set of rules which converts one set of trees into another one." The link between sound and meaning becomes the entire homogeneous grammar. *Aspects'* semantic component was grafted onto the hip of the *Syntactic Structures* grammar, having only limited access to a derivation, and extracting a distinct semantic representation. Generative Semantics started with that representation ("the meaning") and the entire machinery of the theory was dedicated to encoding it into a configuration of words and phrases, ultimately into an acoustic waveform. As a huge added simplicity bonus, the Semantic Interpretation Rules could be completely discarded, their role assumed by transformations.

Chomsky's claims to Cartesian ancestry, too, as everyone could see, only fed the appeal of Generative Semantics. Robin Lakoff hinted broadly in a review article of the *Grammaire generate el raisonnee* that when placed cheek-by-jowl with Generative Semantics the *Aspects* model looked like a very pale shadow of the Port-Royal work. She dropped terms like *Abstract Syntax* about the Port-Royal program, and drew attention to its notions of language and the mind as fundamentally logical, and to its use of highly abstract Deep Structures, even to a somewhat overlapping discussion of inchoatives (1969b:347–50). But she needn't have bothered. The case is even more persuasively offered in Chomsky's own book, *Cartesian Linguistics*, with only a few scattered qualifiers.

Generative Semantics was inevitable. In the tone of utter, unassailable conviction that he had brought to the Bloomfieldian rout, Postal put it this way:

Because of its *a priori* logical and conceptual properties, this theory of grammar [Generative Semantics, or, as the paper terms it, *Homogeneous I*] . . . is

the basic one which generative linguists should operate from as an investigatory framework, . . . [and which] should be abandoned, if at all, only under the strongest pressures of empirical disconfirmation. In short, I suggest that the Homogeneous I framework has a rather special logical position *vis-à-vis* its possible competitors within the generative framework, a position which makes the choice of this theory obligatory in the absence of direct empirical disconfirmation. (1972a [1969]:135)

But, as Homogeneous *I* suggests, the story is far from over. Generative Semantics leaked.

The gorgeous model has some variation ahead of it—a Homogeneous *II*—but that will have to wait a chapter or so. Even Figure 3.3 wasn't entirely accurate in 1972, since, as we've seen, there were also a few other devices beyond transformations. Ross's and Postal's constraints don't change the model, because they are external to it, part of the overarching general theory that defines the model. But there was something else, which Ross called a *conditions box*, an additional trunk full of odd bits of tubing and pieces of cheesecloth to route and filter off the grammatical effluvia the rest of the grammar couldn't control. As it turned out, *Pandora's box* would have been a better label.

Before we look at some of the material that escaped the box, though, we should check in with Chomsky and see what his reaction was to all of these developments. It looked at the time to be a flat rejection of Generative Semantics, and it still looks to many people in retrospect to have been a flat rejection. But this is Chomsky, don't forget. Things were not so simple.

4

Generative Semantics 2: The Heresy

Beliefs are most clearly and systematically articulated when they are formed via negativa. The boundaries of what is true and acceptable are marked through a systematic identification of what is false and unacceptable. . . . It is through battles with heresies and heretics that orthodoxy is most sharply delineated.

—Lester Kurtz (1986:1)

The transformationalist position is adopted in much recent work, for example Lakoff (1965) . . .

This solution is proposed by Lakoff (1965, p. A–15f), but on the transformationalist grounds that he adopts there, there is no motivation for it. . . .

The scope of the existing subregularities, I believe, has been considerably exaggerated in work that takes the transformationalist position. For example, Lakoff (1965) . . .

—Noam Chomsky (1972 [1967] 17, 20, 23, et passim)

The George and Haj Show

Almost everyone who talks about the beginnings of Generative Semantics uses the same image about Lakoff and Ross, even if only to downplay its applicability; in Lees's phrasing, "It may well not have been so important that the cat was away while those two mice played, but only that the two had come together." That is, almost everyone involved sees a noteworthy correlation between Chomsky's 1966 sabbatical visit to Berkeley and the dramatic rise in the fortunes of Abstract Syntax as it segued into Generative Semantics. The reasons for this correlation are clear, and by this point, very familiar. I'll let Ross say it this time: "Chomsky is extremely intellectual, brilliant, amazingly quick in debate, and hard-working, and reads everything, at huge speed, and retains everything: just an overwhelming intellect"—qualities whose effect on the MIT community is to make it very much a one-man show. Chomsky sets the agenda whenever he is there, and setting the agenda at MIT in the first half

of the 1960s was setting the agenda for Transformational Grammar. When he left, there was a vacuum.

Lakoff, who had a lectureship at Harvard, and Ross, who had just been appointed at MIT, had the energy, the ideas, and the charisma to fill that vacuum, at least for a while. They had conducted an informal seminar at Harvard the previous year, in which they mined the Abstract Syntax program to unprecedented depths—articulating, elaborating, and augmenting Postal’s proposals, as the telephone wires to Chicago sung with their McCawley exchanges. Now they were both teaching similar paradigm-stretching courses. Their students were cross-registering. And their ideas were getting airtime outside of Cambridge.

There is clear motivational ambiguity surrounding all of this work, the Lakoff-Ross work that pushed Abstract Syntax over the Generative Semantics brink. Undoubtably, there was a driving attempt to be, in Lakoff’s phrase, “good little Chomskyans,” to greet the founder of the movement, on his return from Berkeley, with “Hey Noam! [Your theory] is even greater than you already think it is!” But what on earth *is* a good little Chomskyan—a generic noun formed from the name of perhaps the most enigmatic linguist of all time, an intellectual even in these early days not unfamiliar with a little scholarly parricide, misrepresentation, and paradigmatic imperialism?

Our protagonists had imbibed all three of these factors in various measures and deployed them rhetorically; so, good little Chomskyans on that front certainly, with particular emphasis on imperialism. As one of Lakoff’s students recalls, “Haj and George went wild. They carved up a syntactic empire rather like the Pope dividing up the Western Hemisphere between Spain and Portugal, such that Haj was going to deal with rules involving unbounded movement . . . and George was going to deal with the rest.” But the methods and data part of it all, the *linguistics*, considered in the abstract terms, the good little Chomskyan part there, that was much less clear. “We were always perplexed,” Ross says.

I could never figure out, for instance, in my work, which things he would like, and which things he thought were just completely off the wall, that he would fight against tooth and nail. Going right back to my thesis, we had terrible fights.

What Ross knew then, that reading Chomsky’s mind is impossible, the field was just about to discover. Almost any linguist in 1966 willing to bet on Chomsky’s reactions and the future of transformational research would have given Ross and Lakoff’s extensions pretty good odds, though certainly not huge ones, of success.

But, on the other hand, the modifications to the *Aspects* model Chomsky *did* come to endorse, chiefly articulated by his student, Ray Jackendoff, would have received miniscule odds. They flew utterly against the defining core of transformational research since 1957.

There should not have been a mystery, however, in how things would play out once the contest was obvious. Everyone knew, in virtually every corner of Transformational-Generative Grammar at the time, what was expected of the contestants: the willingness—indeed, the obligation, the drive—to wrangle fiercely about everything from the grammatical nuts and bolts of specific analyses to the overall architecture of linguistic theory. Chomsky has a bloodsport view of science, which his students absorb year after year. One of the highlights of the early transformational students' reading list, for instance, was the record of Chomsky's battles with the Bloomfieldians at the 1958 Texas conference; another was his withering dismissal of Skinner; another was his fiercely polemical dismissal of Bloomfieldianism at the 1962 Congress of International Linguists; another was his and Halle's brutalization of Householder.

Brought up in a linguistic household built to foster the clash of adverse opinions and the eradication of opponents, Lakoff and Ross naturally followed some ideas that were pointedly antithetical to some of Chomsky's. It is hard to miss the sense of challenge in many of their specific proposals. Chomsky was unsympathetic toward Postal's suggestions that verbs and adjectives were members of the same category. Lakoff took up the case and argued it forcefully. Ross's re-analysis of English auxiliaries went after a set piece from *Syntactic Structures* and an exemplar of the first decade of Chomskyan linguistics, in a whimsical if not taunting syle. "Is Deep Structure Necessary?" attacked the *Aspects* model's most spectacular success.

With Chomsky away on the other coast, their proposals became notably more daring, more original. Ross advanced his performative analysis. Lakoff elaborated his abstract verb proposals to include quantifiers (*many*, *all*, etc.), and explored arguments against Deep Structure. Their classes were as exciting as their proposals. Bolinger, then a Romance languages professor at Harvard, a decidedly unBloomfieldian older generation scholar, remembers the "sparkle and fireworks" of the classes vividly:

I attended quite a few sessions, watching those two throw ideas back and forth with each other, and listening to the always bright, sometimes brilliant comments from the class. One had the feeling of grammar in the making, as if we were out exploring a freshly turned field, with everyone retrieving specimens before the bulldozers moved in.

Bolinger also views this period as “the time of greatest TG ferment, out of which challenges to the Master were bound to emerge.”¹

As Lees’ use of the cat’s-away metaphor suggests, though, the vacuum may have been a sufficient but not a necessary condition for the growth of Generative Semantics. There was something particularly vital in the combination of Ross and Lakoff. Some found their catalytic relationship extremely grating, others found it inspiring, but there is a common thread to the reactions: that Ross is a tremendously gifted naïf, while Lakoff’s gifts are more sophisticated, more superficial. A thinly veiled *dialogue à clef* which played on these perceptions made the mimeograph rounds at the time:

G: H, I’m going to prove that your eyes are purple.

H: How will you do that?

G: You see this pencil? It’s not purple, and it’s not your eyes. You see this book?

It’s not purple, and it’s not your eyes. [Twelve more arguments on this template.] So, I have fourteen arguments that your eyes are purple.

H: Great data, but when I look into the mirror, I see that my eyes aren’t purple.

G: Yes, but that’s a fact about mirrors. There are many strange and wonderful facts about mirrors that we don’t yet understand.

H: Thank you, G, for explaining this to me.

This dialogue is astute about some of the elements of Generative Semantics—it parodies the data-copia argument style nicely, for instance—and it also captures a broader strategy in the transformational community very well, one that Chomsky exemplifies as much anyone and that is still visible in linguistic argumentation, the shifting of argumentative focus from data to instrument, instrument to data (it’s not your eyes, it’s the mirror). But it misses the mark on Ross and Lakoff’s give-and-take collaborative dynamism rather widely. The dialogue does Lakoff a rather severe, if common, injustice; G[eorge] is far more of a shy-ster than a researcher here. But Ross clearly comes off worse; H[aj] is a linguistic rube being taken for a ride by the big-city con man.

In fact, Ross is both an incisive judge of argumentation and (almost) Lakoff’s equal in volubility. You can take Jerrold Sadock’s word for it. He became an important Generative Semanticist and he describes his initiation in the terms of a classic conversion story, Ross breezing into Urbana like Elmer Gantry:

In 1966 Haj Ross stopped by the University of Illinois. He was actually on a big tour across the country. He spent four days in Urbana, and he lectured almost nonstop. It was absolutely awesome. He was so good and this work he was doing was so intricate and so neat that I immediately fell in love with it.

I decided then and there [about my dissertation topic]. I was going to find more arguments and push that theory.

Ross was not the only one on tour; he and Lakoff were on a dedicated round of conference and visiting-talk appearances—arguing the virtues of Abstract Syntax and insinuating the virtues of a Generative Semantics—from California to Texas to Illinois. They used the lectern like a pulpit. Of the two, Lakoff was the more forceful, and in this sense the purple-eyes dialogue reflects his professional relationship with Ross. The parody goes way too far. G just leads H around by the nose. They were both gifted analysts and brilliant arguers. But Lakoff was the one driving the car in their partnership. Bolinger calls their Harvard sessions a kind of duet: “George was the lead voice, but Haj harmonized at intervals in a lively exchange that kept the class on its toes” (1991 [1974]:29), and Ross is remembered from this period principally for a few technical innovations; in particular, for his performative hypothesis and, something we will see a little later, his “squishoids.” (If you’re wondering why his magnificent island work isn’t one of the accomplishments for which his activity in the growth of Generative Semantics is best remembered, it’s because subsequent ideological developments detached that work from Generative Semantics, and even to some extent from Ross.) Lakoff’s contributions are recalled on another scale. He was the Prophet of abstract verbs, lexical decomposition, rule government, and Generative Semantics’ most notorious innovation—also reserved for a later appearance—global rules. He wrote the major policy statement of the movement, “On Generative Semantics” (1971b), and confronted Chomsky at every turn. He was the most tireless boundary-crosser, swelling the movement with material he brought back from forays into philosophy and psychology.

Built on their extravagant analysis of *Floyd broke the glass*, Lakoff and Ross’s performances were tireless and inspiring. The preface to the proceedings of the 1967 Texas Conference on Universals, for which they were invited commentators, gives a good picture of the impression they cut:

We would give a totally false picture of the symposium if we did not mention the contribution of Ross and Lakoff, who not only played a role as discussants but were kind enough to remain in Austin to devote approximately six hours to a presentation of some of their recent work [followed by an epitome of the *Floyd* analysis]. (Bach & Harms, 1968:viif)

Generative Semantics was well on its way.

Lo, out of the west, Chomsky.

The Backlash

Should they, urging the minds of their listeners into error, ardently exhort them, moving them by speech so that they terrify, sadden, and exhilarate them, while the defenders of the truth are sluggish, cold and somnolent?

—Augustine of Hippo (*De doctrina Christiana*, 4.2.3)

Of his first venture into Generative Semantics, Lakoff says “Chomsky didn’t like it from the beginning” (compromising, it is hard to miss, his remarks that the Ross/Lakoff seminars were all about being good little Chomskyans; Lakoff knew of Chomsky’s distaste). Although he means here only to date Chomsky’s antipathy from his 1963 paper, “from the beginning” might be seen to hold more widely of Chomsky, all the way back to the start of his career. As early as 1955, in a paper that Sledd (1962 [1958]) takes to represent the hardest of Bloomfieldian hard lines on meaning, Chomsky was crystal clear on this point—“if it can be shown that meaning and related notions do play a role in linguistic analysis, then . . . a serious blow is struck at the foundations of linguistic theory” (1955a:141)—and he has only rarely softened this position since, never abandoned it. Indeed, Chomsky’s position can be traced even earlier, to Goodman and Harris, Chomsky’s teachers, certainly to Bloomfield, who had a deep influence on Harris, back to Whitney, an influence on Bloomfield, and earlier. Chomsky comes to what looks like the brink of Generative Semantics in *Cartesian Linguistics*, true, when he describes Deep Structure as something “that is purely mental, that conveys the semantic content of the sentence” (1966a:35), but he does not take that final step. He qualifies it in an aside, giving it as the Port-Royal stance without a full endorsement. Chomsky has often expressed a commitment to meaning, on his own terms. But he is a devout and practicing syntactic fundamentalist.

In the commingle of meaning and mentalism surrounding and pervading *Aspects*—that is, in exactly the themes picked up and run with in Abstract Syntax—the asides were easily overlooked, and Chomsky’s early hyper-Bloomfieldian arguments about keeping structure and meaning separate, went either ignored or unread by most everyone.

So, it was, in Ray Jackendoff’s phrase, “a dreadful surprise” when Chomsky returned to MIT from his Berkeley sabbatical in 1967, and seemed to take Generative Semantics developments as “a theoretical slap in the face” (Fox 1999). He launched a series of lectures that abruptly reversed the Abstract Syntax trend of deepening Deep Structure.² His students, after some initial shock and puzzlement, found these lectures invigorating; Jackendoff, a second-year doctoral student, was particularly thrilled that his own recent research, research which compromised the *Aspects* model considerably, was out of sync with Abstract

Syntax, and had no home at all in Generative Semantics, resonated with Chomsky.

Nobody was puzzled about the aim of these lectures (known as the “Remarks” lectures, after the famous article that came out of them, “Remarks on Nominalization” (1972b [1967])). Everyone immediately saw them as targetting the abstract legs propping up Generative Semantics. The best term for the lectures is Newmeyer’s. He calls them a *counteroffensive* (1980a:114; 1986a:107), which captures the air of reaction, assault, and upping-the-ante in which they were received. They zeroed in particularly on an emblematic move in Lakoff’s dissertation, the use of transformations to change lexical categories. Chomsky painted a target on Lakoff’s back, but category-changing transformations were hardly Lakoff’s invention. They went back to the very beginnings of Transformational Grammar, all the way back to Zellig Harris’s work. *Syntactic Structures* featured several category-changing transformations. Category-changing demonstrations were widely deployed rhetorically to demonstrate the power of transformations. Category-changing transformations had entered the New Grammar curriculum. Lakoff, in short, was working with a prominent and venerable generative tool. He was torquing on it heavily, though.

Chomsky reports very different motives than the ones everyone ascribed to him. He says he wasn’t much interested in Generative Semantics or in Abstract Syntax at the time, that he knew virtually nothing about either, that he barely noticed the work Postal, the Lakoffs, Ross, and McCawley were doing. His 1967 MIT lectures, he says, were just a time-delayed response to Lees’s work on nominalizations, Chomsky says; work, we might add, that Lees did under Chomsky’s direction, and that Chomsky added to the recommended reading list in multiple reprintings of *Syntactic Structures*. Not for the only time, do we find the record in less than full accord with his characterization.

There is no particular reason to disbelieve half of the story Chomsky tells, that he was ramping up a program which had lain mostly dormant in his overall enterprise since the late 1950s, a program of constraining the power of transformations generally and reducing the welter of idiosyncratic details in specific transformations. In his major 1962 Congress of International Linguists address, in among the recurrent arguments that semantics became more tractable as syntax went deeper, were exploratory suggestions about limiting transformational power; chiefly, the A-over-A Principle, which curbed movement transformations. But there were other developments in this line as well. Recoverability of Deletion constrained deletion transformations. The cycle constrained rule application. The Katz-Postal Principle is itself a transformational constraint, licensing only those transformations which were semantically neutral. In terminology Lakoff would shortly introduce, these principles were all various forms of *derivational constraints*.

But the other half of the story—that Chomsky was unaware of, or indifferent to, the consequences his arguments had for Abstract Syntax and Generative Semantics, that he was perfectly open to this work, that there was no counter-offensive angle to his proposals at all—that half does not stand. For one thing, it is wholly incompatible with Chomsky’s fiercely agonistic approach to competing ideas. For another, it doesn’t align with the memory of anyone else who was present at the lectures, neither the emergent Generative Semanticists nor the incipient Interpretive Semanticists, all of whom remember blistering attacks on Lakoff’s work. But even if we had only the relatively denatured publication, the more temperate residue of those lectures, there is little doubt left about who was in Chomsky’s crosshairs. Lees, the putative fountainhead in this half of the story, is mentioned seven times in “Remarks,” Lakoff eight. Far more tellingly: Lees gets mostly in-passing citations with exculpatory framing, while Lakoff gets substantive discussion, almost always including objections. Lees is a point of reference; Lakoff, a focus of attack.³

The two dissertations *were* up to the same thing, Lees’s and Lakoff’s: a project to account for a wide number of nominalizations with a smaller number of underlying categories. Lees, for instance, accounted for the nouns *transgressor*, *transgression*, and *transgressing* (as a gerundive) as all arising from the verb, *transgress*. So far, so good. This is Grammar 101, relating words through morphology. And, in terms of reduction, that puts only one word in the base, rather than four. The others all get built later on. But, as the adage goes, to the linguist who has only a hammer everything looks like a nail. Lees pounded *transgressor*, *transgression*, and *transgressing* out of *transgress* with his transformational hammer. Abstract Syntax put that hammer to even more work, taking over this category-reduction project with a vengeance, reducing deep lexical categories to just two, nouns and verbs, and deriving everything else (as well as a lots of higher nouns and verbs as well) transformationally.

Chomsky recalls thinking that Lees was “way overdoing the use of transformations,” an understandable concern, though Lees was religiously following the program laid out in Chomsky’s own work (in particular, 1975a [1955], 1957a, 1962a [1958]), and following it out with regular input from Chomsky, which Lees acknowledges gratefully, noting in the preface that Chomsky’s influence appears on every page (1968 [1960]:i). This concern with Lees’s overuse of transformations, Chomsky says, preyed on him for a long while, simmering on some cortical back burner for the better part of a decade, when it boiled over into his work, coincidentally taking a completely inverse approach to the one that Abstract Syntax had adopted and coincidentally coming just months after Lakoff and Ross had declared Generative Semantics open for business.

The big shocker of the “Remarks” lectures, the dreadful surprise Jackendoff mentions, was their theoretical direction. One of the flagships of the

transformational program had always been what *Syntactic Structures* called “the very interesting and ramified set of nominalizing transformations” (1957a:72). Lees’s *Grammar* had become a how-to lesson in Transformational Grammar, a template on every linguist’s shelf and on every student’s desk which had gone through five printings by this time. But Chomsky organized his 1967 MIT lectures around the proposal that some nominalizations are better treated *without* transformations. In particular, where Transformational Grammar had always derived 1a from 1c by Transformation (with 1b also related transformationally), Chomsky now argued that words like *refusal* should go directly into the lexicon.

- 1 a Ken’s refusal to beat his rug.
- b Ken refused to beat his rug.
- c Ken refused for Ken to beat his rug.

For everyone who sat in on the lectures, or read the paper distilled from them, the immediate motive of this approach seemed clear. It went right at the kidneys of Generative Semantics. Generative Semantics was reducing the deep lexical inventory; Chomsky was restocking it.

The implications of Chomsky’s arguments went, as Chomsky’s arguments will, considerably beyond a specific procedural matter, like how to handle nominalization. He proposed an overall approach—he called it the *Lexicalist hypothesis*, but it soon attracted an *-ism*, becoming widely known as *Lexicalism*—which greatly diminished the heretofore divine right of transformations to change syntactic categories, a right which virtually defined the Abstract Syntax program underlying Generative Semantics. Building an implied antithesis—what’s a position without an enemy?—Chomsky systematically opposed this approach to something he called *the Transformationalist hypothesis*. That hypothesis was really the only game in town at the time, so there were many works he could associate it with (including, naturally, *Syntactic Structures* and *Aspects*). But he connected it closely and relentlessly with the unpublished thesis of a precariously employed junior lecturer by the name of George Lakoff. Chomsky very briefly mentions Lees in connection with Transformationalism, but says that the correctness of that approach was taken for granted at the time of Lees’s work, then deals him a second get-out-of-jail-free card with “there was really no alternative as the theory of grammar was [then] formulated” (1972a [1967]:17).⁴ So, it was taken for granted and there was no alternative anyway, but Lakoff, one supposes, should have known better, and so is declared the poster child for the now-understood-to-be-mistaken Transformationalist hypothesis. What Chomsky is doing here, in one of his signature rhetorical moves, is taking ownership of a position so he can manhandle it. “The transformationalist hypothesis” is a thinly veiled synonym for “Abstract Syntax.”

Chomsky's formulation of Lexicalism (1972b [1967]:22) rapidly came to mean, in Lakoff's attempt to firm it up, that words "may not change category in the course of a transformational derivation" (1967:8); or in Jackendoff's version, "transformations do not perform derivational morphology" (1972:12–13): once a category, that is, always a category. This move (1) immediately declares a huge swath of the Abstract Syntax program illegitimate and (2) reverses the historical course of Transformational Grammar.

Let's tally up a sub-total, then, shall we? The founder of the field, a well-known evangelist for nominalizing transformations, prominently in both *Syntactic Structures* and *Aspects*, proclaimed the arguments behind all such derivations misguided. In the process, he disowned much of the work elaborated under his specific endorsement (he had virtually directed Lees's thesis on nominalizations). He advocated a position he specifically dismissed in the New Testament: "Clearly," he says in *Aspects*, the book that guided Lakoff's work, "the words *destruction*, *refusal*, etc., will not be entered into the lexicon as such. Rather, *destroy* and *refuse* will be entered into the lexicon . . . [and] a nominalization transformation will apply at the appropriate stage in the derivation" (1965 [1964]:184). "Clearly."

In the bargain—perhaps the most dreadful surprise of them all—he cast suspicion on one of the cornerstones of the *Aspects* model, the Katz-Postal Principle. If 1a and 1b no longer have the same Deep Structure one might always maintain the letter of principle, because scientists can do ingenious things with letters, but the spirit of the principle has been abandoned. Certainly, Chomsky kicked the Katz-Postal *heuristic* to the curb. That heuristic, you recall, directed linguists—people like, say Lakoff—to seek out data of the 1a and 1b sort, so they could link them to Deep Structures of the 1c sort.

As Chomsky's student at the time, Susan Fischer, recalls of these lectures, "The shit hit the syntactic fan."

Lexicalist Wranglings

One reads "Remarks" on Nominalization without a clue that the description there of the lexicon and of deep structure existed nowhere before and was developed only because [Generative Semantics] pushed Chomsky to redefine his position—quite radically.

—Robin Lakoff (1989:983)

Almost everyone outside of MIT, and some inside, took the Lexicalist lectures to be little more than crackpot revisionism. There are actually a few more indications in *Aspects* that the Lexicalist hypothesis is one potential future for Chomsky's framework than Robin Lakoff prefers to remember, and there are a

few more clues in “Remarks on Nominalization” that it is a reaction to Generative Semantics as well, especially its fixation on her husband. But the tenor of her account is right on the mark: *Aspects* looks generally to endorse Abstract Syntax (aka “the transformationalist position”) far more than to endorse Lexicalism; and “Remarks” does play its cards pretty close to the vest. It dresses up surprising new proposals as natural extensions of the *Aspects* model, and characterizes the natural extensions pursued by the Transformationalists as a misguided detour.

In support of these partly reactionary, partly radical, moves, Chomsky’s arguments can be vague, half-baked, and ad hoc. To get out of one pickle, for instance, he appeals to analogy—the common-sense notion that a speaker might coin the word *prioritize* on analogy to an existing word like *civilize*, or *oxidize*—said to be a property of performance rather than competence. Well and good, you might say, analogy is a long-accepted tool of linguistic innovation—except that Chomsky’s dismissive views on the role of analogy were well known. He calls analogy “of dubious validity” in an article with Halle, for instance (1968 [1964]:356n12). He uses Bloomfield’s and Hockett’s appeal to analogy as a symptom of their misguidedness (1966a:12,81 n21, 82n22). And, in any case, the “Remarks” deployment of analogy was a blip. “Analogy seems to be a useless concept,” he returns to saying afterwards, “invoked simply as an expression of ignorance about what the true operative processes and principles really are” (1988a:24; also 1986:32). In short, analogy is a weakness relied upon by weak linguists. Unless it suits his purpose.⁵

There is this, too: the use to which he puts analogy, in support of Lexicalism, is a rather odd one. For reasons we needn’t go into, the following two grammaticality claims feed Chomsky’s argument for Lexicalism:

- 2 a His criticizing the book before he read it annoyed me.
- b *His criticism of the book before he read it was strangely insightful.

“Suppose that we discover, however, that some speakers find [expressions like 2b] quite acceptable,” Chomsky adds (and, indeed, some people do, including me), then analogy can come to the rescue: “We might propose that [2b is] formed by analogy to the gerundive nominals [*criticizing* in 2a], say by a rule that converts X-*ing* to the noun X *nom* (where *nom* is the element that determines the morphological form of the derived nominal) in certain cases” (1972b [1967]:27–28). If this analysis is correct, he goes on, then it “indicates that speakers who fail to distinguish [2b] from [2a] are not aware of a property of their internalized grammar” (1972b [1967]:28); in short, for speakers who do not conform to the grammaticality judgments required by the Lexicalist hypothesis, 2b is *still ungrammatical*, but acceptable due to analogic rules of performance. If your judgments accord with Chomsky’s about 2b—namely that it is bad English—then you have the same grammar in your head as he does. If they don’t accord

with Chomsky's judgments, then you still have same grammar in your head as he does, but some superficial phenomenon of no interest to linguistics is leading your judgments to betray your grammar. Yeah, right.

Even more curious at the time than such offhand appeals was the schema he proposed for Phrase Structure Rules, which has become known as $\bar{x}$ -syntax (pronounced "x-bar syntax"). It completely reoriented the phrase-structure component, critically required an amorphous and undefended entity called *specifier*, and harkened back in some nonspecific way to earlier work by Harris ("reminiscent of the system of phrase structure analysis developed by Harris in the 1940s"—1972b [1967]:54). Worse: its only role in the paper is to explain certain correspondences (the structural similarities between sentences like "Chomsky criticized Lakoff" and noun phrases like "Chomsky's criticism of Lakoff") that were already explained to everyone's satisfaction under the transformational account—just not under the new Lexicalist hypothesis. That is, the only purpose of $\bar{x}$ -syntax seemed to be to prop up the Lexicalist hypothesis, and the only purpose of the Lexicalist hypothesis seemed to be to undermine Abstract Syntax. Within the decade, $\bar{x}$ -syntax had become a spectacular success and Lexicalism was seen as a necessary corrective on the power of transformations, but in "Remarks" $\bar{x}$ -syntax looked like a house of ad hoc cards sheltering a questionable hypothesis.

Chomsky repudiated successful early work, proposed radical changes to the *Aspects* model, and opened makeshift escape channels for those changes—all on the basis of quite meager evidence—with no more motivation, as far as anyone could see, than to hamstring the work of his most productive colleague (Postal) and of some of the most promising junior scholars in the field, including some of his own former students.

Lakoff and Ross were shaken to the bone. They were expecting some sort of brouhaha when Chomsky returned, no doubt, but it was taking a completely different route than anyone could have predicted, and, from their perspective, a distinctly bizarre one. They sat in on the lectures (which included specific attacks on many of the abstract analyses presented in Lakoff's dissertation), and argued with Chomsky every step of the way. They also tried to talk about these issues with Chomsky outside of class, with very little success. Chomsky was getting thickly involved in political activism at the time, and his popularity was exploding inside and outside of academia. He had very little free room in his schedule. Lakoff, in particular, felt snubbed, but Postal says that Chomsky probably just didn't see any potential profit in the meetings:

Viewed from [Chomsky's] perspective, I don't think he had any great desire to talk to them. It certainly was no urgent matter for him. They viewed it with some urgency. They felt that they probably had something important to tell him, but I doubt if he felt they had anything important to tell him.

I doubt that he really avoided them. I suspect he didn't care one way or the other, and if he had more pressing things to do, he would do them. He would certainly much rather talk to some guy from *Time* magazine than them, so they probably got shunted off, and got pissed, and gave up.⁶

Lakoff's interpretation is far less generous, and he dates the animosity that characterized much of the next ten years from exactly this point: "[Since we couldn't talk to him in private] we figured that the only way to talk to him was to start bringing up counterexamples in class, and that infuriated him." Chomsky's classes became increasingly contentious, heated arguments breaking out frequently, and Lakoff was usually at the center of them.

A letter that Lakoff wrote to Chomsky during the course of "Remarks" lectures gives us a nice window into the dynamics of the emerging dispute. For one thing, Lakoff quickly mimeographed it for underground circulation, so that he could put his objections on the record. It wasn't directed *to* Chomsky, that is, so much as *at* Chomsky (it's a rhetorical figure called *apostrophe*, argumentation that is meant not so much to be heard by the guy in the witness chair or on the address line as to be overheard by others). But the tone is also very revealing—haranguing and superior, but cheery. Lakoff is not famously deferential, at least not when there are ideas at stake, but the difference between his and Chomsky's statures was so immense as to put them in separate galaxies. Lakoff was a contract lecturer. Chomsky, in addition to having built the framework which utterly defined the debate, and having become the unquestioned leader in North American linguistics, had gained (and was continuing to gain) considerable fame outside of linguistics—as a proponent of rationalism, as the sharpest critic of behaviorism, and as a tireless, trenchant opponent of the Vietnam War. He was rapidly ascending to the reputation he now holds, as one of the foremost and influential thinkers of the contemporary era. Lakoff, in fact, says of his antagonist's position in the late 1960s, "Chomsky was a Holy Presence."

But holiness apparently did not inspire much reserve in Lakoff. The letter is full of sharp counterargumentation, but his principal criticism is that Chomsky is dodging all the real issues, and he uses an ancient tool of needling, the rhetorical question, to hector Chomsky about facing up to the facts. Many of Lakoff's questions read like commentary a bullying professor might write on an undergraduate term paper. Since our document is a quasi-public letter, not a term paper, this kind of hectoring is manifestly insulting, implying sloppy reasoning if not sloth:

Is there anything to stop this sort of [absurd] argument? If not, why don't you embrace it? (4)

A personal question: Do you believe this? Do you use it as a heuristic principle in doing grammar? If not, what exceptions can you think of, or envision? (8)

If you have some linguistically relevant sense of the word *natural* in mind, please say what you mean. While you're at it, you might explain why your "by Δ " analysis of the passive is "natural" by this criterion. (12)

In the discussion of causatives, why don't you answer my S-deletion argument (at the end of the causative paper)[?] It's crucial that you do. (13)

The harping is surely in sync with the tone Lakoff adopted in his oral clashes with Chomsky, in Chomsky's class, and helps to explain much of the antipathy, but we need also to keep in mind that "Remarks," however monumental its influence became, is a very sketchy paper, unclear and hesitant about substantial, wide-ranging alterations to the beautiful *Aspects* model, and the lectures were surely similar: Lakoff did have a lot of questions to ask.

And, for all the prodding and the badgering, Lakoff's tone remains breezy and lively throughout, with occasional suggestions of camaraderie—a kind of ribbing here and there—and the letter closes with

Enough. I'll let Haj give you flak on the details of the grammatical analyses.

*Cheers,
George*

Back in the lecture theater, Chomsky, a grand master of debate, handled Lakoff's objections to the satisfaction of virtually the entire audience. His own graduate students were especially impressed. Chomsky is not just relentless in argumentation, he approaches it like a blood sport. "If you want to talk with Chomsky," Bob Ingria has said, "wear boxing gloves" (quoted in Nevin 2010:106). His students had ringside seats.

And let's not forget that sketchiness has its virtues in science. However weak the vagueries looked to the Generative Semanticists under attack, the lectures' suggestive indeterminacy was incredibly rich for his students, a smorgasbord of new research delights. There were the $\bar{x}$ -adumbrations to flesh out, the Lexicalist hypothesis to turn upon data old and new, and projects aplenty refuting the arguments of Postal, Ross, the Lakoffs, and McCawley. The lectures set off a flurry of activity among his students, activity which rapidly bloomed into the Interpretive Semantics model.

But this was only the beginning. Chomsky followed the "Remarks" lectures with an unprecedented period: several years of almost exclusively negative rhetoric, documented in two long papers (1972b [1968]:62–119; [1969]:120–202),

whose express aim was to play whack-a-mole with Generative Semantics arguments; Jackendoff calls them “the bashing papers.”

Chomsky has certainly devoted considerable time and energy to assaulting other people's work. He lets very little criticism escape his withering notice, if only to condemn it as beneath his notice, in repeated acts of paralipsis (the pre-eminent rhetorical figure of snideness, insinuating moral failures or crimes and misdemeanors or bad breath while pretending to ignore them). Take, for instance, this typical dismissal:

I will not consider Reichling's criticisms of generative grammar here. The cited remark is just one illustration of his complete lack of comprehension of the goals, concerns, and specific content of the work he was discussing, and his discussion is based on such gross misrepresentations of this work that comment is hardly called for. (1966b [1964]:9)

But, even given Chomsky's penchant for returning the fire of his critics tenfold, and for attacking any and all views he regards as unsound or specious, this period is anomalous.

Most of his arguments against the Bloomfieldian program are scattered among specific original linguistic proposals. But compare B. F. Skinner, the apostle of everything Chomsky considers evil in twentieth-century psychology. Skinner received only two papers, over a decade apart, the famous review of *Verbal Behavior*, and a more general, more clearly ideological assault in the *New York Review of Books* (Chomsky 1970a). Attacking Generative Semantics, a development within his own framework, by colleagues and former students, occupied most of his linguistic energy for three years. Lecture after lecture, he took up, dissected, and discarded Generative Semantics proposals: one lecture to McCawley, one to Postal, three to Lakoff, another one to McCawley . . .

Students, supporters, and opponents alike were all alarmed. One of the most fecund minds of the century was doggedly stamping the life out of a heresy, producing little (by his standards, extremely little) original research. Even the “Remarks” work, epochal as it proved to be, was too loose to make much immediate impact, especially on people who weren't present for the lectures, actively shopping for methods and ideas (that is, his students), who only had a mimeographed version to go by. The evidence he presented for Lexicalism was inconclusive at best, spliced in with unconvincing appeals like the one to analogy, and came with a vaguely roughed-out proposal ($\bar{x}$ -syntax) for completely overhauling the highly successful Phrase Structure Rules. As one of his most sympathetic students at the time puts it, apropos of Chomsky's seminal influence: “We all thought he had shot his wad.”

The Extended Standard Theory

Every question selects a field of battle, and in this selection it forms the nature of the answers.

—Kenneth Burke (1941:67)

Is the hypothesis correct in the case of particular grammars?; is the class of grammars restricted in a way that facilitates the choice of grammars?; are there further conditions on derivations that can be expressed in terms of the level of representation (deep structure) defined as the set of phrase markers that appear in derivations after all transformations of L have applied?; is there any further explanatory value to this concept? and so on.

—Noam Chomsky (1972b [1969]:128)

Chomsky wasted little time in capturing the nominal high ground by promptly but not at all inaccurately dubbing the *Aspects* model the *Standard Theory*, and his Lexicalist revisions to it, with much less basis, the *Extended Standard Theory*. Most linguists thought that Postal's program and the Generative Semantics that it spawned were the most natural extensions to *Aspects*. In fact, Lakoff's public-letter answer to "Remarks" lectures speaks repeatedly of both Chomsky's and his own proposals as extending transformational theory or extending the assumed theory of grammar.⁷ More significantly—*most* significantly—the convergence of transformations and Semantic Interpretation Rules into Generative Semantics seemed like the inevitable fulfillment of *Aspects*' promise, virtually the inevitable fulfillment of linguistics. "We know what we want to say," Lakoff said in his 1963 argument for Generative Semantics, and then "we find a way of saying it" (1976a [1963]:50). After the innovations leading to *Aspects* and the surety of the Katz-Postal Principle, it seemed apparent to almost everyone that transformations were the way of saying it.

We can trace the relationship of transformations to meaning with sentences like 3a and 3b:

- 3 a Everyone on 'Yallis Island speaks two languages.
- b Two languages are spoken by everyone on 'Yallis Island.

With 3a effectively the kernel of 3b, and their meanings are distinct (3a open about the languages 'Yallis Islanders speak, so long as each one speaks at least two; 3b saying they all speak the same two languages) for the Chomsky of *Syntactic Structures* these two sentences indicate that "not even the weakest semantic relation can be maintained in moving from an active underlying form to

a passive surface form” (1957a:101); therefore the passive transformation alters meaning; therefore transformations won’t take you cleanly from an underlying meaning to a surface form.

Katz and Postal tried to patch this hole unconvincingly, saying 3a and 3b are ambiguous in the same way, wholly synonymous with each other for both readings of both sentences (1964:72). Both 3a and 3b have the maybe-different-two and definitely-same-two readings. It’s only post-grammatical interpretation that leads speakers to prefer the maybe-different-two-languages reading for the active, 3a, and to prefer definitely-the-same reading for the passive, 3b. (This is a performance argument, but it comes before Chomsky had developed that label).

But they’re not done. “Even if the [grammar-internal] meaning of samples like [3a and 3b] are different,” they say, “the argument that some transformations affect meaning does not hold.” The reason? They have those abstract trigger morphemes up their sleeves:

Strong syntactic motivation has been found which . . . derives [passives] not from corresponding active forms, but rather from underlying P-markers containing an Adverb_{manner} constituent dominating *by* plus a passive morpheme dummy (Katz & Postal 1964:72)

So, 3a has something very much like itself for a Deep Structure, but 3b’s Deep Structure looks more like 3c

3 c Everyone on ‘Yallis Island speaks two languages by *passive*

Passive doesn’t change meaning, in other words, and even if it does, who cares? It’s a classic heads-I-win, tails-you-lose argument.

What Katz and Postal offer us here, dear Reader, is a textbook case of what physicist and historian-philosopher of science, Pierre Duhem, called “saving the phenomena”: fiddling with the knobs of a theoretical apparatus in order to accommodate the theory to the relevant observables. Duhem was concerned with Ptolemaic astronomy, which had among its devices, he says, some “which save the phenomena by means of epicycles, others which do so by means of eccentrics, still others which save the phenomena by means of counterturning spheres devoid of planets” (2015 [1908]:21). Whatever the strong syntactic motivation might be (and it is far from negligible), in the context of the Katz-Postal Principle and data like our ‘Yallis Island sentences, by *passive* looks an awful lot like an epicycle.

For the Chomsky *of Aspects*, 3a and 3b have become a minor puzzle. They seem to suggest that the Katz-Postal Principle is too strong; but, on the other hand, we might maintain that in such examples both interpretations are latent, a

maintenance that he finds attractive (1965 [1964]:224n9); but, on one more hand yet (we sometimes get into Vishnu territory with Chomsky's hands), it doesn't matter anyway because we have that by *passive* (Chomsky 1965 [1964]:103–105). In short, he endorses Katz and Postal's heads-I-win, tails-you-lose treatment of such sentences, epicycle and all, saving the principle. In his most authoritative statement on the principle in *Aspects* Chomsky says:

It is clear, as Katz and Fodor have emphasized, that the meaning of a sentence is based on the meaning of its elementary parts and the manner of their combination. It is also clear that the manner of combination provided by the surface (immediate constituent) structure is in general almost totally irrelevant to semantic interpretation. (1965 [1964]:162)

That's right, Surface Structure is almost totally irrelevant to semantic interpretation. There *is* that razor's edge of a qualifier, *almost* totally irrelevant, but Chomsky's policy statement here looks to be an almost totally done-deal Katz-Postal Principle lockdown, which is precisely how everyone took it. Surface Structure does not matter to meaning.

But down the road from *Aspects* scripture, when the matter seemed well in Transformational Grammar's rear-view mirror and linguists were contentedly looking forward Chomsky's *almost* came out to play. Quantifiers, like the *every*-in *everyone*, were soon back on the meaning-derangement table, in ways that most linguists found alarming (prominent exception: Ray Jackendoff).

It is impossible to recover exactly what Chomsky said in the lectures, but in the accompanying paper, he hints about the renewed relevance of such examples as 3a and 3b, now describing the Semantic Interpretation Rules of his *Aspects* not as interested solely in Deep Structure; rather, we hear that *Aspects* had "semantic rules that assign each paired deep and surface structure generated by the syntax a semantic interpretation" (1972b [1967]:12). The statement is strictly, letter-of-the-law true about the *Aspects* framework, of course, but it is a remarkably casual distortion of not just *Aspects* itself, the house that Deep Structure built, but of the five or so years of research that preceded it. Chomsky says clearly and repeatedly in *Aspects* that Deep Structure is where the semantic action takes place. This new Deep-Structure-and-Surface-Structure phrasing signals a major change in the winds. More explicitly, but still with a coyness that many found exasperating, he also said in print that same year:

I think that a reasonable explication of the term "semantic interpretation" would lead to the conclusion that surface structure also contributes in a restricted but important way to semantic interpretation, but I will say no more about this matter here. (1967b:407)

Such remarks may well have been elaborated in his lectures. His students surely knew more about his reasons and his arguments; Jackendoff was coming up with some of them. Everyone else was puzzled and disconcerted.

In 1968, that coyness on the nature of Deep Structure to meaning was receding, and he says that “surface structure determines (at least in part) the scope of logical elements [like quantifiers, such as the *every-* of 3a and 3b] and consequently plays a role in determining semantic interpretation” (1972b [1968]:209).⁸ By this point, too, his students had begun circulating papers, over and under the ground, with analyses that invoked surface structure interpretation. The Katz-Postal hypothesis apparently had a best-before date, and its time was up: if Surface Structure plays a role in meaning, then transformations can’t be semantically neutral. By 1969 for Chomsky quantifiers were hopelessly problematic for the *Aspects* model and, a fortiori, for Generative Semantics, requiring significant extensions to the former and a wholesale rejection of the latter.

But much of the research that Chomsky deftly dubbed the *Extended Standard Theory*, especially after “Remarks,” extended nothing. It was negative—looking not for solutions to specific pre-existing problems but only for data that compromised or disconfirmed the Katz-Postal hypothesis, and, therefore, hung Generative Semantics out to dry.

Why the shift? Chomsky, again suggesting his move was wholly incidental to Generative Semantics, says it was occasioned by his student, Ray Jackendoff:

The first person who offered a substantial critique of the Standard Theory, and the best as far as I can recall, was Ray Jackendoff—that must have been in 1964 or 1965. He showed that surface structure played a much more important role in semantic interpretation than had been supposed; if so, then the Standard hypothesis [the Katz-Postal hypothesis], according to which it was the deep structure that completely determined [meaning], is false. (1979 [1976]:151; also 1975b:239n8)

Chomsky’s chronology is off by a few significant years here. Jackendoff didn’t even show up at MIT until the fall of 1965. And (although this would depend on how he chooses to define the phrase, *substantial critique of the Standard Theory*) Chomsky’s notions of priority are further off yet. Lakoff’s thesis, which many people regarded as a (constructive) critique of *Aspects*—indeed, as an *extension* of the (not yet labeled) Standard Theory—was in circulation before Jackendoff finished his first semester, and several other linguists were revamping the *Aspects* model substantially before Jackendoff—including Gruber, Postal, Ross, and Fillmore. The only terminological point we can grant Chomsky here is *best*, since that is a subjective evaluation and he’s entitled to his opinion.

Too, the development of this Surface-Structure-semantics theme is not as simple as Chomsky seems to recall. In particular, Jackendoff himself remembers that Chomsky was entertaining this critique of the *Aspects* model at least as early as he was. “During my second year,” Jackendoff remembers, with Chomsky away writing *Cartesian Linguistics*,

I started thinking about rules of interpretation, and in an independent study under Halle during the fall semester of 1966 wrote three papers—one arguing for base-generated pronouns whose antecedents are determined by rules of interpretation; one arguing that selectional restrictions are enforced in the semantic component, not as part of lexical insertion (as in the *Aspects* position); and one trying to work out a theory of base-generated PRO and relative pronouns instead of the deletion rules then in fashion. Ross pointed out to me that this would require surface structure interpretation, in contradiction to the then-dogmatic assumption that deep structure determines interpretation. This worried me a lot. I remember a discussion with Chomsky on one of his brief reappearances on campus during that year, in which I brought up this worry, and he said calmly, “Of course Surface Structure plays a role in interpretation.” So evidently he was thinking along those lines too by at least early in 1967.

In one way, Chomsky’s calm “Of course Surface Structure plays a role” looks like just another example of something many people say of Chomsky; in Lees’s phrasing, “Chomsky is so smart that any idea you came up with he had already thought of, and thought over long and deeply.” Chomsky’s quantifier-scope quandaries date at least to *Syntactic Structures*, and his Lexicalist developments (on his chronology) germinate from 1960 or so, in partial reaction to *The Grammar of English Nominalizations*.

In another way, though, the issue has less to do with Chomsky’s vaunted depth of analysis than with his enigmatic choice of which particular thread of which analysis to pick up at any given time. The quantifier-scope, semantic-neutrality-of-transformations question, raised very early, seemed to be solidly resolved by 1964; raising it again looked like a step backward, and a betrayal of everything the transformational community had been working toward. Even after several years of MIT arguments against the Katz-Postal hypothesis, Barbara Partee expressed her bafflement over the effort in familiar anti-Bloofieldian terms:

The position that transformational rules *don’t* preserve meaning is of much less inherent interest than the contrary position, since it amounts simply to the position that a certain strong hypothesis is false. It may of course turn out to be the correct position, but it doesn’t seem like anything one could rationally *want*

to champion—it is analogous to the position that synchronic rules don't reflect historical development, or that not all languages use the same stock of phonological features, and so forth, the sum of all such positions being [in the notorious Joos quotation] that languages can differ from each other without limit and in unpredictable ways. (1971 [1969]:8; Partee's italics)

Now, add to this program against the Katz-Postal hypothesis Chomsky's arguments on the use, or overuse, of category-changing transformations, and his efforts looked odder yet. Why swim against the current of the most productive post-*Aspects* line of research in Transformational Grammar, particularly on the basis of the slim arguments of "Remarks"? And, in retrospect, why not raise his concerns about category-changing transformations seven years earlier, since they clearly had ramifications for the whole movement toward Deep Structure that characterized Chomskyan linguistics in the early 1960s?

Who knows?

But it seemed to many linguists that Chomsky had simply lost the courage of his convictions, that he couldn't follow through on the natural implications of his own work, that his Bloomfieldian roots were finally showing, that he was retrenching rather than advancing, that he was, sadly, being left behind by more vigorous, more visionary linguists.

The Best Theory

The fact is that Homogeneous I is . . . the best grammatical theory a priori possible.

—Paul Postal (1972a [1969]:136)

Meanwhile, Generative Semantics continued to gather momentum, the principals each playing somewhat distinct roles in its propagation, as they had in its genesis. Certainly, there was much scatter and overlap in these roles, and an element of caricature shows up if the tendencies are pushed too far, and they were all theory generators while serving these other roles, but their respective impacts on the movement are quite clear. George Lakoff and Ross were the evangelical salesmen, taking Generative Semantics to the consumers. Robin Lakoff was probing sociolinguistic and pragmatic phenomena that shaped the later developments of the framework. McCawley, as we will see shortly, was the resident genius of a research-and-development incubator in Chicago that brought along a second generation of Generative Semanticists. Postal was the Big Gun.

Though just into his thirties, Postal was a venerable force, below only Chomsky and Halle in stature, second in reputation only to Chomsky in the prized domain

of syntax. His endorsement of Generative Semantics did a great deal to foster its success. He did not proselytize for the model with the same fervor he had sold the earlier versions of Transformational Grammar; he went to conferences to argue, but less so to attack. He was, as always, prolific during the dispute, with almost all of his publications organized around reasons to pursue Generative Semantics, most containing asides on why not to pursue its almost completely open-ended rival (Postal 1972b [1970]:37n4), and some even carrying the resolutely polemical, doggedly certain tone of his anti-Bloomfieldian campaign. But his mere presence in the camp was almost enough on its own. Postal gave the movement its greatest source of credibility.

He looked, in fact, like its inventor. His spearheading of the movement toward deeper, more Abstract Syntactic analyses, everyone could see, grew into Generative Semantics. So, even though he didn't publicly align himself with Generative Semantics until 1968, his influence suffused and supported it from the beginning. His and Katz's formulation of their meaning-preservation principle, and their performative prefiguration, and their abstract morphemes, gave Generative Semantics a clutch of developmental warrants. His sponsorship of Lakoff's dissertation went a long way toward its validation, and therefore toward the validation of many Abstract Syntax arguments. His offstage (but acknowledged) participation in Lakoff's deep verb arguments, in Ross's auxiliary analysis, in McCawley's arguments, all gave them increased authority. The progression from Abstract Syntax to Generative Semantics seemed so inevitable to many linguists at the time (both supporters and opponents) that they assumed Postal was the latter's real progenitor. In Jackendoff's assessment,

The key person in motivating that kind of work was actually Postal, even though by the time the dispute got going he was sort of secondary. All the people around MIT who were attracted to a Generative Semantics point of view were people who had been taught by Postal. . . . He was probably thinking around those lines before anybody else. I think it started with the Katz-Postal theory.

Jackendoff then adds, "That means he was the originator of the Standard Theory, too" (quoted in Huck & Goldsmith 1995:98), reinforcing the sense in which Generative Semantics was the most natural outgrowth of the *Aspects* model.

Many people also found Postal's arguments, which exemplified *Aspects*-era rigor, the most challenging. Katz says that Postal's work

was the sort of thing that I found I could take seriously. I felt that I had to come to terms with his work in some way. From an outsider's point of view, it seemed to me that he was the brains behind the outfit.

Keyser says, simply, “He was the guru.” Much of this perception had to do with style of presentation; Katz, Keyser, and Postal spoke the same language. The younger Generative Semantics principals are given to more informal and breezy presentations. Postal’s publications are—uniformly—very detailed, very careful, and the reasoning is laid out explicitly: if *x*, then *y*; given *y*, we can see that *z*, . . . But part of the perception also had to do with ethos. Postal worked with Katz, studied alongside Keyser, went to battle on behalf of Chomsky. He was their colleague. The Lakoffs, Ross, and McCawley: they were seen as barely more than students. For the brood of younger interpretivists Chomsky was rearing at MIT, the situation was similar. Postal had been a professor, in addition to being something of a legend; the others made up a junior quartet, even Ross, who was also their professor but whose PhD was more recently minted and whose style was resolutely just-another-guy humble. Postal’s arguments are also, frankly, among the strongest for Generative Semantics; his *remind* paper in particular (1971b [1969]) is a model of Generative argumentation, and contains, for Ross, “the best articulation of what Generative Semantics is about.”

Postal’s most remembered contribution, though, is unquestionably “The Best Theory.” In part its reputation comes from its thoroughly polemical nature—polemical in terms definitive enough to be called *Postalian*—the “best theory” of the title referring, of course, to Generative Semantics, with the suggestion that anyone choosing not to work on the model was likely in need of psychiatric counseling. In part it is remembered because it was the losing entry in a rhetorical showdown with Chomsky at one of the most heated conferences of the dispute, the 1969 Texas Conference on the Goals of Linguistic Theory. The “Best Theory” title stuck with Chomsky. When he discussed Generative Semantics with me twenty-five years later, he invoked the title mockingly to dismiss Postal’s representation “as the worst theory, in fact as the worst possible theory . . . the worst imaginable theory.” I wouldn’t think I am the only one with whom he went through this routine, though the closest he seems to come in print is to repudiate the title because its theoretical proposals were “virtually empty” (Ronat 1972 [1970]:150). In part the paper is remembered because of its ironic prescience. When scholars began commenting, somewhat later in his career, that “the Chomsky of the 21st century reads like a reincarnation of the Postal of the 20th,” it was this paper they had in mind (Pullum 1996:138, Boeckx 2006:72, Newmeyer 2003:591, 2009:418).

In part it is remembered because it’s a sharp and compelling argument.

The Texas Goals conference was particularly fractious. As Ross recalls: “By then it was clear there was going to be no quarter asked nor given.” And Postal’s paper was in the middle of it all, designed for provocation. The title makes it rather clear that intransigence would be the order of the day, not compromise, and provides a nice contrast with Chomsky. The paper Chomsky gave at the

conference was published under the title, “Some Empirical Issues in the Theory of Transformational Grammar”—as neutral and mild-mannered as one could get—offering stark relief against Postal’s titular (and textual) claim to a priori superiority.⁹ In contrast to the title, however, Chomsky’s tenor was more intransigent than anything in Postal’s paper. The tone is unrelenting truculence, bullying even; as far from compromise as possible.

Postal’s paper is an unbudging but straightforward Occam’s razor case for the strong theoretical priority of Generative Semantics over more complicated models, especially all versions of Interpretive Semantics, with a few aspersions and digressive counterarguments thrown in. Chomsky goes after every Generative Semantics argument he can squeeze into the paper (taking the opportunity to attack Fillmore’s partially related Case Grammar proposals to boot), and offers nothing but vague promissory notes for an alternative. As always, the performance is impressive. He begins and ends with conciliatory statements, adopts a removed, disinterested tone, and exhibits concern only for the good of linguistics. But he attacks relentlessly, constantly characterizing Generative Semantics as “uninteresting” and “vacuous” and “totally obscure” and “[having] no substance” and “permitting any rule imaginable” and “[incorporating] at best dubious rules” and “[constituting only] a terminological proposal of an extremely unclear sort” and “not only unmotivated but in fact unacceptable” and much, much more. Postal’s belligerence pales in comparison. Interpretive Semantics, though, “is probably correct, in essence” and “very interesting” and “more natural” and “somewhat more careful” and “well-supported” and “to be preferred” and “again to be preferred” and “more restrictive, hence preferable” and, of course, considerably more.¹⁰

McCawley in Chicago

This note is concerned with a counterexample to the outrageous claim made by the bourgeois imperialist linguist McCawley. . . . Consider the idiomatic sense of shove X up Y’s ass. As is well known, Y must be co-referential to the indirect object of the next higher clause (including the deleted indirect object of a deleted performative verb).

Yuck Foo [James D. McCawley] (1992 [1971]:19)

McCawley was something of a proselytizer, more than Postal but less than George Lakoff and Ross, and he published a number of important foundational papers. Notably, he was the mildest polemicist. In conferences, he was especially compelling when he showed (gently) how a given Interpretivist account couldn’t pull the weight its author claimed for it, coupling the demonstration with a

suggestion that Generative Semantics was better suited to the task. On paper, his arguments were usually more fully fleshed and persuasive, and, in hindsight, his publications are more definitive even than Postal's.¹¹ McCawley also lectured winningly and participated in several crucial gatherings. He was at the important 1967 Texas Universals conference, arguing about the need for deeper, more semantically transparent Deep Structures; he was at the 1968 Urbana Linguistic Institute; he was at all the major Chicago Linguistic Society (CLS) meetings; he taught semantics at the 1969 First Scandinavian Summer School of Linguistics and the 1970 Tokyo International Seminar in Linguistic Theory, while Ross taught syntax. He got around. And he took Generative Semantics with him. But he had a major sociological contribution as well: stabilizing the movement, giving it a home, and nurturing a second generation of Generative Semanticists in and around the University of Chicago.

Postal was at IBM, with no students, by the time Generative Semantics began to bloom, though he also took occasional teaching assignments. Ross was at the only Interpretive enclave, MIT, under a formidable shadow which he says (much too gloomily) kept him from ever "influencing a single mind there." Neither had any students who contributed to Generative Semantics. The Lakoffs moved from Cambridge to Michigan to Berkeley (with a brief stint at Stanford's Center for Advanced Study in the Behavioral Sciences), making it very difficult to cultivate a stable base of graduate students. George had a few notable students who made an imprint on the model—especially Guy Carden at Harvard, and later John Lawler, at Michigan. Robin, less so, though her later contribution to gendered sociolinguistics has been developed and propagated by her students; most prominently, Deborah Tannen.

McCawley's second-generational impact was by far the most substantial. He was comfortably ensconced in Chicago, attracting a group of bright young students, many of whom made significant contributions to Generative Semantics (among the more notable, Robert Binnick, Alice Davison, Georgia Green, Judith Levi, and Jerry Morgan). Moreover, Lees was at the nearby University of Illinois (Urbana) and very tolerant of the new trend, as was Zwicky, an inspiring teacher who also attracted bright young graduate students to the theory.

When McCawley's (and Lees's, and Zwicky's) students encountered the inspirational fervor of Lakoff and Ross, Generative Semantics made the transition from an alternative version of Transformational Grammar to a movement. Two events were especially important for the growth of Generative Semantics, for its roots in Illinois, and for defining its genius: the 1968 Linguistic Institute at Champaign-Urbana and the fifth meeting of the CLS the following spring.

Lakoff and Ross taught at the institute (officially, the course was "Abstract Syntax"), McCawley also taught, and brought many of his more promising students over from Chicago. Lees, the legendary polemicist and articulator of

the romantic pre-*Aspects* days, was the Institute's director. The mix was, in the argot of the period, "outsight." The spirit of the institute has been immortalized by several of the participants in "Camelot, 1968" (Lancelot of Benwick et al. 1976 [1968]), a paper so recklessly enthusiastic for Generative Semantics and so concomitantly hostile to Interpretive Semantics that even McCawley, a free-speech advocate and itinerant pornographer, felt compelled to bowdlerize it (1976b:249). The paper, in its own words, is "an account of some of the linguistic Events of that Year: wherein are detailed the Declarations of the New Court and the Weapons used in the Awefull Battle to repeal Certain Decrees of the Old Court" (1976 [1968]:249). Newmeyer, a University of Illinois student who attended the institute, has somewhat less enthusiastic words for the Events of that Year, saying the institute

stands out not only as the high-water mark in the ascendant tide of Generative Semantics, but also as the epitome of mixing reasoned argument with pure showmanship and pure salesmanship. (1980a:152; 1986a:102)

A pervasive mood of camaraderie bound the Institute participants, something of a reincarnation of the spirit that suffused MIT's Research Laboratory of Electronics less than a decade earlier. But, as the tone of "Camelot, 1968" suggests, the presiding ethos of Urbana was not the caustic pugnacity of Noam Chomsky and the revolutionary zeal of Morris Halle; it was the cheery defiance and new-order gusto of Lakoff, Ross, and, especially, McCawley. The latter, in particular, had written a few pieces under the pseudonym of *Quang Phuc Dong*, from the South Hanoi Institute of Technology; S.H.I.T. T-shirts were printed up and worn for years thereafter with pride. (Quang's other position in the relevant period was at the Free University of Central Quebec, but that affiliation apparently had no sartorial impact.¹²)

By the following spring, says Ross, "the forces of light and truth had gotten their act together." The fifth CLS meeting included cornerstone Generative Semantics articles by Postal and George Lakoff; significant contributions to the theory by Ross and Robin Lakoff; and a wide range of papers investigating the implications of the model by members of the second generation—Green, Morgan, Newmeyer, Laurence Horn, and Lauri Karttunen. (McCawley's paper that year, on Tubatulabal phonology, was out of the fray.) The proceedings of the conference (Binnick et al. 1969) constitute, if not quite a manifesto—Generative Semantics never spawned one—a much more thoroughly explored, carefully reasoned, and challenging articulation of the theory than any other document in its brief history. Certainly, it represented a more comprehensive invitation to linguists outside the central group than Lakoff and Ross's "Is Deep Structure Necessary?" or even than McCawley's several, isolated early papers.

Naturally, all the participants had a great deal of fun. One of the Generative Semanticists' most distinctive qualities was the ability to combine probing scholarship with thoroughgoing levity. This feature is reflected in, among other mirrors, the movement's papers—in frivolous titles, amusing data constructions, and a loose-jointed style. Ross's paper at the conference, for instance, was titled "Guess Who?" and Postal's included a whole range of sentences like 4.

4 Irma's a blonde and she got it caught in the fan.

Ross's paper explored a rule which operates under very sophisticated conditions and phenomena which create havoc for interpretive theories. Postal's example (4) illustrates that words like *blonde*, although they are referential for constructions like *has hair which is blonde* cannot sponsor a pronoun that refers to *hair*.

Generative Semantics was in the sun, out from under the shadow of *Aspects*, and well ahead of Chomsky's new, ill-specified, Lexicalist, $\bar{x}$ -syntax, surface-semantics, interpretive model in the Generative Grammar sweepstakes.

Bad Blood

The enmity of one's kinfolk is far worse than that of strangers.

—Democritus of Abdera (DK 90)

Postal's label for this period—"The Linguistic Wars"—looks extreme to anyone outside the field, and to many linguists who have entered the field in its wake, but war is a fitting analogy, civil war. It was a divisive, aggressive, frequently ignominious period, with martial attitudes all round. On one side, there were the spirited and abrasive Generative Semanticists, who had already captured much of the high ground. On the other side, there was Chomsky with a growing number of supporters, young and eager for the types of giant-killing episodes that had made legends out of Lees and Postal and were virtually definitive of Chomsky. Toward the middle, Katz was buttressing the *Aspects* model against both hordes. And around them all was a vast wash of ill-formed issues, underdetermined proposals, and amorphous data. Like Verdun, there were no dry footholds.

Chomsky's papers were severe but superficially mannered, with only occasional jibes—especially in the notes, and especially directed at Lakoff—about "misleading" (1972b [1969]:141n19) and "totally obscure" (1972b [1969]:148n22) arguments. His lectures, though, were considerably more agonistic. He argued in the classroom and throughout this period as he always argues—calmly, dispassionately, even convivially. When his voice rose (again the

target was usually Lakoff) it was out of exasperation with his interlocutor's vehemence, or outright rudeness. And a little testiness is understandable. It was, after all, Chomsky's class.

But even with his placid and assured tone—or rather, partially because of his placid and assured tone—Chomsky's polemics are almost always very hard for their targets to take. George Lakoff is quoted in the *New York Times* as saying "Chomsky . . . fights dirty" (Shenker 1972), and that impression is very widespread. In particular, it is vanishingly rare for people to recognize themselves in the representations Chomsky gives of their arguments when he attacks them.

Lakoff recalls Chomsky's principal tactic during the "Remarks" lectures as systematic misrepresentation, and his own reaction as furious umbrage:

[In one lecture] he took up McCawley's paper on *respectively*, and he put forth the argument that McCawley was arguing against as McCawley's position, and he himself put forth the position that McCawley was arguing for, and he said "See how dumb McCawley is."

There were a hundred people present, or so. And I raised my hand and I said "No. You've got it wrong. You've got the positions reversed."

He said, "No. No. I'll read you the text." And he read a bunch of things out of context. Of course, nobody in the room had the text, except him. I just got furious about this.

The following week, he took a paper of mine and did the same thing. He put forth as my position a position I specifically avoided saying. And then he argued, correctly, against this position. And I said "No. I specifically did not give that position in the paper." Then he began, with me in the room, to take quotes out of context from my own paper, with no one else having the text. It was mortifying.

Lakoff's memory is surely blurring and smudging things a bit here, and he has called upon his poetic license to render the dialogue, but it is the kernel in his story that is important: the Generative Semanticists found Chomsky's presentation of their positions to be willful, mean-spirited distortions, and the result was a series of heated exchanges, and lasting bitterness.

Others remember the lectures a little differently, particularly about the source of aggression. Chomsky certainly did not take pains to spare others, but everyone could see he had a particular, thinly veiled animus for Lakoff. Why Lakoff was the special target, the scapegoat upon whose back the sins of the heresy were heaped, why he was the one driven most aggressively from the village, is surely a function of many factors. While he was certainly a Cambridge insider and had taken undergraduate courses from Chomsky, he was also the only one of the four horsemen without a close institutional tie to Chomsky

(Ross and McCawley were his students; Postal, one of his most devout early colleagues). Lakoff's degree was supervised by Fred Householder, who was high on Chomsky and Halle's enemy list.¹³ But Lakoff, like Chomsky, albeit in a quite different mode, did not avoid the spotlight of vituperation. Accounts of his behavior in Chomsky's classes consistently position him as an *agent provocateur* (French for "pain in the ass"):

- "Lakoff would sit in the back row and say 'Noam! Noam! You're wrong! You're wrong! Everything you say is wrong!' He just basically made a pest of himself."
- "The typical scenario at Chomsky's course would be that Chomsky would say something, then Robin, who was pathologically shy but smart, would whisper into George's ear, then George would raise his hand and in his smarmy pseudo-civil way make some comment."
- "[Lakoff] was combative and impolite . . . [He] would go to Noam's class and sit at the front of the room. One time Noam said something, and George said, 'I have been saying the same thing.' Noam asked 'Where did you write about it?' And George responded, 'I have been lecturing about these things, and if you are interested, you should come to my class.'"

The level of gall required for anyone, let alone a junior lecturer, to tell the inventor of the field to attend his classes if he wanted to stay current goes right off the chutzpah meter. It may well go right off the accuracy meter as well (though perhaps not—it is not entirely out of character for Lakoff, who is very self-assured, and several people report the same incident); there are clear veridical inconsistencies in a collection of quotations that have Lakoff exclaiming "Everything you say is wrong!" one minute and being smarmily pseudo-civil the next, sitting in the back row and at the front of the room. And the animosity was probably more evenly distributed than most of the participants recall. Most tend to lay the blame for all evils and misunderstandings squarely on one side or the other, rarely seeing fault with both. But two constants emerge from all the reports: Chomsky was allergic to Lakoff, and Lakoff was pushy with Chomsky.

Hosts of grievances, large and small, accumulated. Take the "Sanctius Affair" around Chomsky's *Cartesian Linguistics*. Many of his it-all-starts-with-Descartes arguments had been circulating for a few years, in various publications (including *Aspects*), and in lectures at MIT and elsewhere, but they came out in *Cartesian Linguistics* the year after *Aspects*, to a warm greeting in the citadel and other transformation-friendly enclaves. Its wider scholarly reception was largely unwelcoming, though. Historians of ideas reviewed it and were not impressed. Chomsky's scholarship had looked iron-clad and impeccable to this point in his career. He was, literally, *the* paragon of generative linguistics. But his feet

were made of clay after all. The history he serves up in *Cartesian Linguistics* was quickly exposed as careless, if not arrogantly shoddy.

There was no such thing as a Cartesian linguistics, ever; the ideas Chomsky associates with that label predate Descartes by centuries; his anchoring of those ideas in the Cartesian Port-Royalists is suspect; the channels in which those ideas subsequently propagated were very different than he depicted; and the alignment he gives of philosophers, grammarians, and rhetoricians with the prized themes of rationalism and empiricism is, at best, impressionistic.¹⁴ One might have expected at least some humility in the face of thoroughly documented counterargument from people whose professional field he had entered, but humility is not Chomsky's strong suit, not about ideas in any case. The book itself already slaps the "sorry state of the field of the history of linguistics" (1966a:57), and he received criticism from its scholars with silence. He simply went on repeating his Cartesian claims without mentioning allegations of their scholarly unreliability. His stubbornness on this point was galvanizing for the Generative Semanticists, a frequent entry in the "Can you believe Chomsky would . . ." hallway jaw droppers. It hit particularly close to home, because the book's subject was in Robin Lakoff's wheelhouse. Her review of *Grammaire generate et la raisonnee* seems to have been motivated largely to spank Chomsky and it airs *Cartesian Linguistics'* more glaring limitations—in particular, that Descartes is not mentioned as an influence by the Port-Royalists, or even as a source, who instead prominently highlight the influence of a very different figure, the rhetorician Sanctius. Legend has it that Lakoff had told Chomsky how pervasive Sanctius is in the *Grammaire* before *Cartesian Linguistics* was published, but that he brushed her off; in any case, Sanctius is buried in a footnote (1966a:134n67).

Her review asks explicitly why Chomsky "speak[s] of the Port-Royal school as embodying Cartesian linguistics, not Sanctian linguistics?" (R. Lakoff 1969b:359) and suggests that the answer lies with ideology and incompetence. She is exquisitely snide about Chomsky's lack of a rather crucial tool for the intellectual history of the seventeenth century and beyond: "since [Sanctius'] *Minerva* is inaccessible to anyone who does not read Latin, Chomsky has been forced to rely on the judgments of writers . . . whose comments on S[anctius] demonstrate an amazing lack of perception" (R. Lakoff 1969b:359). As it turned out, though, no one cared about Chomsky's sloppiness but the historians and the Generative Semanticists. The former, after a brief flap because of Chomsky's stature, returned the favor by ignoring *Cartesian Linguistics*, the latter had many other axes to grind, and the book remains a venerated classic in Chomsky's oeuvre, now into its third edition and invoked as an important philosophico-historical foundation for Biolinguistics (e.g., Boecx 2009:28, et passim); more on Biolinguistics later.¹⁵

Such episodes further entrenched both sides. The Generative Semanticists found Chomsky intractable, if not perverse, and consequently felt that much of his criticism was empty. Chomsky's students found him to be eminently reasonable, and his opposition—mostly embodied in George Lakoff, whose fuse was easily the shortest, but also in Ross, and in scattered sympathizers, like Carden—to be intractable, if not perverse.

Katz was there too, attending the lectures, and he played an especially interesting role in all this, one much like the role Herbert Butterfield describes for Marin Mersenne, an important presider at the birth of modern science, “a man who provoked enquiries, collected results, set one scientist against another, and incited his colleagues to controversy” (1957:83). Katz certainly made valuable contributions of his own, but his most prominent role was that of a bidirectional polemicist, attacking both sides and fanning the fires in every corner. One student of the period remembers Katz's participation in Chomsky's lectures thusly: “Jerry Katz was very contentious—not just about Generative Semantics and interpretive issues, about all kinds of stuff.” Katz's particular bugaboo was any analysis that threatened the *Integrated Theory-Aspects* notion of Deep Structure, what he called at the time, “the CKP thesis about deep structure” (1970:221)—an ironically appropriate designation, since the initials stand for Chomsky-Katz-Postal, and Katz now stood midway between his old allies on the question of Deep Structure. For Katz, Chomsky was Momma Bear, whose Deep Structure was too shallow, Postal was Poppa Bear, whose Deep Structure was too deep. His own Deep Structure, the one everybody had agreed upon only a year before, was juuust right.

The friction and rancor at Chomsky's lectures set the tone for the several years of bickering that followed. There were a few frothing publications, like Ray Dougherty's (1974) “Generative Semantics Methods: A Bloomfieldian Counterrevolution,” and an exchange between Katz and McCawley that saw titles like “Interpretive Semantics Meets Frankenstein” (McCawley 1976b [1971]:333–42) and “Interpretive Semantics Meets the Zombies” (Katz 1972a).

Most of the blatantly abusive papers, however, were confined to the mimeograph circuit—“Camelot, 1968,” for instance, and Dougherty's “Generative Semantics: Galileo Died for Your Sins,” and a best-kept-anonymous parody of Jackendoff, in which he is portrayed as a Nazi scientist attacking a Jew.

There was plenty of squabbling in the publications, but little of it was overt. It usually took one of two general forms, neither of which look like squabbling to the uninitiated. One form is best represented by Chomsky's many attacks on Generative Semantics—explicit in its disagreement with theoretical stances or proposed mechanisms, but not betraying much obvious hostility. The other form is best represented by many of the Generative Semantics papers—for instance, George Lakoff's syntactic amalgams paper (1974). It contains implicit attacks on

two foundations of the Chomskyan program (transformational derivations and the competence-performance dichotomy), and was delivered to the initiated, at CLS. They all knew exactly what he was talking about and who the target was. But Lakoff does not, except in passing, mention either of these issues, or even Chomsky, or, for that matter, even appear to be participating in a controversy of any sort.¹⁶

Most of the explicit enmity was not in journals or proceedings. As in the first round of Chomskyan hostilities, against the Bloomfieldians, the bulk of the invective and discourtesy was oral. There was, for instance, a celebrated flare-up in 1967 at a small conference in La Jolla which was something of a coming-out party for Generative Semantics. Jackendoff rode west, as he recalls, essentially “as Chomsky’s point man,” and the Generative Semanticists regarded him as a gunslinger dispatched to put down an uprising by the homesteaders. There were several shrill shoot-outs, including the loud exchange of graphic imprecations between him and an earlier Chomskyan gunslinger of much renown, Postal. There was an equally vitriolic, and even more public exchange between Jackendoff and Lakoff a few years later, at a plenary session of the 1969 Linguistic Society of America (LSA) conference, which got increasingly heated until Lakoff said, “Well, fuck you.” Jackendoff, as Ross remembers it, “looked like he’d been slapped in the face, and then said, ‘Well, fuck you, George’” (Huck & Goldsmith 1995:125), and “for several minutes [they] hurled amplified obscenities at each other before 200 embarrassed onlookers” (Newmeyer 1980a:162; 1986a:126). (Readers for whom the use of the word *fuck* in public settings does not have quite the outrageous incivility it had in 1969 can substitute racist or homophobic slurs, which now have a taboo status similar to that of sexual and bodily excretion terms then.)

The watershed moment for almost everyone was an encounter between Chomsky and Ross at the 1969 Texas Goals conference. They had flown down together, Chomsky to give the final chapter of his bashing trilogy (“Empirical issues”), Ross to read a paper for Morris Halle, who couldn’t attend. After Chomsky’s paper, Ross got up to ask him a question. The question did not get very far, however, before Chomsky cut it off and gave a long aggressive answer to some question he apparently assumed Ross might be planning to ask. Ross tried a few more times to continue, but Chomsky, with the microphone, at the podium, just kept talking over him until Ross turned around and went back to his seat. This moment is less scandalous in the telling than the Jackendoff/Lakoff fuck-you fireworks or the Jackendoff/Postal shoot-out. But, taking academic kinship into account, the discourtesy is stunning. “Ross’s gesture signaled that . . . he felt that Chomsky had broken the rules,” Postal says, “Which I believe he had” (Huck & Goldsmith 1995:134). Let’s spell it out: Chomsky was the founding icon of a framework in which Ross was still a relatively minor contributor, the senior professor of a department in which Ross was a junior, untenured, member, and

the supervisor of Ross's recent dissertation. The last relationship is especially defining of Chomsky's churlishness on this occasion; supervisors are expected to promote and nurture their students, to bring them into the profession, to advance their careers, but Chomsky belittled and denied Ross. It is of this conference, you will remember, that Ross says it became clear to him that no quarter would be asked nor given.¹⁷

There was more, much more. Every linguist even close to the mainstream at the time has a host of anecdotes about individual firefights, in colloquia, job interviews, classrooms, chance hallway meetings . . . seemingly wherever and whenever representatives of the two sides came into contact; and almost everyone had taken sides. The stories range widely in color and credibility, and it is difficult to take many of them at face value. They have grown epic in the retelling: the stupidity of the antagonists, the forbearance of the protagonists, the simplicity and clarity of the point under dispute, are all surely exaggerated. One account even has Chomsky and Lakoff, very unlikely in the roles of Achilles and Hector, physically wrestling for a microphone.

But, in concert, these tales have the general cultural value that all bodies of folklore have. Take the several versions of a Generative Semantics story which has Jackendoff (or sometimes Dougherty), up against thorny opposition and unable to think for himself, thumping *Aspects* like the gospel and intoning plaintively "but Noam says . . ." Or take the multiple versions of a story which has some Interpretive Semanticist attempting to use an *argumentum ad absurdum* of Abstract Syntax (say, arguing that *the* is a verb), for which a Generative Semanticist falls, hook, line, and theoretical sinker. ("By golly, *the* is a verb. We'll have to change the theory right away to accommodate this new fact. I'll get on the phone this afternoon. The mimeographs will be busy in the morning.") Some approximations of these stories may have played themselves out, but their veracity is less important than the attitudes they reveal. The Generative Semanticists felt that the other camp consisted largely of Chomsky and his puppets. The Interpretive Semanticists felt the other camp far too rhetorically pliable, far too willing to overhaul its general theory on whatever scanty evidence they heard over lunch that day. Each side thought the other uncritical and obtuse to self-evident points.

Although the general level of mutual tolerance was pretty low, and many tempers ran high in individual encounters, and there is lasting bitterness still, and there were clear casualties of the debate, it is important to note that courtesy, friendship, and respect for one another's work were not completely absent. Newmeyer, for instance, recalls a patient and genial Jackendoff trying to help him see the error of his gargantuan-derivational ways (2015: xvi) in chats at MIT. Even the most public of antagonists expressed mutual gratitude in various ways. Postal, for instance, at the height of the wars, dedicated

his through-and-through-Generative-Semantics book, *On Raising* (1974), to Chomsky. Jackendoff saluted the Generative Semanticists in the preface to his *Semantic Interpretation*, for motivating his research. Neither speech act could have been performed without some level of irony. Postal credits Chomsky's recent work for being "among the chief stimuli leading to the preparation of this volume" (1974a:v), and Jackendoff says that he built his model "due to my being in sufficiently violent disagreement with [Generative Semantics] work to want to do something about it" (1972:xii). But both acts also demonstrate abiding respect, and Postal cites "a certain framework containing many underlying agreements [that is, the *Aspects* model]" that forms the backdrop to the disagreements. He is also generous about Chomsky's "many fundamental, ground-breaking insights and the radical reorientation of the goals and methods of linguistic inquiry which he has played such an enormous role in bringing about" (1974a:v). Chomsky himself was supportive in the careers of at least some of his opponents—endorsing Ross's appointment and advancement at MIT, for instance, in marked contrast with his behavior in Texas. McCawley and Chomsky corresponded about their *respectively* arguments, with warmth and mutual respect, albeit with little agreement. Partee and George Lakoff modeled civil exchange in the pages of the journal *Foundations of Language* (Partee 1970; Lakoff 1970c).

Still, the battles went on, boiling over into more public forums, first to include linguists outside the Chomskyan tradition, and then to include scholars in neighboring disciplines. Chomsky had acquired massive prominence by this point—psychologists and philosophers routinely debated his work, his books were reaching a fairly broad public, there were profiles and articles in magazines like *The New York Review of Books*, *Horizon*, *Time*, *The New Yorker*, appearances on TV shows like *Firing Line*, even a walk-on part in Norman Mailer's Pulitzer-Prize-winning novel, *The Armies of the Night* ("a slim sharp-featured man with an ascetic expression, and an air of gentle but absolute moral integrity. . . Chomsky, although barely thirty [*sic*], was considered a genius at MIT for his new contributions to linguistics"; Mailer 1994 [1968]:180). Most notably, he was at the forefront of protests against the U.S. invasion of Vietnam. Additionally, the Generative Semanticists became very wide-ranging in their interests, drawing on the work of logicians like Lotfi Zadeh, philosophers like H. Paul Grice and John Searle, psychologists like Eleanor Rosch, and sociologists like Erving Goffman. They shopped far and wide for data and mechanisms around which to build their theory, and they were never reticent about letting their discontent with Chomsky be known. Inevitably, the sectarian spat within Chomsky's framework found a wide audience.

A notorious symptom of the public dimensions of the dispute is an exchange of letters between George Lakoff and Chomsky in the *New York Review of Books*.

The *Review* had just published an article by Searle (1972) on Chomsky's revolution. While revealing the familiar tendency of outsiders to be a few years behind the work in any field, it is fairly even-handed and offers a good précis of Chomsky's major contributions to that point, their implications for linguistics, and their ramifications for other fields. It certainly includes some lionizing, but the praise is neither undue nor excessive. Still, it got under Lakoff's skin. He felt compelled to write a letter to the editor (1973c), a letter with two purposes. The stated motive is to spell out recent Transformational-Generative developments more clearly. Searle, for instance, had said that the Interpretive-Generative Semantics dispute was occurring "entirely within a conceptual system that Chomsky created" (1972:20), which (as we will see) was no longer true by the early 1970s; the grounds of the debate had shifted considerably. It is the barely hidden motive, though, that brought the notoriety: to diminish Chomsky. Lakoff accuses Chomsky of dishonesty both about the Bloomfieldians and about the Cartesian parallels of his own work. He says that the important results about Chomsky's transformational work are its disconfirmations, mostly at the hands of Generative Semanticists. He shoos away psychologists who might be interested in examining Chomsky's hypotheses. He discounts the importance of Chomsky's early work and depicts his current work as misguided. Several of Lakoff's individual points have merit, but the constraints of a brief, nontechnical letter, and Lakoff's temperament, led to many conflation and simplifications of the sort that are common in popular fora (Fahnestock 1986)—and, in the event, much of it is completely irrelevant to Searle's article anyway. The letter is little more than a catalog of reasons to suspect and devalue Chomsky, if not to dismiss him entirely. It is simple invective, of which the kindest characterization one might offer is *gratuitous*.

Chomsky, of course, responded (1973b). His letter tries to clarify his position on a number of the issues Lakoff raised, and to vindicate his general approach to the study of language, but he faces the same limitations of space and audience that constrain Lakoff, giving rise to similar conflation. He is also on an eye-for-an-eye mission—or more like an eye-and-a-half-for-an-eye, in Chomsky's routinely upping-the-ante polemical style—and the pitch of the attack increases exponentially. As a result, the strongest message that comes across in the letter is his extreme disregard for Lakoff's intellect, if not for Lakoff's person. The letter is littered with unsubtle *ad personams*, and far outstrips Lakoff's in the category of denigrating his opponent:

- "Lakoff presents a very confused picture . . ."
- "is completely wrong . . ."
- "misrepresents my account . . ."
- "has thoroughly misunderstood the references he cites . . ."

- “is confused beyond repair . . .”
- “presents a hopelessly garbled version . . .”
- “[has] discussed views that do not exist on issues that have not been raised, confused beyond recognition the issues that have been raised and severely distorted the contents of virtually every source he cites.”

This list is only a representative sample, not a comprehensive record, of the aspersions. Lakoff's letter is invective in the technical sense of epideictic rhetoric which aims to devalue its object, though it shades toward the ordinary language sense in some passages; Chomsky's letter does not bother much with shading, and its invective closely fits the common definition of venting venom. Lakoff was naturally incensed, though by this time in the debate he had no love left to lose for Chomsky. He tried to publish a longer and more vituperative response to the response. The editors wisely decided the matter had gone far enough.

The Linguistics Wars reached an even more public forum the same year, getting aired in over forty column-inches of the Sunday *New York Times*. The story, by a childhood schoolmate of Chomsky's, Israel Shenker, skews the dispute somewhat, and oversimplifies it drastically, but it is a reasonable epitome of how things looked to a good many people at the time, including many linguists: that Chomsky had, rather sadly, stopped short of fulfilling his own revolution, which another generation of Young Turks was now bringing to fruition. By this time the theme was becoming familiar in popular articles. The *New Yorker*, for instance, had quoted Janet Dean Fodor saying “Chomsky was once a revolutionary. Now he has been forced into the position of a conservative” (Mehta 1971b:218), and the Searle article that spawned the Lakoff-Chomsky pissing contest had commented on the irony that “the author of the revolution now occupied a minority position in the movement he created. Most of the active people in generative grammar regard Chomsky's position as having been rendered obsolete” (1972:20). But Shenker's piece was the first one devoted exclusively to the dispute, and its verdict echoes all the others. The debate is rendered nicely by Shenker's quotations from all the key players:

ROSS: There's no question that Chomsky is a genius and has revolutionized linguistics, and created a field of mathematics which didn't exist before, and helped in the revolution of psychology and the rebirth of interest in problems like cognition and perception. But I think that he's so committed to the truth of this view he grew up in that he can't see where it's inadequate.

POSTAL: By ignoring meaning [as Chomsky does] you get an artifact.

LAKOFF: Since Chomsky's syntax does not and cannot admit context, he can't even account for the word *please*. . . . But it's virtually impossible to talk

to Chomsky about these things. He's a genius, and he fights dirty when he argues. He uses every trick in the book.

MCCAWLEY: Chomsky assumes that there are sentences which belong to the language and other sequences of words which don't—and the grammarian's task is to write rules which will determine which belong and which don't. Postal and Lakoff and I say this isn't a coherent notion.

And, getting the last word,

CHOMSKY: I'd gladly accept parts of their work if these turn out to be right, and all of it if it is right, and I assume they'd do the same.

Lakoff feels he was misquoted here, though it is clearly his opinion that Chomsky's eristic techniques are pretty underhanded. The others may also feel poorly represented in one way or another, though everything seems of a piece with both their published statements and their personal dispositions. But the point here is not whether these quotations are accurate. The point is just that the dust-up was loud enough for the neighbors to hear.

Chomsky is clearly outgunned in the piece. The only quotations in the article that could even remotely be ascribed to "his side" in the schism are from Katz, who dismisses it all as inconsequential bickering over formalisms, and from Bever, who simply fills in some historical detail. Indeed, there is little to no impression that he has a side at all; he has simply been eclipsed. All the defining criteria are negative: he can't see certain implications because of his Bloomfieldian blinders, he doesn't attend to meaning, he doesn't attend to context, his central methodology lacks coherence. He looks isolated and stuck in the past. At best, in the remarks of Ross, he looks something like Einstein, who broke the ground for quantum physics, but whose classical prejudices wouldn't allow him to follow its implications to the governing consensus. At worst, in the remarks of Lakoff, he looks like a petulant old Freud, scheming to ostracize and marginalize his erstwhile followers.

It is the petulant-Freud image that Shenker fosters. The headline is "Former Chomsky Disciples Hurl Harsh Words at the Master," though only Lakoff's remarks are truly harsh, and the article is framed by a discussion of Freud and his heretical disciples, particularly Victor Tausk, whom Freud treated the most shamefully. Although Chomsky is just into his forties, and he gets the last word, and the word is very politic, he comes off pretty much as a sorry old crank.

By this time, Generative Semantics was not just well established in conferences and grad schools, and cresting as avant-garde in psychology and literary studies, it was making its way into undergraduate classrooms and showing up in textbooks. As early as 1968, Postal's Abstract-Syntax treatment of pronouns

shows up in Jacobs and Rosenbaum's *English Transformational Grammar*, and other textbooks of the period sample from the literature of Generative Semantics in their basic articulations of what otherwise looks like the *Aspects* theory, giving no sense of the controversy. Suzette Haden Elgin's *What Is Linguistics?* includes a cutting-edge section on Generative Semantics (1973:34–35). Donald Frantz, one of McCawley's students, produced *Generative Semantics: An Introduction*, a low-rent overview available through the Indiana University Linguistics Club (Frantz 1974). A review of Stockwell's (1977) textbook, *Foundations of Syntactic Theory*, comments that "the appropriate title . . . would have been *Introduction to Generative Semantics*: the book is permeated with the ideology and assumptions of Generative Semantics" (Gazdar 1979b:197). There was still uncertainty and division, and alternatives were glimmering in various corners of the field, but Generative Semantics was now the imminent orthodoxy.

Imminent was as close as it got.

5

The Vicissitudes of War

And when men did engage in debate about their deepest concerns, they found that each man could say unto his brother, Racca, thou fool.

—Wayne Booth (1974:31)

Nyaah, nyaah!

—George Lakoff (1973b:290)

Weapons of Choice

“For base men,” Empedocles warned us long, long ago, “it is indeed possible to withhold belief from strong proofs” (fragment 55), but baseness, like beauty and contact lenses, is in the eye of the beholder. When scientists across the way refuse to grant the force of an argument that its sponsor finds compelling, they are virtually base by definition, or obtuse, or misguided, or corrupt, or treacherous, or . . . something unflattering . . . which is why the most common accusations in science are forms of *ad personams*—implications of personal failings, like stupidity, sloppy scholarship, dishonesty.

Personal attacks are far more common in science than is generally thought (suggesting, among other things, that gauzy rhetorical overlays such as *x is confused*, or *y fails to understand the issue*, or *z misrepresents my position* actually work). Even the parched and pinched pages of professional journals are full of them, and they cluster fructiferously around paradigm disputes. It is not hard to see why. For one thing, mudslinging is easy. If you find an observation disagreeable, said Stephen Hawking, “you can always question the competence of the person who carried the observation out” (1988:10). But the plainer truth is that people get angry and lash out. Vituperation is a natural response when you see something clearly, believe it strongly, propound it fervently, and find your colleagues looking at you like a cheap snake-oil merchant. Listen to Luis Alvarez’s reasoning about Robert Oppenheimer, coming to the most damning conclusion one could offer of an atomic physicist in the McCarthy-sponsoring 1950s:

Oppenheimer and I often have the same facts on a question and come to opposing decisions—he to one, I to another. Oppenheimer has high intelligence.

He can't be analyzing and interpreting the facts wrong. I have high intelligence. I can't be wrong. So with Oppenheimer it must be insincerity, bad faith—perhaps treason. (Davis 1968:314)

There were no accusations of political treason in the Generative-Interpretive debates, so far as I can tell (and, in any case, such charges would have had a much different impact in the anti-establishment 1960s, more likely conferring honor than suspicion). But there were plenty of charges of *scientific* treason, especially of the *x-is-just-a-Bloomfieldian-in-Chomskyan-clothing* variety. Since Bloomfield had become the Bogey Man of linguistics, and since the Generative and the Interpretive Semanticists seemed to be working within the same overall framework, it took a while for these accusations to surface. They marked the death throes of the dispute, an obvious sign that reconciliation was completely hopeless, that each side was on its own, that neither side thought the other was doing Real Linguistics; and, in the end, some Generative Semanticists, when they learned what the Bloomfieldians were really doing, embraced the associations.

When the differences still revolved around a few technical questions under the same Chomskyan umbrella, a wide variety of *ad personams* ruled the day. The most common of them, as with most debates, was the straw house charge: “x is arguing not against my real position, but against a caricature of my position.” Thickly implicit, and occasionally explicit, in such charges was willful, deceitful distortion. But building straw houses for your opponents is a quite natural side-effect of conviction. The practice of reading (or listening) only for weaknesses inevitably leads to distortions of one another's arguments—McCawley's wonderful title, “Interpretive Semantics Meets Frankenstein,” jumps on Katz for his attack not on a living, breathing Generative Semantics, but on the spare parts he has stitched and bolted together in order to rally the villagers with their torches—but such stitching and bolting is very common.

Another frequent and related charge, in science generally and the Generative Semantics dispute particularly, is vagueness. Witness Chomsky's troubles—a man who told me “I never had the slightest problem reading papers in [Generative Semantics]”—expressing his thwarted attempts to decode Generative Semantic arguments:

- “At best, the logic of [Lakoff's] argument is unclear . . . [it] is hardly clear enough even to be a speculation.” (1972b [1967]:35)
- “Until these matters are cleared up, I see no force to McCawley's contention.” (1972b [1967]:48n30)
- “I do not see how these questions can be resolved without undertaking an analysis of these structures which . . . goes well beyond the approach to these questions that Lakoff presents.” (1972b [1968]:82)

- “I fail to see what more can be said, at the level of generality at which McCawley develops his critique.” (1972b [1968]:80)

The charge, naturally, returned to Chomsky and his camp in quadruplicate:

- [To Chomsky:] “You ought to make explicit just what new devices you would need in the lexicon. . . . Throughout your [“Remarks”] lectures you remarked in an offhand fashion that you would need certain principles of word-formation in the lexicon, without stating just what these principles would be, how many, what kind, [or] how they would differ from one another. Without fairly precise claims along these lines and without fairly precise claims about what new rules of semantic interpretation you would need, it is impossible to figure just what the lexicalist hypothesis is claiming.” (G. Lakoff 1967:6)
- “[An] interpretive or ‘Surface Structure’ approach to semantic interpretation . . . has been posited, not very clearly in my opinion, in a number of papers by various authors at MIT over the last year or so, most notably Chomsky and Jackendoff.” (Postal 1988a [1969]:79)
- “The concept of ‘independent motivation’ is highly obscure in [“Remarks”].” (Ross 1973c:212)
- “I can speak only vaguely of the bad guy [Interpretive Semantics] conception of semantic structure, since the papers by bad guys which I have seen generally give very little clue as to what they think a semantic structure looks like or a semantic interpretation rule does.” (McCawley 1973a [1970]:276–77)

Some motivation for this charge is once again simple denigration, implying woolly-mindedness or deliberate obfuscation. Some of it also has to do with a combative spirit that prevents one from tolerating the same level of informality from opponents as allies: a confederate writing vaguely is “suggestive” or “promising” or “intriguing”; enemies are “sketchy” or “obscure” or “sloppy.” And much of it has to do with the high levels of vagueness which are in fact present in such disputes. “Is Deep Structure Necessary?” is a vague paper, which Ross and Lakoff’s colleagues found promising and programmatic and nourishing, and their opponents found very thin gruel indeed. “Remarks” is a vague paper, which Chomsky’s contemporary students found rich, suggestive, deep, but former students and colleagues found flimsy, underdetermined, shallow.

Students are a special case, a more specific audience than colleagues and supporters. They are not confederates so much as disciples, and disciples don’t just see promise. They see gospel. In a way that might apply equally to Lexicalism or $\bar{x}$ -syntax, Daniel Dennett marveled of a later remark by Chomsky,

“[This] mild suggestion has been eagerly inflated by others into a scientifically based demonstration!” (1995:381n3). There were disciples on both sides. Consider just the outrageousness of McCawley’s student, Georgia Green, in her comment that “the theory of transformational grammar [a]s developed since 1966, . . . may be considered an explicit framework for investigating the properties of natural language” (1970:153). Transformational Grammar, she appears to be saying, whatever minor antecedents it may have had in Harris or Chomsky, really begins in earnest as an explicit framework for investigating languages with Abstract Syntax.

There were also issues—some of them genuine, some figments, some of them lasting, some ephemeral. Some of them require a little attention, some don’t.

Chomsky’s first direct move against Generative Semantics, for instance, was to charge that it was just a hollow imitation of the *Aspects* model, and the charge is a whiff of smoke we can dispel pretty quickly. “It is easy to be misled,” Chomsky said, “into assuming that differently formulated theories actually do differ in empirical consequences, when in fact they are intertranslatable—in a sense, mere notational variants” (1972b [1968]:69). Moving past the latent snarkiness of *misled* and *mere*, what Chomsky says is clear enough: no matter what two theories look like, in terms of formalisms, architecture, what-have-you, if they make the same empirical predictions, they are just different ways of saying the same thing. All well and good, really, and it is around this question, in fact, that Chomsky coined the term, *Standard Theory*, and then argued repeatedly that Generative Semantics was a mere notational variant of the Standard Theory. All well and good, really, except that one of the notational variants might be preferable for other reasons, such as simplicity or clarity or mathematical amenability or simple aesthetics. All well and good, really, except that the notational variants Chomsky tags with this label (he uses this argument often—for instance, of Case Grammar at the time, Chomsky 1972b [1970]:174) are always wrong, often flagrantly so.

Katz picked up this stick and beat Generative Semantics with it for a while as well, but almost everyone else was bemused by the argument—in particular, by how it could conceivably count as a reason to dismiss Generative Semantics. The most immediate implication of the notational-variants position must be that there is just no point in squabbling, that the two theories should go off arm-in-arm, like Tweedledum and Tweedledee after their pillow fight. But, if so, Generative Semantics wins. Everyone agreed, Chomsky included, that Generative Semantics (in its initial, Homogeneous I configuration) was by far the prettiest and simplest theory—two criteria that have traditionally been extremely successful in theory-marketing, and which Chomsky has leaned on repeatedly over the years; in fact (looking ahead a few chapters) by the mid 1990s

he was trumpeting just such a Homogeneous I conception in his own approach, dubbed *the Minimalist Program*.

So—since Chomsky's motivation was not to endorse Generative Semantics—he devoted a fair amount of attention to showing not only (1) that Generative Semantics says the same thing as the Standard Theory, but (2) that Generative Semantics is wrong; really, badly, horribly wrong. Almost everyone, friend and foe alike, found the combination of these claims incoherent, and the notational variants charge had a fairly short shelf life. It was widely treated as a joke (one that linguists were still chuckling about ten years later¹). After a few more developments, after Chomsky had coined the term *Extended Standard Theory*, after Jackendoff had put some flesh to it, after the claims about Surface-Structure interpretation were developed enough to be taken seriously, Chomsky's argument was a little clearer: the Standard Theory is wrong and Generative Semantics exacerbates these wrongs, while the Extended Standard Theory remediates them. But these issues were too fuzzy at the time to get anywhere. By the time fuzziness had receded enough to make a bit of sense, the debate had moved on to other stages. We can safely ignore the argument here.

The next set of arguments (taking *next* very loosely; arguments overlapped temporally and conceptually), though, does require some ink. These are the exchanges over Deep Structure and the Katz-Postal hypothesis that formally opened the dispute—the issues the debate is most remembered for, and the issues over which Generative Semantics is said to have lost its shirt. They are certainly real issues, but they were ephemeral—for the very good reason that they had the clearest resolutions: Deep Structure (in its *Aspects* variant) was thrown out by everyone, on both sides, and so was (the strong version of) the Katz-Postal Principle.

Chomsky's next tack was restrictiveness—Generative Semantics was said to be descriptively wanton, Interpretive Semantics responsibly restricted—and it was a hugely successful rhetorical maneuver. The argument was never resolved; in fact, it *could* never be resolved in either an empirical or a mathematical sense (Gazdar, in Longuet-Higgins et al. 1981:[690]). All the same, Chomsky won the day utterly with this topos. Restrictiveness was the principal issue which led to Generative Semantics being laughed from the scene for irrationality and error, while Chomsky's post-*Aspects* approach triumphantly defined a new vein of constraint-based research that determined linguistics pretty much for the rest of the century. The issue is real enough, though its inability to be meaningfully resolved also brought considerable haze to the exchanges.

For their part, the Generative Semanticists countered with charges that the Interpretive camp was playing fast and loose with crucial notions like grammaticality and sweeping important issues under any rug they could find. What Chomsky and Jackendoff couldn't handle directly, they said, was simply banished

to some netherworld of ill-behaved phenomena, in a shady shell-and-pea game with the data.

This was actually a Bloomfieldian move, though no one noticed it at the time. Recalcitrant data, Bloomfield had said, should “properly be disposed of by merely naming them as belonging to the domain of other sciences” (1926:154; 1970:129). Some *x* might look like linguistics, and it might smell like linguistics, he said, but if we call *x* “psychological” or “sociological” we don’t have to look at it or smell it any more. Chomsky and his followers did not invoke other sciences, but they did shift the borders within their model—chiefly, the competence-performance border and the syntax-semantics border—and conveniently left the troublesome facts on the other side.

The you’re-a-Bloomfieldian charge came first from the Interpretive side. Dougherty raised it in an embarrassing so’s-your-old-teacher diatribe that really wasn’t very clear on what it was alleging. He just called up a convenient scarecrow and, insofar as he went beyond name-calling, pointed narrowly to certain structuralist methodologies he mistakenly took to represent the forces of darkness swirling around that scarecrow. But the case was actually quite strong, particularly in connection with the rhetorical use of those flip-side epistemologies, empiricism and rationalism. Bloomfield was an unapologetic empiricist (language was at the intersection of general cognition and rich data) as was the generation he invigorated and defined; Chomsky was a champion of rationalism (language required grammar-specific cognition because of inescapably impoverished data). Many of the first generation Chomsky invigorated and defined, however, including all the horsemen but Postal, became increasingly empiricist.

At this point, the two sides could do little more than wave good-bye and walk away from each other, with some muttering of “Fuck you, Ray” and “Fuck you, George” over their shoulders.

The Decline and Fall of Deep Structure

He who sets to work on a different strand destroys the whole fabric.

—Confucius (*Analects* II.16)

The earliest concerted argument against Deep Structure is McCawley’s *respectively* argument, coming in a curious paper delivered at the 1967 Texas Conference on Universals and published in the proceedings of that conference with a postscript substantially modifying his position. The main body of the paper, “The Role of Semantics in a Grammar” (McCawley 1968a), attempts to stretch the *Aspects* model in several directions, particularly in the use of indices in syntax and the use of logic as a tool of semantic representation. Most of the

discussion involves interesting and subtle facts about plurality and subject-verb agreement, such as in 1.

- 1 a Avash and Jaidon like the book and are disappointed by it respectively.
- b * Avash and Jaidon likes the book and is disappointed by it respectively.

Rationally, 1b should be good, 1a bad, because only one person *likes* the book, Avash, and only one person *is* disappointed by it, Jaidon, but English grammar leans the other way.

For all the stretching, however, the discussion falls clearly within the (rather broad) scope of the *Aspects* model; sub-species, Abstract Syntax. But between delivering the paper and submitting the manuscript for the proceedings, McCawley turned “from a revisionist interpretive semanticist into a generative semanticist” (1976a:159), and the postscript has an air of manifesto about it. Like any recent convert in a rhetorical enterprise like science, he went quickly to work uncovering arguments to justify the conversion, focusing on the titular question of Lakoff and Ross’s “Is Deep Structure Necessary?”

The principal argument he came up with (Postal seems to have had a hand in it as well) is based on indices, quantifiers, and cool features of the word *respectively*. Chomsky’s manhandling of this argument is one of the things that caused Lakoff to blow his cool last chapter, if you remember, and we’ll get to that manhandling in a moment. First, the argument. McCawley’s evidence is in sentences like these three:

- 2 a Pat and Tyler love their respective wives.
- b Those men love Dianna and Val respectively.
- c That man loves Dianna and Val.

Aspects says that these sentences need at least three levels of representation: Surface Structures (which, for our purposes, we can represent with 2a–c), Deep Structures (3a–c) and Semantic Representations (4a–c). The last two sentences (2b and 2c) are especially interesting since both of them come from very similar Deep Structures, different only in the distinguishing indices which identify whether the two occurrences of *that man* refer to the same guy or to different guys, as in 3b (underlying 2b) and 3c (underlying 2c). Okay, the Deep Structures (terminal strings) are:

- 3 a Pat loves Pat’s wife and Tyler loves Tyler’s wife
- b that man_i loves Dianna and that man_j loves Val
- c that man_i loves Dianna and that man_i loves Val

And McCawley gives their respective semantic representations as:

- 4 a $(\forall x) x \in \{\text{Pat, Tyler}\} \ \& \ (x \text{ loves } f(x)), \text{ where } f(x) = x\text{'s wife}$
 b $(\forall x) x \in \{x_i, x_j\} \ \& \ \text{man}(x) \ \& \ (x \text{ loves } f(x)), \text{ where } f(x_i) = \text{Dianna}, f(x_j) = \text{Val}$
 c $(\forall x) x \in \{x_p, x_i\} \ \& \ \text{man}(x) \ \& \ (x \text{ loves } f(x)), \text{ where } f(x) \in \{\text{Dianna, Val}\}$

So far, so good. Now comes the tricky part. According to the sketch of a rule McCawley offers (but never formulates) called the *Respectively* transformation, all of these phenomena can be handled in a unitary way. But there is a problem: the rule can't operate on structures like 3a–c (*Aspects*-type Deep Structures). It needs access to universal quantifiers ($\forall$) and set indices (the subscripts).

Therefore—this is the key point—for McCawley's *Respectively* transformation to work, it has to run directly off the semantic representations (4a–c) to generate the Surface Structures (2a–c). Generative Semantics therefore can do the same work with one rule that takes the *Aspects* model at least two rules—operating at two different stages and angled in two different “directions”—a Semantic Interpretation Rule which extracts the quantification facts, functions, and predicate relations from 3a–c angled toward producing Semantic Representations (like the ones in 4), and a transformation (Conjunction-reduction), angled toward the Surface Structure, which crunches the set indices to yield *those men* from *that man_i* and *that man_j* and *that man* from *that man_i* and *that man_j*. The upshot: Generative Semantics only takes one rule and avoids Deep Structure; *Aspects* takes two rules and gratuitously requires Deep Structure.

The argument may look dense, but structurally it is almost identical to a legendary argument by Halle attacking the Bloomfieldian “taxonomic phoneme” (Halle (1959 [1955]:21–3; Churma 1983). Halle had said there are three levels in a Bloomfieldian grammar, with a box of rules separating each one, and he uncovered some data from Russian that could only be handled by this three-level grammar in a very clumsy way, with two identical rules, one per box. But if the middle level—the phonemic level—was tossed out and the grammar restructured, one rule by itself would do the trick. For reasons of simplicity, therefore, the middle level (the phonemic level) had to go. Known as the *Hallean Syllogism*, the argument was a classic of the Generative tradition, taught to cohort after cohort of linguistic students.

McCawley took exactly the Hallean party line, only now about an *Aspects* grammar: that there are three levels, with a box of rules separating each one, and he uncovered some data from English that could only be handled by this three-level grammar in a clumsy way, with two rules, one per box. But if the middle level—the level of Deep Structure—is tossed out, and the grammar restructured, one rule would do the trick (see Figure 5.1). For reasons of simplicity, therefore,

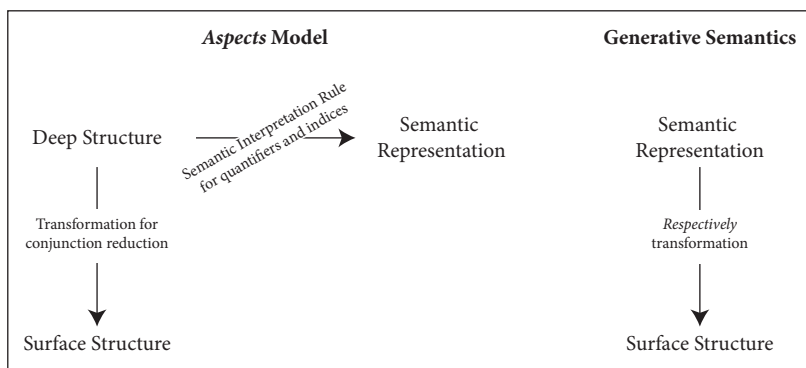


Figure 5.1 McCawley’s *Respectively* Argument. The *Aspects* model requires two rules at two stages to do the same job as the Generative Semantics model can do with one rule at one stage.

Deep Structure has to go. McCawley is quite conscious of the provenance of his reasoning, and brags that his argument follows the template of “Halle’s celebrated argument against the phonemic level” (1976 [1967]:122).

Chomsky predictably and legitimately objected to the argument (1972 [1968]:76–80), but not on any of the grounds which seem fairly obvious—such as “Let’s see the rule before we decide if anything follows from it” or “Sure, but do the facts really show that there is a unitary phenomenon here? (And, if so, prove it.)” He objected by reconstructing McCawley’s argument in a very unappealing way, and beyond the distortion, he also accuses McCawley of the fallacy of equivocation frequently enough in the short discussion to cast doubt on either McCawley’s integrity (if intentional) or his acumen (if not). Just business as usual in scholarly disputation, I suppose, but it is hard not to find a lack of charity on this scale for one’s former student noteworthy.

It gets worse. McCawley had written Chomsky to repudiate Chomsky’s reconstruction long before it was published (remember, these arguments circulated in mimeograph). Chomsky was resolute. He wrote back to McCawley, maintaining that his reconstruction was accurate and, in fact, that McCawley was confused about what his own paper says. McCawley tried again a few times before it went to press, with similar results.² Additionally, there was also a more explicit version of McCawley’s argument (1976b [1967]:121–32) available years before Chomsky’s criticisms went to press, which he might have addressed. But Chomsky’s paper was published with no indication that McCawley had clarified his argument; in fact, with only marginal indications that his own straw-house version is anything but a verbatim reproduction of the only version that existed, forlorn and misbegotten.

Maybe Chomsky genuinely could not see what McCawley was saying—stranger things happened in the course of the dispute—but that is almost beside the point next to his total unwillingness to view work by his former student with any courtesy at all. His insistence on publishing a version, identified as McCawley's, that McCawley clearly, repeatedly, politely rejected in personal correspondence shows, in the kindest interpretation, his utter lack of interest in harmoniously resolving the debate. A less kindly interpretation of his actions—that is, an interpretation of the sort which by this point had become automatic to most Generative Semanticists—has more deceit than disinterest about it; and, deceit or disinterest, we can certainly see an unmistakable arrogance in Chomsky's stubborn assertion that he was better able to judge what McCawley was saying than was McCawley himself.

The most immediate lesson here, Chomsky's ill-treatment of his former student aside, is that this emulation of the Halleian Syllogism did not have the effect McCawley was aiming for, a resolution to the question of the existence of Deep Structure. It only stirred up more animosities. Lakoff denounced Chomsky's treatment (1971b). Chomsky replied. Dougherty weighed in (1975:268n4), adding to the confusion by somehow finding Lakoff to agree with Chomsky's claim that McCawley was equivocating.³ The lines are very, very clear: those who were prepared to doubt the existence of Deep Structure liked the argument (though not without some reservation). Those who were unprepared to doubt Deep Structure, liked it not. The Interpretive camp felt (or, in any case, proclaimed) that "the [*respectively*] argument has been effectively refuted by Chomsky" (Wassow 1976:288), and declared the case closed. "The dispute," it was clear, quickly reached the "point where logic was powerless to resolve it" (Huck & Goldsmith 1995:158n4). No one but McCawley ever paid much attention to it after the fireworks from Chomsky's construal died down. But there was a much stronger class of arguments about Deep Structure on the table—again with McCawley at the helm. He articulated a theory of grammar in which lexical insertion worked without Deep Structure. He supplied an alternative to *Aspects*.

There was a widespread attempt by Generative Semantics to deny they had any burden of proof with respect to the dissolution of Deep Structure, claiming the ball was in Chomsky's court. "You have sound," they said, "and you have meaning. They're given. They are in the data. If you're going to stick some other level between them you have prove it belongs there." Or, in the real words of a real Generative Semanticist: "any theory which claims the existence of special levels of structure beyond surface structure and semantic representation . . . require[s] special empirical justification" (Postal 1972 [1969]:137–38).

McCawley makes the point by turning Chomsky's words against him, again yoking in the venerable Halleian anti-phoneme argument:

Chomsky's remark [in a discussion of the Hallean syllogism] that "the burden of proof is on the linguist who believes . . . that there is . . . a linguistically significant level of representation meeting the conditions of taxonomic phonemics and provided by the phonological rules of the grammar" [1966c:48] applies equally well to the linguist who believes that a level such as "deep structure" exists intermediate between the semantic and surface syntactic representation. (1976b [1968]:170; McCawley's elisions; see also 1976b [1967]:92–93)

McCawley and the other Generative Semanticists maintained that the burden had never been met: "It was simply assumed in *Aspects* that [Deep Structure] contained all lexical items and preceded all transformations," Lakoff said; "no arguments were given" (G. Lakoff 1971b:281).

But Chomsky about taxonomic phonemics—and, in his footsteps, McCawley and Lakoff about Deep Structure—has it exactly backwards. Presumption always falls on the side of established scientific principles. The burden of proof *was* on Halle and on Generative phonology, and it was met by providing a model of phonology that worked efficiently without "the phonemic level." Lakoff's claim that no specific arguments were advanced in *Aspects* is strictly true. But so what? Deep Structure is the linchpin of a model that the entire community (including, of course, all of the budding Generative Semanticists) found very compelling. Or, look at it from the other end: the *Aspects* model is itself an elaborate argument for Deep Structure.

History also made specific justifications moot: Deep Structure was simply what the *Syntactic Structures* model got after incorporating trigger morphemes and Δ nodes, doing away with Generalized Transformations, adding a semantic component, and so on. In the terms of good Bishop Whately, a stuffy cleric and astute rhetorician of the nineteenth century, Deep Structure preoccupied the ground of Transformational Grammar—just as the "taxonomic phoneme" preoccupied the ground of structuralist phonology—and Generative Semantics was obliged to dislodge it:

According to the most correct use of the term, a "Presumption" in favor of any supposition, means, not (as has been sometimes erroneously imagined) a preponderance of probability in its favour, but such a *preoccupation* of the ground, as implies that it must stand good till some sufficient reason is adduced against it; in short, that the *Burden of Proof* lies on the side of him who would dispute it. (1963 [1846]:112; Whately's italics)

Chomsky actually gets this right elsewhere, more bluntly and more concisely: "There is no burden of proof on the person who provides the only theory that exists."⁴

Halle's anti-phoneme argument came with a winning treatment of the "highly complex patterns of phonological relationships in Russian" (Anderson 1985:321). McCawley's *respectively* argument came only with a post-scripted IOU, and the choice between a reasonably well articulated theory (the *Aspects* model) and a promissory note for a theory (Generative Semantics), much the same but without its most glamorous element. Absent partisanship, such an argument is not persuasive. Confederates are usually willing to take your IOUs, but your opponents never are, and rarely will the field at large.

Practically speaking, though, whatever the Generative Semanticists' rhetorical maneuvering was on the matter, no one was unclear about where the burden of proof over Deep Structure really fell: on its apostates, not on its apostles. Generative Semanticists mounted a range of negative arguments against it, but the Interpretivists only bothered with a few positive arguments in favor of Deep Structure (Chomsky 1972b [1968]:85–86, [1969]:151–62). McCawley certainly realized, whatever he said at the time, where his responsibilities lay. "I had an ulterior motive in writing and presenting [the *respectively* argument]," he said later, "namely corruption of the young . . . I intended to generate more confidence in that sketch of a model than is warranted by current knowledge" (1976b [1967]:129–30). Not only were arguments against Deep Structure required, so was, and much more urgently, arguments in favor of successful alternatives. So, McCawley got to work—work we've seen already, the work that hooked Postal into the movement, his Predicate-raising rule and its related lexical-insertion proposals. These were the first real steps toward articulating a genuine alternative to *Aspects*.

The key issue in the difference between a theory with Predicate-raising and *Aspects* concerns where it operates. Critically, the relation between the lexicon and Deep Structure in *Aspects* is such that first you plug your words into a sanctioned Phrase Structure tree, giving you a Deep Structure, and only then do all the transformations occur (as in Figure 2.3, page 53). But Predicate-raising, a transformation, has to precede at least some lexical insertion rules, because it collects deep predicates (or abstract verbs) together and assembles them into meaning complexes that correspond to words. Predicate-raising turns underlying strings like *Juones STRIKES me as LIKE a monkey* into sentences like *Juones reminds me of a monkey* by way of a lexical insertion rule that replaces STRIKES LIKE with *reminds* (or, of course, it might just surface as *Juones strikes me as like a monkey*; Postal 1971b [1969]). The resulting grammar, with some transformations preceding some lexical insertions, could not, therefore, include an *Aspects* level of Deep Structure.

Generative Semanticists flocked down the trail blazed by McCawley. Parallel deep-predicate analyses sprung up in fairly short order for all sorts of other

words, along with ingenious support arguments for lexical decomposition.⁵ *Lexical decomposition* is a somewhat misleading term for this line of research since the argumentation was about lexical composition; especially about how words were composed, transformationally, out of “semantic atoms.” But the term reflects the methodology. Someone would probe the meaning of some word, like *kill*, find that it can be decomposed into atomic bits, like CAUSE and BECOME and NOT and ALIVE, and chart out the syntactic and semantic implications of the relations among words and their atomic bits.

The Interpretive Semanticists, of course, beat a trail in the opposite direction, gathering counterevidence to the lexical decomposition arguments. Many papers questioned the semantic implications of the atomism, the most renowned being Jerry Fodor’s “Three Reasons for Not Deriving ‘Kill’ from ‘Cause to Die’” (1970), hinging on distinctions between such data as 5a and 5b:

- 5 a Putin caused Litvinenko to die on Wednesday by having him poisoned three weeks earlier.
- b * Putin killed Litvinenko on Wednesday by having him poisoned three weeks earlier.

Chomsky also dismissed Predicate-raising as merely an upside-down Semantic Interpretation Rule, and unmotivated to boot, and attacked the general consequences of lexical decomposition, which he said would lead to such absurdities as CAUSE TO DIE BY UNLAWFUL MEANS AND WITH MALICE AFORETHOUGHT for *murder* (1972b [1968]:72). We’ve seen the *Floyd* tree and no one who was happy with a tree that could be modeled as a floor-to-ceiling mobile was going to get too worried about Chomsky’s supposed absurdities, but the Interpretive cadre felt those kinds of dilations put a stake through the heart of Predicate-raising.⁶

McCawley’s arguments and their variations did not, in short, move the needle toward consensus. The Generative Semanticists saw enough in McCawley’s proposals to warrant throwing Deep Structure overboard; the Interpretive Semanticists just folded their arms intransigently. The Interpretive reaction was not especially rational, particularly seen in retrospect, given that nobody (except Katz) wanted *Aspects*’s Deep Structure anyway by this point, and given that, when the dispute died down they quietly incorporated versions of both lexical (de)composition and Predicate-raising. It was, in the end, little more than a terminological wrangle. The Generative Semanticists wanted to do away with the term *Deep Structure*, and the Interpretive Semanticists wanted to hang onto it, but nobody (again asterisking Katz) wanted to retain the syntactic level that actually sported that term in the *Aspects* model, which brings us to the defining principle of Deep Structure, the Katz-Postal Principle.

The Katz-Postal Principle

The great tragedy of science—the slaying of a beautiful hypothesis by an ugly fact.

—T. H. Huxley (1894 [1870]:8.244)

The Katz-Postal Principle is a different story: argument and counterargument over the principle were very successful, two-ways successful, in modifying linguistic theory. First, as virtually everyone agreed (*Katz), it was disconfirmed. Generative Semantics retained the principle (for a while), but in a clearly attenuated form; Interpretive Semantics rejected it, but retained some of its implications. Second, both theories changed markedly as a result of the issues raised by the question of meaning preservation and transformations.

By 1969—an important year, the year of the contentious Texas Conference on the Goals of Linguistic Theory in which all the major players participated—Chomsky was saying that the Katz-Postal hypothesis was disconfirmed, and his students were coming up daily with new data they could fashion into arguments to exactly the same end. “Death to the Katz-Postal Principle!” echoed in the halls of Building 20, MIT.

“Long live the Katz-Postal Principle!” continued to echo in other hallways, but by 1969 it was not the same old Katz-Postal Principle. It had hardened into dogma. The step to dogma—neither unusual nor necessarily unwholesome in science (see, e.g., Popper 1970 [1965]:55, Feyerabend 1978 [1975]:42)—was a very natural one in the transformational milieu. From Harris’s earliest efforts to explore synonymy relations, through trigger morphemes, the discarding of Generalized Transformations, and the design of Deep Structure, the entire transformational program had marched ineluctably toward the Katz-Postal Principle. Chomsky had upgraded it from a heuristic to a hypothesis in works like *Aspects*, *Cartesian Linguistics*, and *Language and Mind*, where he consistently expressed strong support for it; the next reasonable step was to see what conception of grammar one got by taking it very seriously. The answer was Generative Semantics.

The earliest position of Generative Semantics on apparent violations of their defining axiom was the *Integrated Theory* position; namely, that seeming counterexamples to it were merely the result of inadequate analyses. Either the offending transformation had been wrongly formulated or the data was insufficiently understood. *Integrated Theory* and *Aspects* had done such a thorough job of banishing violations, in fact, that there seemed only to be one major class of troublesome data left—the relative Deep and Surface Structure locations of quantifiers—and the Generative Semanticists made a good deal of progress taming them with these faulty-analyses sorts of arguments. For instance, the

conventional derivation for 6a ran into trouble, since it would derive from 6b, resulting in a nonsynonymous relation and a Katz-Postal violation.

- 6 a Everyone expects to live forever.
- b Everyone expects everyone to live forever.

But Carden argued (1968) that the Deep Structure sources for 6a and 6b should be, respectively, something like 7a and 7b (with only 7a sanctioning a deletion):⁷

- 7 a every one_i expects one_i to live forever
- b every one expects every one to live forever

Lakoff wove similar re-analyses around sentences like 8a, which *Aspects* would derive from (the Katz-Postal violating) 8b, but which he said ought to come from something more like (the Katz-Postal maintaining) 8c.

- 8 a Few lawyers are both popular and successful.
- b few lawyers are popular and few lawyers are successful
- c lawyers who are both popular and successful are few

On the other side of the fence, Chomsky's busy band of Interpretivists kept finding more and more examples where the Deep Structure position of quantifiers supported one reading and, after certain transformational derangements, the Surface Structure position supported another. Interpretive Semanticists used these arguments to justify a major renovation of the *Aspects* semantic component, albeit a very vaguely sketched renovation: Deep Structure continued to feed the semantic component information about grammatical relations and lexical content, but Surface Structure now fed it information about logical elements (like quantifiers and negatives). This change made for a more powerful and distributed semantic component, which many linguists regarded with a good deal of nervousness. But that was just the beginning.

Chomsky (1972b [1969]:180) says, with his familiar indifference, that Semantic Interpretation Rules must apply "to deep and surface (perhaps also shallow) structure." Just as he had hinted earlier that Surface Structure semantic rules were on their way, he was now hinting that a new syntactic level, Shallow Structure, might be getting its own complement of semantic rules.⁸ These rules, too, were left unspecified.

The task of putting meat on these skeletal suggestions, and many others, fell to Chomsky's conscience, Ray Jackendoff.

Semantic Interpretation in Generative Grammar

One thing about pioneers that you don't hear mentioned is that they are invariably, by their nature, mess-makers. They go forging ahead, seeing only their noble, distant goal, and never notice any of the crud and debris they leave behind them. Someone else gets to clean that up and it's not a very glamorous or interesting job.

—Robert M. Pirsig (2011 [1974]:241)

Lees was called “Chomsky’s Huxley” in the early years, with a certain appropriateness, though Chomsky did not really need an attack dog; the phrase holds at least as well of Jackendoff, with the same qualification, though maybe “Chomsky’s janitor” would be more in keeping with our epigram from Pirsig, or “Chomsky’s handyman,” or “Chomsky’s mechanic.” He was a polemicist, certainly, but he did very important theoretical and methodological work as well, cleaning up and repairing after Chomsky’s brilliant insights had left much of the established Generative machinery broken and strewn across the floor.

His results were not pretty. “Jackendoff is quite candid about the aesthetic appeal of [Interpretive Semantics]—or lack of it,” Michael Kac noted at the time. “He admits that the picture would be prettier if all semantic interpretation took place at a single level, but maintains that the facts militate against such an assumption” (1975:23). Jackendoff’s results were not pretty, but they worked. Jackendoff had sufficient brilliance of his own, and he was a true believer.

Like T. H. Huxley with natural selection, and Lees with the first iteration of Chomskyan gospel, Jackendoff had the “Remarks” material as part of a small privileged group, directly from the source, and at length, before most of the world had even heard of it. “I heard the lectures,” he reminisced with me, “That’s different from reading the paper. They were more fleshed out. It took [Chomsky] probably the better part of a semester to cover that material.” More importantly—and here the Huxley/Darwin analogy takes on richer colors—Jackendoff had a front-row seat to the considerably more hostile objections of Lakoff and others, which Chomsky also settled to his satisfaction. Having the recalcitrant, baiting, Generative Semanticists constantly raising objections to the “Remarks” proposals gave the entire emerging Interpretive Semantics community a sense of shared purpose. Exactly the same sense of conspiratorial camaraderie shows up in the letters among Darwin, Huxley, and Hooker, discussing some of their opponents’ blockheadedness; as Darwin put it, “truth can only be known by rising victorious from every attack” (letter to Sedgwick, November 26, 1859).

Chomsky also had somewhat more need for a conspiratorial cadre, a kennel of bulldogs, in the mid 1960s. Chomsky is rather less shy of combat than Darwin

was, we know, but his energy was more divided during the Linguistics Wars than in his earlier career, with his political activism drawing his polemical energies to other sectors. Jackendoff, along with Dougherty, Michael Brame, and others, were more than happy to take up the linguistic cudgels.

Jackendoff tore into not just Ross and Lakoff and McCawley, his professional seniors by only a few years, but into the considerably more formidable Postal as well. He showed, repeatedly, the subtle ability to play partisan science with the best of them—such as calling a constraint he endorses “the Complex NP Constraint” (not, say, “Ross’s Complex NP Constraint”), and one he doesn’t endorse “the Postal Crossover Condition” (1968). The favored proposals are just proposals, the unfavored ones are errors made by bad guys.

There is a major difference between Huxley’s role and Jackendoff’s, however, which is where *mechanic* comes in. While Huxley largely explicated and rephrased the meticulously detailed arguments of Darwin, Jackendoff elaborated and expanded the casual adumbrations of Chomsky, putting formal flesh on suggestions that even the unflaggingly loyal Jackendoff called “sketchy and programmatic” (1977:xi).⁹ It is as if Darwin had quit after his 1858 paper to the Linnean Society and Huxley had written *Origin* and *The Descent of Man* himself. Or, fishing for a better analogy than Huxley to Darwin on this front, we might settle briefly on Kepler to Copernicus. Like Kepler’s elliptical orbits, the form that Jackendoff gave to some of Chomsky’s beautiful airy proposals violated his own sense of aesthetics; it was unlovely, but it worked.

Whatever the analogy, Jackendoff is a hero in the tale of Interpretive Semantics. There were others—especially Adrian Akmajian and Joseph Emonds (Dougherty was a polemicist and little more)—but aside from Chomsky, no one else came anywhere close to him in terms of scale—positively (in supporting lexicalism, $\bar{x}$ -syntax, and post-Deep Structure semantic interpretation), negatively (in discrediting the Katz-Postal Principle), and polemically (in taking a hammer to many specific Generative Semantics proposals). Indeed, in some ways, his contribution was more substantial than Chomsky’s: certainly, it was more sustained, more comprehensive, and considerably more rigorous. The level of his heroism is clear if we step back into the historical long view for a moment. Chomsky’s linguistic development has been fecund to an unprecedented (and, indeed, un-subsequented as well) degree. Chomsky’s career is often said to be punctuated by six main theories. They generally go by the names *Early Transformational Theory*, the *Standard Theory*, the *Extended Standard Theory*, *Government-and-Binding* (or *Principles and Parameters*) theory, the *Minimalist Program*, and *Biolinguistics* (we will see them all in some degree before we’re done, charting their overlaps and discontinuities in general ways). Here’s the curious thing: each of these models but one is associated with a major Chomsky text: *Syntactic Structures* (and/

or *Logical Structure of Linguistic Theory*) for the early theory, *Aspects* for the Standard Theory, *Lectures on Government and Binding*, *The Minimalist Program*, and *Why Only Us?* for his latest approach. The odd model out is the Extended Standard Theory. There is a major text, but it's not Chomsky's. It is Jackendoff's. His *Semantic Interpretation in Generative Grammar* (1972) is the Extended Standard Theory Word.¹⁰

If Chomsky's central "Remarks" proposals had stayed as he left them in 1967, it is a good bet that many fewer linguists would have been drawn to them; the other two papers in Chomsky's anti-Generative-Semantics trilogy—"Deep Structure" and "Some Empirical Issues"—are a great deal shorter on positive details even than "Remarks." They are both important collections of arguments, which Interpretive Semanticists, virtually *en bloc*, regarded as lethal to Generative Semantics; they are extremely effective works of rhetoric, completely shifting the agenda of the debate; and they touch on a number of issues that subsequently became central topics in linguistics. All the same, they are little more than heaps of negative criticisms, attended only by the most allusive positive suggestions. Most aggravatingly to the Generative Semanticists, they carry the strong implication that Chomsky has no responsibility to provide positive accounts of the phenomena he introduces. For instance, he brings the notions of focus and presupposition into the debate, arguing that Generative Semantics can't adequately account for them, but where his own model is concerned, he goes little further than the remark "these notions seem to involve Surface Structure in an essential way" (1972b [1968]:101).

Presupposition is a typical example, as in 9a–c (upper case signals phonological stress—a bit more volume and duration for emphasis).

- 9 Was it a) an ex-convict with a red SHIRT he was warned to look out for?
 b) a red-shirted EX-CONVICT
 c) an ex-convict with shirt that is RED

(Chomsky 1972b [1968]:91)

These three questions all have the same framing main clause ("Was it . . . he was warned to look out for?"), but each differs in its focalized Noun Phrase corresponding to a different presupposition. We know that he was warned to look out for someone who seems to have been an ex-con, who was wearing something red, which may have been a shirt, and that, in any case, he was wearing a shirt, which may have been red. Each of 9a–c exhibits a level of uncertainty about some aspect of a supposedly shared proposition. If they share a proposition, they share a Generative Semantics underlying structure, but Chomsky proposes these kinds of appropriate answers to questions 9a–c:

- 10 a No, he was warned to look out for an ex-convict with a red TOQUE.
 b No, he was warned to look out for a red-shirted LINGUIST.
 c No, he was warned to look out for an ex-convict with a shirt that is
 GREEN.

(Chomsky 1972b [1968]:91)

Answers 10a–c align perfectly with questions 9a–9c, because 10a presupposes that the focus of the question is a red article of clothing, 10b that the focus is the type of person wearing the clothing, 10c that the focus is the color of the shirt. All other question-answer pairing is wonky (10c as an answer to question 9a, for instance, is incoherent). Now, the presence of stress as a focalizer is the real killer in Chomsky’s argument, because it is theoretically associated with Surface Structure, making 9a–9c poison pills for Generative Semantics.

Focus and presupposition are part of a bait-and-switch argument against Generative Semantics. They rely on context (question/answer pairings) and belief structures (the presuppositions grounding the focus), aspects of meaning Chomsky had never talked about before, rarely mentions again, and does not hold his own frameworks responsible for. The upshot is “You can’t handle focus and presupposition. Me? I don’t have to.” After this argument, he blithely switched back to ignoring such phenomena.

Generative Semantics, in any case, took the bait; or, just felt more responsibility than Chomsky. Either way, focus and presupposition are prominent among the phenomena for which Lakoff calls global rules into being (G. Lakoff 1969b, 1970b, 1971b), and Chomsky, as if waiting for the opening, expressed outrage and scorn over global rules, which then formed the rhetorical shovel of the Interpretivist case against Generative Semantics throughout the 1970s. They beat every argument with that shovel, and then they used it to bury the whole movement.

Jackendoff, though, could not be so cavalier. He offered concrete proposals for how Surface Structure might be involved in the interpretation of focus and presupposition (1972:229–78), just as he did for virtually every other thorny issue of the day—grammatical relations, pronouns, modals, negation, quantifiers—even venturing with some success into the very murky regions of intonational meaning.

While Jackendoff was building his Swiss-army-knife semantic system to manage these daunting tasks, the major ideas of “Remarks” were largely neglected. Chomsky (except for passing mentions—e.g., 1972b [1969]:158–62) did not revisit them, and his other students, despite a totemic identification with the name *Lexicalists*, took them no further either. Even Jackendoff appeared reluctant to embrace them at first.¹¹

But his reluctance may have had less to do with embarrassment than with a lack of time. Both the Lexicalist hypothesis and $\bar{x}$ -syntax are very ramified ideas, and exploring them with any seriousness would have meant dropping the project Jackendoff found more urgent, justifying post-Deep-Structure semantics—more urgent, of course, because more devastating to Generative Semantics. Once he had offered that justification, in *Semantic Interpretation*, he turned first to the lexical rules necessary to give Lexicalism some formal substance, then to the $\bar{x}$ -notation necessary to give Lexicalism some explanatory capacity—all the while maintaining a fervent opposition to Generative Semantics.

Some of Jackendoff's digressive attacks were annoying to readers on the sidelines—Michael Kac's review of *Semantic Interpretation* complained that Jackendoff was squandering his considerable skill "in meaningless polemical exercises" and with "deliberate parochialism" in order "to score points in a sectarian debate" (Kac 1975:30). But—as David Hull tells us, among the many worthy motivations for scientists, like "natural curiosity, the love of truth, and the desire to help humanity," is one, equally prevalent, that is not quite so worthy, which he labels, simply, as "Get that son of a bitch!" (1988:160)—those sectarian aggressions kept Jackendoff's imagination fired.

Semantic Interpretation is stunning in its ambitions and its meticulous ingenuity; forty years later, one of the premier semanticists of the age was still calling it "magnificent and wide-ranging . . . foundational" (Partee 2015c: xvii). But the model it lovingly details is a gawky contraption next to the Generative Semantics model or the *Aspects* model, both of which look very good on a blackboard. The *Aspects* model had an orderly semantic component that looked in on derivations at Deep Structure, and only at Deep Structure (Figure 2.3, page 53). Its semantic rules were all of the same type, and they produced one semantic representation per derivation. The Generative Semantics pure-case model, Homogeneous I, had a semantic component that, to all effects, percolated meaning directly up into the syntax (Figure 3.3, page 103). Its semantic rules were not only all the same, they were also the same as its syntactic rules; namely, transformations. There was only one semantic representation per derivation. Jackendoff's model, though, looked in on derivations virtually at will. And it did away with a guiding principle of Transformational Grammar from the outset, that each derivation has a single semantic representation; Jackendoff's derivations had four distinct semantic representations.¹²

Moreover, one of the calling cards of *Aspects* is that it reduced the complexity of the Katz-Fodor semantic picture by eliminating one of their rule classes. Generative Semantics went further and eliminated Semantic Interpretation Rules altogether. The Extended Standard Theory model, in the only full articulation it got, Jackendoff's *Semantic Interpretation*, added three new classes of semantic rules, each of which produced its own semantic representation. To

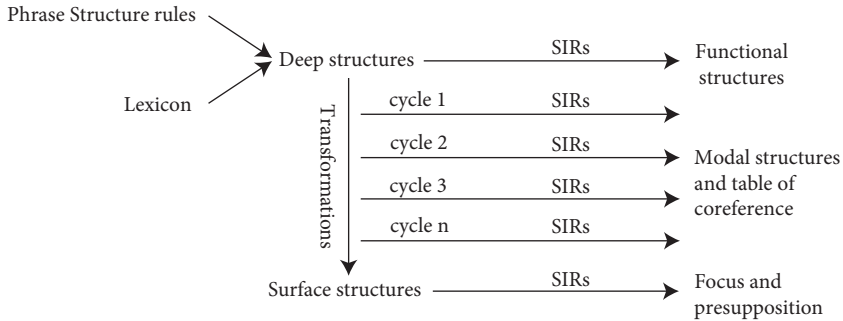


Figure 5.2 The Extended Standard Theory. Adapted from Jackendoff 1972:4.
(SIRs = Semantic Interpretation Rules)

make things worse yet, the Extended Standard Theory also had several other bits and pieces of theoretical paraphernalia that had entered the field since the mid-1960s—lexical redundancy rules, output constraints, conditions on transformations, and the like—all of which Jackendoff felt responsible to incorporate. You can check out a relatively conservative diagram of the Semantic Interpretation model in Figure 5.2. Jackendoff now says of this model, “I’m sure everybody thought that it was off-the-wall and weird, although nobody complained to my face. [They must have thought] that is really wacko. If semantic interpretation is like that, forget it.”

On the contrary, many people thought, “So that’s how serious semantics gets done in a Chomskyan grammar”; and “If semantic interpretation looks like that, it needs to be cleaned up, tightened, maybe winnowed a bit, not discarded.” *Semantic Interpretation in Generative Grammar* pursues a rhetoric of assent which rarely fails to put its money where its mouth is. Virtually every negative criticism is balanced by a positive proposal.

The Katz-Postal Principle Redux

It has become clear over the past five years that Transformational Generative Grammar is nowhere near being an adequate theory of human language. Those of us who have tried to make Transformational Grammar work have attempted to patch up the classical theory with one ad hoc device after another: my theory of exceptions, Ross’s constraints on movement transformations, the Ross-Perlmutter output conditions, Postal’s Crossover principle and anaphoric island constraints, Jackendoff’s surface interpretation rules, Chomsky’s lexical redundancy rules and his analogy component, and so on. . . . Most,

if not all, of these ad hoc patching attempts [are] special cases of a single general phenomenon: global derivational constraints.

—George Lakoff (1970b:627)¹³

Interpretive Semantics was a very different beast, and a much lumpier one, once Chomsky's scattered proposals and intimations were instrumentalized by Jackendoff. But there was uglification going on in the Generative Semantics camp too, for much the same reasons. The sort of data that the Interpretivists' research kept turning up against the Katz-Postal Principle proved too much for arguments and devices modeled on the *Integrated Theory* approach to meaning-preservation. Jackendoff and Chomsky had no trouble abandoning the Katz-Postal Principle by enriching the semantic component substantially. But Generative Semantics was incomprehensible without some form of the principle. There was no semantic component, sitting off to the side, away from syntax, which it could enrich. There were only two conceivable options: abandon the theory, or enrich the homogeneous rule system in a way that would preserve some version of the Katz-Postal Principle, however theoretically compromised it became. Aside from the dialectical pressures of the dispute, which would have made surrendering to Chomsky's new vision impossible, the Generative Semanticists increasingly saw that vision as essentially abandoning any hope for a realistic account of language.

Most of them had a good deal of respect for Jackendoff's ingenuity, and for his willingness to confront the implications of data in which Chomsky had no apparent interest after it had served his anti-Generative Semantics purposes. But they regarded Jackendoff's efforts as an endless, misbegotten series of patches in a wall built to keep meaning and structure artificially apart; when the *Aspects* version of Deep Structure wasn't strong enough, the Interpretive crew invoked Surface Structure, and then Shallow Structure, and then, recurrently, the nameless structural levels at the end of each cycle (Figure 5.2).

Generative Semanticists felt the right approach was simply to admit the artificiality of that wall, to acknowledge semantics and syntax intermingled so thoroughly as to make autonomous accounts of either futile. Then, having made this admission, the real task of linguistics could begin, finding the order in this gumbo; the Katz-Postal Principle still looked to be the best bet on this front, even in a weakened form, and one new rule type looked a small price to pay for its maintenance.

This new rule type was introduced by George Lakoff, who had become, far and away, the most prominent and productive Generative Semanticist. It was immediately endorsed by the other leaders; the Interpretive camp, led by Chomsky, assumed the posture and facial posture and facial expression made famous by Edvard Munch's *The Scream*, howling with outrage. Lakoff proposed to incorporate devices he called

global derivational constraints (*global rules*, for short; 1970b; 1971b:238ff), moving the theory into what Postal called its *Homogeneous II* phase. In brief, global rules recognize that some transformations can alter the relations of words such that Deep and Surface Structures of the same derivation could support different semantic readings; however, they outlaw such derivations. Derivations in which transformations change meaning were legislated out of the theory.

To take an analogy from *Logical Structure* (Chomsky 1975a [1955–56]:145), early transformational theory allows the generation of sentences like the legendary 11:

- 11 Colorless green ideas sleep furiously.

But— somehow, somewhere, some way—the grammar rejects it for not achieving “the highest degree (first order) of grammaticalness” (1975a [1955–56]:154). Katz and Fodor adopted the same approach, by having the semantic component fail to return any semantic reading for sentences like 11. This general plan of attack fits the *Aspects* term *filtering*.

Lakoff simply applied this filters-approach to some new sentences, like 12a when it derives from an underlying structure like 12b (and thereby violates the Katz-Postal Principle). In order to be legitimate, the global rule declares, 12a must arise only from 12c.

- 12 a Few books are read by many men.
 b Many men read few books.
 c Few are the books that many men read (G. Lakoff 1971b:238–39)

Once again, we have quantifiers (*few*, *many*) throwing a wrench into meaning-preservation: 12a means that there are hardly any books such that lots of men read them; 12b means that there are lots of men who read hardly any books. In *Syntactic Structures* our old transformational friend, Passive, would relate 12a and 12b. But 12a and 12c can also be related transformationally.

Here’s the deal, then: Transformational Rules alone permit the derivation of 12a from 12b or from 12c, doesn’t matter, but Lakoff introduces a global rule that outlaws one of those derivations, the $12b \Rightarrow 12a$ derivation, so the Katz-Postal Principle is maintained. Essentially, we have a semantic output condition. If this solution smells of desperation, your nose is serving you well. The principle is maintained by the strategy Aristotle called, none to affectionately, *to en archêi aiteisthai* (aka, “begging the question,” aka “circular reasoning”). Aristotle’s phrase translates fairly literally as “asking for the initial thing.” The initial thing in this case is “transformations do not change meaning,” and the proof proceeds

by inventing something that stipulates situations where transformations change meaning (of the $12b \Rightarrow 12a$ sort) cannot exist, with the conclusion that, “See, transformations do not change meaning” (see especially 1971b:240).

The Katz-Postal Principle cannot be violated because the Katz-Postal Principle cannot be violated.

From this angle, then, global rules are a public confession that the Katz-Postal hypothesis is false, since only a hand-of-god stipulation prevents violations, and, therefore, global rules vitiate the entire Generative Semantics program. Certainly, that’s the way most Interpretive Semanticists saw it, as well as a few Generative Semanticists, and Chomsky surely has quantifiers and global rules in mind when he says that Generative Semantics “was proven wrong, very early.”

But Lakoff argues persuasively that global rules are necessary for reasons wholly unrelated to the Katz-Postal Principle or any semantic issues at all. In particular, he points out that a number of non-transformational rule types which both sides of the schism had already adopted—Ross’s island constraints, Postal’s Crossover Principle, David Perlmutter’s output conditions—have similar powers. And then there is the whole panoply of general conditions on rules that had mushroomed in Transformational Grammar and was codified in *Aspects*—rule ordering, cyclicity, Recoverability of Deletion, the Katz-Postal Principle itself, and so on. The specifics of these various conditions aren’t important, just that they make up a fat, knobby bag of extra-transformational goodies.

Lakoff also unearths lots of data for which such a solution seems inevitable in any Transformational Grammar. One of his most compelling arguments concerned Greek case-agreement. We can cut to the chase on it: adjectives and participles must agree morphologically with their Deep Structure nouns; some transformations can derange sequences such that the relevant words are indefinitely far apart and in different phrases; case assignment can occur after such derangements; therefore—here comes the globality—the agreement rule must be “able to look back to a prior point in the derivation” (Lakoff 1970b:629). *Quantum rules* might have been a better label than *global rules*, because different points in a derivation could communicate with each other instantly without regard to time and space. Except for the unpalatable consequences for the (Extended) Standard Theory, the argument is textbook distributional reasoning, with clear data and natural consequences. *Ipsa facto*, Lakoff asks, since “global rules are necessary, whatever position one takes on the relative merits of generative and interpretive semantics” (1970b:638n9), why not use them to maintain the Katz-Postal Principle?

Generative Semantics, even more than *Aspects* before it, ran on a transformational engine; globality became the governor for that engine. But because global rules involve a sort of direct communication

between noncontiguous trees in a derivation (like Deep and Surface Structure in the *many-men-few-books* example in 12), global rules raise a welter of complications that contributed heavily to the downfall of Generative Semantics (to be traced out shortly), and it's not clear that Lakoff did anything more than stencil a name onto the fat, knobby bag of devices shoring up Transformational Grammar in all its variants. But, for the moment, we can give him the last word, pointing to a definite advantage of global rules over the aesthetic and conceptual messiness of incorporating several distinct Jackendovian classes of semantic rules:

For each different case [Chomsky] would propose not a different rule, but a different KIND of rule, adding a new type of theoretical apparatus to the theory of grammar for each new global rule discovered.

It is sad and strange to encounter such [an attitude]. (1970b:637; Lakoff's emphasis)

Restrictiveness

May 27, 1969: George Lakoff discovers the global rule. Supermarkets in Cambridge, Mass., are struck by frenzied buying of canned goods.

—entry in James McCawley's (1978 [c1971])

"Dates in the Month of May That are of Interest to Linguists"

Chomsky's anti-Generative-Semantics response had several stages, each one defining a new direction for its own model. First, he undermined Abstract Syntax with the "Remarks" proposals, then he attacked the Katz-Postal Principle by promoting the Surface-Structure-impinges-on-meaning arguments, and then, in his reply to Postal's "Best Theory," he attacked Generative Semantics for descriptive wantonness. The first two approaches—Lexicalism and post-Deep-Structure semantics—failed to resonate with anyone beyond his immediate students. But the descriptive-wantonness argument caught fire.

"The great weakness of the theory of transformational grammar," Chomsky said,

is its enormous descriptive power, and this deficiency becomes more pronounced to the extent that we permit other rules beyond transformations (i.e., other sorts of "derivational constraints" [global rules]). . . . Any imaginable rule can be described as a "constraint on derivations." The question is: what kinds of rules ("derivational constraints") are needed, if any, beyond those permitted by the standard theory? (1972b [1969]:133–34)

Chomsky cannot even bear to use Lakoff's term *derivational constraint* without the sanitizing envelope of quotation marks (and double-bagging it by adding a set of parentheses), but the general point is reasonably clear: unless some rigor is brought to the notion, it drives linguistic theory away from what he represents as a crucial goal, restrictiveness.

Ordinarily, one thinks of descriptive power as a virtue in science, so enormous descriptive power should be the mother of all scientific virtues. Within certain parameters, this is certainly the case. Big-time descriptive sciences like astronomy and biology earn their bacon by having enormous descriptive ranges, from pin-size black holes to pulsars, amoebas to elephants. But the parameters are extremely important, because they represent the limits of the science. Astronomy is not the science of all objects with mass and weight and velocity. The objects it describes do not include '56 Chevys. Biology is not the science of all objects that consume and excrete and have inherited characteristics. The objects it describes do not include '56 Chevys. Linguistics is not the science of all possible symbols or symbol systems. No '56 Chevys.

Linguistics is the science of natural languages, and there are lots of symbol systems which are not natural languages. It is extremely easy, in fact, to come up with symbol systems that operate in ways that natural languages don't; computer scientists do it all the time. Sentences might be ordered by word length, or vowel frequency, or chronological occurrence. Questions might be formed by reversing the order of words in a declarative sentence, or rearranging them alphabetically, or transposing every second pair of consonants, or only being uttered when the speaker is leaning against a '56 Chevy. An unconstrained Transformational Grammar—say, the one outlined in Lees's *English Nominalizations*—can describe all of these systems, and many, many more. Transformational Grammar is so powerful, Emmon Bach once said, that "a not too far-fetched analogy" to the way it describes language "would be a biological theory which failed to characterize the difference between raccoons and lightbulbs" (1974:158). This ugly situation is made all the uglier in Generative Grammar because of the cognitive mandate it assumed.

At its core, remember, Transformational-Generative Grammar is supposed to be psychologically plausible, describing what is between the ears of a language user, and it is supposed to be particularly attuned to the problems of language acquisition. How is a child to acquire a language if she can't even know what one is, if she is in the same position as a biologist trying to learn about raccoons who is unable to distinguish one from a lightbulb or a '56 Chevy?

Hence, the opposition to enormous descriptive power. Hence, Chomsky's work on the A-over-A principle, Ross's on island constraints, and Postal's on crossover effects. Hence, Chomsky's burning question, the one that the Extended Standard Theory set out to answer in the 1970s—"What kinds of rules

(‘derivational constraints’) are needed, if any, beyond those permitted by the standard theory?” In short—though very few people noticed it at the time, and few would acknowledge it now—Lakoff’s proposal for a program to explore and develop global rules pretty much defined the Interpretive program.

Chomsky’s great rhetorical triumph was that, in very short order, he managed to turn the words *global rule* into a synonym for “any imaginable rule,” completely reversing the thrust of Lakoff’s argument, and the words *Generative Semantics* into a metonym for “enormous descriptive power,” and the words *Extended Standard Theory* into a metonym for “restrictiveness.” Chomsky and the Interpretivists regularly pointed to the vast, growing menagerie of Generative Semantics descriptive devices in horror, but conveniently ignored their own proliferating menagerie when making comparisons. When they weighed the two frameworks, everything went on the Generative Semantics side of the scale, only basic syntax on their own; McCawley later called it “comparing apples with orange peels” (1999:159).

The Generative Semanticists were outraged. To them, it was all sleight of hand, smoke and mirrors. They still recall Chomsky’s restrictiveness arguments with the imagery of prestidigitation. Here’s Postal:

Chomsky had these—what did George call them?—these *wild cards* that he could pull out of his hat whenever he wanted, and somehow they didn’t count when it came to talking about restrictiveness.

Whenever he was doing something descriptive, where he needed to describe facts that Generative Semantics would handle with transformations—linking meanings to Deep Structures, or to other kinds of structures, by way of global rules—Chomsky would appeal to Semantic Interpretation Rules.

He would never define them. He has never, to this day, given any content to that notion. He’s never said what they were. But he could have as many as he wanted. Whenever he needed one, he could pull one out of his hat and use it. Now, when it came time to compare Generative Semantics to his framework [in terms of restrictiveness], those were never included. He never felt he had to say anything about them.

It seems, a priori, implausible that he could get away with that. But he did.¹⁴

The Generative Semanticists were particularly alert to Chomsky’s moves on this front, watching his hands closely, pointing out the cards up his sleeves, but almost everyone else took his restrictiveness arguments at face value. Even many of his most fervent detractors frequently take time out from attacking him to take a few kicks at his Generative Semantics scapegoat for descriptive profligacy. “Chomsky is pretty bad, but—hoo-wee!—those Generative Semanticists are crazy” themes abounded (see, for instance, Hagège 1981:83).

In fact, Chomsky's victory on this issue was so complete that it is now difficult to appreciate its dimensions, especially for anyone unfamiliar with the rhetorical history of Transformational Grammar. We have only looked very casually at the appeals which constituted the arsenal of topoi Transformational-Generative Grammar deployed in its blitzkrieg colonization of linguistics. One topos in particular that we brushed past fairly quickly ran through the overwhelming bulk of early arguments, is simplicity—simplicity as a goal of linguistic research, simplicity as the central criterion in theory comparison, and simplicity as a methodological principle. The evaluation metric with which Chomsky thumped the Bloomfieldians, Halle's case against the phoneme, the daily warrants for specific analyses, instruments, and hypotheses—all leaned heavily, in some cases exclusively, on the virtues of simplicity.

With the central, virtually defining role of simplicity in Chomskyan linguistics, one would have thought (Postal surely thought) that the "Best Theory" case would be enormously appealing. It is a straightforward minimalist argument that the grammar with the fewest theoretical devices is the simplest, and therefore, should be the most highly prized. On these grounds, Generative Semantics wins, hands down. In particular, the model Postal dubs *Homogeneous I* is "the best grammatical theory a priori possible" (Postal 1972a [1969]:136). *Homogeneous I* has semantic representations at one end, surface representations at the other, and a relatively uniform component of Transformational Rules taking you from one to the other; the beautiful and compelling *Aspects* theory, by comparison, had three levels, and two sets of rules, and the emerging Extended Standard Theory was positing or assuming or hinting at new devices in every other argument.

Alas, Postal is forced to concede by 1969, there is a rub. His best of all possible theories, regrettably, can't accommodate the facts that have been stirred up in the clash of theories. Any responsible grammatical model needs to include Lakoff's new rule-type, global derivational constraints. He is quick to point out that the result, *Homogeneous II*, is still much simpler than *Aspects*; not to mention that that vague post-*Aspects* Interpretivist theory Chomsky was peddling at the same conference.

Newmeyer observes, correctly, that despite what should have been an extremely winning case to formal linguists, "probably no metatheoretic statement by a Generative Semanticist did more to undermine confidence in that model than Postal's paper, 'The Best Theory'" (Newmeyer 1980a:169; 1986a:135). The reason goes far beyond the arrogance many found in Postal's title, and far beyond the culprit that Newmeyer himself cites, the character (or, in Newmeyer's view, lack of character) of the new rule-type that moved Generative Semantics from *Homogeneous I* to *Homogeneous II*. The reason is straightforwardly rhetorical: Chomsky managed a remarkable change of agenda in the debate.

Chomsky raised the alarm—"the gravest defect of the theory of transformational grammar is its enormous latitude and descriptive power" (1972b [1969]:125)—and as grave as that defect is, Chomsky said, Generative Semantics makes it worse by adding global rules to the arsenal. A grammar organized solely around transformations (that is, Homogeneous I) "is a rather uninteresting theory," because of its immense descriptive power; "It can be made still more uninteresting by permitting still further latitude, for example, by allowing rules other than transformations that can be used to constrain derivations [that is, by adding global rules and becoming Homogeneous II]" (1972b [1969]:126). To this point, the argument adds no weight to Chomsky's position; indeed, it undermines him. His argument is that transformations are bad, and that adding more rule-types makes any grammar that incorporates them even worse, so *Aspects* looks at least as bad as Generative Semantics, with its Semantic Interpretation Rules, and post-*Aspects* Interpretivism looks worst of all, with distinct types of Semantic Interpretation Rules making the rounds almost daily.

But Chomsky isn't through. "Notice that it is often a step forward," he says, "when linguistic theory becomes more complex" (1972b [1969]:126).

The grounds of theory comparison changed almost overnight: simplicity was out, restrictiveness was in, and progress was to be found through increases of complexity. There is an aspect of rhetoric known as *kairos*, the opportune moment. Some arguments get a better hearing at one moment than another, and the moment was ripe for restrictiveness.

Although Chomsky regularly dismisses their influence, the most important kairotic factor in the success of his restrictiveness case was a series of papers by Stanley Peters and Robert Ritchie (1969, 1971, 1973a, 1973b), demonstrating mathematically Transformational Grammar's virtually complete lack of discrimination; it is in a passage on the Peters-Ritchie results that Bach made his lightbulbs-and-raccoons comment about Transformational Grammar.¹⁵ Specifically, the Peters-Ritchie results show that the class of grammars described by *Aspects* is so all-encompassing that it can't distinguish between any indiscriminate list of strings of symbols (say, all the decimal places of π , divided into arbitrary sequences and enumerated by value of the products of their digits) and a list of actual strings that people use to communicate (say, English). These results formalize notions that had been present in transformational theory for some time, but a mathematical proof brought them home very powerfully.¹⁶ The concern with restricting Transformational Grammar that led Chomsky and Ross and Postal and Perlmutter to work on constraints had been one of many themes around the *Aspects* theory, but Chomsky's urgings at the Goals conference, coinciding with the publication of the Peters-Ritchie results, put flashing lights on its roof and opened up the siren. Something of a crisis ensued in the linguistic

theory of the 1970s, and—with the target Chomsky painted on its back—Generative Semantics was the emblem of profligacy.

The most curious aspect of the restrictiveness counterargument, however, is that Generative Semantics showed very few signs of the descriptive wantonness in 1969 for which Chomsky indicted it. Indeed, between *Aspects* and the Texas Goals conference, Generative Semanticists had done a great deal more to constrain Transformational Grammar than anyone in the Interpretivist camp. Ross and Postal had both done extremely important work on constraints. McCawley had re-analyzed Phrase Structure Rules in a way that made them serve as filters, and argued to extend Ross's movement constraints to the lexicon. Ross and Lakoff had done crucial work on the cycle. Ross and Ronald Langacker had made parallel proposals for restricting the application of pronominal transformations. And the Bogey Man of Chomsky's attack, Lakoff's proposal of global rules, was an attempt at further restriction; the expanded name is *global derivational CONSTRAINT*. "When Lakoff proposed that you need global rules," McCawley pointed out a few years later, "that did not carry with it a proposal that every imaginable global rule is a possible rule" (in Parret 1974 [1972]:268).

Lakoff argued that virtually all of the serious work in Transformational Grammar had been to constrain derivational relations. Transformations, he said, constrain two contiguous trees in a derivation. Their application is local. They apply only to two trees standing side by side. Other principles and rules—in particular the Ross-Perlmutter-Postal line of research, but also such transformational traditions as rule ordering, cyclicity, and Recoverability of Deletion—constrain noncontiguous trees in a derivation. Their application is global. They apply to pairs of trees ("or perhaps sometimes triples"—Lakoff 1970b:638) in a derivational arboretum, irrespective of the distance between them.

Global rules, in short, are just derivational constraints with a wider range than transformations. What Lakoff offered is nominal, but naming things is an important precondition for understanding: Lakoff offers a label for the seemingly disparate research into restrictions on transformations. It is worth backing up a moment here to note that *Syntactic Structures* offered a very similarly nominal service. Its transformations moved things around, deleted things, inserted things, joined things together. The label *transformation*, that is, tags a cluster of operations, not a singular process; or, rather, it is the label that yokes them into a conceptual singularity. The label *global rules* yokes a cluster of conditions on transformations.

Lakoff's basic argument is that linguists need to recognize the necessity for all the extra paraphernalia beyond transformations and begin exploring them as a class of rules, rather than as a mixed bag of ad hoc devices. Lakoff calls for the development of a "theory of global grammar" (1970b:638), but then—and this is

probably the other main kairotic factor in the success of Chomsky's restrictiveness argument—Lakoff never took up the mission himself.

Back at MIT, the Interpretivists had done very little work on derivational constraints. Chomsky (1964b [1962]) had inaugurated this area of investigation, with his A-over-A principle, and Joseph Emonds's important (Chomsky-supervised) 1970 dissertation on a new type of filtering was just about to hit the market. But the bulk of the work on constraining the transformational component—in 1969, when Chomsky called the lack of restrictiveness “the gravest defect” in transformational theory, and 1970, when Lakoff urged a theory of global grammar to correct that defect—had been done by Generative Semanticists. Moreover, Postal pointed out, as the dispute unfolded, the Interpretivists were at least as guilty as their Generative Semantics whipping boys of the “illegitimate appeal to overly powerful devices” (1972c:215)—vague or completely unspecified rules of performance, partially sketched Semantic Interpretation Rules, and syntactic features.

That situation changed dramatically in the early 1970s. Postal and Perlmutter moved on, proposing new and interesting constraints, but in another framework altogether, Relational Grammar. Ross and Lakoff lost interest in constraints. The ground was left to Chomsky's camp, which took up the job of grammatical restriction with a vengeance.

And—in a fit of suicidal strangeness, the final and ultimately fatal kairotic element in Chomsky's success—many Generative Semanticists wore the target on their backs with pride, becoming champions of descriptive profusion. In a climate where the most urgent problem in Transformational Grammar was perceived to be restricting descriptive power, and global rules were painted as the most serious offender, Lakoff announced that “the real problem with global rules is not that they are too powerful, but that they are too *weak*” (Parret 1974 [1972]:176; Lakoff's emphasis), and accordingly proposed more powerful devices—in particular transderivational constraints, which relate not two non-contiguous trees in a derivation, but two trees in *different* derivations (and, with the introduction of these devices, Lakoff became explicit that it no longer made sense to maintain the Katz-Postal hypothesis—1975:283–84).

Sadock even proposed meta-transderivational constraints (which involve “two derivations and an aspect of the real world”—1974b:604). The methodological liabilities of these descriptively powerful devices were compounded by terminological confusions. McCawley, for instance, introduced the term *panderivational constraint* (1982b [1973]:54), and adopted *extraderivational constraint* as a generic for both Lakoff's *transderivational constraint* and Sadock's *meta-transderivational constraint*—attempts at clarification which did little more than contribute to the Generative Semanticists' growing reputation for theoretical extravagance. Such additional descriptive devices as meaning

postulates, conversational postulates, and syntactic amalgams all entered the Generative Semantics pageant, with very little clarity as to how or if they related to transderivational constraints, or even to derivations.

All the while, both Lakoffs, Ross, and a good many second-generation Generative Semanticists were spending much of their time and effort mucking around in data that appeared to call for more powerful devices yet; George Lakoff even entertained “such madness as ordering of transderivational constraints, cyclical transderivational constraints, exceptions to transderivational constraints, and perhaps the elimination of transformations altogether” (1973a [1970]:452).

In the other camp, the Interpretive Semanticists effectively adopted Lakoff’s proposal for a theory of global rules, while vigorously attacking Lakoff and turning *global rules* into a compound curse word. Emonds (1970) developed some of McCawley’s ideas into an elegant way for the Phrase Structure rules to exercise direct control over every tree in a derivation, and Chomsky (1973a [1971]) developed Ross’s constraints in such a remarkable way that they became the focus of Interpretivist work for the rest of the decade.

The most obvious Interpretivist excursion into globality was Chomsky’s (1973a [1971]) introduction of the trace convention, which gives transformations the power to mark sentences at one stage so that other transformations, arbitrarily later in the derivation, can tell they have applied.¹⁷ In *Aspects*, Chomsky had proposed that deletions “leave a residue” (Chomsky 1965 [1964]:146), often an abstract morpheme introduced by Phrase Structure rules. The trace convention introduces another type of residue.

This convention has a movement rule leave behind a syntactically and semantically relevant, but invisible “trace,” as in the examples of 13: 13a represents the Deep Structure, 13b the Surface Structure, with *t* marking the place where the noun phrase, *Mikka*, was before it moved transformationally to the front of the sentence.

- 13 a it seems to each of the grandmas Mikka to like the other
 b Mikka seems to each of the grandmas *t* to like the other.

Among other things, this convention means that Surface Structure, which most interested onlookers and many linguists, took to represent directly “what we say” was becoming increasingly abstract in the Interpretive camp. No one says that little *t* when they speak.

But traces are extremely interesting little doodads. They are global, of course, since they provide a way for different stages in a derivation to communicate with one another, and their chief use is to maintain aspects of Deep Structure (like the original location of *Mikka* as the subject of *to like*) so that later transformations

or post-Deep-Structure Semantic Interpretation Rules can access them—noncontiguous trees talk to each other—but they also have some fascinating implications that correlate with empirical facts. Nobody says that little *t*, but it does appear to have consequences for speech. The most celebrated of these implications is the account they offer of the lack of ambiguity in 14b, in contrast to the univocal 14a.

- 14 a Bernie is the guy I want to succeed.
 b Bernie is the guy I wanna succeed.

Sentence 14a could mean that I want Bernie to succeed (be successful), or that I want to succeed Bernie (follow him in some way, maybe as a progressive politician); 14b can only mean that I want to follow Bernie in some way. The *Aspects* model explains the two different meanings of 14a by saying they spring from two different Deep Structures (14c when I want Bernie to be successful, 14d when I want to follow Bernie).

- 14 c Bernie is the guy [I want the guy to succeed]
 d Bernie is the guy [I want to succeed the guy]

So, the *Aspects* model handles the ambiguity in its familiar, efficient, different-Deep-Structures way. But it says nothing about the fact that 14b, similar in almost every respect, is unambiguous, necessarily deriving from only one Deep Structure, 14d. Trace theory to the rescue: with trace-enriched Surface Structures the two meanings are represented, respectively, 14e and 14f.

- 14 e Bernie is the guy [I want *t* to succeed]
 f Bernie is the guy [I want to succeed *t*]

With a little extension that traces block contraction, then, the explanation is clear: either 14e or 14f can be a Surface Structure for 14a (hence, its ambiguity), but only 14f can be the Surface Structure for 14b (hence, its univocality).¹⁸ Nobody *says* that little *t*, but somehow it has phonological effects.

And there's a really big payoff for Interpretive Semantics as well, not a coincidence. Remember all those arrows sticking out of the side of Jackendoff's "wacko" interpretive model, one for each cycle (Figure 5.2, page 165)? Traces eliminate them. Jackendoff's semantics needed all those access points to the derivation in order to keep track of when and where movement transformations shuttled various constituents around. With movement rules always leaving bread crumbs behind, that information now makes its way into the Surface Structure.

Time for a parable: In a not uncommon narrative development in scientific debates, we get two sides of a debate—call them *Theory X* and *Theory Y*. Now, since it wants to sink the other theory, Theory X finds data that Theory Y can't handle. Actually Theory X can't really handle the data yet either, but it argues for a new innovation to take care of them. This theoretical innovation, Theory X proponents insist, shores up its overall program. "Hmm," say Theory Y proponents, and (when they don't just ignore the data, also a common response) they proceed to develop their own theoretical innovation, which, they argue, makes Theory Y the stronger of the two. Scientists then choose (for all sorts of reasons) which of the innovations to adopt and a consensus aligns itself with the theory that houses the preferred innovation. Rinse and repeat.

Theory X in our trace convention narrative is Generative Semantics. Data like 14a and 14b first shows up in an argument coming from . . . wait for it . . . arch-villain George Lakoff, in connection with . . . drum roll, please . . . the need for "a constraint operating at two separate points in the grammar" (1970b:632); that is, a global rule.¹⁹ The data and the rule, in turn, Lakoff argues support a theory of grammar in which semantic representations and syntactic representations are homogeneous, "exactly what is claimed by the theory of generative semantics" (1970b:638). Interpretive Semantics, the Theory Y of our parable, rejected the homogeneity-of-representations part of the argument, proclaimed disgust at the word *global*, but incorporated the data to support its arguments for the trace convention. After some delay, while other issues worked themselves out, linguistic consensus went with traces, and with the Extended Standard Theory framework that came along for the ride (sometimes, under recognition of how far it had traveled, under a new name, the *Conditions* framework; for a little while, in some quarters, it was even called *Trace Theory*).

The moral of the parable, exemplified by the emergence of the trace convention, is that the crucible of debate forges new scientific positions and makes knowledge.

If the broader Interpretive/Generative Semantics dispute teaches us anything about the development of science and the making of knowledge, it is that when two frameworks collide and one of them comes out of that collision as the governing paradigm, however it may represent itself, the victor is not the same as before the dispute began. It abandons claims and instruments, redefines some of them, generates new ones, and appropriates some from the opposing framework, often with little or no acknowledgment. The emergence of traces—a global condition based on data raised by Generativist Semanticists that is insistently represented as the very antithesis of a global rule, in fact as an antidote to the poison of global rules—illustrates all of these tendencies with special clarity.

Trace theory grew rapidly into a cottage industry for Interpretivists, part of the dedicated effort to work on constraints. Meanwhile, the few Generative Semantic attempts to propose and explore specific global rules or conditions (such as Lakoff 1971b:238ff, 1974; Ross 1972a), were restless and abortive, betraying little conviction; indeed, Ross discards his derivational constraint in the last few pages of the paper in which he proposes it, waving instead at a transderivational solution. Most Generative Semantic invocations of globality were little more than gestures: “here are some phenomena, and it looks like we’re going to need a global rule to handle them”; no specific rules offered. (Postal was an honorable exception—1972b [1970].)

The situation with transderivational constraints was looser yet. Lakoff introduced them in a very informal paper, “Some Thoughts on Transderivational Constraints,” which doesn’t offer so much as a single example of this new rule-type (1973a [1970]), and further discussion of transderivational constraints was largely of only two, equally unproductive sorts: (1) horrified and uncategorical denunciation, from the Interpretivists; and (2) gleeful and unformalized invocation, by the Generative Semanticists.

Chomsky’s camp associated transderivational constraints with the complete abandonment of formal grammar,²⁰ which seems about right. Certainly, the introduction of transderivational constraints coincides with a decline in formal interests among most Generative Semanticists, especially in the persons of the Lakoffs and Ross. The Generative Semanticists simply appealed to transderivational constraints when other theoretical mechanisms broke down (an extremely frequent occurrence, given the data they were exploring), with little justification, and without specifying the constraint formally, or even examining its application very carefully. The only explicitly proposed transderivational rule came very late in the schism, and its author quickly repudiated it (Gazdar 1977; 1979).

Notice, however, that we have moved a long way from Chomsky’s initial any-imaginable-rule charges of descriptive profligacy. For one thing—and, from their perspective, it is by far the most important thing—the Generative Semanticists had expanded their data concerns very extensively. They were no longer interested in the set-of-possible-sentences approach in which Chomskyan grammar is rooted—exploring, in particular, a great many contextual phenomena well outside the bounds of *Aspects*. But they had also reconceived or rejected many of the defining notions of the Chomskyan framework, like competence, performance, and grammaticality. Several had abandoned formal theory construction altogether, while others were barely hanging on by their fingernails. Interpretive and Generative Semantics were no longer comparable on metrics like restrictiveness; indeed, Generative Semantics₁₉₇₃ was no longer comparable on such metrics to Generative Semantics₁₉₇₀, which was not altogether comparable to Generative Semantics₁₉₆₇.

Grammaticality

While there was general agreement about the notion of “grammaticality” in 1967, generative semanticists have come to dispute the notion that one can speak coherently of a string of words (or even a surface phrase-marker) as being grammatical or ungrammatical or having a degree of grammaticality. . . . Thus, strictly speaking, generative semanticists are not engaged in “generative grammar.” Chomsky, on the other hand, has greatly expanded the range of sentences which he would call “grammatical” but semantically unacceptable and thus, while maintaining a notion of grammaticality of sentences, applies it very differently than he did in [Aspects of the Theory of Syntax].

—James D. McCawley (1982b [1973]:11)

While Chomsky and his kith were piously intoning against the descriptive recklessness of Generative Semantics, the return charge was of an insular and unwholesome descriptive asceticism. Much of this counterattack was unfocused, but some Generative Semanticists—most notably, McCawley—brought it directly to bear on the concept of grammaticality. Remember what he told the *New Yorker*: “Chomsky assumes that there are sentences which belong to the language and other sequences of words which don’t—and the grammarian’s task is to write rules [that] determine which belong and which don’t. Postal and Lakoff and I say this isn’t a coherent notion” (Shenker 1972).

Although he hasn’t been entirely consistent in application, and there are some surprises on this front later in our story, Chomsky always said that *grammaticality* is a technical term, relative to some specified grammar.²¹ A sentence is grammatical if and only if there is a grammar, a body of rules, which generates it. A sentence is grammatical or not relative to, for instance, the *Aspects* grammar or the *Syntactic Structures* grammar. Acceptability, on the other hand, is relative to a specified speaker in a specified context. A sentence is acceptable if a speaker says it is okay.

Since grammars are ideally models of linguistic knowledge, *grammatical* pertains to the theory of competence, *acceptable* to the theory of performance.

There are obvious and important overlaps between *grammatical* and *acceptable*, of course, but they are theoretically very distinct notions; grammatical sentences, for instance, can be very, very long, so long as to be unacceptable to some speakers, or they can lead speakers down a garden path so winding that they refuse to accept them, and acceptable sentences can be, as in poetry, deliberately ungrammatical. The position that grammaticality is relative to an abstract grammar (“model,” “theory”), rather than to a speaker’s judgment, has led to some confused ridicule of Chomsky, mostly from humanists and Bloomfieldian holdovers, about such theoretical phenomena as the shifting status of “Colorless

green ideas sleep furiously”—sometimes grammatical in his framework, sometimes not. But this sort of drift is not uncommon in science: as the grammar changed, so did its grammaticality implications. The atom was once the smallest piece of matter in physics, now it's not; light is sometimes corpuscular, sometimes undulant, sometimes both; space sometimes full of ether, sometimes not, sometimes peaceful, sometimes turbulent.

But as Carden archly points out, the combination of the crucial, theory-deciding notion of grammaticality with the slipperiness of data that comes from introspection is not a recipe for easy and natural theory choice. “When informants A and B speak superficially similar dialects of American English,” he says—and, hey!, he can use *Informant A* and *Informant B* all he likes, but let's substitute *Jackendoff* and *Lakoff*—“we must be suspicious of a theory that forces us to conclude that [Jackendoff] speaks a language with, say, Deep Structure and interpretive semantic rules, while [Lakoff] speaks a language with a generative semantics controlled by derivational constraints” (Carden 1976:5).

The instability of one notion can be a domino, and the Generative Semanticists came increasingly to view the competence-performance distinction, on which the grammatical-acceptable distinction rests, as artificial—worse, incoherent—and grammaticality as the symptom of a sterile, head-in-the-sand framework. Ross and the Lakoffs attacked the distinction somewhat obliquely, by cataloging phenomena clearly required by language (or, perhaps more accurately, clearly required by speakers), but wholly indifferent to grammaticality—phenomena like *please* and *thank you* and the relative appropriateness of 15a and 15b for a lecture presented to an anthropological society.

- 15 a Defecation is generally expedited by the use of large banana leaves, or old copies of the *New York Daily News*.
 b * Making number 2 is generally expedited by the use of large banana leaves, or old copies of the *New York Daily News*.

—(R. Lakoff 1973a:301)

Lakoff's use of the asterisk here is telling, since she uses it to signal *inappropriateness* in a given context, not *ungrammaticality*. Her opposition to Chomskyan grammaticality had much to do with her increasing interest in sociolinguistics and ordinary language philosophy, for which context is crucial. Ordinary language philosophy, in particular, grew more important for Generative Semantics in the 1970s. Beginning with Ross's and Robin Lakoff's fairly direct importation of Austin's insights about performatives, which Sadock and Davison took up at Chicago under McCawley, it gained momentum under the influence that philosopher H. P. Grice's conversational implicature work had on both Lakoffs, on their students, and on McCawley.²²

It is from this period that linguists began to develop a sense of something they called *pragmatics*, as distinct from what they called *semantics*. For Generative Semanticists in particular, and linguists in general, the latter was virtually a synonym for “meaning” until the early-to-mid-1970s. Now, semantics began hardening into a term for the truth conditions of sentences (like our ‘Yallis-Island examples’) and a hatful of related notions (principally, paraphrase and entailment), largely informed by connections to formal work in philosophy.

Pragmatics, . . . well, pragmatics never hardened into anything particularly, but it pretty much stands for ‘everything else about meaning’ in linguistics now—in particular, everything related to the influence of context. Gerald Gazdar put this into a blunt equation (1979a:2):

pragmatics = meaning - truth conditions

Non-truth-conditional meaning began to get serious attention for the first time in the history of linguistics when Generative Semanticists began snooping around in the data and implications of ordinary language philosophy, a great deal of which played havoc with Chomsky’s notion of grammaticality. Robin Lakoff was at the forefront of this work, inventing the sociolinguistics of gender in the bargain, with her foundational *Language and Woman’s Place* (1975).

The main, and most vocal, opponent of Chomskyan grammaticality wasn’t Ross or either of the Lakoffs, though. It was McCawley, and his disaffection followed a somewhat different route. In 1970, James Heringer did an unusual study of quantifier-negative idiolects—unusual for Transformational Grammar in that it gathered data empirically rather than introspectively. The study was very modest, but among its results were that a number of his informants found 16a, a sentence most Transformationalists would brand ungrammatical, to be acceptable given the context supplied in 16b:

16. a All the applicants didn’t fail the test we so carefully rigged, didn’t they?
- b Two industrial psychologists, Mitt and Matt, have a grudge against their supervisor and are attempting to retaliate by allowing incompetent people to get hired by their company. To do this most quickly, they have designed a screening test which doesn’t screen out anyone and have tried it out. Matt has just gotten the scores back and Mitt, anxious to determine if their plan is working, asks this question.
(Heringer 1970:295)

Although this study is clearly and intentionally about *acceptability*, McCawley took it as a confirmation of his “long-held suspicion . . . that (contrary to claims

by Chomsky, Katz, and others) native speakers of a language are not capable of giving reliable judgments as to whether a given string of morphemes or words is possible in that language" (1979 [1972]:218); in brief, that Chomskyan grammaticality has no psychological basis. Indeed, McCawley came to regard the pursuit of grammaticality as utterly foolish: "[it is something which] I would not label as linguistics" (1979 [1972]:217–18); worse, it is unethical, belonging to his collection of "ideas not to live by" which "I hold to be pernicious in that they have retarded our development of an understanding of how language functions" (1979 [1976]:234); worse yet, it is a personal embarrassment, for which "I hang my head in shame at seeing how many times I have spoken of sentences as being 'grammatical' or 'ungrammatical'" (1982b:8).

As one might expect, the use of *grammaticality* and related terms in the Generative/Interpretive dispute is frequently confused, with McCawley an archetypal case (hence, the head-hanging). At one point *grammaticality* for him does not apply to strings of words, but to complexes of semantic structures, surface structures, all intermediate structures, contextual information, and the speaker's intentions, adding a telltale Generative Semantic, *etc.* (Parret 1974 [1972]:250). But McCawley, who read deeply in philosophy of science, realized the havoc that the slipperiness of key terms could play in reasoned debate. He even retroactively qualifies his use of *grammaticality* terms in a 1973 review of Chomsky's *Studies on Semantics*, denuding them of technical significance and asking the reader to "take 'ungrammatical' as simply an informal English equivalent for . . . the kind of anomaly that I happen to be talking about at the time" (1982b:8). Eventually he developed a five-point syntactic-anomaly scale (marked by what he called *stigmata* ranging, left to right, from mild to extreme deviance:?,??,?* , *, **), sometimes throwing in a "%" for dialectal variation (1988:5–6); he was even known to use "✱" for English sentences with "a Yiddish flavor" (1976 [1964]:9n6).

These and other quasi-conventions (*quasi-* because they varied linguist to linguist) show up in the literature, such as the exclamation mark, singly or in pairs, as the "double shriek" (!!), for screamingly bad sentences,²³ but the collective meaning of *stigmata* is clear: many, many linguists do not see grammaticality as a binary, off-or-on notion, and many confusions arose in the dispute owing to a lack of clarity over in-the-grammar/out-of-the-grammar claims.

Chomsky's response to this line of argument had been on record for a long time. Some Bloomfieldians objected to his concept of grammaticality when he first proposed it (see, especially, Hill 1961), as did his old mentalist mentor, Roman Jakobson; and Chomsky had some words for them:

Linguists, when presented with examples of semi-grammatical, deviant utterances, often respond by contriving possible interpretations in

constructed contexts, concluding that the examples do not illustrate departure from grammatical regularities. This line of argument completely misses the point. It blurs an important distinction between a class of utterances that need no analogic or imposed interpretation and others that can receive an interpretation by virtue of their relations to properly selected members of this class. Thus, e.g., when Jakobson observes that “golf plays John” can be a perfectly perspicuous utterance [see Jakobson 1959:144], he is quite correct. But when he concludes that it is therefore as fully in accord with the grammatical rules of English as “John plays golf,” he is insisting on much too narrow an interpretation of the notion “grammatical rule”—an interpretation that makes it possible to mark the fundamental distinction between the two phrases. (1964a [1961]:385)

Chomsky is up to familiar tricks here—in particular, calling the way broader Jakobson “much too narrow”—but his principal point is inescapably clear: no matter what one can do with “All the applicants didn’t fail the test we so carefully rigged, didn’t they?” and “Spiro conjectures Ex-Lax,” one still needs to distinguish them somehow from more canonical sequences.

Finally, however, the argument on this front comes down, like so many scientific disputes concerning goals and methods, to a matter of faith. Chomsky acknowledges that the limits one puts on the study of grammar by roping off certain sections from others are necessarily arbitrary (1964a [1961]:385n5), but he is willing to live with the arbitrariness because it buys him a more manageable data set. The position is familiar in philosophy of science: “We are always surrounded by far more ‘phenomena’ than we can use and which we decide—and must decide—to discard at any particular stage of science” (Holton 1988:39). Bloomfield simply and unapologetically consigned the troublesome phenomena of meaning to “some other science,” like sociology or psychology, or resorted “to makeshift devices” (1933:140). Chomsky is in good company.

But how much data can one safely rope off before ending up with an unproductively shallow framework? A frequently invoked criticism of the Bloomfieldians was that they discarded semantics, to concentrate on phonemes and morphemes, and missed a great deal of what is going on in language. Generative Semanticists saw Chomsky committing the same sort of error by ignoring or outlawing pragmatics. They saw his velvet ropes as excluding crucial areas of research, perniciously directing linguistics down a blind alley.

The defining “framework containing many underlying agreements” that Postal (1974:v) cites in his *On Raising* dedication to Chomsky was crumbling by the time that book came out.

Rug Bulging

Chomsky's shifting definitions of performance provide him with a rug big enough to cover the Himalayas.

—George Lakoff (in Parret 1974 [1972]:155)

The Generative Semanticists also saw Chomsky's strategic roping-off of data as malign in another way. It wasn't just a methodological error, they felt, it was cheating: a deliberate and disingenuous attempt to cloud the discussion of everything about descriptive power, a beclouding mission that spread to virtually every every corner of the Interpretivist program. Whenever the Interpretivists attacked Generative Semantics as too powerful, the entire Generative Semantic kit bag of doohickeys and kludges was brought into the tally, called *global rules* and treated as a byword for 'any imaginable rule.' On their side of the ledger, however, the Interpretivists listed only transformations and constraints (which, of course, were not to be called *global*, and were held to reduce power, not increase it). Conspicuously absent were the increasingly powerful Semantic Interpretation Rules, which Interpretivists seemed to regard as free for the taking. And since the Generative Semanticists felt responsible for a much wider class of phenomena than the Interpretivists, there was another loophole in the accounting procedure. Many of the facts that Generative Semantics addressed were simply ignored, postponed, left out of the comparison.

The trifecta Interpretive Semantics strategy on restrictiveness looked like this: (1) its own architecture was more complex, which Chomsky claimed as an advantage; (2) it could handle many phenomena essentially for free, by leaving them to Semantic Interpretation Rules; and (3) it could relegate its most troublesome phenomena to performance, at best waving in the direction of a solution, such as the analogic rules of "Remarks." As we have seen, the first of these maneuvers, complexity, caught the Generative Semanticists rather slack-jawed. They couldn't believe Chomsky would pull it, or that anyone would fall for it, and offered no counterarguments. Simplicity was almost a religious mantra for Chomsky up through *Aspects* (and it returned again in the 1990s), but for a decade or so, complexity became a virtue. On the other two moves, shuffling data into the "free" semantic component or into the netherworld of performance, Generative Semanticists came to fight, repeatedly drawing attention to what they regarded as blatantly specious argumentation.

Even before Chomsky had launched the restrictiveness assault, Lakoff was complaining about his use of wild cards—beginning with "Remarks." Chomsky's trick with analogy was particularly notorious. If the grammaticality judgments go

the right way, Chomsky said in “Remarks,” well and good. If they go the other way, then we can attribute them to a rule of performance, and that’s not my concern. Heads, Chomsky wins; tails, Generative Semantics loses. All of the Interpretivists continued this tack throughout the debate, shuffling problem data out of their competence-centered purview and exhibiting the attitude “that theoretical innovations need no particular justification if they can be relegated to ‘performance’” (McCawley 1982b [1973]:29). It never stopped driving the Generative Semanticists to distraction. But performance was only one of the dodges.

Semantic Interpretation Rules were also brought in, not just to handle semantic phenomena of the sort Generative Semanticists were handling with transformations and global rules, but for a surprising amount of (formerly) syntactic phenomena. Postal proposed his Crossover principle to explain straightforward grammaticality facts, and grammaticality was a wholly syntactic beast for Chomskyan linguists. But Jackendoff (1972:145–59) said that the data ought to be handled by Semantic Interpretation Rules, an account that requires a sequence of words like “Himself was shaved by Rob” to be grammatical (“syntactically well formed”) but semantically anomalous. One of the more notorious examples of this now-you-see-it, now-you-don’t application of Semantic Interpretation Rules occurred at the 1969 Texas conference, where Lakoff presented an argument he got from Perlmutter concerning *respectively* sentences in Spanish. In some dialects, goes the argument, 17b is a legitimate sentence, indicating that it derives from something like 17a (Spanish requires adjectives to agree in gender with the nouns they modify):

- 17 a Mi madre es alta y mi padre es bajo.
 b Mis padres son respectivamente alta y bajo.
 [My parents are respectively tall_{feminine} and short_{masculine}]

The data clearly supports lexical (de)composition (*padres* from *madre-y-padre*), and clearly suggests that the gender-agreement transformation is conditioned semantically (since the adjectives do not agree with *padres*, which is masculine, but with its implied constituents)—seeming to offer solid evidence for Generative Semantics. Chomsky is reputed to have declared gender agreement to be a wholly semantic phenomenon, something handled by Semantic Interpretation Rules, rather than transformational rules, a position which implies that 18 is perfectly grammatical, but semantically anomalous:

- 18 * Mis padres son alta.
 [My parents are tall_{feminine}]

Since gender agreement had traditionally been treated the same as other “syntactic” properties, like person, number, and case, a corollary claim in English would be that 19a and 19b are both grammatical, but 19b is weird for semantic reasons:

- 19 a My parents bought themselves a motor home called *Moby*.
 b * My parents bought herself a motor home called *Moby*.

We obviously can't reconstruct the conference argument with any reliability, but Chomsky did comment on the exchange in “Some Empirical Issues,” observing that “if [the facts in 17a and 17b] are accurate, it would appear that gender agreement may be a matter of surface interpretation, perhaps similar to determination of coreference. This would seem not unnatural” (1972b [1969]:155n26). As the prophylactic *would*, the cautious copula, and the double negative litotes (*not unnatural*) all indicate, such a conclusion is in fact quite unnatural in the linguistic tradition, but if it allows him to keep syntax in a petri dish, away from semantic contamination, Chomsky is willing to embrace it.²⁴

The Generative Semanticists were gob-smacked. No matter what arguments they came up with, Chomsky just calmly moved the goalposts back on them. McCawley uses this incident to demonstrate the violence Chomsky is prepared to commit on the “commonly held conceptions of ‘grammaticality’” and the power he is prepared to give over to Semantic Interpretation Rules (1982b [1973]:89–90) in order to keep semantics away from syntax; Lakoff uses it as an illustration of how counterevidence can push the Interpretivists “to ever crazier positions” (Parret 1974 (1972):169). One moment a given sentence is grammatical, the next it is ungrammatical but acceptable because of rules of performance; one moment it is ungrammatical, the next it is grammatical but now semantically anomalous. As Talmy Givón observed, however, the Interpretivists were not the only linguists redefining their data to suit their needs. Generative Semantics was a theory, he snorted, “where adjectives were proclaimed to be verbs one day (Ross & Lakoff 1967) and nouns the next (Ross 1969[a])” (1979:14).

The Interpretivists regarded their goalpost relocation maneuvers as the price of doing business, responsibly arranging their data into the piles that would make it most manageable. To them, the Generative Semanticists, with their ill-specified global rules and completely ungovernable data, were the ones who looked crazy. Worse: they were slipping back into the pre-scientific dark ages from which Chomsky had delivered the field.

Bloomfieldian Backslide

Is generative linguistics infiltrated by a counterrevolutionary underground?

—Ray Dougherty (1974:277)

Chomsky's routing of the Bloomfieldians had been so complete that by the late 1960s any of the synonyms for that school (*taxonomic*, *descriptive*—even *structuralist*, which described Chomsky as well as anyone at the time, better than some) were code words for *misguided*, *unscientific*, and *blockheaded*. It was inevitable that these terms would be deployed against the new unscientific blockheads on the block, Generative Semanticists, and the final offensive against Generative Semantics was that it represented a backslide into the stamp-collecting era from which Chomsky had rescued linguistics; or, in Dougherty's quasi-Kuhnian terminology, a "Bloomfieldian counterrevolution" (1974).

Chomsky was not active in the final campaign, though he may well have been its sponsor; much of the argumentation that flows out of MIT begins with him, and he certainly endorsed the Generative-Semantics-as-Bloomfieldian-backslide case (see, for instance, Chomsky 1979 [1976]:154; also Brame (1976:26n1). The case is in fact very strong, though with even a modicum of objective tempering it is difficult to feel the same horror in a return to some Bloomfieldian tenets that Dougherty (1974, 1975, 1976a, 1976b, 1976c), Brame (1976), Katz and Bever (1976 [1974]), and Ronat (1972 [1970]) all declaim. Bloomfieldians cared about usage. They respected the particularities of different languages, registers, and purposes. They acknowledged context and culture. They were cautious about universalizing. What could be so bad? In a word, *empiricism*.

Rationalism and *empiricism* had accrued rhetorical magnetism for the Chomskyan community, the first pulling mentalism, Universal Grammar and genetic endowment along with it into any arguments, the second pulling in Bloomfieldian blockheadedness. While no one holds to either of these views at the *in extremis* level of these definitions, scholars who pledge allegiance to one of these terms frequently accuse their enemies of holding to the opposite definition (in the familiar straw-house fallacy of caricaturing opponents):

Empiricism: all knowledge is acquired through the senses.

Rationalism: all knowledge comes hard-wired.

The Bloomfieldians pledged allegiance to empiricism. Chomsky and Chomskyans pledge allegiance to rationalism.

Rationalism had fallen largely into obsolescence by the early twentieth century, and Chomsky's most renowned contribution to contemporary philosophy is its resurrection, largely around his language acquisition arguments. We

acquire an intricate linguistic system with little overt teaching on the basis of incomplete and glitchy exposure, this argument runs (the *poverty of stimulus argument*); therefore, much of it must be hard-wired, part of our biological endowment, a Universal Grammar (see especially 1965 [1964]:25–26, et passim; 1988:xxv–xxix, et passim). Chomsky takes this incomplete and glitchy exposure to be axiomatic, so he also labels this focus of his program *Plato's problem* because Plato famously held that we had more knowledge in our heads than the senses could possibly extract from the world. If it's the case we can't get enough from our environment, and it's the case that we have a very rich cognitive system of thought and communication, language, then we must have a universal, pre-wired grammar.

The job of the linguist becomes building an explanatory theory of this Universal Grammar. In his case for rationalism, Chomsky frequently used the Bloomfieldians as whipping boys, whom he depicted appropriately in general terms, but not without distortion in specific arguments, as empiricists. To make any progress in linguistics, Chomsky told the troops, "it is necessary to go far beyond the restricted framework of modern taxonomic linguistics and the narrowly-conceived empiricism from which it springs" (1964d [1963]:113), a framework relying on a loose "body of procedures for determining the grammar" that assumes "the form of language [is] unspecified" (1965 [1964]:54).²⁵

By the time the Linguistics Wars were in full swing, the evil of empiricism was so self-evident to the Interpretivists that few of them felt any burden to establish why the Generative Semantics return to empiricism is so disastrous. Dougherty (1974, 1975) and Brame (1976) are content with name-calling; Katz and Bever (1976 [1974]) show carefully how Generative Semantics opens the door for the return of Bloomfieldian epistemology, and then end their paper with an ominous "Caveat lector." But none of them take much time to say what was wrong with empiricism.

The backslide arguments have two primary aspects, one methodological, one philosophical. The methodological part of the case was silly and vitriolic, and belongs mostly to Dougherty, who asked such memorable questions as

Whatever became of those linguists who were thoroughly trained in taxonomic methodology? Where are those old students who brought joy to the taxonomic hearts of their old masters? Where are the old students who, while suffering through a sequence of field methods, relentlessly pursued the phoneme from teepee to teepee? (1974:278)

After attacking McCawley and Ross and Lakoff for many haranguing pages, and dropping such broad hints as "having cut their eyeteeth on Bloch, etc.," and diagnosing Postal's work as symptomatic of the dread disease "Generative Breakdown-Taxonomic Relapse," Dougherty leaves his readers to find the

answers on their own.²⁶ He returns to such issues recurrently. Here, for instance, is a lavish metaphysical conceit he fashioned a few years later:

What is Generative Semantics? Figuratively speaking, GS is a current manifestation of the Phoenix of Science. In periods of scientific revolution, the Phoenix of Science arises from the ashes of the expiring paradigm and can thrive only until the new paradigm becomes the basis for research. Once the new paradigm is established as a coherent set of assumptions, the lush growths of pseudoproblems and the abundance of interesting, but unimportant, data upon which the Phoenix feeds start to disappear. Lacking substance, the Phoenix consumes itself in a mystical fire only to reappear at the next scientific revolution from the ashes of the disintegrating paradigm. (Dougherty 1976c:22)

Huh?

The philosophical component of the empiricism critique, represented most fully by Katz and Bever's (1976 [1974]) "The Fall and Rise of Empiricism," is somewhat more cogent. They don't argue either that Generative Semantics entails an empiricist epistemology, or that Generative Semanticists have deliberately adopted empiricism, still less that they inherited it from their teepee-creeping professors:

We do not claim that the linguists who are bringing it back are necessarily empiricists or are aware that their work has this thrust, but only that their work clears the way for the return of empiricism. (Katz & Bever 1976 [1974]:30)

Generative Semanticists are simply unwitting hosts for the reemergence of a virulent strain of empiricism. Katz and Bever warn linguists about the direction in which Generative Semantics will lead the field, not about its current (mid-1970s) stance. Trotting out the rhetoric of Cold War American foreign policy to strike fear in the hearts of linguistic consumers, they suggest a domino theory of encroaching empiricism in linguistics, built around the notion of grammaticality: first it is relaxed; then it is modified; eventually it must be discarded. "Once it fell," they argue, "so would each other domino: conversational bizarreness; next cultural deviance, then, perceptual complexity, and so on" (1976 [1974]:59).

Katz and Bever were clearly right—not about the danger, necessarily, but certainly about the cascade. We've already seen the Generative Semantics rejection of grammaticality, the stigmata of conversational bizarreness, and the implications of cultural divergence. Generative Semantics unquestionably represents a "return" to empiricism. Look, for instance, at how McCawley criticizes a diagram Chomsky had made famous in defining the central focus of his program (given as

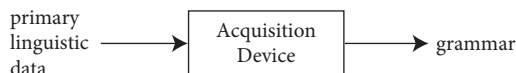


Figure 5.3 Chomsky's "hypothetical language-acquisition device." Adapted from Chomsky 1966b:20.

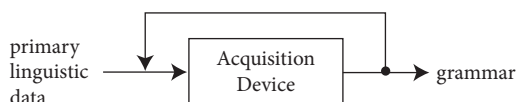


Figure 5.4 McCawley's modification of Chomsky's Acquisition Device. Adapted from McCawley 1976b [1968]:171.

Figure 5.3). "The flaw in this account," McCawley says, is that it makes the child look like "a linguist who elicits ten notebooks full of data from his informants in New Guinea and doesn't start writing his grammar until he is on the boat back to the United States" (1976b [1968]:171): Chomsky's diagram suggests a model with no room for hypothesis-testing, experimentation, game-playing, error correction—in a word, no room for feedback—all of which are defined not by exposure to data (the rationalist position) but interaction with data (the empiricist position). McCawley suggests the diagram be revised along the lines of Figure 5.4.

McCawley's commentary is a willful misreading of Chomsky. While it is certainly true that Chomsky cares far more for the character of the "device" determining language acquisition than the actual processes of language acquisition, he would not deny that "primary linguistic data" includes feedback, or that acquisition involves the formulation and modification of successive grammars before full competence is achieved (see, for instance Chomsky (1962b [1960]:530, 1965 [1964]:207).

But the two diagrams are very revealing all the same. Chomsky rarely cites empirical acquisition studies in his work, for instance, or pays more than lip service to feedback or modification, and versions of Figure 5.3 have shown up recurrently in his work with essentially the same form. Chomsky is interested far more in the properties of the cognitive mechanism he terms the *language acquisition device* (1965 [1964]:32 et passim), than in its specific employment—a definitively rationalist concern. McCawley is interested at least as much in how the mechanism is put to work, and in how it interacts with general-purpose learning strategies, and in the character of the acquisition data—empiricist concerns all. He doesn't reject Chomsky's rationalist arguments about language acquisition. He just has somewhat broader interests:

Chomsky's well-known arguments that language acquisition cannot be accomplished purely by general purpose learning faculties should not lead to the non

sequitur of concluding that general purpose learning mechanisms play no role in language acquisition: General purpose learning faculties clearly exist . . . and it is absurd to suppose that they shut off while language is being acquired. (1980b:183)

Returning to Katz and Bever for a moment, we find they barely consider McCawley. They focus almost exclusively on George Lakoff, which, among other things, illustrates how fully Generative Semantics had come to be associated with Lakoff by then, especially in Interpretive eyes. But they don't actually look at anything he said about the issue either.

What Lakoff said was fairly consistent by the early 1970s. There was a little I-know-you-are-but-what-am-I? taunting about empiricism, as in his remarks about (who else?) Chomsky:

I would say that, of contemporary linguists, Chomsky is among the more empiricist linguists . . . in the sense that he is still interested in accounting for distributions of formatives in surface structure without regard to meaning. (Parret 1974 [1972]:172; see also McCawley's comments, p. 251)

But Lakoff, turning himself in many ways into the anti-Chomsky by the early 1970s, was actually quite happy to admit his interest in data and language processes and general-purpose cognition—he calls himself, in fact, a “Good Guy Empiricist”—and equally happy to be associated with Chomsky's notorious earlier opponents. He celebrates the Bloomfieldians in very respectful and accurate terms, for their creation of “a broad, diverse, and interesting field, which happened not to be very good at dealing with the syntactical problems raised by Chomsky, and which showed little interest in formalized theories” (1973c). And, also accurately, he noted that “when transformational grammar eclipsed structural linguistics, it also eclipsed many of these concerns, much to the detriment of the field” (Parret 1974 [1972]:172).

More explicitly, Lakoff's critique of Chomsky's famous nativist argument goes well beyond McCawley's live-and-let-live, don't-forget-general-purpose-learning-mechanisms approach. Lakoff puts the implications of the argument in binary terms, and lobbies heavily against the rationalist side of the coin:

What Chomsky has shown is that *either* there is a specifically linguistic innate faculty *or* there is a general learning theory (not yet formulated) from which the acquisition of language universals follows. The former may well turn out to be true, but in my opinion the latter would be a much more interesting conclusion [though see the earlier Lakoff (1968b:1–4), when his views were the reverse]. If I were a psychologist, I would be much more interested in seeing if there were

connections between linguistic mechanisms and other cognitive mechanisms, than in simply making the assumption with the least possible interest, namely, that there are none. (G. Lakoff 1973c; his italics)

Meanwhile, Ross began to emphasize Zellig Harris's influence more and more—citing him, for instance, as marking the major conceptual break that led to modern linguistics, in a paper noteworthy for its odd sense of history. The paper is addressed to cognitive psychologists, outlining the sorts of contributions linguists can make to their field, and Harris, as thoroughgoing an anti-mentalist as they come, gets the lion's share of the credit for making these contributions possible; Chomsky, incredibly, is not even mentioned until well into the article, when he is conspicuously introduced as Harris's student (1974b:64, 68). Pursuing the same theme, G. Lakoff takes the implications of Chomsky's apprenticeship to even further absurdities, suggesting that his work is mindlessly derivative:

Chomsky was extraordinarily dependent on his teachers for his intellectual development. Most of his early linguistic analyses are taken directly from Harris, as is the idea of the transformation. The idea of evaluation metrics was taken over directly from Nelson Goodman. (Parret 1974 [1972]:172–73).²⁷

There was a decidedly schizoid flavor to the Generative Semantics invocations of Bloomfieldian linguistics. On the one hand, we see the standard move in reaching back historically to embrace the enemy of your enemy, as Chomsky had reached back to Humboldt and the Port-Royal philosophers. On the confused other hand, Chomsky was just a shallow and derivative Bloomfieldian anyway.

Not to be outdone, we get Dougherty's absurdity that: "Generative Semantics has been developed internal to Harris's transformational taxonomic system" (1975:154). Chomsky, the recursive base, the Katz-Postal Principle, *Aspects of the Theory of Syntax*, and so on, apparently had nothing to do with the development of Generative Semantics; Harris begot them directly.

Parting Company

When two opponents have been arguing, though the initial difference in their positions may have been slight, they tend under the "dialectical pressure" of their drama to become eventually at odds in everything. No matter what one of them happens to assert, the other

(responding to the genius of the contest) takes violent exception to it—and vice versa.

—Kenneth Burke (1941:139)

Shenker describes Postal's main occupation in the early 1970s as "proliferating exceptions to Professor Chomsky's theories" (1972), which is actually a pretty good phrase for what both sides were up to for much of the dispute. A great many exceptions to Professor Chomsky's work percolated out of Abstract Syntax—Postal's verb-adjective conflation, Ross's auxiliary analysis, McCawley's re-analysis of selectional restrictions as semantic rather than syntactic. When the threshold to Generative Semantics was crossed, the exceptions became far more specific, zeroing in on Deep Structure—McCawley's *respectively* argument, Postal's *remind* argument, the Predicate-raising, CAUSE-TO-DIE arguments. On Professor Chomsky's part, the "Remarks" proposals gnawed away at the Abstract-Syntax foundations of Generative Semantics, but the exceptions it spins out are somewhat scattered, going after abstract verbs here, category-reduction there, "the Transformationalist hypothesis" somewhere else. For the next two years, however, the whole MIT program, Chomsky at the helm, seemed to do little more than proliferate a class of very specific exceptions, directed at the Katz-Postal hypothesis. Meanwhile, the Generative Semanticists switched from their assault on Deep Structure and began proliferating grammaticality exceptions to Professor Chomsky's work hither and yon, most of them pragmatic.

At this point, a rather clear difference surfaced. It may have been part of the intellectual makeup of the principals. It may have arisen through the genius of a contest in which the other side seemed to be playing a constant shell-game with the facts. More likely, it was both. But the Generative Semanticists *loved* data. And the more problems it caused for various bits of theoretical machinery, the more they seemed to love it. They kept their exception-proliferating noses to the grindstone throughout the 1970s.

The Interpretivists *loved* theory. And the more problematic the data was, the more eagerly they shunted it off to grammatical provinces for which they felt little or no responsibility in order to inoculate their theory (again, with exceptions for Jackendoff). McCawley compares this attitude to "the traditional Christian attitude towards sex: the pleasure of gathering data is proper only within the confines of holy theory construction and when not carried to excess; recreational data-gathering is an abomination" (1980a:917–19; see also Newmeyer 1980b:932–34 and R. Lakoff 1989:956n5).

Since exception-proliferation is a data-heavy activity, corrosive to theory construction, Interpretive Semanticists quickly tired of exception-generating, and the brunt of their attack on Generative Semantics became conceptual. In fairly

rapid succession, the arguments came: Generative Semantics is just a new name for the same old grammar (a notational variant); it is licentious in its use of theoretical mechanisms (unrestrictive); and it has the wrong philosophy (backsliding into Bloomfieldian empiricism). At times, the combination of these arguments strains credulity; for instance, in one paragraph Chomsky says that global rules “are quite similar, if not identical, to the interpretive rules proposed by Jackendoff and others,” but that they add “immense descriptive potential” to grammatical theory, and thus their introduction “constitutes a highly undesirable move” (1979 [1976]:152): global rules are notational variants of a good rule-type, but they are a bad rule-type.

The Generative Semanticists kept exception-proliferation factories running day and night to expose the absurdly narrow conception of grammaticality Chomsky championed. They accused him of sweeping those excluded facts under the performance or Semantic Interpretation carpet, or waving half-baked, inexplicit solutions at them.

Then, suddenly, they found that he just didn’t care.

After the barrage of counterarguments in his 1969 Texas paper, “Some Empirical Issues,” Chomsky just turned his back on them. He was still happy to bash Generative Semantics in class, in interviews, and other informal settings, and remains happy to do so, but it rarely earned even a contemptuous footnote in his formal work after the Texas paper. In 1971, his trace-proposing paper, “Conditions on Transformations,” began circulating underground (published 1973a; 1977:81–162), marking his official withdrawal from the debate. Before that paper, Sadock says, Chomsky was “still talking the same lingo.” Afterwards, “there was a new philosophy,” a philosophy of restrictiveness, and a complete inattention to any of the issues that were driving Generative Semantics. His students continued to press the attack, becoming more and more savage, but Chomsky no longer had even a sneering allusion left for his old enemies in this work. He gave up the attack and pursued positive work.

But Generative Semantics was no longer talking the same lingo it started with either. By the mid-1970s, they were no longer “engaged in ‘generative grammar’” (McCawley 1982b [1973]:11; Parret 1974 [1972]:152). In his Parret interview, G. Lakoff uses *Generative Semantics* and *generative grammar* as virtual antonyms throughout.

There had been behind-the-scenes attempts to find some amicable common ground over the central issues via correspondence, at least among Ross, Postal, and McCawley, on the one side, Chomsky on the other, without any success. The letters are mostly calm, with glimpses of congeniality. Ross, for instance, points out that one of Chomsky’s remarks about Postal in the manuscript of “Empirical Issues” (1971 [1969]) is “an unnecessary slap in the face.” Chomsky disagrees, saying that he is “simply giving [his] opinion,” but agrees to “qualify

it even more" if Ross feels he is being unfair (see Huck & Goldsmith 1995:74, for the exchange). But very few points of contact were achieved or maintained in these exchanges, and goodwill was strained. In a letter to Postal on the same issue, Chomsky says

What so arouses your ire is a side remark . . . that I regard some rule [of yours] as dubious. Even if that were erroneous, your response would be astonishing. In fact, even if I had given a wrong argument, made a factual error, or whatever, such a response would be astonishing—it is doubly so when what is involved is a statement that I regard a proposal [of yours] as dubious. . . . This kind of reaction makes discussion impossible, too unpleasant to be worth pursuing.

Postal's reply?

We are so far apart and so lacking common assumptions and judgment that the time has possibly come when discussion is largely fruitless beyond picking up occasional counterexamples to proposals, which opposing-hostile thought generates with great facility. Frankly, I find it increasingly hard to see the kind of work you do and sponsor as part of a common field of interest. (Huck & Goldsmith 1995:75–76)

The rhetorical breakdown was complete. Lakoff talks about a kind of incommensurability between the two approaches, charting out the conflict of methodological and teleological commitments. Maybe. Certainly there were large-scale value differences—still hinging significantly on the mutual influence of syntax and meaning in language, but by now implicating a wide array of particulars (of methodology, of instruments, of axioms and primitives, and especially of scope). By the mid 1970s it barely made sense to speak of *two* sides. The division was not binary or even polar, but cultural and ideological. One culture followed a visceral allegiance to autonomous syntax. Distributional matters were always *in vitro*. The other culture followed a visceral allegiance to language *in vivo*, to the great wolly commingle, to pragmantax.²⁸

Incommensurability, to the extent that there is such a thing in science, is a phenomenon of *theorists*, not of *theories* (R. A. Harris 2005:92), and there was precious little will to commensurate by this stage, not just among the leading figures, but across the discipline as a whole. Geoffrey Pullum, for instance, recalls the reception for a paper about auxiliaries he wrote with Deirdre Wilson in the mid-1970s (Pullum & Wilson 1977):

It tried desperately to separate the issue of whether auxiliaries are main verbs (they are) from the issue of whether Generative Semantics was right. Hardly

anyone was listening. We might as well have suggested the Israelis and the Palestinians sit down together and talk.

Each side went its own way. To the Generative Semanticists, it looked pretty much like they were going off in victory, and it looked that way to Chomsky as well. He recalls that by the mid-1970s “the overwhelming mass of linguists interested in transformational grammar at all were doing some kind of generative semantics” (1982a [1979–80]:43, 46). Not only was the first generation of MIT linguists enamored of it, so were their students. Influential Generative Semantics work was being done at most of the major institutions—at the University of Texas–Austin, at the University of Massachusetts–Amherst, at the University of California–Los Angeles, at University of Illinois Champaign–Urbana, at the University of Michigan (where the Lakoffs taught briefly), at the University of California at Berkeley (where both Lakoffs moved in 1972), and, of course, at the University of Chicago. Chomsky really had only MIT. Transformational textbooks from the 1970s virtually all include a sort of cutting-edge section that declares or suggests Generative Semantics to be the linguistics of the future. The most dramatic illustration is John Kimball’s *The Formal Theory of Grammar*. Kimball was a 1971 MIT graduate, and the final section of his book doesn’t so much as hint that Chomsky has a contemporary position on semantic questions. Generative Semantics shows up as the natural successor to the “Standard Theory,” just as natural a successor to that theory as the Standard Theory was to the one presented in *Syntactic Structures* (Kimball 1973:116–26); it’s almost as if Chomsky got a basset hound, put on his slippers, and retired after *Aspects*.²⁹

Nor was it just the younger linguists who were signing up to Generative Semantics. Many linguists from earlier generations also found the model very attractive. Emmon Bach was influential early on, and Lees endorsed it with enthusiasm. Wallace Chafe had proposed a semantically-based Transformational Grammar himself, independently (1967a, 1970a, 1970b), then aligned himself with Generative Semantics (especially, 1970b:56, 68). He was instrumental in bringing the Lakoffs to Berkeley. Even some Bloomfieldians, from the linguistics boneyard, rattled their approval. Hill’s LSA memoir captures the general mood of the old guard (or maybe “the ancient guard,” since Chomsky now looked like the old guard) in the 1970s—Hill recalls receiving Ross’s Abstract Syntax work fondly, delighting at a Robin Lakoff paper for blowing the lid off Chomsky’s Cartesian claims, and even praises the other Lakoff for his humorous sentences. Eugene Nida painted his work in the period as having “a dependence on the Generative Semantics approach” (1975:8). Others from that generation chimed in as well, Householder commenting that “the views of Ross, Lakoff, McCawley, [and] Mrs. Lakoff on the nature of the base . . . are the ones which I find most congenial” (1970:35). Bolinger became an active ally in the movement,

showing up widely in Generative Semantics footnotes and acknowledgments for perceptive or inspiring assistance; Ross singles him out for “a special kind of thanks” in one article, because he “has been saying the kind of things I say in this paper for a lot longer than I have been able to hear them” (1973c:234). Even the transformational granddaddy, Zellig Harris, was being touted by his supporters as developing a theory “similar to a Generative Semantics theory” (Muntz 1972:270). Whatever their views of Generative Semantics, the Bloomfieldians were certainly not displeased to see Chomsky reaping the discordant harvest he had sown.

Psychologists found Generative Semantics appealing, for obvious reasons—“the attraction for psychologists of Generative Semantics is the greater plausibility of supposing that a speaker begins by generating the basic semantic content of ‘what he wants to say,’ only then going on to cast it in an appropriate syntactic form” (Greene 1972:85)—and the leading Generative Semanticists had no trouble gaining a hearing with them. McCawley and Ross, for instance, were featured presenters at the 1972 Conference on Cognition and Symbolic Processes (McCawley 1974b; Ross 1974b). Philosophers, too, showed considerable interest, welcoming in particular the explorations of logical form by G. Lakoff and McCawley. Donald Davidson and Gilbert Harman invited them to “a cozy cross-cultural colloquium at Stanford” in 1969 (Quine 1985:357), and then included a paper by Ross in the collection of work stemming out of that colloquium (G. Lakoff 1972b; McCawley 1972; Ross 1972d. See also Harman 1972). David Lewis, while professing in a now-classic paper on semantics not to “[take] sides on disputed issues in syntactic theory” (1970:37), cites Chomsky only routinely, approvingly engages with McCawley’s work, appeals to pre-Deep-Structure lexical-insertion transformations, thanks George Lakoff for help with the manuscript, and even invokes global rules.

Europeans, most of whom only became interested in transformational work in the late 1960s, also signed on to Generative Semantics in large numbers. It resonated with the older generation, who complained that Chomsky was just a meaning-ignoring Bloomfieldian in Interpretive-Semantic clothing, and the younger generation was attracted by the cachet of the latest thing (Koster 1990:306). Pieter Seuren, Rudolf de Rijk, Eva Hajičová, and Werner Abraham all became influential Generative Semanticists. The model had notable followings in the Netherlands, Sweden, France, Czechoslovakia, and Germany, where Herbert Brekle’s *Generative Satzsemantik* went through two editions (1970 [1968], 1978), and where the important American papers all saw translations (Abraham and Binnick 1972; G. Lakoff 1971d; Vater 1971). In Czechoslovakia, where Petr Sgall had independently proposed a semantically based Transformational Grammar, the term gained rapid acceptance. There was even a growing following in Japan, and in Australia Frans Liefink proposed his *Semantico-syntax* (1973).

Generative Semantics, it seemed, had inherited the field; Chomsky and his small band of Interpretivists were fading reactionaries; *Aspects* belonged to a quaint antebellum world. Carden even remembers his old teacher expressing puzzlement over one of his mid-1970s papers that attempted to keep a dialogue open with the Interpretivists: “Guy, why are you still talking to those people?” Lakoff asked him. “Haven’t you noticed the war is over? We’ve won.” Winning a war has its privileges, apparently. Lakoff noted in a paper from this period that “one of the joys” of debating is that “the winner gets to say ‘Nyaah, nyaah!’ to the loser.” A few pages later, of course, he closes with “Nyaah, nyaah!” (1973b:286, 290). Few published words tell us more about the dynamics of the dispute or about the personality of Lakoff.

Not so fast, George. The story’s not over yet.

6

Generative Semantics 3: The Ethos

Is it not, then, better to be ridiculous and friendly than clever and hostile?

—Socrates (Plato, *Phaedrus* 260^c)

Euphemistic genital deletion (Generative Semantics rule name)

—Paul Postal (cited in Borkin 1972:28)

Not Being Chomsky

All through the war, the Generative Semanticists were having fun—fun that spilled into and all over their work, which had everything to do with the times. Generative Semantics came on the scene as the narrow lapels and narrower ties, close-cropped hair, and corporate ethos of the 1950s, out of which Transformational Grammar emerged, were giving way to the headbands, Nehru jackets, bell-bottom pants, shaggy hair, and stoner ethos of the 1960s, when the cultivated alienation of the hippies had a pervasive influence. The Generative Semanticists—“a bunch of people who got together at conferences to make puns and play Fictionary and smoke funny cigarettes” (R. Lakoff 1989:972, 2006)—are as representative of that period as beads or sit-ins or bongos. Their work teems with themes of drugs, music, casual sex, and, of course, anti-establishment politics.

The stylistic proclivities of Generative Semantics, like those of the period generally, were not just a veneer of cultural references and allusions glued onto an otherwise conventional form. They run deep. The hippies were as seriously at odds with the preceding generation as any group could be, perhaps excepting the Khmer Rouge. The early term for their ethos was *youth culture*, which makes the generational dividing line clear. It was replaced by *counterculture*, which makes the scope of the rejection equally clear. The final, even more transient, label was *Woodstock Nation*, which was coined in a formal declaration of independence from, and state of war with, “the Pig Empire” (Hoffman 1971). Nothing captures the spirit of the period more fully than Charles A. Reich’s *The Greening of America*, a massively successful Jeremiad against the prevailing economic,

political, military, educational, and social values gathered under the ominously Kafkaesque term, *The Establishment*. Here's a sample:

From all of this, there emerges the great revelation about the executive suite—the place from which power-hungry men seem to rule our society. The truth is far worse. In the executive suite, there may be a Leger or Braque on the wall, or a collection of African masks, there may be a vast glass-and-metal desk, but there is no one there. No one at all is in the executive suite. What looks like a man is only a representation of a man who does what the organization requires. He (or it) does not run the machine; he *tends* it. (101)

At the major risk of trivialization and other distortions, at both ends of the analogy, it is impossible to miss the parallels with Generative Semantics, which ended, for many, in a total rejection of the transformational home that nurtured them and then turned them out; George Lakoff, the chief spokesman of this rejection, sounds like Jerry Rubin or Abbie Hoffman on the vacuity of the older generation when he decries Chomsky's work as "the epitome of emptiness" (1977a:284).

Just as the hippies defined themselves in pained relief against The Establishment, a central tenet of Generative Semantics for the Lakoffs, for Ross, for many of the second-generation Generative Semanticists, was (quoting the male Lakoff) "the idea of not being like Chomsky." The Generative Semanticists saw Chomsky as dishonest in his handling of data—reworking it to serve his temporary purposes, discarding what he couldn't rework, ignoring vast regions altogether—and, in very sharp contrast, they jubilantly celebrated all kinds of data, not only data that gave the Interpretivists trouble, but data that gave their own theories the fits as well.

A similar pattern holds for theoretical machinery: where Chomsky's style is to redefine and retain modifications of his flawed proposals, usually in terms which point to their new and improved abilities, not their former inadequacies, Generative Semanticists tended to renounce theoretical innovations very publicly, to proclaim their errors from the rooftops. And a related pattern, at least in the eyes of the Generative Semanticists, holds for the social extensions of the two models: they found Chomsky exclusionary, even cultish, in his disciplinary politics, defining other linguists in a concentric Dantesque vision. "There were the inner circle" of MIT loyalists, as Robin Lakoff characterizes it, "the various outer circles, Limbo, and Bad Guys" (1989:972).

But Generative Semanticists wanted everyone to join their party. Well, almost everyone. They, too, had a Limbo and a gang of Bad Guys; Chomsky, as the sheriff-gone-wrong, riding at the head of the gang. Generative Semanticists encouraged diversity, welcoming any and all forays into uncharted data, so their Limbo wasn't populated with hopelessly misguided researchers, but with

people working on things Generative Semanticists just hadn't got round to yet. Where Chomsky works on a rather narrow, almost individual, set of linguistic problems—always using images of isolation to describe his own relation to the rest of the field—Generative Semanticists eagerly looked for problems in other areas of linguistics, in psychology, in philosophy, in logic, in literature, even in the medicine cabinet. The Oedipal reflex has rarely been carried to such extremes in science; because Chomsky was regarded with almost religious fervor when the schism began, he was promptly demonized. He was recast, recalling R. Lakoff's characterization, "as satanic, the Enemy" (1989:970). Demons are negative exemplars, we know, so we should not miss that the rejection of (a certain picture of) Chomsky was self-consciously ethical: inclusion over exclusion, honesty over casuistry, congeniality over hostility.

The political elements of the Generative Semantics style, however, throw something of a monkey wrench into the simple anti-Chomskyan account of their ethos. The Generative Semanticists largely opposed the war in Vietnam, and Chomsky was one of its most outspoken critics. We will cross this bridge when we get to it, a few pages along.

It may seem digressive, even diversionary, to identify a Generative Semantics style at all, let alone to spend a chapter examining it. Chomsky would concur. He is fond of dismissing the movement as "an irrational cult" and "a fad," just another symptom of the early 1970s collapse of values, and the kind of attention we're giving it here can play into such dismissals. But facts are facts: all the major figures partook in an identifiable style, in very identifiable ways. Everyone who talks of the period both remembers the style and has an opinion about it, even Chomsky. For better or for worse (in fact, for both), a loose-jointed, absurdist, politically direct style suffused much of Generative Semantics.¹

That style—to take the dry, reductionist, analytic approach that is death to any style, but at least gives us some postmortem results—had three principal manifestations: humor, politics, and data-worship. We begin the autopsy with humor.

Humor

Consideration of these examples makes it fairly clear that the fuck of (12a)–(20a) (henceforth fuck₁) and the fuck of (2) (henceforth fuck₂) are two distinct homophonous lexical items. These two lexical items have totally different selectional restrictions, as is shown by the examples:

(26) *Fuck these irregular verbs.*

(27) **John fucked these irregular verbs.*

(28) *Fuck communism.*

(29) **John fucked communism.*

—Quang Phuc Dong [aka James McCawley] (1992 [1968]:4)

The age of the hippie was not a subtle age. The defining style of the Generative Semanticists was not a subtle style. Their example sentences implicate all three of the most visible elements of the counterculture, elements which (like much of the spirit of the 1960s) rapidly degenerated in the following decade, in this case, into one of the most mindless and hedonistic slogans of all time: “Sex! Drugs! And rock ‘n’ roll!” (respectively illustrated by sentences 1a–c, 2a–c, and 3a–c):

- 1 a The fact that Max plorbed Betty did not convince Pete to caress her on the lips. (Postal 1988a [1969]:74)
- b Mary tried to give John a blow job, but she choked on it [ambiguous, depending on Mary’s success]. (Douloureux 1992 [1971]:48)
- c Let’s fuck. (R. Lakoff 1977:82)

- 2 a Hey, if John went to Chicago, that means we’ll soon have a big supply of dope. (Schmerling 1971:249)
- b My cache of marijuana got found by Fido, the police dog. (R. Lakoff 1971b:154)
- c Fred does nothing but smoke hashish and play the sarod; John is similar. (McCawley 1976b [1972]:304)

- 3 a The M.C. introduced Mick Jagger’s penis as being large enough to amaze the most jaded of groupies. (Borkin 1984 [1974]:18)
- b Paul is dead and I do not believe he is dead. (G. Lakoff 1975)²
- c She left one too many a boy *behind*. He committed *suicide*. (Bob Dylan, cited in Zwicky 1976:683)

There was also plenty of room for other prominent counterculture characteristics—politics, scatology, general absurdity:

- 4 a Amerika’s [*sic*] claim that it was difficult to control Vietnamese aggression in Vietnam surprised no one. (Grinder 1970:300).³
- b *The shit that John took weighed 600 grams. (Quang 1988 [1971]:96)
- c *I don’t want to kiss no gorillas. (Postal 1974:236)

Humor was a point of pride with many Generative Semanticists, in large part because it was a such a clear break from Chomsky, a declaration of the spiritual, in addition to the intellectual, schism with the Ur-Father. Chomsky’s prose has

all the humor of Aristotle. (One of the late 1960s joke templates was title-of-the-world's-shortest-book, like *Theories of Racial Harmony*, by George Wallace, the racist governor of Alabama, and *Problems of the Obese*, by Twiggy, the iconically underweight fashion model, and a prime candidate for this title circulating linguistics at the time was *The Bawdy Humor of Noam Chomsky*.) “We felt Chomsky took himself too seriously,” George Lakoff remembers. “We thought it was extremely important that people be able to laugh at themselves and what they were doing, as well as have fun.” It didn’t hurt that the youthful academic audiences at the cusp of the 1960s/1970s were well disposed to appreciate absurdity, boundary-pushing, and celebrations of their own cultural artifacts.

Was it childish? Well, when my daughter was six years old, she danced around the house delightedly singing out “Ass-kicking peanuts!” with particular stress on *ass*. She had discovered the use/mention distinction. She couldn’t get busted for saying *ass* because it was the brand-name of some peanuts she had just been given. She wasn’t *using* the word. She was *quoting* it. It’s hard to find any motive more sophisticated than that behind a sentence like:

5. Who shot Cock Robin? (Morgan 1973:745)

Like other stylistic fondnesses of Generative Semantics, the role of humor built slowly, and has its roots in the first transformational forays into semantics. Katz includes the occasional stab at humor, of the typically early-1960s patriarchal variety (the example sentence, “Blondes are eyed by oculists,” 1964b:748 and the technical term, *G-string*, with Postal 1964:57). But it was in the Abstract Syntax period that these traits began to crop up with regularity, the first symptom being a penchant for flamboyantly named protagonists in example sentences, an appropriately contra-Chomskyan symptom. Chomsky’s sentences are notoriously dull (from any but a strictly linguistic perspective), a favored protagonist being the easy-to-please *John* (a lineal descendant surely of Bloomfield’s “Poor John ran away”). The Abstract Syntacticians, on the other hand, went for *Max* and *Seymour* and the ever-popular *Floyd*; Generative Semanticists, for *Knucks McGonagle*, *Figmeister*, and *Norbert the Nark*. Under the genius of Abstract Syntax—namely, Postal—the sentences also began to populate with gorillas, wombats, penguins, toads. With Generative Semantics, the situations got weirder, the cast of characters expanding to include cultural icons like Willie Mays and Yoko Ono. Patterns and themes recurred. One leitmotif had Richard Nixon loitering in men’s rooms.

Sample sentences were the thin edge of the weird-name wedge. Lakoff called one transformation *Flip*. Ross named one *Slifling*; then, following an alliterative bent, proposed *Sluicing* and *Stuffing*. Carden proposed *Q-magic*. These names at least had some reference to the actions performed by the rule

(Slifting raised a Sentence node, an S-node, to a higher clause, so its etymology is *S-lifting*: Flip exchanged noun phrases to relate constructions such as “I like it” and “It pleases me,” Q-magic concerned quantifiers). Later in the game, as respect for the descriptive machinery of Transformational Grammar declined, the names became flagrantly arbitrary; in particular, there was a fad of adopting proper names for rules, like *Irving*, *Ludwig*, and *Richard*. As G. Lakoff explained it, “one way to [remember where you’re fudging] is to use obviously arbitrary names like CLYDE instead of arbitrary names that sound profound but aren’t, like Determiner” (1971a:iii; see also Ross’s justification for the name *Do-Gobbling*—1973a:70). Other names went in the opposite extreme, becoming absurdly specific, like Grinder’s *Apparel Pronoun Deletion* (for the syntactic behavior of certain sentences concerning disrobing) and—the hands-down winner in this category—Postal’s *Euphemistic Genital Deletion* (for sentences where certain graphic nouns are demurely spirited away, as in *Max is playing with himself again*).⁴

Hippies were also eager to outrage older generations, so we should not overlook shock value in data sentences like these. For the routinely tattooed, pierced, and profane citizens of our current century, when the word *fuck* can be reeled off on television in all its intricate lexical variations with Shakespearean virtuosity, or just boringly iterated with relentless mundanity, a sentence like “Let’s fuck” might seem positively quaint. But to an established linguist, opening a book on politeness in the 1970s and finding those words staring out at him in an article (by a woman!), it would have been as if parasitologist had come into his office, defecated on the desk in front of him, and poked around in his production to point out all the interesting worms.

For many Generative Semanticists, this style leaked out of the example sentences and rule names to permeate the prose. Anecdotes, inside allusions, and schoolyard expressions like “one swell foop” showed up regularly, most notably in the second-generation papers. Jerry Morgan, for instance, offers this account of some missing arguments in his article:

[My earlier paper] contained the ultimate solution to the problems of pronominalization, reference, identity, as well as an item of overwhelming and irrefutable empirical evidence against the lexicalist position. Unfortunately, it was handwritten on a package of Puritan Hog Chow, and was eaten by a hungry Chicago policeman who tore it from me during a tear-gas attack on three jaywalkers, thereby being lost to mankind. (1976 [1968 or 1969]:340n1)

But, lest we get carried away, we need to keep in mind that most of the humor, while far from subtle, was not exactly center stage. There are few belly laughs in Generative Semantic papers. Aside from some of the wilder underground papers

(many collected in *Studies out in Left Field: Defamatory Essays Presented to James D. McCawley*—Zwicky et al. 1992 [1971]), the papers don't exist to tell jokes; serious work goes on in and around the humor.⁵ Even the Quang papers have significant linguistic points. The jokes participate in the papers—sometimes propelling them along, sometimes offering a commentary on the author's confidence in the analysis—but mostly just contributing a general tone of goofiness to the work, in deliberate counterpoint to Chomsky. To use a slightly effete word for the practice, it has more whimsy about it than humor. It depends on odd situations, insider references to other linguists or to cultural figures, and a general sense of kookiness, not on punch lines or on farcically sustained imagery. There is also a very clear gradation of the proportion of whimsy as a function of audience. The rabid-hog quotation above, for instance, comes from an underground paper circulated amongst core Generative Semanticists, of a piece with “Camelot, 1968.” To stay with the same author, Morgan's CLS contributions are still loose and eccentric, with subheads like “Pickles and Strawberries” and the extended participation of Ernie Banks, but they are markedly less informal. His more mainstream publications, as in *Language* (1977), are positively tame (though certainly not Chomskyan).

The presence of second-generation Generative Semanticists here raises another factor in the levity of Generative Semantics papers, a factor Hagège contemptuously dismisses as the “whiff of amateurism” (1981 [1976]:21): many of the more outrageous Generative Semanticist offerings did in fact come from amateurs; that is, grad students. The chief Generative Semantics schools (Chicago, Champaign-Urbana, and Michigan) all followed the practice that Chomsky and Halle had begun in MIT, of urging students out into the fray as soon as possible. But where inexperience and exuberance tended to manifest among MIT students as discourteous polemics, in Generative Semanticists the trend was toward loopy humor, political asides, and declarations of awe at the glorious complexity of the data.

And of course style is a personal trait, like speech patterns; there were several very distinctive people at the helm of Generative Semantics. Newmeyer's term *rambunctious* captures much of their collective spirit (1986a:137), but there was individual spirit at play as well, and not all the humor had the same motivations. With George Lakoff, humor may well have been in some part the “concealed intellectual aggressiveness” that Arnold Zwicky recalls of the movement generally. Lakoff is an aggressive guy, given to some rather grating rhetorical tactics, and it would be difficult to deny that this aggressiveness had vent in his publications, one of which, I'm sure you recall, ends with “Nyaah, nyaah!” (1973b:290). His example sentences also took occasional pot shots at the other side, such as juxtaposing *lexicalists* and *whores* in parallel sentences (1971c:333), and offering up this gem of agonism, “Chomsky is the de Gaulle of linguistics” (de Gaulle being

the authoritarian president of France for the entire decade of the 1960s, notorious for his strong-arm response to student protests; 1973d [1972]:235).

For McCawley, who has a very widespread reputation for gentleness, even when directly challenging someone's argument, the humor was probably more celebratory. Ross falls somewhere in the middle; Robin Lakoff is a little closer to McCawley; and Postal's humor, a juxtaposition of deadpan scholarly prose and example sentences teeming with wombats and gorillas and anaphorically orphaned blondes, is more difficult to pin down. Many of the second-generation Generative Semanticists also had their own cluster of stylistic character traits—some leaning more toward politics, others toward absurdity—each one indicating a slightly different configuration of motives, and a different hierarchy of role models. But there is one defining factor that shines through all of these tonal variations—aggressive, gentle, itinerantly goofy—that linguistics was great fun.

Politics

This History is humbly dedicated to those Valiant young Knights who, in quest of the Holy Grail, shed their Blood under the onslaught of Savage wild boars in the Forests of Lincoln and Grant, and in the Stone Valley of Michigan, in the Duchy of Czechago, Summer, 1968. Richard the Leatherbuttocked, Lord Mayor.

—Sir Lancelot of Benwick Morgan le Fay and
the Green Knight (1976 [1968]:249)

We come now to the point at which a simple not-being-Chomsky account of the Generative Semantic ethos founders somewhat. Most of the Generative Semanticists and most of the Interpretive Semanticists opposed the war in Indochina, and Chomsky was a leader in what was called the *Anti-Vietnam movement*; among other things, it was this opposition that put him on *Firing Line*, sitting next to William F. Buckley.

One explanation for this situation might be a mild twist in the Oedipal story that puts the political explicitness of many Generative Semanticists into the trying-to-out-Chomsky-Chomsky file, much along the plotline that many people assumed in the Generative Semantics origin story—emerging from Abstract Syntax as Lakoff and Ross went deeper into Transformational Grammar than its leader dared to go, having more courage in their convictions than he did. It's also a trajectory many people associate with Lakoff's career especially, as he moved into the Chomskyan influenced domains of psychology, philosophy, mathematics, and politics.

But this line won't take us very far. It is, first, extremely difficult to out-Chomsky Chomsky on political issues. He does not use sentences like "Shit on Lyndon Johnson" or "In a real sense, Nixon is a murderer" to illustrate linguistic principles, as the Generative Semanticists did (from Quang 1992a [1968] and G. Lakoff 1972a:210). But he says things in long, detailed, closely reasoned political articles like "President Nixon has described Cambodia as 'The Nixon doctrine in its purest form.' . . . For once, he may have spoken the exact truth" (1970b:192), after describing that doctrine as the use of

cluster bombs and napalm and bribes for the rich . . . to destroy the political and social fabric of the rural society . . . to convert [American] imperial aggression . . . into regional conflict . . . [through a program] carried out in secrecy, with mercenary troops, CIA subversion, and massive bombardment (1970b:187)

Throughout the period, Chomsky went on record, repeatedly and forcefully, denouncing Johnson, Nixon, Kissinger, and their ilk in the most scathing and closely documented terms, relentlessly framing their actions as war crimes on a level with the atrocities of the Third Reich and Stalinist Russia—sentiments more specific, more caustic, and far more thoroughly prosecuted than anything coming from almost any other intellectual one might name, let alone any other linguist. He was (and remains) a more tireless, dedicated political rhetor than any of the Generative Semanticists, even given George Lakoff's celebrated later forays (1996, 2004, 2008); in fact, it might not be much of an exaggeration to say he was more tireless and dedicated to political concerns in the period than all the Generative Semanticists combined. Even the very comparison of the respective political efforts of Chomsky and the Generative Semanticists is otiose, if not spurious, like saying Milton was a better poet than most Generative Semanticists, Miles Davis a better musician than most Generative Semanticists, Gretzky a better hockey player than most Generative Semanticists. The difference in scale is orders of magnitude. The Generative Semanticists were more explicit than Chomsky, in linguistic articles, about their political concerns, and certainly more irreverent. But they were not, by even the wildest stretch of the term, more political (the way they might easily be called, for instance, "more semantic" or "more empirical"). Nor, I should think, would any of them dispute this observation.

It is, second, not coincidental that the shared political outlook of Chomsky and most Generative Semanticists (and, indeed, most Interpretive Semanticists) was shared dissent. They were largely united in opposition to the war, and to the political figures behind it. On positive issues (like what should be done to correct the mistakes of American foreign policy, who should do it, how it should be carried out), there would have been far less agreement, maybe none at all.

And, third, the war was unspeakably obscene. It was fortunately impossible for many people of conscience to remain silent in the teeth of both America's vicious program of terror in Indochina and the parade of ugly, blatant lies coming from the government about that program. I'll let a more recent author visiting that region in the aftermath of the American invasion lay it out for us:

Once you've been to Cambodia, you'll never stop wanting to beat Henry Kissinger to death with your bare hands. You will never again be able to open a newspaper and read about that treacherous, prevaricating, murderous scumbag sitting down for a nice chat with Charlie Rose or attending some black-tie affair for a new glossy magazine without choking. Witness what [he] did in Cambodia—the fruits of his genius for statesmanship—and you will never understand why he's not sitting in the dock at The Hague next to Milošević. (Bourdain 2010:162)

That's Anthony Bourdain, in his *Cook's Tour*, doing precisely what distinguished the Generative Semanticists from Chomsky on this count. Bourdain brought his outrage into his day job, writing a culinary travelogue. The Generative Semanticists brought their outrage into their linguistics. Chomsky's political outrage shows up, with very rare exceptions, only and directly in his dissident activities.

But, of course, the temper of the generation that infused Generative Semantics made for a very different style in the way their political outrage entered their day jobs. Humor and absurdity were principal devices of counterculture rhetoric.

There were certainly earnest dissidents at the time—Dave Dellinger, Cesar Chavez, Fred Hampton, Noam Chomsky—but, for better or worse (actually, for both), the zeitgeist was channelled more fully by less focused, more boisterous people, like Ken Kesey, Jerry Rubin, and Abbie Hoffman. The dominant social spirit was the loose mélange of anger, liberation, and confusion that I have collected under the umbrella *hippie*, and, even in my broad usage, that umbrella does not cover Dellinger or Chavez or Hampton or Chomsky. The counterculture is Kesey seducing the young and appalling the old with his portable acid tests, Rubin and Hoffman leading phalanxes of outrageously clad longhairs on a mission to levitate the Pentagon. It is the Women's International Terrorist Conspiracy from Hell (WITCH) casting hexes on the administration during sit-ins at Chicago; the slogan of young Parisian radicals, *Je suis marxiste, tendance Groucho*; a young linguist in a tie-dyed T-shirt lecturing at Yale about the morphophonological ramifications of words like *Kalamafuckingzoo*. Much of the energy was political, but much of it was also just the sheer, balmy celebration of life.

Politics and absurdity, in any case, are not very easy to disentangle at the turn of the decade, the 1960s sliding into the 1970s. The political situation

was a marriage of Lewis Carroll and Franz Kafka. Martin Luther King Jr., two Kennedys, and Malcolm X had all been shot. George Wallace, who was about to be, stumped around the country campaigning for the presidency by denouncing “left-wing theoreticians, briefcase-totin’ bureaucrats, ivory-tower guideline writers, bearded anarchists, smart-aleck editorial writers and pointy-headed professors” (O’Neill 1971:389), while his running mate advocated a nuclear solution in Vietnam. Little bags of hair from the Chicago Seven, shorn after their arrest, were auctioned off at Republican fundraisers. The U.S. government’s response to increased protests over the Vietnam War was to attack Laos and Cambodia. Governor Ronald Reagan ordered over two thousand National Guardsmen to “quell” a demonstration against the University of California–Berkeley’s expansion into what became People’s Park, resulting in one death, 128 wounded. The Weatherman staged absurd occupations of working-class schools to wake up the proletariat, usually being driven off by hippie-hating toughs. Enraged at the violence, repression, and deafness of the power structure, or possibly just bored, various collectives and individuals bombed over three thousand public structures in 1970 alone, and made over fifty thousand bomb threats. Protesters were killed at Kent State, Jackson State, and Berkeley; maced, clubbed, and arrested all over the United States. Chicago police mugged proudly for photographers after murdering Fred Hampton. Other black dissidents, and some whites, were jailed on weak drug charges or driven into exile. The reduction of American casualties by turning over much of the ground-fighting to the South Vietnamese in order to concentrate more fully on bombing, defoliation, and napalm attacks, actually reduced public outcry. The temper of President Nixon, or, more accurately, his distemper, paled even Garson’s notorious off-Broadway satire of his predecessor, Lyndon Johnson, in *MacBird*!:

CRONY: Peace paraders marching.

MACBIRD: Stop ‘em!

CRONY: Beatniks burning draft cards.

MACBIRD: Jail ‘em!

CRONY: Negroes starting sit-ins.

MACBIRD: Gas ‘em!

CRONY: Latin rebels rising.

MACBIRD: Shoot ‘em!

CRONY: Asian peasants are arming.

MACBIRD: Bomb ‘em!

CRONY: Congressmen complaining.

MACBIRD: Fuck ‘em!

Flush out this filthy scum; destroy dissent.

It’s treason to defy your president. (Garson 1966:73–74)

Linguists were among the concerned protesters. A very beat looking Haj Ross, for instance, can be seen in the foreground of a picture in *Time* accompanying the story of how a protest over Dow Chemical's napalm production resulted in Dow's lab director being barricaded in a Harvard conference room for seven hours (November 3, 1967:57). Jim McCawley was a vocal participant in the 1966 University of Chicago protests against allowing the Selective Service access to class rankings; at a particularly vulnerable time in his career, he snuck into a meeting for tenured-only faculty on the question, took notes, and reported back to a student meeting. Jerry Morgan was very active in the Chicago convention protests. One of the more important collections of linguistic papers from the period is dedicated "To the Children of Vietnam" (Jacobs & Rosenbaum 1970). And, of course, there was Chomsky.

Much of the political activity of linguists may have been indirectly related to the tough, impassioned stand Chomsky took against American imperialism in Indochina. Certainly, a partial motivation for many students who joined the MIT linguistics program at the time (and long afterwards) was a political affinity with Chomsky, just as Chomsky's principal motivation for studying at the University of Pennsylvania was his political affinity with Zellig Harris. More generally, a partial motivation for many linguists going into the field, and particularly into Transformational Grammar, was Chomsky's political reputation. He lectured on both at MIT, and many students took both classes. Although he kept his politics and linguistics fairly distinct, his political feelings were very widely known, and widely applauded, in the linguistics community. McCawley ends one of his long letters to Chomsky about the *respectively* controversy with the postscript, "There is no truth to the nasty rumor going around that the CIA is subsidizing my research in hopes of thereby diverting your energies from the war" (January 18, 1968).

The Generative Semanticists, while no more deeply concerned about the social and political pathologies of the day than the Interpretive Semanticists, were far more overt about those concerns in their linguistics—no doubt a function of the influence of leading figures in each camp. There is some minor leakage here and there, of Chomsky's politics into his linguistics—the mention that he got one of his example sentences from an activist associate (1972b [1969]:67), for instance, or that given discourse situations concerned his refusal to pay taxes or his anti-war speeches (1975b:61–62), fairly simple illustrations taken from his life, with no overt political meaning in the context. Chomsky is adamant that his two classes of interests, language and politics, are almost entirely unrelated in terms of his roles. An interviewer once asked him what the 'two Chomskys' would say to each other, the activist and the linguist, should they bump into each other. Apparently nothing. The Chomsky who was being interviewed here (the political

one) didn't even entertain the question, dismissing it with "There is no connection, apart from some very tenuous relations at an abstract level" (1988c:318). But, will he, nill he, the dissociation is far from absolute. The interview where we get the 'no connection' answer appears in a book entitled *Language and Politics* (1988, 2004), for instance, and while the topics are mostly segregated (an interview or essay or chapter on language, a different one on politics) the two topics appear often between the same covers. The mutual ethotic reinforcement of the two Chomskys, each reputation bolstering the other, is not entirely accidental, and it is undeniable that his political reputation helped contribute to the sense in the 1960s and 1970s especially that linguistics was a field for people with social consciences.⁶

Jackendoff was only marginally more political in his linguistic work than Chomsky, occasionally incorporating sentences such as *The president is insane, one suspects, beyond all hope* (1972:97). On the other side of the debate, the picture initially doesn't look much different. Postal never blended politics and linguistics, Ross and the Lakoffs only occasionally and peripherally, taking a few swipes at Republicans, for instance.

But McCawley was a different story. He was more politically active than the others—Selective Service protests, demonstrating for civil rights in Jackson, Mississippi, burning his draft card, refusing to pay his taxes—but two other factors are considerably more important than his political activities. First, there was his complete lack of reserve about involving his political views in his linguistics—if Postal was the presiding genius of offbeat characters and oddball creatures, McCawley was the genius of what Pullum (1991 [1987]:101) calls "the *Fuck Lyndon Johnson* school of example construction," with its obscenities and its political *dramatis personae*. Second, McCawley was also the most influential Generative Semantics teacher, and it is with the second generation that the FLJ examples really flowered.

Too, there are the matters of space and time; *kairos*. The official home of Generative Semantics, the site of its yearly CLS festivals, was Chicago—which witnessed the Democratic convention riots, by the police; the subsequent conspiracy trial and its attendant circus; the killing of Fred Hampton; the Weatherman's Days of Rage; assorted acts of autocratic weirdness by Lord Mayor Richard Daley, and assorted acts of anarchist weirdness by groups like WITCH. And, of course, both Generative Semantics and the counterculture were in ascendance in exactly the same period. There had to be cross-pollination. Interpretive Semantics didn't take off fully as a movement until the popularity of the counterculture began to recede.

Among the more interesting sidelights to the political aspect of Generative Semantics is the fate of Georgia Green's McCawley-supervised thesis, whose publication was held up for a year because Cambridge University Press feared

libel suits (entertainingly documented in Pullum 1991 [1987]:100–111). The process bordered on the ludicrous, as legal advisors cautioned against including sentences like 6, as defamatory of Mary:

6 Mary gave John a hickey.

But it brings to light another element of the Generative Semanticist style, a subtle step beyond the FLJ examples—the *sentence a clef*, where the names refer, more or less obliquely, to living people. Mary and John in 6 are very likely arbitrary, but it didn't take much imagination in the period to find referents for 7.

7 Martha gave John trench-mouth, and he gave it to Ted.

As Pullum projects the publisher's concerns, "Could the *John* be the indicted Attorney General John Mitchell? Could *Martha* be his wife Martha Mitchell? Was *Ted* perhaps Senator Edward Kennedy?" (1991 [1987]:107). Probably.

The Generative Semanticists had a track record in allusions of this sort, with a wide cast of characters, including, in addition to the notorious Mitchells and other political figures, cultural icons, and one another:

- 8 a Martha knows that it will be necessary to behave herself until the election is over. (Neubauer 1972:287)
- b Who does John think the police will say Nixon ordered to kidnap Martha? (Morgan 1973:739)
- c No one but the bastard himself pities Lyndon. (McCawley 1976b [1970]:302)
- d Only Muriel voted for Hubert. (Horn 1988 [1969]:164)
- e John will not tickle Yoko when she belches. (Yamanashi 1972:388)
- f I saw Che alive last week. (Green 1973:264)
- g Jim resembles Quang in accent. (Ross 1972a:162)
- h George likes Peking Duck, but all linguists are fond of Chinese food. (R. Lakoff 1971a [1969]:138)

Even members of the Interpretivist camp dabbled in the sport. Given the animosity between Lakoff and Jackendoff, for instance, it is hard to imagine that this sentence is entirely innocent:

- 8 i Although the bum tried to hit me, I can't really get too mad at George. (Jackendoff 1968:13).

Beyond the more overt political content of much Generative Semantic work, there were two other ways in which the approach more fully reflected the social mood of the times. First, there was the growing influence of sociolinguistics. While Generative Semanticists were not particularly engaged in sociolinguistics, they were unflaggingly sympathetic toward the field. George Lakoff, for instance, included some of Labov's work on African American English in his most famous policy statement, "On Generative Semantics" (1971b:280f), and Robin Lakoff carved out her own definitive blend of sociolinguistics and ordinary language philosophy. More generally, Generative Semantics' concern for language use and social context ensured that they benefited from the growth of social conscience at the time:

The political atmosphere of the late 1960s and early 1970s contributed to this feeling of discontent [with Chomsky's approach] and was a major factor in drawing many serious students of language into adopting the Generative Semantics program, which, by combining work on formal grammar with concern for the use of language in the real world, promised to satisfy their intellectual interests as well as the demands of their social conscience. George Lakoff [in Parret 1974 [1972]:172] was undoubtedly correct when he [said] "Nowadays students are interested in Generative Semantics because it is a way for them to investigate the nature of human thought and social interaction." (Newmeyer 1986a:228)

The second way that Generative Semantics more fully meshed with the political temper at the turn of the decade was its rhetorical emphasis on dissent. Dissent was a very marketable commodity in the early-to-mid-1970s. The hippies took generational discord to extremes (Roszak 1969:1–41), making any assault on authority attractive almost by definition. "Bring the revolution home: kill your parents," went the Weatherman credo. "The Oedipal Conflict has replaced Marxian Dialectics," said Abbie Hoffman (1971). Jerry Rubin, going upper case, screamed "KILL YOUR PARENTS!" (1971:194).

Generative Semanticists were not as extreme as the Weatherman or the Yippies. No one was demanding Chomsky's head on a pike. But G. Lakoff was not above describing one assault on Chomsky's framework as "an exercise in anti-establishment thinking," or calling Transformational Grammar "as much a part of the intellectual establishment as General Motors is a part of the military-industrial establishment" (1971a:ii), or working his way round to Chomsky as an emblem of establishment wrongness in some muted remarks about the political implications of corrosive data:

Teaching linguistics these days is not without some indirect—very indirect—political consequences. In linguistics, as in politics, much of the relevant data to

support or refute many claims are available to the average person. In linguistics, it is in your mind and all you have to do is train yourself to recognize it. In politics, it is all around you, in the newspapers and on TV. Again you just have to be trained to recognize it. Just about any beginning linguistics student, with some careful thought, can in an afternoon think up enough crucial examples to show the inadequacy of our most sophisticated current theories. Similarly any citizen of average intelligence can pick out many of the lies that his government tells him. The thought processes are not all that different, though the subject matter is. Any beginning linguistics student will discover with a little thought that men of great stature in the academic establishment, even very bright ones like Chomsky, can be wrong on just about every issue. It makes one wonder about the “experts” who are running our governments. (Parret 1974 [1972]:170)

The assimilation of Chomsky with The Establishment is not over yet. There is nothing “politically revolutionary about the content of [Chomsky’s] transformational grammar,” Lakoff points out; “if anything, it is reactionary today” (Parret 1974 [1972]:170).

Most data-gathering papers—a genre encouraged in Generative Semantics—followed precisely the prescription that Lakoff offers here, of disconfirming the establishment, except that they also often nod favorably in the direction of the preferred theory: here are some facts which any theory of language should address; no current theory comes anywhere near treating these facts naturally; Generative Semantics, however, comes the closest; Interpretive Semantics is completely out to lunch. By the time that genre flourished, however, G. Lakoff was closer to the linguistic mainstream than Chomsky.

Data-Worship

Sentence (1) was brought to my attention by Haj Ross (who in turn had heard it from Avery Andrews).

—George Lakoff (1988 [1974]:25)

I am grateful to J. L. Morgan for producing this sentence [Since Nixon was elected, I’ve come to miss LB]), thereby setting me off on a productive train of thought.

—Alice Davison (1970:199n3)

No thanks is due to John Lawler for calling my attention to this ugly class of facts.

—Haj Ross (1974b:100n30)

Generative Semantics was born from a concerted attempt to make the *Aspects* model work on growing spectra of data—including issues like category membership, lexical composition, pronominal relations, conditions on transformations, performative sentences, quantifier scope, the implications of symbolic logic, and considerably more. It was a research project to extend the power of transformational description. But one of its main side effects was increased suspicion over the descriptive soundness of Transformational Grammar. For every generalization, there were pockets of facts that slipped out of reach. For every rule there were lists of exceptions (“the blood of a wounded theory”—Green 1974 [1971]:4). For every theoretical principle, there were areas in which it fell drastically short.

Inevitably this suspicion of transformational machinery came hand-in-glove with an increased reverence for data, particularly when ordinary language philosophy, sociolinguistics, and research by ecumenical scholars like Bolinger came to exert more influence. Chomsky (although many of his detractors deny it) has a healthy respect for linguistic data, but his principal allegiance is to the formal properties of grammar. The stylistic offsprings of these twin notions—theory-suspicion and data-reverence—were also twins: preoccupation with the inadequacies of theory and humility in the face of vastness of natural language.

One of the principal motives claimed for this data preoccupation was pedagogical, a motive best illustrated by a small, peculiar, barely-above-the-ground pamphlet—perhaps the single most illuminating document for the attitudes that came to be pervasive in late Generative Semantics—called *Where the Rules Fail: A Student's Guide. An Unauthorized Appendix to M. K. Burt's From Deep to Surface Structure* (Borkin et al. 1968). Even its genesis is offbeat enough to fit the Generative Semantics narrative like a batik wall-hanging. It started life as a homework assignment that George Lakoff gave a first-year graduate syntax class at Michigan: take a rather typical explication of a number of the conventional arguments for the *Aspects* model and tear it to shreds. Lakoff chose a workbook by an MIT student, Marina Burt, who was briefly persuaded to appendicize this attack to the second edition of her *From Deep to Surface Structure* “as a kind of antitext within a text.” However, when she saw the virulence of the assault, and showed it to “several persons for whom I have great respect” (read *Noam Chomsky* and *Morris Halle*, possibly some others), she thought better of it. In her declining letter, she defended her decision with the very reasonable argument that “although you present excellent counterexamples, there is no analysis of the facts which replaces what exists even though we both know it's not adequate. The feelings are that it is not enough to pick apart an existing theory without offering some kind of alternative.” There is little value in shouting no! when you don't also offer something worth saying yes to.⁷

The students were incensed at being denied the opportunity to thumb their noses at Burt in the pages of her own book, and at the person for whom she was, to some extent, a proxy, Chomsky. They had the antitext circulated through the Indiana University Linguistics Club, with a foreword by Lakoff and a petulant preface that complained about being treated like children who “are too immature to be confronted with the realities of science.” Lakoff’s foreword is a source of fascination on its own. It is pitched directly at beginning students of the sort who would use Burt’s workbook, and gives a very good picture of his exhortative teaching style in the late 1960s and early 1970s. It is explicit in its appeal to youth, though it adopts the curious language of gloomy promise:

By pointing out some of the failures of the rules in Burt’s book, we hope to give students a feel of linguistics as a living discipline, where most analyses are hopelessly far away from their goals, and where the old goal of actually writing a complete grammar for a language has become at best a hope for the future centuries and at worst a joke. (i–ii)

Finding out that very little works the way most introductory textbook writers would lead you to believe can be a frustrating experience. On the other hand, it can and should be an exhilarating one. After all, the less that is known, the more there is for you to find out. If you want to do something interesting with your life and are contemplating doing work in linguistics, it should be anything but frustrating to find that there is a lot for you to do. (v)

The Establishment old-timers were clearly mistaken about how language works: Burt’s workbook, Lakoff says, “dates from the days when many linguists thought that transformational grammar in its classical form was basically correct.” The old-timers were not just wrong in this, they were arrogant in their wrongness, and Burt is guilty of adopting “the sanctimonious pose of presenting solid results.” Still, Lakoff generously adds, Burt’s book does present a very valuable opportunity for beginning students, since, if used in the right educational spirit, “it is a good vehicle for teaching students that transformational grammar is not all that it is cracked up to be.” Into this rhetorical stew goes some humor, clear countercultural appeals, and the unmistakable theme that the Generative Semantics program is the road to salvation, in part because it embraces the sort of unflinching skepticism the linguistic Establishment can’t abide, and in part because it simply makes more sense than shallower brands of linguistics (“We know much more about the meaning of a sentence than we know about its surface structure”).

All of the pamphlet is informed by the attitude that true science involves embracing the artificiality of models and the muddiness of data. Lakoff calls for linguistic students to be responsible, like “any student of the physical sciences,” and recognize fudges for what they are. The important point is not to blame Burt,

however convenient she is as a scapegoat, but to blame the entire transformational enterprise prior to the new Generative Semantics Enlightenment.

Among the many ironies in this approach to linguistics is the distance it puts between Lakoff and his dissertation only a year after its publication. The dissertation, which had been informally circulating for years, was Lakoff's first major publication in linguistics, and it took the most decisive early steps towards Generative Semantics, and it was data-happy. His thesis project was essentially to snoop out apparent counterexamples to the *Aspects* theory and tame them, to save irregular phenomena with transformations. As the Generative Semantics program grew, Lakoff continued to work on taming the most difficult data he could uncover, but by the time his dissertation reached formal publication, he had given up on transformations to do the taming. He taught his students to approach linguistics by engaging in anti-establishment thinking and trafficking in counterevidence. Somewhere, however, the imperative to save the phenomena was misplaced, and much Generative Semantics energy was increasingly devoted simply to celebrating anomalies.

Running Out of Patience

Not all Generative Semanticists would agree with one ex-partisan that "we went out of our way to be funny in our papers so that once our ideas were refuted we could get ourselves off the hook by saying, 'Oh, did you take us seriously? Couldn't you see that we were just fooling around?'" [personal communication]. But most, I suspect, would acknowledge a kernel of truth in it.

—Frederick Newmeyer (1986a:137)

Newmeyer's comment about Generative Semantics humor is a bone that sticks in the craw of almost every ex-partisan I spoke with, though his are not the only words that question the role of Generative Semantics humor. The few published comments about it at the time rebuked the Generative Semanticists for the "extreme of cultivating the bizarre or the risqué for its own sake" and for their "juvenile political and sexual references" (Percival 1971:184; Sampson 1976:179), and Lees, with typical bluntness, just says, "It was smartass humor." The Interpretivists were generally unimpressed—Howard Lasnik says "You have to take your field seriously. You can't convey to the world that it's like a standup routine in a nightclub"—though Chomsky himself was somewhat neutral in his remarks to me:

Science is like any other human activity. You don't have to put a straightjacket on it. If people like to give papers with jokes, that's fine. It's neither good nor

bad. Maybe it's more fun to listen to their papers, I don't know. But it shouldn't [affect one's evaluation of] their results.

Nobody else seems to share Newmeyer's (and his informant's) feeling that there was hedging going on, that Generative Semanticists wanted to be able to excuse themselves later when their analyses fell apart with the claim that it was all a joke. The founding Generative Semanticists regard his observation as flatly stupid, if not malicious; George Lakoff terms it "an utter falsehood," and calls the informant "a jerk." Robin Lakoff goes further yet, seeing the whimsy in almost evangelical terms, albeit in ways the practitioners themselves barely realized at the time:

[We were] inventing a new style of academic discourse. There were several reasons for that. First, we had not been well socialized as linguists or as academics: we had entered the field as a refuge from other fields that would not let us do what we wanted to do. Second, the linguistics department at MIT had scant respect for tradition, and so we tended to finish our degrees unusually fast (thereby being spared the long process of socialization that normally takes place during one's graduate education). Third, it was the 1960s, a period of youthful rebellion, during which young people were trying on new styles of all kinds. And fourth, by the time we started referring to ourselves as generative semanticists, we had been forced to recognize the existence of a schism between us and our original mentor, Noam Chomsky. His was the most scholarly and serious demeanor imaginable; one way to memorialize the growing rift was to develop a professional style as different from his as possible. Most of these considerations were not in our conscious thoughts; if we had been asked why we did what we did, we would simply have answered, "Because it's fun." (R. Lakoff 2006)

Haj Ross says much the same thing:

I think the original and fundamental reason for [our] humor was the lack of fun in the field and the vision of a discipline in which work and play could become one verb. Generative semanticists poked fun at everything, most particularly at themselves, as a vaccine against taking themselves too seriously, a disease that they saw terminal cases of all around them. (Ross 2000:183)

Fun, goes the response to Newmeyer, is not the same as *just kidding*.

Still, it is difficult not to see at least some muted truth behind Newmeyer's observation—correlational rather than causal—having more to do with the general looseness of presentation, of which humor was an ingredient, than

with humor per se. Informality was part of the working-paper mode of much Generative Semantics; its literature after the first few years rarely made any attempt to hide the tentativeness of its proposals. Many Generative Semantics papers, particularly the ones in the CLS volumes, are rife with expressions of hesitancy about their proposals (which, however, they combined with claims of superiority over Interpretivist treatments of the same phenomena), and stylistic looseness reflected this hesitancy, perhaps tacitly requesting some lenience from the audience. It expresses, in effect, what George Lakoff put more explicitly very late in the debates:

I do not have anything even close to an adequate theory. What I do have, by way of formal treatment, are some grossly inadequate but suggestive ideas . . . So far as I can tell they are only slightly better than what is now available in various versions of generative grammar—and you know how bad they are! I hope you will approach [the proposals] with a charitable heart. The ideas are young and need to be cared for. (1977a:259)

Lakoff's statement is the fullest one on the tentative nature of many proposals, but it is very far from unique. Nor were Generative Semanticists shy about recanting their proposals when clear proof of something better came along—though no one ever used the excuse “Couldn't you see that I was just fooling around?” in such a recantation.

In short, while there was clear hedging going on, and humor contributed to that hedging, it is unfair to say that humor was a deliberate escape hatch. The proposals were seriously advanced, but they came with a warning label against unqualified acceptance.

Generative Semanticists' truth-in-advertising was rarely appreciated. Transformational Generative Grammar had been in flux almost from the outset—certainly from as soon as it grew beyond Chomsky's personal concern. Lees's 1962 preface to the second printing of his *English Nominalizations*, just two years after the first, apologizes that it “has long since become antiquated” (1968: xxvii). But such confessions were rare in the early years and have always been rare in the work most closely associated with Chomsky, which projects confidence and certainty.

Consumers—of theories just as of washing machines—want confidence and certainty. They don't want to invest their intellectual capital in something that may be out of date in a few years, or a few months, or a few days. Listen to this complaint about the immediate dissemination of partially digested notions:

What is at issue is whether every new speculation, no matter how ephemeral, should be broadcast in the literature when the development of ideas is so

continuous and rapid that the latest speculation is already out-of-date by the time it is published. (O'Donnell 1974:79n1)

Things were starting to look bad for Generative Semantics sociologically, and its ethos contributed to its failing reputation. If you think O'Donnell is critical, here is Robert Wall, an insider, writing a satire, but a devastating one:

Look, maybe the thing to do would be to go into historical linguistics and let syntax go for a while—at least until things settle down a little and these assholes stop printing every hare-brained hallucination that afflicts their heads. (Wall 1970:167n15)

Generative Semantics 4: The Collapse

Unsurprisingly, I have no explanations to offer here.

—Haj Ross (1973c:243n40)

The transcendent truth of my position has been buttressed time and again, most recently by the splendid work being accomplished in progressive (as opposed to regressive, although of course no directionality is implied) semantics. I refer here not so much to the writings of McQuarrelly, whose thought is not always sound dogmatically, but rather to the output of Coughlake, that prolific exponent of generative power (see, inter alia, Coughlake to appear a, to appear b, to appear c, to appear N). Coughlake's irrefutable, nay absolutely crushing, indications of the necessity for wholly novel forms of grammatical apparatus—approximately one revolution in theory each week, . . .—quite boggle the mind. Nothing could prove the correctness of the ESP [Erector Set (British Meccano) Proposal] more convincingly than these repeated demonstrations that the required pulleys must be larger and stronger than we were inclined to believe.

—Ebbing Craft aka Arnold Zwicky, in a
multipronged parody; 1992 [1971]:148)

The Cessation of Hostilities

Judith Levi set to work on *The Syntax and Semantics of Complex Nominals* in 1974, an extensive reworking of her doctoral dissertation under McCawley that does for Generative Semantics what Lees's *The Grammar of English Nominalizations*, a reworking of his doctoral dissertation under Chomsky, does for early Transformational Grammar. Levi's book proves—within all the variations, uncertainties, and controversies that characterize any scientific attempt to model reality, especially a reality as mucky as language—that Generative Semantics works.¹ But when she finished, and the book was in press (published 1978), Levi “looked around and found that nobody was interested. There was no community.”

On the other side of the battlefield, Howard Lasnik, an emerging scholar who was shortly to become the most important post-bellum Chomskyan, noticed that the burning issues of the last five years had disappeared overnight from the MIT hallways. "People just stopped talking about them," he recalls. "I have this distinct impression. It was like someone put his head out the window and it wasn't raining anymore, and that was that."

The Wars were over.

Chomsky, it very shortly became clear, had won.

The victory was crushing, and Chomsky deserves a good deal of praise or blame, depending on your perspective, for the total eclipse of Generative Semantics. But far from all. Some of his counterargument bullets were very well placed, but Generative Semanticists also shot themselves in the foot, the knee, the hand, any and all extruding limbs or appendages, frequently and publicly, just as Chomsky's model began making impressive headway.

That headway was the absolute deciding factor. It was Chomsky's positive proposals—providing an alternative to a model undergoing a crisis of confidence—far more than his negative attacks on Generative Semantics, that pulled his Interpretive bacon from the fire, however badly singed.

The Chomskyan Ebb

Let's face it. The publication of Reflections on Language [Chomsky 1975b] leaves little doubt that transformational-generative grammar has become an intellectual fraud.

—Bennison Gray (1978:70)

By the mid-1970s, Chomsky looked to be, in Zwicky's biting parodic pseudonym, Ebbing Craft. He had been outflanked by his progeny and had retrenched to a Bloomfieldian anti-meaning position rather than embracing their advances. His counteroffensives and attacks—the misunderstood Lexicalist and $\bar{x}$ -syntax proposals, the vaguely adumbrated post-Deep Structure semantic proposals, the peculiar notational variants position—all looked feeble. And that was just the start of his troubles.

His reputation in psychology had taken a beating. In the early 1960s, he was hailed as a founding father of the cognitive revolution; by the early 1970s, even as his previous accomplishments were making their way into textbooks and popularizations, working psychologists were rapidly losing faith in his program. For one thing, it wasn't panning out experimentally. Miller and Chomsky had suggested in the early 1960s that the

psychological plausibility of a transformational model of the language user would be strengthened, of course, if it could be shown that our performance on tasks requiring an appreciation of the structure of transformed sentences is some function of the nature, number and complexity of the grammatical transformations involved. (Miller and Chomsky 1963:481)

Psychologists had extrapolated this into a very pretty process theory of Transformational Grammar with clear empirical consequences: “that the ‘transformations’ underlying variations in linguistic structure correspond to ‘mental operations’ that have to be carried out in a certain order and in a definite amount of time in order to achieve certain results” (Carroll 1964:122). The more transformations involved in a sentence, that is, the longer it should take for someone to understand it. A passive sentence should take longer than its active counterpart. A negative should take longer than a positive. A negative-passive should take proportionally longer than a positive-active. You get the picture.

At first, this model—known as the *Derivational Theory of Complexity*—seemed spectacularly successful, giving a psychological boost to Transformational Grammar, a grammatical boost to cognitive psychology, and an empirical boost to the hybrid fledgling, psycholinguistics. It *did* take people longer to understand sentences with more transformations in their derivation. But all too soon, when sentence length and meaning were factored in (passives are longer than actives, for instance, and have subtle differences in meaning; negatives are slightly longer than positives, and very different in meaning), transformations receded in importance; at best, they now seemed untestable.

Worse, transformations which resulted in no differences of length or meaning (relating sentences like *Norman called up Eddie* and *Norman called Eddie up*) also had no appreciable impact on comprehension time. Whatever the early indications from Chomsky, Miller, and other early generativists—all of that literature is rife with the language of transformational processes—it was clear that transformations were not real-time psychological operations that took one neural signal and yielded a different neural signal on the way to physical articulation or inscription. A similar story unfolded for experimental attempts to confirm the psychological reality of Deep Structure: initial success, followed by reinterpretations of that success considering other factors, and then outright failure, by which time Chomsky had rejigged Deep Structure anyway. The competence/performance distinction looked like it was developed to inoculate his formal model from testing. The “processes,” the derivational “levels,” the “directionality” and “cyclicity” of the various relations among representations—were all revealed as metaphorical in a way that offered no empirical handles for an experimentalist to grab hold.

It didn't help that increasingly abstruse, counterintuitive notions began showing up in Chomsky's work—filters, constraints, traces, $\bar{x}$ -syntax, many of them working in ways that seemed to undermine or oppose or compromise the storied transformation, and all of which had to be sorted out with respect to the *Syntactic-Structures-cum-Aspects* legacy—steepening the learning curve almost to verticality for many outsiders. What was retained from the celebrated early work? What was dropped? What was modified? What was old? What was new? What was borrowed? What was blue? What was the resulting theoretical picture of all the ongoing and various revisions? These questions had to be answered annually, if not monthly; certainly after every major publication by Chomsky. Books and dissertations had to be emended as they were being written. Including grammatical theory in psychology textbooks seemed pointless. A book like Miller, Galanter, and Pribram's (1960) *Plans and the Structure of Behavior*, with its central dependence on Chomskyan linguistics, was now unthinkable. "The adventure into transformational grammar" for many psychologists, recalled Eric Wanner, looked to have "reached a dead end" (1988:150).

For those psychologists who managed to maintain their interest in formal linguistics, Generative Semantics seemed to offer the same attractive and inevitable outgrowth of Chomsky's early work that most linguists initially found, and they uniformly preferred the more elegant, more intuitive, mediational thought-to-speech picture of language it offered. But it proved no more amenable to experimentation. Nor did the squabbling help. "Linguists between MIT and Berkeley," as Walter Kintsch complained, "kept changing their minds and contradicting each other" (Kintsch 1984:112). Instability was everywhere psychologists looked, and most just found the dispute arcane and ill-mannered. Chomsky's reputation suffered the most, in exactly the way it suffered in the media accounts of the dispute. Ebbing Craft indeed.

George Miller jumped ship. His affiliation with Chomsky through the late 1950s had been extremely important for both of them, and their collaborations were foundational for psycholinguistics. By the mid 1960s, with kernels and Generalized Transformations disappearing, recursion moving into the base, and so on, Miller had lost his affection. "I had given up on syntax," Miller said; "In that area, the theory changed too rapidly" (Baars 1986:216). He also seems to have lost some patience with Chomsky. "At the time," Miller said of the derivational theory of complexity when it was first proposed and explored, Chomsky "thought it was an interesting thing to do. Later he said, 'Nobody would do anything that stupid! That's not what I was talking about. I was talking about competence, not performance.' But at that time it wasn't all so clear. So we tried it." (Baars 1986:208).

The single biggest point of disaffection for psychologists, and many others, was undoubtedly the "broken promise" of early Chomskyan theory, as Jackendoff

put it, that “Deep Structure would be the key to the mind” and, following up the ladder of familiar claims, that it would provide the long-held secret of humanity: “If Deep Structure is innate—being dictated by Universal Grammar—then linguistic theory gives us unparalleled access to the essence of human nature” (Jackendoff 2003a:654). Discarding the magic key (in letter if not in spirit by the Generative Semanticists; in spirit if not in letter by the Interpretive Semanticists) violated that promise.

The more linguists I see, psychologists were beginning to feel, the more I like my rats, and someone finally published a response to Chomsky’s *Verbal Behavior* review (MacCorquodale 1970). Reports of the death of behaviorism began to look somewhat exaggerated.

Things were just as bad for Chomsky in English studies, also because of unrequited optimism. The hoped-for panaceas in composition and poetics failed to cure any ills and made some of them worse; the Linguistics Wars looked arcane and ill-mannered; and English scholars could see, like everyone else, that the damn theories wouldn’t keep still. English folk went from delight to disillusionment at least as rapidly as psychologists, and by the mid-1970s articles like “Why Transformational Grammar Fails in the Classroom” were common—hysterically drawing attention to the negative correlation between national ACT scores and “the rise of the linguistic revolution,” and now using analogies to the New Math (once recommendations) derisively (Luthy 1977).

Things were, if anything, worse yet in AI, the first field to embrace Chomsky’s work, before psychologists or even linguists. This split, as so often with Chomsky, was punctuated with acerbity and lasting bitterness. From the late 1960s on, he made no secret of his skepticism about AI and became positively contemptuous with the rise of connectionist approaches. One of his favored targets was Roger Schank, director of Yale’s AI lab. Daniel Dennett remembers one particular MIT seminar conducted by Chomsky and Fodor which zeroed in on Schank. “If you went by Chomsky’s version,” Dennett says,

Schank had to be some kind of flaming idiot. I knew Roger and his work pretty well, and though I had disagreements of my own with it, I thought that Noam’s version was hardly recognizable, so I raised my hand and suggested that perhaps he didn’t appreciate some of the subtleties of Roger’s position. “Oh no,” Noam insisted, chuckling. “This is what he holds!” And he went back to his demolition job, to the great amusement of those in the room. (Dennett 2014:29–30)

Schank, two decades removed, could still barely contain his bitterness:

The MIT linguist Noam Chomsky represents everything that’s bad about academics. He was my serious enemy. It was such an emotional topic for

me twenty years ago that at one point I couldn't even talk about it without getting angry. I'm not sure I'm over that. I don't like his intolerant attitude or what I consider tactics that are nothing less than intellectual dirty tricks. (Schank 1996:174)

Computer scientists could surely have lived with the contempt, if only Chomsky's work had continued to be fruitful, but he had moved away from the mathematical modeling that made it so attractive to them in the first place.

Even the moral implications of Chomsky's linguistics—or, rather, the lack of them—were under attack, many people noting the irony that one of America's premier social critics avoided the social aspects of language like a case of the hives. American linguistics prior to Chomsky had long been a field with a social conscience—in a real sense, it was born out of a social conscience—most notably in its approach to indigenous languages and cultures. In the late Bloomfieldian period, this conscience had atrophied somewhat. With Chomsky, it withered away to nothing: if linguistics is a branch of cognitive psychology, its relevance for social issues is negligible at best. But the 1960s and 1970s saw a renewed interest in the sociopolitical dimensions of language, tending to focus more on the urban poor and with that renewed interest came what Newmeyer calls “the moral critique” of Chomskyan linguistics (1986b:120–26). The criticism had a range of concerns, but prominently included the program's emphasis on English data, gathered through introspection, and on the resultant ivory tower into which it locked the field. Here is Dell Hymes:

The almost exclusive study of their own language, English, by so large a proportion of the world's linguists, has seemed to the participants a source of deepening insight into the underlying structure of all languages. Leaving aside the methodological difficulties that have become increasingly apparent, we must consider that to many other communities, including those of American Indians, such a concentration may seem an expression of ethnocentrism at best, a hostile turning of the back at worst . . . Many participants in formal linguistics are liberal or radical in social views, and yet their methodological commitments prevent them from dealing with part of the problems of the communities of concern to them. (Hymes 1974b:21–22 [Hymes, not coincidentally, was an ethnological linguist with some pre-Chomskyan allegiances]).

The social climate of the 1960s and 1970s was highly receptive to this style of attack on Chomsky, and many people found it very telling, seeing additional support for it in the overwhelmingly predominant funding source for Transformational Grammar, the U.S. military (Newmeyer & Emonds 1971, Knight 2016:15ff, 2018a).

There were more attacks. Aarsleff pummelled Chomsky's claims to Cartesian roots, and his scholarship, and his honesty (1970; 1971).² Bennison and Gray denounced the "Alice in Wonderland state of affairs" in Chomsky's idealizations and formalisms (Gray 1974:5), and his "inversion of priorities" (1976:38), and the "intellectual fraud" of his work (1977:70). Maher railed against Chomsky's school—MITniks, MITnik myths, MITnik methods, general MITology, and sundry MITnikia (1973a: *passim*). Derwing launched a book-length assault on Chomsky's rhetoric, puzzling in particular over his success "despite key arguments which include the fully specious, the mainly irrelevant, and even the out-and-out false" (1973:222). Other books joined in: Koerner (1975), Robinson (1975), Hagège (1981 [1976]), and Anttila, in an all-purpose, anti-Chomskyan harangue, celebrated these proliferating assaults:

So much of the current criticism is directed against transformational-generative grammar and its various offshoots. It does not mean that an innocent is brutally drawn under gang attack, but that they are indeed real offenders who have brought scholarly discourse to an all-time low. (Antilla 1975:172)

There was, however, little in these attacks to comfort Generative Semanticists. So far from being seen as a welcome alternative to Chomsky's program, Generative Semantics was usually viewed in this quarter as exemplifying its worst excesses. As Anttila's celebration of the abuse torrent indicates, it was not only Chomsky, but all things Chomskyan, coming under attack in the 1970s, especially the squabble that had broken out among his formerly close-ranked followers. Maher complained that "every MITnik is a revisionist" (1973b:30), and Talmy Givón muttered from the wings about a discipline going to hell in a handcart, "rife with fads, factionalism, and fratricide" (1979:xiv). Searle noticed some of the Bloomfieldians "rubbing their hands in glee at the sight of their adversaries fighting each other" (1972:20).

Only the philosophers were unmoved by all this agitation around Chomsky, theoretical, rhetorical, and sociological. They never had the same optimism about his program, for one thing, and their own progress, if progress it be, is glacial. Nor are they unfamiliar with wranglings and treason. And Chomsky never fails to give them a good argument. For what more could they ask? He is more of a philosopher than almost any linguist in the history of the discipline. Certainly, he is a closer intellectual kin to the scattered philosophers like Zeno and Humboldt who have had an active, informed interest in linguistics, than to the linguists like Whitney and Bloomfield who have had an interest in philosophy. So, philosophers have welcomed him, in their rough and contentious way, to their hearth. They have attacked him, celebrated him, quibbled with him, and endorsed him. One philosopher, reviewing a book in which Chomsky confronts

Dummett, Quine, Putnam, Searle, and assorted other formidable members of the profession, likens the spectacle to “watching the grandmaster play, blindfolded, 36 simultaneous chess matches against the local worthies” (Hacking 1980:47). The interactions between Chomskyans, especially the titular one, and philosophers have been continuous and fruitful. Chomsky’s place in philosophy seems assured.

One outcome of the Interpretive/Generative Semantics squabble is clear. The bickering did not help the reputation of linguistics. Disputes are often healthy for a field, and this dispute makes that case as well as might be imagined. It churned up a great deal of knowledge, raised a diverse spectrum of perspectives, and reorganized the field intellectually in a way that spawned highly productive research programs in the twenty-first century. But bickering, a decidedly pettier activity which can accompany disputes, is much less healthy. Once again the Interpretive–Generative dispute makes that case as well as might be imagined. Bickering has two general effects: (1) It maintains a state of bitterness, the bickerers accumulating more and more personal animus, which virtually guarantees they will never reconcile; and (2) it annoys the neighbors. They move away.

Generative Semantics Gets Fuzzy

[Generative Semanticists] have said a great many potentially interesting and illuminating things . . . [But] even the most illuminating suggestions are bound to lose a great deal of their light if put forward in a theoretical vacuum, and, furthermore, . . . without the constraining influence of a coherent theory there is bound to be a mixture of proposals, going from the brilliantly illuminating to the downright silly.

—W. R. O’Donnell (1974:76)

Generative Semantics faltered, hemorrhaging confidence. Its practitioners lost their collective direction. The movement fractured into a number of loosely aligned interests. Generative Semantics expired.

Once it became clear that Transformational Grammar could not handle meaning as elegantly as Homogeneous I had promised—that the strong form of the Katz-Postal Principle could not stand—the writing was on the wall. The movement went in several directions at once, and by the mid-1970s it was inescapably clear, to friend and foe alike, that there was no longer a single beast called *Generative Semantics*. It was legion. Initially, there were promises for definitive texts. First, Ross and Lakoff were to write an authoritative monograph, *Abstract Syntax*. Then Lakoff was to write another text on his own, *Generative Semantics*.

But new data and new theoretical devices kept derailing their plans. In the end, the closest thing to a definitive text was Donald Frantz's quasi-publication from the Indiana University Linguistics Club, *Generative Semantics: An Introduction*, which carries the qualification in its preface that it doesn't quite meet the demands of its generic title, that a more localized title would be more accurate, *Generative Semantics According to Frantz* (1974:2).

We can see the fractionation of Generative Semantics in the early-to-mid-1970s most concisely by a quick trace of the paths taken by the four horsemen.

Postal dismounted quite early (around 1972–73, though some later published work still participates in Generative Semantics), to develop an alternate formal model with Perlmutter, Relational Grammar. This framework was in partial competition, partial alliance, with Generative Semantics, but its effects on the fortunes of Generative Semantics were uniformly detrimental. This is what it looked like: Postal was deserting a sinking ship. By his own reckoning, he was the last to come aboard. He was certainly the first to leave, Defector Zero.

Ross drifted into murkier and murkier realms of data and began to argue that the distinctions among grammatical categories and constructions were not, as virtually all grammatical theory had hitherto treated them, distinctions of kind, but only of degree. So, for instance, he proposed that the following continuum (he calls it a *squish*) more realistically captured the differences among word categories than did the discrete approaches typical heretofore of Transformational Grammar, and of virtually all other forms of linguistic analysis (Ross 1972c:316):

Verb > Participle > Adjective > Preposition > Noun

The terms here function more as concentration points of properties and behaviors than as category labels: some words in this view are sort-of, kind-of verbs; others are sort-of, kind-of nouns, and in between them are verby nouns, usually called *prepositions*, and nouny verbs, usually called *participles*, and a bunch of androgynes called *adjectives*. These new sort-of classifications all came embedded in a mesh of very subtle arguments, depending heavily on personal intuition and loose surveys, and involving the interaction of controversial or poorly explored processes, and leaning heavily on imagery:

To pass from left to right [on the verb-to-noun continuum] is to move in the direction of syntactic inertness, and to move away from syntactic freedom and volatility. To wax metaphorical, proceeding along the hierarchy is like descending into lower and lower temperatures, where the cold freezes up the productivity of syntactic rules, until at last nouns, the absolute zero of this space, are reached. (1972c:317)

We pass over these reason-meshes of observation and simile here, fascinating as they are, for the dénouement: squishiness was not a hit. The biggest problem was a familiar one: Ross argued repeatedly that a discrete grammar (like all contemporary transformational work, Interpretive and Generative Semantics alike) faces intractable problems which a nondiscrete grammar would not face. But he never offered a nondiscrete grammar. Gazdar and Klein (1978:666) invoke Pirandello to describe one of his squishy papers, calling it “little more than a collection of data in search of a theory.” Ross’s good buddy Lakoff went even further, saying “no current theory of grammar can even begin to accommodate the facts that Ross has observed” (1973b:271). Of course Lakoff meant this as a high compliment, but it contributed to a distinct lack of confidence that Ross knew where he was going, and really, who wants to follow someone groping his way out into the dark when there is a candle nearby, even a flickering and besmirched candle. There was such a candle held out by the steady and confident hand of Chomsky.

George Lakoff, you might recall, does not lack in confidence either. He went looking for candles, launching a campaign to retool Generative Semantics into something capable of handling squishes; no, of *embracing* squishes.

The defining notion in Ross’s arguments is the notion of degree, and Lakoff began to splice into his program ideas from parallel disciplines that evoked degrees of variability. He found them down the hall at his new institution, Berkeley. The work of two colleagues in particular inspired him: psychologist Eleanor Rosch and polymath Lotfi Zadeh, with the emphasis on *math*—a mathematician, engineer, and computer scientist who worked in AI. Rosch and Zadeh both investigated nondiscrete representation, but from different angles. Rosch researched mental representation, around the notion of prototypes; Zadeh, formal representation, in a notation he called fuzzy logic. Zadeh’s work also contributed to the branding of Lakoff’s new approach, which he called *Fuzzy Grammar*.

Rosch’s research shows that people often categorize by imagistic or feature-density notions rather than by sharp definitions of the [+male, -married] variety. So, for instance, a robin is more quickly and readily identified as a bird than a penguin is, despite people knowing that they both equally fit the dictionary definition of *bird* (perhaps because it corresponds to more frequent bird-percepts or has richer concentration of features typically associated with birds, or both). Zadeh’s logic operates not on the traditional binaries, true and false, but degrees of truth. A term that comedian Stephen Colbert later coined for much different purposes, *truthiness*, is actually a pretty good label for Zadeh’s focus.

Lakoff published a number of investigations blending Rosch and Zadeh’s work, but the principal paper on this approach that was still more or less under

the Generative-Semantics umbrella is his analysis of linguistic hedges, like *sort of* and *pretty much* (1973d [1972]). He claims that the truth of such statements as those in 1, is graduated, that their truth values move from 1a, which is absolutely true, to 1e, which is absolutely false, through several intermediate degrees:

- 1 a A robin is a bird.
 - b A chicken is a bird.
 - c A penguin is a bird.
 - d A bat is a bird.
 - e A cow is a bird.
- (G. Lakoff 1973d [1972]:223)

Then, he charts the interaction of certain hedges and intensifiers (sometimes called *degree words*) on the perceived truth values of such sentences:

- 1 a A robin is sort of a bird. (false—it is a bird, no question about it)
 - b A chicken is sort of a bird. (true, or very close to true)
 - c A penguin is sort of a bird. (true, or close to true)
 - d A bat is sort of a bird. (pretty close to false)
 - e A cow is sort of a bird. (false, absolutely not a bird)
- (G. Lakoff 1973d [1972]:234; the truth judgments are his)

So, 1a is the truthiest of all (getting the highest value in Zadeh's calculus, 1), and certainly truthier than 1b, in turn truthier than 1c, and so on, until we get to the absolute zero of truthiness (with, appropriately, a fuzzy-logic value of 0), 1e.

The end game of importing these notions into linguistics is to put them into the service of grammatical theory, in part to help make sense out of Ross's squishes. But Lakoff doesn't get very far. He proposes a rough sketch of some logical apparatus for treating the semantics of hedges, and, appropriately, he hedges it substantially. "I don't want to give the impression that I take the proposals . . . to be correct in all or even most details," he says. "In fact, it is easy to show that far more sophisticated apparatus will be needed merely to handle the hedges discussed so far" (G. Lakoff 1973d [1972]:246).

And fuzziness was not all Lakoff was up to in the mid-1970s. He was also exploring ways to incorporate Grice's informal work on conversations into formal grammar, looking at syntactic amalgams, and linguistic gestalts, and generally probing pragmatic phenomena, and expanding his investigations of logic, under the slogan of "natural logic," to the point where he was calling for "hundreds, perhaps thousands more" concepts (Parret 1974 [1972]:162).³

George Lakoff was very, very busy.

McCawley was busy, too, but in a much more low-key and sharply angled way. Early in the debates, he advanced some of the strongest theoretical arguments, largely around the theme of reducing complexity by treating syntax and semantics as a unitary phenomenon. But McCawley dropped his meta-theoretical approach in the early 1970s to pursue more specific work. That shift in approach came from his unease about the lack of reflection in his own argumentation (for instance, around the notion of grammaticality), and his perception of the sloppiness in linguistic argumentation all round him. He made a conscious decision to be more responsible: to concentrate on trenchant critiques of the Interpretivists and on the application of Generative Semantics principles to specific phenomena. His work in the 1970s largely assumed Generative Semantics, rather than championing it (like Postal) or celebrating it (like Lakoff), though he didn't make his motives clear until the end of the decade:

I do not mean to suggest by [assuming, rather than explicitly marketing, Generative Semantics] that I am so arrogant as to regard all the controversies over claims I and other "Generative Semanticists" have made about the unity of syntax and semantics as having been settled in our favor. Rather, I simply think that for further discussion of these questions to be productive, the disputants need a much broader and deeper understanding of the relevant factual areas than any of them (myself included) had around 1970. (1979:viii)

He worked fastidiously to replace "the sweeping and often rash generalizations in my earlier work about the relationship of grammar to logical structure and the lexicon by more detailed proposals whose backing is less anecdotal" (1979: viii).

McCawley, in short, spent most of the 1970s buttering syntactico-semantic parsnips. He followed Postal's reductionist program to find the atomic categories; arguing, for instance, that tense (1976b [1971]:257–72) and *not* (1976b [1971]:277–84) were underlying verbs, and defending Ross's analysis of modals (1979 [1975]:96–100). Eventually, this line followed the path of the modern atom very closely, and McCawley finally argued that there were no syntactic categories at the deepest level after all, that they were composites of smaller particles yet (1982b [1979]:200)—something that was in principle compatible with Ross's squishes, but no merger was ever pursued. He also proposed that the underlying word order of English was not, as had been assumed since Harris, a reflection of the canonical surface order, subject-verb-object, but more like Polish-notation symbolic logic, verb-subject-object (1976b [1970]:211–28). The argument, regarded as something of an unwitting *reductio* by many anti-abstractionists, is a clear, well-reasoned application of Occam's razor to the organization of Transformational Grammar: Adopting a deep verb-subject-object order complicates no transformations and simplifies fully a third of them. The VSO hypothesis was adopted by most Generative Semanticists, rejected by all Interpretivists; the expected pattern.

But here's the thing about that pattern, McCawley's VSO hypothesis has no necessary connection to the architecture, or any unique mechanisms, of Generative Semantics. While it complicates some of Chomsky's more cherished working assumptions of the period (in particular, that there is an underlying verb phrase), it is fully compatible with an Interpretive Semantic component—as, of course, is the position that *not* is a verb, or that TENSE is a verb, or that syntactic categories are not primitive. Much of McCawley's analytical work in the 1970s was conducted under the flag of Generative Semantics (he didn't officially fold that flag until the end of the decade, and one suspects he kept it lovingly in a hope chest thereafter). But that work, more properly, was Abstract Syntax.

Abstract Syntax, by name or otherwise, was out of favor. It had been rejected virtually wholesale by the Interpretivists, since it was temperamentally, if not logically, incompatible with Lexicalism, but other Generative Semanticists appeared to have little use for it either. George Lakoff was working on everything but. Ross was wading in squishy data. Robin Lakoff, an early pioneer with *Abstract Syntax and Latin Complementation* (1968), had turned away from formal modeling to pursue her pioneering work on gendered language practices (1973c 1975). More broadly, as a diversity of models began to characterize linguistics, *concreteness* became a byword for responsible theorizing, sometimes deliberately counterposed against Generative Semantics. "The most noticeable characteristic of daughter-dependency syntax," Richard Hudson wrote in advocacy of his model, "compared with transformational syntax, is probably its concreteness." First among the virtues of concreteness, he added, is that "it rules out the kind of highly abstract syntactic structures typical of generative semantics" (Hudson 1976:23). Aside from McCawley and a few of his students (most notably, Judith Levi and Georgia Green), abstract transformational analyses were shunned.

So, ten years after the "Remarks" lectures: Postal was gone; Ross was hip-deep in murky data; Robin Lakoff was off inventing feminist sociolinguistics; George Lakoff was as inventive and daring as ever, but wouldn't sit still long enough (figuratively or literally) for other linguists to get a fix on his work; and McCawley was out of step with the times.

The Ethos Backfires

I have never made but one prayer to God, and a very short one: 'O Lord, make my enemies ridiculous.' And God granted it.

—Voltaire (1767)

Without a defining center, and with the times a-changin' (protests were out, discotheques were in), many of Generative Semantics' identifying traits became liabilities, and Chomsky's reputational ebb did not benefit them. A receding tide

lowers all boats. The Generative/Interpretive squabble certainly hurt both sides, but the boisterous Generative Semanticists were a much easier target. For Gray, “Chomsky sounds quite Trotskyish compared to the logico-linguistic Stalinists of the younger generation [specifically citing McCawley]” (1974:4), and Hagege complained that “the promoters of Generative Semantics have only prolonged, extending them to the point of caricature, [the] already existing procedures” that he found repugnant in Chomsky’s work (1981 [1976]:83). Maher, giving full vent to his fetish for capital letters, identifies the worst MITniks as the authors of “innumerable facetious pieces of juvenilia presented as scholarly papers at LSA, CLS, and other TG club meetings,” particularly “QPhD’s [Quang Phuc Dong’s] pupils Binnick, Morgan, and Green” (1973b:30).

The *juvenilia* in Maher’s complaint had mostly to do with the loony humor infusing Generative Semantic work. He was not alone in entertaining the view that the lack of seriousness ran deeper than style. O’Donnell, for instance, sniffs “serious grammatical studies may, as [G. Lakoff] claims, be in their infancy: serious grammarians, however, are not” (1974:75). But there was another problem with the humor. It was mostly directed, rather narrowly, toward other Generative Semanticists. It was not invitational; Robin Lakoff calls the characteristic style of her community “a kind of secret handshake” (1989:977). One example of this invitational failing, in a major article by her husband (1971b), was especially disastrous. It was written as a reply to Chomsky’s “Deep Structure, Surface Structure, and Semantic Interpretation” under very tight publication circumstances, and Lakoff decided he would parody Chomsky:

Chomsky wrote this paper [“Deep Structure”] attacking Generative Semantics, for a collection by Steinberg and Jakobovits [1971]; Danny Steinberg called me up and asked me if I wanted to write a reply. I said “Sure.” And he said “Well, you have a month.”

I looked at this thing. It was this huge paper. It was full of quotes taken out of context, and characterizations of our position that were really wrong. I had a month to reply to it. I didn’t know how to deal with it, so I decided to write a parody. I took [Chomsky’s] own style, and tried to turn the style against him. Apparently, he never realized that it was a parody.

This quotation is somewhat misleading in that “On Generative Semantics” is not a flat-out parody of Chomsky, though it certainly contains a good many parodic elements, particularly in the first few pages. It is the mixture of imitative mocking and straight-ahead argumentation that mostly sinks the paper, but the immediate lesson here is that satire always misses some people—if rhetoricians had such things, it would be one of their Ironical Laws—and there is no question but that Chomsky, for this satire at least, was one of those people.

Chomsky completely failed to recognize the parody, welcoming Lakoff's paper graciously for having adopted, "with only a few changes, the general framework and terminology of ["Deep Structure"], so that the differences between [Interpretive] and Generative Semantics, as so conceived, can be identified with relative ease" (1972b [1969]:134). Chomsky's missing the joke, in fact, became the source of yet more back-room knee-slapping for some Generative Semanticists, showing just how irredeemably humorless their opponent was. But it is an easy joke to miss.

Once the paper is identified as a parody of "Deep Structure," it is very effective. Lakoff sets up a "basic theory" in parallel to Chomsky's "standard theory," and defines it so broadly as to encompass virtually any conceivable theory of language, thereby making every theory a notational variant of the basic theory. Much of the style is recognizably mock-Chomskyan, with rather tortuous syntax, numerous uppercase variables, subscripts, and superscripts, and the tendency to traffic for a long while in abstractions before offering specific proposals or analyses.

But parody needs some other signal than a backstage elbow in the ribs of a confederate if it is to serve some purpose beyond closed-off, insider ridicule, and Lakoff utterly fails to flag his paper as a parody for the broader community. The title—"On Generative Semantics"—is serious, and, in fact, promises a definitive treatment of the movement Lakoff very prominently represents. Nothing in the text is so outrageous as to provide an unequivocal clue.⁴ Lakoff apparently regarded the following definition of "the semantic representation SR of a sentence" as patently absurd (attacking the sort of work Jackendoff published in *Semantic Interpretation*):

SR = (P₁, PR, Top, F, . . .), where [P₁, is the first phrase marker in a derivation,] PR is a conjunction of presuppositions, Top is an indication of the topic of the sentence, and F is the indication of the focus of the sentence. We leave open the question of whether there are other elements or semantic representations that need to be accounted for [hence, the ellipses at the end of the formula]. (1971b:234–35)

But without knowing Lakoff's intention, the definition just makes him look like a wild-eyed semantic imperialist, a conception most Interpretive Semanticists already held of him, and one that many spectators held of Transformational Grammarians in general. Nor is this proposal much stranger than the one that Lakoff was seriously advocating only the following year:

The abstract objects generated [in Generative Semantics] are not sentences but quadruples of the form (S, LS, C, CM) where S is a sentence, LS is a logical

structure associated with S by a derivation, C is a finite set of logical structures (characterizing the conceptual context of the utterance), and CM is a sequence of logical structures, representing the conveyed meanings of the sentences in the infinite class of possible situations in which the logical structures of C are true. (Parret 1974 [1972]:163)

There is even a direct parallel with the ellipsis of the “parodic” 1971 formulation, as Lakoff adds “even this is inadequate,” since “one must take into account much more than conceptual contexts” (Parret. 1974 [1972]:163).

Much of “On Generative Semantics” is also written utterly deadpan, particularly the opening pages, and it is not until late in the article, when Lakoff starts proposing rule features like $[\pm \text{ PEDRO}]$ that there is a fairly clear hint the author is not simply drab by constitution, but drab by choice; until that point, it is more reasonable to regard the author stylistically as a clone of Chomsky, whatever their differences, than a parodist of Chomsky. Even the sample sentences are very restrained, prominently featuring Chomsky’s old friend *John*.

More problematically, Lakoff’s paper contains the one ingredient that muffles irony better than anything, a good deal of serious discussion, which is frequently impossible to disentangle from the smirking.

Almost no one beyond the inner Generative Semantics circle, in any case, appears to have got the joke, certainly not the book’s editors. Howard Maclay’s introductory discussion of Chomsky’s and Lakoff’s papers, for instance, takes Lakoff’s at face value (pausing to remark that “the extent to which the structure of argumentation in [Lakoff’s paper] is modeled on Chomsky is quite striking,” 1971:178), and it is. Here is Chomsky:

I will refer to any elaboration of this theory of grammar as a ‘standard theory,’ merely for convenience of discussion and with no intention of implying that it has some unique conceptual or empirical status” (1972b [1968]:66)

Here is Lakoff:

I will refer to the above theory of grammar as a ‘basic theory,’ simply for convenience and with no intention of suggesting there is anything ontologically, psychologically, or conceptually basic about this theory. (1971b:236)

“On Generative Semantics” entered the literature as just another article, with even Lakoff, apparently determined to occlude his joke completely, regularly citing it in subsequent work as a straightforward account of the theory of Generative Semantics (1970b:627, 635n7; 1970e:542n2; 1972d:290n4). Its effect was uniformly deleterious, contributing as much as any individual paper could

to the communication breakdown that characterized the dispute in the early 1970s. Spectators to the dispute generally took the essay as signaling the departure of coherence—illustrated most strikingly by Dubois-Charlier's (1972:43) comments on "the paradoxical aspect of the matter . . . that both Chomsky and Lakoff end up by saying at the same time that the two theories are identical, but that the other's is wrong!" (Hagège 1981 [1976]:33n29).

The worst consequence was one that Lakoff really should have expected, given the title, the venue, and his own reputation: "On Generative Semantics" was soon taken to be "an important manifesto of the approach" (Raskin 1975:462). It was the only publication from any of the leading figures in the movement to include *Generative Semantics* in the title and it appeared in a very prestigious anthology. An earlier version of the paper (1969b) was given at a CLS session, stirred along by a live presentation, where it very likely went over splendidly. Most of the audience would have been sympathetic to both its aims and its style, and irony works much better with visual and tonal, nudge-nudge, wink-wink signals. Everyone in the audience would have been familiar with Lakoff's personality and Chomsky's tone, as well as with the issues surrounding the definition of *the standard theory*. Even the published version of that talk, in the proceedings of a conference becoming famous for its sense of goofiness, may not have caused much confusion. But, in a thick, staid volume, alongside papers by Grice, Strawson, Searle, Quine, Katz, and Chomsky, and a whack of others, all of them very serious in tone and intent, it is extremely difficult to take the essay as anything but a single-minded promotion of Generative Semantics, and a befuddled one at that. McCawley's rebuke is rather mild in these circumstances:

Lakoff is guilty of . . . a failure to distinguish adequately between what he would seriously propose as a correct theory of grammar and what he offered (partly in jest) as a general framework for the discussion of theories both correct and incorrect. (1982b [1973]:75)

Field Marshal Radetzky is reported to have told his troops, retaking Sardinia for the Hapsburgs in 1848, "Spare the enemy generals—they are too useful to our side" (Robertson 1952:354). Lakoff was, as a general, extraordinarily useful to the Interpretivist cause.

By the time Katz and Bever put together what Newmeyer (1980a:169; 1986a:134) calls "the consummate critique of the philosophical implications of late Generative Semantics," a few years later, they were sociologically and rhetorically justified in zeroing in on "Generative Semantics, Lakoff Style" (1976 [1974]:30). By the mid-1970s, it was natural to consider the Generative Semanticists as "Lakoff and those associated with him" (O'Donnell 1974:54). With Postal gone, Robin and Ross on different fringes, and McCawley avoiding

strong theoretical claims—the role was George’s pretty much by default, and, well, George Lakoff rather likes the spotlight.

One might even say that Lakoff campaigned for the role as the sole and singular leader of Generative Semantics. As early as 1972 he was defining Generative Semantics very clearly in terms of his own (broad) personal interests, making little reference to the work of Postal, Ross, or McCawley, and citing his stillborn 1963 paper as the starting point (see especially Parret 1974 [1972]:151–78), a claim he has made or assumed repeatedly since. For instance, in a discussion of logical form—in a festschrift for McCawley!—he mentions McCawley in only the most cursory way, represents his own work as definitive, and suggests the logical enlightenment begins in 1963 (1992:175–76).

The late stages of the schism, accordingly, are often characterized as Chomsky versus Lakoff (or Lakoff versus Chomsky; most linguists, then as now, have a preferred home team). The contrast could not have been stronger. Chomsky defined his mid-1970s program in terms diametric to Lakoff’s most notorious theoretical proposal, global rules.

With Lakoff at the helm, promoting his very wide conception of linguistic theory, and a growing Interpretivist attack based on the virtues of restrictiveness, the general perception came to be that Generative Semantics was theoretically promiscuous, incapable of saying no. It opened its doors to any and all phenomena impinging upon language. It adopted increasingly powerful formal mechanisms: global derivational constraints, transderivational constraints, even meta-transderivational constraints. It was given to frighteningly naïve and sweeping claims (“What we have done is to largely, if not entirely, eliminate pragmatics, reducing it to garden variety semantics,” G. Lakoff 1972b:655). Generative Semantics concerned

not just syntax-semantics, phonetics-phonology, historical linguistics, anthropological linguistics, etc., which form the core of most academic programs in this country, but also the role of language in social interaction, in literature, in ritual, and in propaganda, and as well the study of the relationship between language and thought, speech production and perception, linguistic disorders, etc. (G. Lakoff, in Parrett 1974 [1972]:151)

One gets the impression that Lakoff stopped the list more because he ran out of breath than because he ran out of vision, carefully remembering to throw in that *etc.* before gulping for air. Generative Semantics under Lakoff tried to do too much, this line of argument goes, and it burst at the seams. There is much to recommend this version of events. Certainly, Generative Semantics tried to do a great deal, and certainly Lakoff was one of the prime forces stuffing the bag, stressing the seams; and, certainly, it burst. It burst very publicly. As a

matter of course, the great majority of Generative Semantics papers included comments like:

We are forced to conclude that, awkward though it may seem, the similar properties of *both* and *each* cannot be accounted for by the same formal mechanisms in our existing theory. An explanation of whatever underlying regularity there may be will have to wait for a cleverer linguist. (Carden 1970:189n 10)

And:

This paper was undertaken as an attempt to shed light on some very mysterious problems. I fear I have done little more than show which lamps have cords too short to reach the outlets, but hopefully this information will be helpful eventually in finding explanations for these mysterious distributions. (Green 1972:93)

And, most tellingly:

It is not a very satisfactory experience to write an entire paper without being able to offer any decent analyses or explanations for the phenomena I have discovered. It is, however, an enlightening one, and I believe, a necessary one. (Lawler 1972:255)

These were not just declarations of the inadequacy of Generative Semantics, of course: it was the entire program of formal syntactic theory-building, back to *Syntactic Structures* and beyond, that Carden, Green, Lawler, Lakoff, et al. were seeking to expose as woefully inadequate.

In fact, a new genre arose that pushed this data-mongering tendency to the limit (the Green and Lawler quotations, in fact, come from exemplars of the genre). Gene Gragg calls such articles “creature features” and defines the genre’s intentions as “point[ing] out some oddities which a theory of . . . speech will eventually have to come to grips with” (1972:75), but which nothing on the horizon appears capable of treating. The seminal creature features—Postal’s highly corrosive underground classics, “Linguistic Anarchy Notes”—make it very clear that bursting the seams of linguistic theory is the primary motivation. The first note begins:

This is the first in a random, possibly nonfinite series of communications designed to show beyond any doubt that there exists no linguistic theory whatever. There are apparently endless numbers of fact types not incorporable within any known or imaginable framework. In particular, what has been

called the theory of transformational grammar, seems to have only the most partial relation to linguistic reality. (1976 [1967–70]:203)

The notes turned out to be finite in the end, but they sparked an increasing number of similarly dissensual efforts, papers whose sole aim was bringing to light data that would give any and all pretenders to theoryhood the heebie-jeebies. The high point (or low point; take your pick) of the cycle came in the first few years of the 1970s, with creature features like “Semi-Indirect Discourse and Related Nightmares” (Gragg 1972), and “Read at Your Own Risk: Syntactic and Semantic Horrors You Can Find in Your Medicine Chest” (Sadock 1974b).⁵

These papers were only just the most overt symptoms of a mood pervading Generative Semantics of the period, one which shows up in the nooks and crannies of the overwhelming majority of papers. Even Postal’s public persona, which, whatever he said in private or circulated underground, was normally cocksure and authoritative, cracked in one straightforward *Linguistic Inquiry* paper, which ends “There is, of course, an explanation of these [very strange and mysterious properties] but, believe it or not, the present writer does not know what it is” (1972d:400).

Postal’s Anarchy Notes raised something of a stink. In particular, it is said that Halle thought them very ill-advised, probably fearing that they would spark exactly the kind of attitude that they did in fact spark—though *fan* may be more appropriate—and S.-Y. Kuroda chided him gently with his “Linguistic Harmony Notes” (the first number being “Charms of Identity”—1976 [1967]). But we shouldn’t miss the important scientific motives behind this traffic with embarrassing data. It is not to deal a nihilistic blow to the heart of formal linguistics. One of Postal’s avowed short-term aims in the Notes, true, is to demonstrate in the most graphic way possible that the enterprise is “not just slightly in error and rather incomplete”—the attitude that characterized much of the interpretivist camp—“but in deep ways hopelessly far from linguistic reality” (1976 [1967–70]:215); his ultimate aims, though, are much higher. His motives, he says, “are entirely positive.” He is trying to save grammatical theory from itself:

Many people today are engaged in the attempt to construct linguistic theories. My view is that an important difficulty with all such attempts is that there is not a good *a priori* statement of the full range of known facts which a theory must handle. To the extent that theories are formulated in the absence of explicit awareness of this range of facts, they are dreamlike. (1976 [1967–70]:205).

This desire to save grammatical theory from its own short-sightedness was the single most powerful impulse behind the Generative Semanticists’ preoccupation with recalcitrant data.

Even in the face of such data, however, many Generative Semanticists kept an essentially Chomskyan formalist framework, prominently including Postal, rejecting or modifying only peripheral assumptions. A strong case can be made, in fact, that Chomsky deviated further from *Syntactic Structures* than Postal or McCawley, not just in his overall career arc, but in the program he was pursuing in the 1970s.

Whatever our metric for deviation, however, one thing is clear: the Generative Semantics ethos, in its goofiness, in its insularity, and in its creature-feature, data-loving anarchism, backfired.

Generative Semanticists dispersed like the crowd after Woodstock, everybody wandering off, individually or in clumps, to pursue other interests. Some straggled off under the force of Chomsky's restrictiveness arguments, and the concomitant unwillingness of any prominent Generative Semanticist—in particular, the unwillingness of G. Lakoff, who had issued the call for global grammar—to meet the challenge of those arguments. A few Generative Semanticists, most notably Frederick Newmeyer and David Lightfoot, felt that the best hopes for the field lay with Chomsky's program. But most went in other directions. While Postal publicly departed early, our other horsefolk might be said never really to have 'left' the framework at all, in the sense that they retained various constellations of the commitments on which they built that framework.⁶ But all of them abandoned the name.

G. Lakoff's and Ross's work mutated in directions that bore less and less resemblance to their original starting point, adopting new labels along the way. First Lakoff began talking about *Global Grammar*, which was a clear continuation of Generative Semantics, but the name implied a new direction, the crossing of a threshold (in fact, the threshold Postal marked between *Homogeneous I* and *Homogeneous II*). Then Ross became associated with *Squishy Grammar*, Lakoff with *Fuzzy Grammar*, approaches that had shared perspectives, but which were different enough to have separate names. Lakoff also embraced names like *Cognitive Grammar* and *Experiential Linguistics*, which identified different elements of one evolving program, but which made it look as if he was hopping from theory to theory depending on what example sentences he saw on a billboard on the way into work that morning.⁷ The constant renewal of names for his work was largely true of Ross as well, who eventually rounded to an "almost terminal distrust" for labels, noting in the 1990s that "I have already tried on modifiers for *linguistics* like *human*, *holistic*, *ecological*—and each time they tended to sound like some increasingly more horrific concoction of the trendy, the buzzword, the big deal" (1991:2), so he resolved on this title for a late credo: "Toward a _____ Linguistics" (1991). McCawley kept doing what he always did, producing perceptive and challenging syntactic, semantic, lexical, and phonological analyses, far closer to the mode of classic Generative Semantics than anyone else, but he followed Ross's suit in abandoning not just the label *Generative*

Semantics, but the practice of labeling altogether. By a 1979 conference on syntactic approaches, he one-upped Ross's fill-in-the-blank credo with a negation, *Unsyntax*, to label the work he was doing (Kac 1980; Moravcsik and Wirth 1980).

The label *Generative Semantics* was not entirely dead. Time-delayed surveys written for beginners and exogenous scholars were still hailing Generative Semantics, usually in its Homogeneous I incarnation, as the "latest development," and it continued to surface in polemics from Interpretivists. But linguists everywhere knew that the movement was finished. The tag was on the toe. The drawer was shut. The light was out.

At the same conference where McCawley was discussing *Unsyntax*, John Lawler lamented being a fluent speaker of a "dead metalanguage" (1980:54, 59n12). Gerald Gazdar, reworking his 1976 thesis for publication (1979a), put all the present-tense references to Generative Semantics into past tense (and, in another sign of the times, also changed the bathroom-haunting *Nixon* of his example sentences to *Dixon*). Suzette Haden Elgin's second edition of her *What Is Linguistics?* (1979), excised her invocation of Generative Semantics. I cited a review a few chapters back saying that the true title of Stockwell's *Foundations of Syntactic Theory* textbook should have been *Introduction to Generative Semantics*. Since Stockwell's text came out in 1977, this was not a recommendation. The review continues:

There is a sad irony in the fact that the first, and possibly only, [mainstream] Generative Semantics textbook should appear at a time when it must have become apparent to even the greenest postgraduate that the Generative Semantics paradigm has been quietly abandoned by virtually all its major proponents (abandoned for Montague Grammar, Radical Pragmatics, Relational Grammar, Chinese cooking, or some combination thereof). (Gazdar 1979b:179)

The string of post-Generative-Semantics pursuits Gazdar invokes signals the fractionation wrought in the last years of the dispute (well, except for *Chinese cooking*, which is just a tip of the hat to McCawley, who hadn't really abandoned anything but who was a known gourmand of numerous cuisines; see McCawley 1984). The end of hostilities brought a measure of harmony, but no unity. There was no *Pax Linguistica*. The Generative enterprise, bifurcated in the late 1960s, splintered in the late 1970s.

Generative grammar was initially defined by Chomsky as "simply a system of rules that in some explicit and well-defined way assigns structural descriptions to sentences" (Chomsky 1957a:48). *Explicit*, *well-defined*, and a host of other synonyms evoking clarity and precision, were routine in the vocabulary of the early movement, promising to bring the rigor and purity of axiomatic logic, and the glow of the natural sciences, to linguistics. Although some of our heroes

tried valiantly to hold them back over the course of the dispute—most notably, Jackendoff and McCawley—looseness and vagueries abounded on both sides, and many linguists saw precision as the ultimate casualty of the Linguistics Wars. Chomsky continued to issue promises of precision and rigor (“we want to formulate precise principles and precise rules within a formalized system”—Chomsky 1979 [1976]:125), but they were no longer seen always to match his own practice. Pullum’s “Formal Linguistics Meets the Boojum” (1989; 1991:48–55) was satiric, but all satires have a target, and Chomsky was in its cross hairs. The Boojum, you recall, is that variety of snark which causes one to “softly and suddenly vanish away” (Carroll [1876]); explicit and well-defined formal linguistics, softly and suddenly, was gone from the work of its revolutionary promoter and most famous advocate.

Many linguists who had entered the field to help achieve the Chomskyan goals of rigor and precision were betraying disillusionment with the Ur-generativist. “A sizeable number of grammarians had begun to express reservations about the direction in which Chomsky . . . was headed,” Newmeyer remembers, “and began to develop . . . alternative models whose common feature was an even further diminished role for transformational rules” (Newmeyer 1996:156).

“We were not idiots,” Postal says, “we knew we had lost” (Huck & Goldsmith 1995:136). Generative Semanticists didn’t cross the ring to raise Chomsky’s arm in victory—or, only a very few did (Lightfoot, Newmeyer)—but other approaches were developing (most notably, Montague Grammar and Relational Grammar), along with other interests, especially around pragmatics and sociolinguistics.

Obituaries for the transformation, though, proved premature.

The Chomskyan Flow

Where then does the expression “Generative Semantics” come from? It is from a general attitude or point of view which was expressed, for example, by Lakoff in an article entitled “[On] Generative Semantics,” or by Postal in his 1969 article “The Best Theory.” But nobody—at least not to my knowledge—has actually accepted this theory, which in the form presented was virtually empty. What the theory asserted was that there exist representations of meaning, representations of form, and relations between the two. Furthermore, these relations between the two representations were virtually arbitrary. . . .

A theory that permits global rules has immense descriptive potential. . . . To approach an “explanatory” linguistic theory, or—which is the same thing—to account for the possibility of language acquisition,

it is necessary to reduce severely the class of accessible grammars. Postulating global rules has just the opposite effect, and therefore constitutes a highly undesirable move. . . .

[My own work has led to hypotheses which] restrict very severely the expressive power of transformational rules, thereby limiting the class of possible transformational grammars.

—Noam Chomsky (1979 [1976]:150, 152, 180)

Chomsky turned his back on Generative Semantics in his formal publications by 1970. He figured his “Some Empirical Issues” (1972 [1969]) settled the matter. He made no secret of his contempt for Generative Semantics to his students and his colleagues, and in the occasional interview, where he played variations on his worst-imaginable-theory theme, but there was nothing more public from him than that. He had other causes to pursue, political as well as linguistic, and his fame continued to grow well beyond the academy. But the lines of the attack had been drawn up and the Interpretive Troops waged war.

Chomsky’s technical work followed the rhetorical arc he adopted in opposition to the “Transformationalist” position he pinned on G. Lakoff’s ass in 1967. He followed this arc, a campaign against the specificity of transformations, as far as it could go, almost. All specific transformations were eliminated. Some were axed outright by various theoretical tradeoffs, the process that had begun with “Remarks,” where transformations were swapped out for lexical redundancy rules. Deletions, for instance, were eliminated in favor of base-generated, phonologically null proforms. So, where the *Aspects* model derived sentences like 2a from Deep Structures like 2b by deleting *someone* and the second occurrence of *Leila*, the new model borrowed from the dummy-symbol generation playbook of the *Aspects* period and just plugged empty pronouns like *PRO* and *Op* (for empty Operator) directly into the Deep Structure (or whatever its current facsimile happened to be), as in 2c. As always, there’s a bit more going on (some movement, its trace, co-referential indices, maybe other stuff), but that was effectively the new *easy-to-please* story.

- 2 a Leila is easy to please.
- b Leila is easy for someone to please Leila
- c Leila is easy for PRO to please Op

Talk about your notational variants: instead of putting things in at the base and then taking them out in the course of a derivation, we just put in some holes where they would have been if we hadn’t taken them out. But somehow an increasingly elaborate network of filters, constraints, pulleys, levers, and so on (none of them global!), ensured that the overall grammar was more “restrictive,” the new God term.

In the most interesting (and, for a while, the most controversial) policy change, all the movement rules were collapsed under one very general transformation. The beloved Passive was out; Topicalization, out; Wh-fronting, out; the beloved Affix-hopping, out. In a very real sense, all of the 1957–1965 work of developing, modifying, and calibrating specific transformations to describe and explain syntactic phenomena was out. A single indiscriminate rule, called simply *Move*, was in.⁸ This rule could move any constituent anywhere and therefore, on its own, would just churn up all kinds of constituent mixtures, every conceivable kind of word, empty category, and phrase scrambles—transformational frittatas. But it wasn't on its own. Now there was a powerful battery of filters and constraints to ensure that (in principle; many details remained to be worked out) only the grammatical sequences actually made it to the surface.

The resulting model came to be known as the *Y Model* but also the *T Model* (consistency is for the timid!), as well as the *Inverted Y Model*, because of its resemblance to an upside down Y, as in Figure 7.1. The model, like Homogeneous I, is deceptively simple, with the emphasis on *deceptively*. The Roman numerals all represent distinct rule systems: *I* represents Phrase Structure Rules; *II* represents Transformations; *III* represents Phonological Rules; and *IV*, “rules of the LF component,” essentially Semantic Interpretation Rules concerned with quantifier scope and anaphoric relations. The other elements of the model are, as follows: *PF* is “phonetic form”; *LF* is “logical form” (sound familiar?); *D-structure* and *S-structure* I'm sure you can work out without any assistance, but I guess I forgot to mention that Chomsky repudiated the term *Deep Structure*, sort of, and *Surface Structure*, sort of. In his 1975 Whidden Lectures at Canada's McMaster University, Chomsky pledged to avoid *Deep Structure* especially, because, for some reason—after years of associating it with thought, Universal Grammar, and the ultimate goals of linguistics—people unfortunately had the impression that “their properties . . . are truly ‘deep’ in the non-technical sense” (1975b:82). Chomsky tried *initial phrase marker* and even (foreshadowing “The

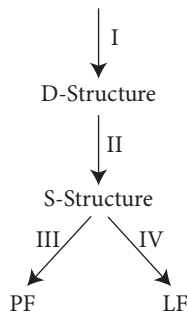


Figure 7.1 An outline of Chomsky's Y-model, from Chomsky 1986c:68.

Artist Formerly Known as *Prince*”) “the former ‘deep structures’” (1975b:82), and he regularly used quotation marks around the phrase, before finally settling on the coy *D-Structure*, with its companion, *S-Structure*.⁹

Chomsky stopped concerning himself very directly with semantic argumentation, to the extent he ever did. Semantics was a carrot, attracting a good deal of attention to his model in the late 1950s and early 1960s. He endorsed the work of Katz and Fodor, and helped them bend the syntax to the will of their limited semantics, but he did not engage directly in work on the semantic component. When semantics became a stick with which to beat the Generative Semanticists in the late 1960s and early 1970s, the same was true. He raised problems for the Katz-Postal Principle—by attending to focus and presupposition phenomena, and by discussing quantifier-scope difficulties— and he endorsed solutions to these problems when it suited him, but he never proposed any solutions on his own beyond waving at Surface Structure (with Jackendoff taking notes). Once Generative Semantics was pretty much dispatched, he stopped mentioning these issues. His interest in explicit semantics has always been modest. The *only* aspects of meaning that Chomsky feels any responsibility for in his work are the ones that directly and exclusively result from syntactic structures.

Chomsky has been called, rightly, a *syntactic animal* (Passmore 1985:39), and Jackendoff characterizes the attitude around MIT in the mid-1970s as “Let’s do some syntax again, now that this whole schmeer is over.” The whole schmeer wasn’t quite over at that point—in fact, the Interpretivist assault was moving through the streets, building to building, mopping up perceived pockets of resistance—but the threat was gone, and the theoretical questions in Chomsky’s framework took a decided turn back toward syntax.

Through the 1970s, Chomsky’s program had its own nominal complications. As it continued to develop, it was alternatively but uneasily known at the time by a couple of different and overlapping labels—the *Revised Extended Standard Theory*, signaling increased modification, and *Trace Theory*, taking the name of its single most prominent modification, though neither is particularly useful. In fact, it became clear at about this point that putting labels on Chomsky’s work at all is an iffy business at best, even the ones he himself endorses (*Government-Binding Theory* for a while, giving way to *Principles-and-Parameters*, then to *The Minimalist Program*, which is the late-Chomskyan preference, in some kind of overlap with *Biolinguistics*).¹⁰ A more productive approach might be to treat him like a great and restless artist—like Picasso, with his post-impressionist period, his blue period, his rose period, his cubist period . . .

Just over the course of our story, we have seen Chomsky’s *Syntactic Structures* period, his anti-Bloomfield period, his *Aspects* period, his anti-Generative Semantics period; as with Picasso, one blurs into the next, positive moods alternate with negative ones, elements and themes connect through them all.

The next period, when he broke rather dramatically from his anti-Generative Semantics focus to concentrate on the more positive work, is marked most clearly by “Conditions on Transformations” (1973a [1971]), the paper in which, Sadock tells us, Chomsky began speaking a new lingo. The majority of Chomsky’s work in formal linguistics between 1966 and 1971, that is, was directed *against* Generative Semantics, rather than *for* Interpretive Semantics. Even positive and massively influential suggestions— $\bar{x}$ -syntax, for instance, and lexicalism—seemed to interest him at the time primarily for the obstacles they placed in front of Generative Semantics. With the Conditions period, propelled by its restrictiveness rhetoric, he began again to articulate an appealing, workable new linguistic model.

At exactly the time that it became impossible for linguists to find a unified and coherent program under the label of *Generative Semantics*, Interpretive Semantics was getting its act very much together. With Jackendoff (1972) and Chomsky (1973a [1971]), offering a genuine alternative, rather than a few sketchy and barbed suggestions, increasing numbers of students, junior professors, and neutrals found the new package persuasive. The package included not only increased attention to lexical items, an elegant new treatment of phrase structure, and a simultaneously stripped down (the rules) and souped up (the conditions) transformational component, but also definitionally entailed the utter and complete rejection of Generative Semantics. Chomsky and his allies defined his more “restrictive” theory largely against the Bogey Man of Generative Semantics.

The feeling was mutual. The one common denominator among the overwhelming majority of scattering Generative Semanticists is that, whatever else they were up to, they continued, until the very last minute (in fact some of them are still at it), rejecting Chomsky. Even the gracious and gentle McCawley couldn’t have thumbed his nose at the syntaxicentric Chomskyan vision any more explicitly than by choosing to call his work *Unsyntax*.

This man, Noam Chomsky, obviously, provides the mass. He gave Interpretive Semantics an irresistible center of gravity. Anyone in his immediate framework who begins working on a strand that is uncongenial to him, or even just uninteresting, rapidly becomes, by definition, out of the program—not necessarily for reasons of pique or malice, perhaps not even by design; simply because Chomsky’s gaze automatically fixes the prospect for the community. If he supports research that involves his framework, as he supported Katz and Postal’s pre-*Aspects* proposals about kernel semantics, it is in the program. If he stops talking about someone’s work, as he largely stopped talking about Katz’s semantics in the post-*Aspects* period, or if he rejects someone’s work, as he rejected Postal’s Abstract Syntax in the post-*Aspects* period, it is out of the program.

Katz certainly promoted an interpretive brand of semantics and expended a good deal of energy doing battle against Chomsky’s principal enemies, but

he was not really, in the usage that best suits the pattern of the debate, an Interpretivist. Linguists soon realized that Katz no more spoke for Chomsky than did Lakoff or Ross. With Postal, the case is even clearer. He was (and remains) a Chomskyan linguist in the most pristine, originary sense of the term, interested primarily in building “precisely constructed models for linguistic structure” (Chomsky 1957a:5), and he was the driving force behind research that almost everyone thought would have been dear to Chomsky’s heart, seeking out deep lexical regularities and explaining surface diversity via transformations. But Chomsky rejected the work and Postal rapidly moved into the role of opponent.

There was some of this in-the-movement, out-of-the-movement categorization to Generative Semantics as well; Newmeyer, in particular, felt ostracized when he rejected McCawley’s VSO proposal, and George Lakoff sullenly insists that “Newmeyer was never a Generative Semanticist.” But it was much less prevalent, and much less obvious. The major reason for this difference is probably that, as much as Lakoff may have lobbied for the role, Generative Semantics was not organized around a single individual. All five of the horsefolk had their own interests, and collectively their range was vastly broader than Chomsky’s. But the movement was also inherently more open and anarchic than Interpretivism (in fact, than *any* of Chomsky’s frameworks). If someone with Generative Semantics sympathies began working on a particular data set or formal mechanism, it was usually assumed that they took the theory with them. Sadock examined the syntax, semantics, and pragmatics of medicine bottle labels (1974b). Green looked at proverbs (1975). Ross looked at his squishes (1972d). Lakoff looked at Rosch’s category work, Zadeh’s fuzzy set theory, Grice’s conversational maxims. And, automatically, the phenomena or principles were under the Generative Semantics tent.

Problems and Mysteries

I think the argument will be most fairly tested, if we take the “if” out of it.

—Socrates (Plato, *Protagoras* 331^c)

Chomsky regards the death of Generative Semantics, in its sociological dimensions, as largely the implosion of ethos. “They destroyed themselves by insisting on taking on the mannerisms, the style, of one of the crazier sixties cults,” he says. There is truth here, and it is difficult to avoid analogies with the youth-culture-cum-counterculture-cum-Woodstock-Nation, which changed its T-shirt slogans recurrently. The issues of hippiedom were real, and many

people were committed, and worked very hard to bring about social and political changes of considerable magnitude. But the majority of people were committed, if at all, for only a short period. The issues were real, but they were also faddish, falling out of favor with long hair and beads. I certainly have no particular insights as to why they fell out of favor, although much of their transience surely had to do with the complete lack of focus in (and, in many cases, outright lack of) positive alternatives to the institutions and practices under attack; the counterculture was, says Roszak in the thick of the flight, “much more a flight *from* than *toward*” (1969:34). It’s in the name. *Counterculture*. Even what was being rejected grew rapidly, from a fairly tight set of concerns about civil rights inequities and the invasion of Vietnam, into a great amorphous stew of beliefs, objects, people, culture. The same trends are apparent in Generative Semantics: the flight from Chomsky; the rapid expansion of dissent from a few specific technical questions; the ever-widening range of phenomena to be embraced. But these are very deep reasons for failure, utterly distinct from a few epithets, some absurdist humor, and a political jab or two. All of these traits contributed in some measure to the decline of Generative Semantics, but it was the Generative Semanticists’ remarkable frankness about the shortcomings of the theory, and their tendency to celebrate rather than marginalize anomalies, both reflections of deep methodological and philosophical positions, that truly marked the movement [+DOOM].

Much of the Generative Semantics style is, unfortunately, exclusionary. Rubbing hostile scholars the wrong way is not, or should not be, much of a concern. Their predispositions would be satisfied no matter what style they encountered, and, in any case, rubbing them the wrong way is always part of the point. The problem is that neutral scholars were simply discouraged from reading material they found offensive for reasons other than its linguistic claims—because of general irreverence, or allusions to drugs, or aspersions on public figures. The Venerable Quine, for instance, seems only to recall that G. Lakoff and McCawley “were over-eager to amuse . . . with whimsical examples” at a 1969 conference on logic and language, complaining of their “chatter and clowning” (1985:358). Scholars come in all persuasions, but a trait common to many is prickliness. Aggravation is not the road to adherence.

Even these traits, however—humor, drug allusions, political aspersions—might not have done much damage in isolation. In fact, they contributed to the movement’s attractiveness for enough young scholars that the annoyance of others might have been counterbalanced. The real damage was done by the closely related traits that George Lakoff calls *honesty* and *data-love*.

Although the term *honesty* is obviously self-serving, and perhaps should be replaced with one like *frankness*, the Generative Semanticists were explicit about their shortcomings in a way very few scientific collectives are.¹¹ They were, in

their own self-image, at pains to avoid what they took to be Chomsky's rhetorical underhandedness.

This frankness had deleterious effects in many quarters. Frequent reminders that "the author is fully aware of the fact that there are many uncertainties, unclarities, and errors in the text as presented here" (Seuren 1975:84) undermines the audience's confidence that the rhetor is reliable about anything. No one, on any side of the dispute, would deny that every transformational work of the period was full of uncertainties, unclarities, and errors, and most linguists acknowledged them in some way. Here is Chomsky at the end of "Some Empirical Issues":

Very roughly, this seems to me a fair assessment of the state of the theory of transformational generative grammar—at the moment. Obviously, any such assessment must be quite tentative and imprecise at crucial points. I will be very surprised if in a similar review several years from now, or perhaps next week, I will not want to present a rather different picture—surprised, and not a little disappointed as well. (1972b [1969]:199)

But the incidence of such admissions, and the general tone of discussion, are vastly different in Chomsky and in the Generative Semanticists; neither he nor his followers ever penned a creature feature.

Chomsky has the impressive rhetorical talent of offering ideas which are at once tentative and endorsed, of appearing to take the *if* out of his argument while nevertheless keeping it safely around should it prove necessary later on. Few of the Generative Semanticists had this talent, with Ross's work, especially in the 1970s, marking the antithetical inclination. It contains the "embarrassing candor and intense emotional involvement" that Holton says marginalized Kepler in the history of science (1988 [1973]:54). Ross's arguments are not as wild as Kepler's, but they are remarkable all the same—multilayered, vinous, and subtle, very sensitive to fluctuations in the data. They contain dozens of threads, looping around one another in the main text and annotated with lengthy, contorted discussions, some of which offer counterexamples, some of which offer alternative analyses, few of which offer any support for the point that triggered the digression. They contain long catalogs of subarguments—some strong, some weak, the weak ones always painstakingly flagged as such—interspersed with declarations of mystification and awe.

And, of course, there was always work in the wings, apparently containing more such claims, calibrations, and contra-considerations; the current tangle of data and instruments was just the tip of the iceberg. Here, for instance, are the last five entries under "Ross, John Robert" in the works-cited section of one paper:

[Ross, John Robert]. In preparation a. Primacy.

In preparation b. Treetops.

In preparation c. Variable strength.

In preparation d. Sloppier and sloppier: a hierarchy of linguistically possible open sentences.

In preparation e. Niching.

(Ross 1973c:256)

These promissory notes seem to refer to various jottings for conference presentations, or just claims made in the course of a talk, ideas or arguments or provocative data-clusters that intrigued him for a while but apparently not enough to ever reach publication (I can find no evidence that they were ever published, at least under these titles). Ross is, in Parmenides's phrase, one of "the men with two heads" (DK28B6), someone who has taken dialectic to almost pathological levels; Terry Langendoen is said to have summarized one of Ross's talks with "It's fifteen arguments for us and nine for them; so I guess we win."

If *honest* is the appropriate descriptor for Ross's style, and it does seem right, it is *painfully* honest. He is an adventure to read, an earnest and good-natured tone leading us into a wilderness, but the overall effect is confessional, in a way that perhaps makes one empathetic to the difficulties of his program, but hardly motivates one to join him. For all his fraternal good will, the effect can also be discordant and chaotic, the rhetorical analog of Brownian motion, argument jostling argument, data jamming into data, until the challenge to find a clear line of thought rising above the bustle becomes defeating. "It must be seriously open to doubt whether there is a coherent point of view to communicate," W. R. O'Donnell said of the Generative Semanticists' work overall:

Add . . . that some of them appear to change their minds almost continuously and that they are addicted to somewhat tendentious publication of views they no longer hold at the time of publication and you have a recipe for an intellectual confusion which might daunt even the most committed seeker-after-truth. (O'Donnell 1974:74)

O'Donnell's disgruntlement was not uncommon; nor was his theoretical and methodological response to the data-celebration papers issuing from the Generative Semantics camp, silence. What could a working linguist do with a paper full of facts whose *raison d'être* was that there was no conceivable explanation for them in current theory?

It's not like they were alone, either, in their sense that linguistic mysteries abounded. Here's Chomsky:

I would like to distinguish roughly between two kinds of issues that arise in the study of language and mind: those that appear to be within the reach of approaches and concepts that are moderately well understood—what I will call “problems”; and others that remain as obscure to us today as when they were originally formulated—what I will call “mysteries.” . . . [About mysteries:] although there is much that we can say as human beings with intuition and insight, there is little, I believe, that we can say as scientists. . . . Some would reject this evaluation of the state of our understanding. I do not propose to argue the point here, but rather to turn to the problems that do seem to me amenable to [scientific] inquiry. (1975b:137, 138–39)

The contrast with leading Generative Semanticists could not be more dramatic:

Her [Borkin's] examples are dazzling and remain deep mysteries to this day. Such mysteries are central to our vision of what problems should be addressed by the linguistics of the 1980s and beyond. We are grateful for the gift of mysteries so worthy of the attention of those who would understand how language works. (G. Lakoff & Ross, in Borkin 1984:viii)

The Generative Semanticists celebrated mysteries, Chomsky avoided them, and the implications of these two strategies for working linguists are clear. Lakoff and Ross's program offers them a chance to work on dazzling data that promises to remain a deep mystery, perhaps for centuries to come: Chomsky's offers them a chance to work on amenable problems. The choice, for most of the field, was clear.

The Burial

It's one thing putting away the past, and quite another to tape its mouth shut.

—Liam Lacey (1991:C1)

“Will [the victorious] group ever say that the result of its victory has been something less than progress?” Thomas Kuhn asks (2012 [1962]:165). Perhaps Michael Brame, whose list of Generative Semantics' Fatal Flaws is lengthy, can address the question for us:

1. Generative Semantics is not sufficiently explicit (no rules, no explicit underlying structures, no formalization of global rules, no characterization of semantic predicates) to provide an unambiguous basis for comparison with current explicit theories. . . .
2. Generative Semantics is a breeding ground for syntactic irregularity as a consequence of its exception devices, unnaturally remote underlying representations, its abolition of deep structure and incorporation of semantic predicates and global devices and its blurring of the distinction between the lexicon and transformations as well as between syntax and semantics. . . .
3. Generative Semantics is prescientific as a consequence, in part, of its incorporation of semantic predicates and global mechanisms. . . .
4. Generative Semantics is anti-abstractionist inasmuch as it refuses to stray from what it alleges to be the phonetic or semantic given . . .
5. Generative Semantics gives up the quest for universals . . .

So, yeah. Victory is progress. Oh, whoops. Sorry. I interrupted. He's not quite through:

In addition to these points, I think it can be accurately said that Generative Semantics fails on almost every single proposal or suggestion for the analysis of a fragment of English grammar that it has advanced. (Brame 1976:67)

Nor does he quite end there—Brame still has another Four Fatal Faws (68) to enumerate—but, thanks Michael, we get the picture. The victory of Interpretive Semantics was clear-headed and righteous progress, wresting linguistics from the hands of a deluded and pre-/non-/unscientific mob of data-fetishists.

Brame's list, in the present tense, reads like a diagnosis of some terminal disease, but really it's an autopsy. By the time Brame's book came out, "Generative Semantics was essentially dead and largely discredited" (Gazdar 1982:465).

All of this took place a long way from the pristine, disinterested thoughts of Noam Chomsky, in his telling. "I never paid attention to the 'linguistic wars,'" he says recurrently. It is certainly true, in one central premise of his story, that "while the battle raged" over Interpretive and Generative Semantics, "Chomsky reached 'the peak' of his antiwar activity," and therefore had only little bursts time to concern himself with these issues (Barsky 1997a:151). Chomsky concluded one letter to McCawley from the period,

I had expected to come to Chicago, but haven't got the energy for it. I've been spending an enormous amount of time speaking, writing, getting arrested, etc., and can't work up much enthusiasm for linguistics, I'm sorry to say. Maybe

someday the world will return to relative sanity, and we'll have a chance to talk.
(Chomsky to McCawley, December 20, 1967)

He was busy. There were more important things. But those premises do not support the conclusion that Chomsky was aloof from the battles, and it is curious that Barsky, who rightly lauds Chomsky's extraordinary energy, stamina, and intellectual capacity throughout his biography—his ability to accomplish tremendous amounts in compartmentalized bursts of energy—would think Chomsky incapable of making the best of his time for attacking a movement he so clearly loathes.

Chomsky's account just does not stand up. A few people endorse it, confederates all. Many others, including the people who have looked at the clash most fully, offer accounts rather more out of sync with Chomsky's.¹² Your humble narrator has read the primary and secondary literature in some detail and has had the privilege of talking and corresponding to many linguists, including several who were present at Chomsky's lectures though the mid-to-late 1960s and early 1970s, and a few who worked closely with Chomsky before and after the clash: none of them endorses Chomsky's version. Of the published accounts that support Chomsky's version, none of the authors had a closer alliance with Chomsky over the relevant period than Ray Jackendoff, whose version does not find Chomsky sitting disinterested in his office or giving temperate and neutral lectures, away from the fray. Here is Jackendoff's précis of the Generative/Interpretive Semantics clash:

All the people who admired *Aspects* for what it said about meaning loved Generative Semantics, and it swept the country. But Chomsky himself reacted negatively, and with the aid of his then-current students (full disclosure: present author included), argued vigorously against Generative Semantics. When the dust of the ensuing "Linguistics Wars" cleared around 1973, Chomsky had won—but with a twist: he no longer claimed that Deep Structure was the sole level that determines meaning. Then, having won the battle, he turned his attention not to meaning, but to relatively technical constraints on movement transformations. (2003:654)

Chomsky may not have been hurling obscenities from the dais along with the frontline forces, but he fashioned the ammunition, inspired the troops, and if he did not issue marching orders, he certainly insinuated them.

Victory for the generation of Chomskyan linguists coming on stream in the 1970s was not only necessary progress for linguistics. It was a holy mission. Brame's belief in the utter and irremediable vacuity of Generative Semantics was common, encapsulated in a remark Brame quotes from the eponymous

Chomskyan that a Generative Semantics victory in the dispute would mean “the virtual demise of syntax (Chomsky, personal communication, August 13, 1975)” (Brame 1976:26)—nothing being more precious to Chomsky and his students than syntax.

By the mid-1970s Generative Semanticists were pretty much imaginary beasts—*snarks*, let’s call them—but they were hunted all the same. Generative-Semantics-bashing articles were the order of the day. The arguments all ran from the specific to the general. They were not “proposal x from linguist y is wrong” so much as “Generative Semantics is totally bankrupt, unscientific, and vapid, which is illustrated by the failures of proposal x, from the misguided y.” Categorical dismissals of this sort are direct reflections of Chomsky’s style, especially in lecture and conversational formats, where he sweepingly dismisses entire lines of thought, even entire disciplines, with a few contemptuous adjectives. Many of these articles were self-conscious proclamations of the death of Generative Semantics, and they didn’t stop with counterarguments to one or two or three Generative Semantic positions. They reeled off long catalogs of failures—driving nails into the coffin, chucking it into a grave, shoveling dirt over it, and erecting tombstones with inscriptions like Brame’s “Final Verdict” (1976:67).

Brame’s (1976) *Conjectures and Refutations in Syntax and Semantics* is the acme of the apogee of the trend. It rarely matches the slathering hostility of Dougherty’s diatribes (which mostly date from this period), but it is irredeemably snide. One section, for instance, begins with a quotation contrasting Einstein to an amoeba, “which cannot be critical vis-à-vis its expectations and hypotheses,” followed by one from Lakoff which Brame intimates exhibits this amoeba-like incapacity (1976:3).¹³ In other places he resorts to academic priggeries, like slipping a *sic* snidely into a Generative Semanticist quotation (“if we adopt this explanation [*sic*]”—1976:58) and calling global rules a “theoretical prophylactic” (1976:45). Elsewhere, he simply insults the work directly, as when he calls one of Lakoff’s analyses “no more than a tortuous description of uninteresting facts” (1976:15). Green’s appraisal of Brame’s book—“so unreasoned and prejudicial a treatise (I refrain from calling it a tract)” (1981:704)—is positively tame in the face of its systematic, symptomatic contempt.

The attacks and obituaries from the new Interpretivist crop were bolstered by several assaults from older loyalists, some with allegiances to Chomsky generally, others with specific allegiances to his 1965 position. Katz, of course, was at the head of this contingent (1970, 1971, 1972a, 1976), but he was joined by Bever (Katz & Bever 1976 [1974]) and Stockwell (1977:131), among others. Ostensibly nonaligned linguists also began to chime in (Kuiper 1975; O’Donnell 1974; Sinha 1977b). Chomsky did not address Generative Semantics in his theoretical work, except rather obliquely (for instance, in a footnote which does not so much as name one of its proponents; 1975b:238n2), but continued for decades

to dismiss it in more informal settings, particularly in interviews. The fountain-head of Chomskyan linguistics, *Logical Structure of Linguistic Theory*, was finally published in this period (1976 [1955–1956]). The book—pre-dating Deep Structure and any overt attention to semantics—articulates a program that meshed fairly well with his post-*Aspects* Interpretivism, so the publication date nicely cements his triumph over Generative Semantics, with Chomsky's introduction including a few choice and pointed remarks against the framework.¹⁴ Some disillusioned Generative Semanticists even threw in a few handfuls of dirt, as in Sadock's "The Soft, Interpretive Underbelly of Generative Semantics" (1975).

Among the most consistent aspects of these publications is the recurrent targeting of George Lakoff, clearly propagating an attitude fostered in Chomsky's classes. It's not that Chomsky spared others, but he reserved a special animus for Lakoff.

The scapegoating of Lakoff in the 1970s offensive against Generative Semantics had two quite contrary lines of attack. On the one hand, it was often implied that Lakoff was not responsible in any significant way for the beginnings of Generative Semantics. It was "really" Postal's theory, who had developed some pregnant suggestions from Chomsky. On the other hand, Lakoff was made to shoulder virtually all the blame for its excesses, largely on the basis of the sin of proposing global rules. Insofar as Generative Semantics had been a natural development exploring a promising hypothesis, this was due to Postal and to Katz and ultimately to Chomsky; insofar as it was wrong, unscientific, profligate, sloppy, and generally bonkers, Lakoff was to blame. The implication that Lakoff was little more than a loudmouthed opportunist, who perverted a potentially useful research program, has a number of underlying motives, but much of it surely stems from Chomsky's apparently personal disregard for Lakoff.

The declaration of Lakoff as Public Enemy Number One has its roots in Chomsky's "Remarks," where he is set up as the chief proponent of the Transformationalist position, and strapping the sins of Generative Semantics to his back continues as a prominent theme through all of Chomsky's anti-Generative-Semantics papers; by "Some Empirical Issues" Lakoff is a complete whipping boy, and "Lakoff's revised Generative Semantics" (Chomsky 1972b [1969]:140)—that is, Homogeneous II—is the nadir of linguistics, the worst possible theory. Even after the shelling had pretty much stopped, for instance, Chomsky took up some of Lakoff's criticisms in a catalogue of *ad personam*s spotlighting his clear and utter failure of intellect (1980a:46):

[Lakoff's] remarks betray a very serious misunderstanding. [He] shows no awareness [of important issues].

Lakoff seems totally unaware of the actual character of the technical work to which he refers.

[The semantic work of Interpretive Semantics is] a matter Lakoff has never understood.

Lakoff's misunderstanding of the technical work is so far-reaching that his comments on it are completely irrelevant.

Lakoff shows no awareness of these issues.

Chomsky's attitude toward Lakoff—like his demise-of-syntax characterization of the whole movement—surely permeated his discussions of Generative Semantics at MIT; certainly, it permeated many of his students.

For his part—don't be too shocked—Lakoff is less than fond of Chomsky. In conversation, this disaffection takes the form of concerns about his politics, his honesty, and his ego. In print, Lakoff rarely foregoes the chance to attack a Chomskyan position, with enthusiasm. For instance, the anti-Lakovian *ad personam*s I just quoted from Chomsky are in direct response to a critique in which Lakoff tears into Chomsky's most sensitive area, calling him all talk and no science. "We are in the realm of rhetoric," he says of Chomsky's positions, "not science." Much of Chomsky's work, he goes on, is useless for practical purposes, "but as rhetoric, it is effective—at least so far as academic politics is concerned." Chomsky is particularly guilty for having "artfully chosen" some of his terms, an accusation Chomsky finds deeply repugnant (G. Lakoff 1980:243).¹⁵

There is certainly no question—whatever Chomsky's loathing for the observation might be—that he is a tremendously gifted, if less than scrupulous, rhetor. He is not a uniformly impressive prose stylist or an especially incendiary orator. His writing can be as dense, gnarled, and forbidding as a blackberry patch, full of fruit you can see but you just can't get to—though Chomsky can also reach moments of great persuasive lucidity. But he is very effective orally, in lecture or in interview, and many of his books are from interviews or conversations that have been transcribed and edited. Even *Syntactic Structures* was to some degree originally intended for oral delivery; *Aspects*, too, was drawn from lecture notes. And of course, most of the anti-Generative-Semanticist troops that beset the discipline in the mid-to-late 1970s had heard the gospel first-hand at MIT. So it is no coincidence that Chomsky's version of the Generative Semantics story—that it was disconfirmed early, but its practitioners absurdly clung to it anyway by changing it into the worst possible theory, whereupon they were driven from the field for irrationality and error, and let's not forget that George Lakoff was biggest ringleader but also not very smart—became the received view for that generation. His opinions tend to stick fast in the minds of his audience.

Chomsky, in short, cannot be let off the hook for the war itself or for the venomous quality of the anti-Generative-Semantics campaign. That he neither accepts responsibility for the schism, nor even acknowledges that he played any but the most cursory, one-day role in it (e.g., Barsky 1997a:151), like much of his

self-representation, does not look good on him. He was the principal architect of the *Aspects* framework that was the launching pad for the dispute. He was, just ten years after *Syntactic Structures* and not yet forty, the most famous linguist in the world. He was, unquestionably, the one who set the MIT linguistics agenda, if not the American linguistics agenda. Virtually everyone else relevant to the program he engineered, with a few very limited exceptions (Bach, Fillmore, Halle, Klima, Lees), was a junior professor in 1967, or a student.

Chomsky had a rhetorical choice. David Raup is surely right that “new ideas breed disagreement” (1986:150), but disagreement does not require malice. If Chomsky couldn’t be encouraging, he might at least have been tolerant of the developing trends. His argumentation might have been open, if not fully welcoming, especially given the retrospectively visible tentativeness of a several key themes in *Aspects*, the newly issued scripture, and especially given many of the paths his own work has later taken. He might have let a hundred—even two or three—flowers bloom. But just as he chose to adopt a revolutionary stance to the Bloomfieldians in the late 1950s, he chose to adopt a divisive stance in the post-*Aspects* climate of the latter 1960s, open to some developments, closed, locked, and bolted against others, providing the boiling oil to be poured down on them from the parapets.

Chomsky set the battle lines. He likes it that way. He works best, apparently, when there is an enemy abroad. George Lakoff had a choice, too, of course; if Chomsky’s dismissals framed one set of attitudes in the clash, Lakoff’s brash responses and counterattacks, in print but also in Chomsky’s own lectures, certainly framed another set of attitudes. Robin Lakoff had a choice, and Postal, and Ross, and McCawley; and they all made those choices, in different ways, to different effects. Individually, some of them provoked; collectively, they certainly fought back. But it was Chomsky’s war, from the beginning, and whenever I hear his account of the Linguistics Wars, it recalls that iconic moment from the first season of *The Simpsons*, when Bart, eyes shifting guiltily, says “I didn’t do it. Nobody saw me do it. You can’t prove anything” (Jean & Reiss 1990:6:04).

8

Twentieth Century Linguistics at Closing Time

The two programs were in fact quite complementary, and the tensions between them not only bound each to the other, but also steered them jointly on to a more productive path than either of them individually might otherwise have taken.

—Geoffrey Huck and John Goldsmith (1995:3)

I am still a Chomskyan, as far as linguistics is concerned, after my fashion (and my own interpretation of “Chomskyan”). Indeed, as far as generative grammar is concerned, I might fairly claim to be a more orthodox Chomskyan (in the original sense of the adjective) than Chomsky himself has latterly become.

—John Lyons (1991:154)

Generative Friction

The Generative/Interpretive Semantics feud was not an honorable episode in the history of linguistics. A time of “bad vibes and yelling and shrieking and shit like that” (Ross), it left a pleasant taste in no one’s mouth. Chomsky regards the period as one of acute irrationality, seeing the Generative Semantics movement as coterminous in time and motivation, in its rise and its dissolution, “with the big popular movements of the 1960s,” just another “cultish fad.” Not that the irrationality touched him or his students and immediate colleagues in any way, he suggests, but all the same he was glad to see the back of the dispute. Postal, too, was happy to see it end, and like Chomsky also regards the whole chapter as fundamentally misguided, though for very different reasons. “After all,” he says, it was “about the *right form* of transformational grammar”; not unlike a wrangle about the “right form of phlogiston theory” in his view. “The bad thing is not that Generative Semantics disappeared,” for Postal, “but that the other branch of transformational theory didn’t disappear” (Huck & Goldsmith 1995:138). Fodor has much the same reaction, yet again for different reasons. “A plague on both

their houses," he says, in the Shakespearean phrase not uncommon for the episode: "It was what they shared that turned out to be false [excessively abstract representations], not what distinguished them."

McCawley lamented the clash. While he did the most to keep the methodological and theoretical flames of Generative Semantics flickering long after everyone else had left the hearth, he complained about the "dismaying readiness of linguists on both sides of the dispute to assent to . . . kindergarten-level caricatures of the facts" (1999:158). Robin Lakoff remembers it more fondly than most, writing a wistful memoir of the period. The division grew inevitably, she relates, toward "the realization that there were finally and irreparably two schools, no more unity, no more us-against-the-world. Camelot had fallen." When that happened, when it was no longer an in-house debate over formalisms, methods, and the architecture of a shared model, when "GS realized the futility of the battle, it disintegrated on its own. Much of the fun was in the fighting, and without fun, there was no GS" (1989:970).

George Lakoff does not betray the same nostalgia, saying flatly "I'm glad the Generative Semantics days are over" (Huck & Goldsmith 1995:119). He made the remark in the context of what he now sees as the technical errors of the program, but he is surely embarrassed by some of his personal excesses as well. And his recurrent foe, Jackendoff, talks sheepishly of the times he "would try to make a point and end up screaming," adding a more disciplinary regret as well, perhaps shared by others: that the feuding "had a lot to do with driving psychologists, and philosophers, and computer scientists away from the discipline. . . . I think it did more damage outside of linguistics, to the image of the field, than it did inside."¹

Even Pieter Seuren, who regards Generative Semantics as "by far the most inspired and promising development in theoretical linguistics during the twentieth century"—indeed, who inscribed this belief in the ultimate narcissistic historical textbook of linguistics, five hundred pages tracing a progressive arc from Socratic Athens to Generative Semantics (Seuren 1998)—cannot mention the program without bitterly recounting its fate as the result of a "vicious sociological character assassination, likewise unique of its kind in twentieth century linguistics if not in the entire history of the subject." Nor does the fault for this epic disgrace fall only on Chomsky and the "large numbers of mediocre young linguists [following] the Master uncritically [in] reject[ing] Generative Semantics merely on the strength of his authority." Generative Semanticists are equally guilty because (in an excruciatingly yoked pair of heterogeneous images) they "had knees that were . . . weak . . . and ran for it," instead of standing and fighting.²

It was not honorable, but I'm with Seuren at least part of the way: it was important. The friction was productive. Transformational Generative Grammar dominated twentieth century linguistics. It had broad implications for the manifold overlapping studies of what it means to be human, with major impacts on

philosophy, psychology, English studies, and computer science, and ripples of influence in fields like anthropology, sociology, even art history; the term *Deep Structure* alone can be found in almost every intellectual pursuit practiced in the latter twentieth century, and not a few anti-intellectual pursuits in the bargain. The program may yet have the transformative effects on neuroscience and genetics that Chomsky and like-minded researchers currently predict. It was a Big Deal. A Chomsky-sponsored descendant of that program is still highly influential, and may prove to be yet an Even Bigger Deal.

Linguistics is in a very good place now, but maybe the particular path it has followed is irrelevant. Maybe we would have ended up pretty much where we are now without the Linguistics Wars. Maybe Chomsky's personality, or the instability of the framework, or the remarkable ingenuity of linguists, or just the richness of language and the messiness of verbal behavior, would have set off the cascading revisions we have seen in Transformational Generative Grammar, with the attendant innovations, retrenchments, and parallel enterprises that accompanied those revisions. Maybe the Chomskyan trajectory was as ineluctable, without the Deep-Structure-stretching shitstorm of Generative Semantics and its Interpretivist repudiation. Maybe Jackendoff's interests on their own, nurtured by Chomsky in an environment where the horsefolk were not hammering on the door, would have set off the cascade. Maybe restrictiveness would have become a byword without globality at the gate. Maybe the proliferation of Generative models explicitly positioned against various Chomskyan tools or methods or goals was inevitable without the challenge of Generative Semantics. Maybe some natural corrective to the equation, linguistics = grammatical model building, would have kicked in, triggering the interest in rhetorical, pragmatic, sociolinguistic and other "performative" dimensions of language that flowered in the 1970s and have continued to bloom since. Maybe that dam would have broken without Generative Semantics.

Maybe—if Postal had become a field linguist and spent his career on the intricacies of Mohawk, if George Lakoff had stayed in English studies or mathematics, if Robin had never ventured out of Radcliffe and found herself in Chomsky's charismatic ambit, if Ross had never returned to MIT after Halle told him he wasn't the right material for their program, if McCawley had become the world's most gifted Sino-Scottish chef, if Fillmore and Bach and Zwicky and Sadock and Levi and Binnick and Green and so on had found other scholarly pursuits, or if everybody had just nestled comfortably into the Chomskyan fold—the same fecund churning of data and renovation of theory would have occurred in that alternate universe. Maybe.³

Maybe an *Aspects* monolith would have determined the field of linguistics for the half century after its arrival, an utter Chomskyan hegemony ruling the field, with, let us say, a natural and uncontroversial drift toward Principles

and Parameters and beyond—no dissent, few perturbations—while such developments as Frame Semantics, Cognitive Linguistics, and Construction Grammar arose spontaneously and harmoniously in Berkeley, nurtured by fair-trade chai lattes on Telegraph Avenue, organic produce, and yoga.

Maybe, in other words, history doesn't matter, people don't matter, debate doesn't matter.

What we do know is that the record before us, in the history we are living, gives us a three-stage answer to why that monolithic, hegemonic Chomskyan framework did not come to pass, and why seeds took root that grew into a coalition of approaches defined in significant ways by their opposition to central Chomskyan tenets: (1) the emergence of Generative Semantics, (2) the Interpretivist backlash, and (3) the ensuing Linguistics War.

Rise and Fall

There are several motivations for proposing a generative semantic theory.

George Lakoff (1976a [1963]:50)

In the summer of 1975, I realized that both transformational grammar and formal logic were hopelessly inadequate and I stopped doing Generative Semantics.

—George Lakoff (1997:39)

In 1965–66, Chomsky was not moving quickly enough to the Promised Land for most Chomskyans. *Syntactic Structures* made modest promises about semantics, which helped attract a squad of eager recruits. With that influx the promises lost their modesty, though it was not just the recruits making them. *Aspects* expanded the semantic promises, *Cartesian Linguistics* expanded them, *Language and Mind* expanded them: Deep Structure encoded the primary elements of meaning; transformations delivered the variable arrangements of meaning that we see and hear on the surface; those elements were universal, philosophically backed, psychologically real, and they fundamentally implicated human creativity. The neighbors even thought, not without encouragement, that those elements were computationally tractable, pedagogically sound, psychologically testable, and analytically productive. The mediational goal of linguistics—a consistent, coherent, robust linkage between concept and form, meaning and sound—was imminently soluble, and the human sciences stood to benefit profoundly. Some program with a fuller and more explicit semantics, growing out of *Aspects*, seemed inevitable.

We can see now, from Chomsky's earliest writings as well as his post-*Aspects* response, that he was never going to give meaning the controlling vote in his model. It is even clearer, from every word Chomsky has ever penned, that Chomsky was not going to give up. So, there was a new program in Transformation Town and there was obdurate resistance from the sheriff.

Science is a full-blooded activity; Hobbes calls it "a Lust of the mind" paling even the "short vehemence of any carnal Pleasure" (1991 [1651]:42). Science demands an extraordinary level of personal investment. The personalities it both attracts and induces, especially among its most successful practitioners, exhibit intense, passionate commitment, and whenever passion is in the same room with disagreement there will not be peace. The Generative/Interpretive Semantics dispute was no more acrimonious than many scientific clashes. Hurling obscenities at one another in very public fora may seem atrocious behavior, but within its context—in particular, within the 1960s—it is little different than a geological debate among Victorian gentlemen turning "topsy turvy without scruple" (Edward Turner, in Rudwick 1985:99–100), or Huxley publicly ridiculing a bishop, or Cuvier's eulogy of Lamarck, so vitriolic it wasn't even published until after *Cuvier's* death, or (fill in the blank). Science is often a very agonistic process, and the style of the vituperation is the style of the age.

We might recall what Kenneth Burke said about the *genius of the contest*, the rhetorical energy that attends opposition: "When two opponents have been arguing, though the initial difference in their position may have been slight, they tend under the 'dialectical pressure' of their drama to become eventually at odds in everything" (Burke 1941:139).

And then there is this:

[Reading about the Linguistics Wars] reminded me of the sessions that my female colleagues and I would have in graduate school where we would only half jokingly take each other's papers and globally replace what we thought of as "girl language" with what we characterized as "boy language." "Therefore, it seems to me that" would become "Thus I have shown," "I will give some evidence that" would become "I will prove that," "supporting data" would become "conclusive empirical evidence" and "my suggestion" would become "my theory." I always wondered whether those (of whatever gender) who wrote that way really believed their inflated claims, or were just adopting a certain style. (Speas 1998:532)⁴

It's not that there were no significant female linguists contributing to the debates. Besides Robin Lakoff, Joan Bresnan, Janet Dean Fodor, Georgia Green, Judith Levi, and Barbara Hall Partee, for a significant sample, were all notable players in the drama—some of them as partisans, some as hopeful mediators—but they

were markedly outnumbered, and other than Lakoff they were not really in agenda-setting roles (for reasons that surely implicate systemic sexism), and they weren't connected with any notable breaches of decorum. "The entire field, especially during the 60s and 70s," Geoffrey Galt Harpham has observed, "had the structure, and many of the social graces, of a boys' club" (Harpham (1999b:220).

The partial exception to this pattern, of course, was the fun-loving Robin Tolmach Lakoff, whom Bucholtz and Hall (1995) argue with some justice has been slighted in histories of the period (mine included). She was instrumental in the beginnings of the movement, with an important Abstract-Syntax book on the cusp of Generative Semantics, including early work on the Performative hypothesis (1968), a consistent output of strong, influential papers, a defining role in the growth of pragmatics, and a distinct fostering role for the Midwestern second generation. Nor was she without her moments of distemper (notably, R. Lakoff 1970). She has herself even claimed, in terms consonant with Speas's remarks, that academic machismo shaped the Linguistics Wars. She sees that ethos on one side alone, however. The "stereotypical feminine properties" of the Generative Semantics framework, she says in her memoir, did not fit easily into "the hierarchical, dichotomizing tendencies . . . characteristic of academic discourse and masculine world-view" that was deeply embedded in the *Aspects* program. That incompatibility, in turn, contributed to Generative Semantics' fall from grace, unable to resist the more masculine, authoritarian Interpretivist program (R. Lakoff 1989:973–75). She has argued that the entire formalizing program in linguistics is misbegotten and patriarchal. "Language resists formality," she says: "formal descriptions—especially of syntax—miss the point, although they make their creators feel both macho and scientific" (Davies 2010:370).

The socio-rhetorical tone of the dispute, in any case, was undeniably set by the guys; indeed, was largely continuous with the (nearly) all-guy rise of Transformational Generative Grammar. Lakoff certainly remembers the initial conditions in such terms. "The MIT Linguistics Dept. in the '60s was . . . , as academia was then, a very male place," she recalls. "The kinds of things that got said and done to and about the few women in the group seem appalling now, but then [they] were just par for the course: you figured you had it coming to you, you had no business being there anyway" (Davies 210:369–70). Maybe when it is all said and done, much of the Linguistics Wars was just a boy's-club pissing contest.

If so, we have seen that by the late 1970s there was no question whose stream was mightier. Generative Semantics petered out. Most Interpretivists and their sympathizers can tell you why—"It was disconfirmed"—and they are clearly right in at least one very narrow sense. Homogeneous I was disconfirmed. The Katz-Postal Principle did not fit the data churned up in and around the early Generative Semantics framework, and that's what most Interpretivists point to when they say the program was disconfirmed. But that doesn't get us very far,

as the Interpretivists also recognize, because that's when they start frothing about globality, a topic that prompts the opposite reaction from Generative Semanticists. *Globality* is their trigger word for pointing out the bankruptcy of *Aspects* and its various Chomsky-directed mutations.

And most Generative Semanticists have a very different, more interesting and more complete, explanation for the demise of their framework. In Levi's terms, "it made promises it couldn't keep." Certainly, it had trouble living up to many of its specific promises. Ross, for instance, never took his performative analysis very far, and G. Lakoff pretty much abandoned global grammar as soon as he suggested it. There were numerous promised publications (largely by Ross and Lakoff, though sometimes involving Postal) which were routinely cited to bolster various points, but which never saw the light of the press. As one would expect, even this shows up in Generative Semantic self-mockery. One of Ross's acknowledgments, for instance, goes "to George Lakoff, who and I ([improbably] forthcoming) are said to be writing a book about abstract syntax" (1974b: 123). Postal (1972a [1969]:168) cites "a no doubt never-to-be-written paper, Lakoff, Postal, and Ross (forthcoming)." McCawley, when he collected his early essays into *Grammar and Meaning* (1976b), changed many of the citations from the format "Lakoff (to appear a)" to "Lakoff (abortion a)." This inability to follow through on relatively minor promises—a few papers—was symptomatic of an inability to come through on the larger ones.

When Chomsky got himself into trouble in the mid-1960s by promising more semantics than he could deliver, he never actually retracted the promises, but he stopped making them and he stopped talking about semantics except in very narrow terms. And when one looks back at those promises, one can see something rather clearly that most observers at the time read right past. They were all hedged.

When the Generative Semanticists got into similar trouble in the early 1970s, they went the opposite direction. When the water got deep, they kept wading, further and further out, until they were dog-paddling a long way from shore, still shouting back bigger promises. Not only semantics, but now pragmatics, was going to fall into line. Not only would they handle the cognitive aspects of language, but now the social aspects. Not only would they account for discrete phenomena, but now fuzzy phenomena. Not only would linguistics be rehabilitated, but now logic.⁵ Eventually, their hats were floating.

Looking back, you may have felt, when you first saw those deep, deep, growing deeper, floor-to-ceiling trees of early Generative Semantics a bit like that anxiety-ridden fish in *The Cat in the Hat*:

And this mess is so big
And so deep and so tall

We cannot pick it up
 There is no way at all!
 (Seuss 1957:np)

But those deep, tall trees came with a whole array of handles, some of them new, some of them familiar—performative handles, logical handles, transformational handles—that linguists could use to get hold of them. By late Generative Semantics, the situation was very different. The deep, tall trees had become rather quaint as the movement grew so loose jointed and unwieldy that handles were hard to find. Even sympathetic linguists were left with nothing but a vast new view of the whole, messy, commingling, sociomental, signifying thingamajig, language. Generative Semantics ultimately failed for the reason most research programs fail. Scientists need something to do. They need handles. They need results. The motive forces that gave rise to Generative Semantics never went away, but two new programs emerged, Montague Grammar and Relational Grammar, more rigorous, with more manageable methods, asking more tractable questions, and soon many other approaches, some generative, some non-generative, now looked much more promising, some of them peeling away from Chomsky yet again (several new variants of Lexicalism, in particular). Too, Chomsky had engineered another motivation for linguists, restricting the grammar, and provided them with a new set of tools for satisfying that motivation. Postal, using a phrase he got from Katz, calls this the “busy hands” phenomenon: “a framework will be attractive independently of its substance insofar as it provides graduate students with a technically clear thing they can keep busy on and get theses out of” (Huck & Goldsmith 1995:138).

Language *is* a messy, commingling, sociomental, signifying thingamajig. Generative Semantics was right about that. Chomsky’s astonishing success in the decade after *Syntactic Structures* was linked rhetorically to the promise of mediating form and meaning, but it was anchored in the equally compelling distributional promise that this thingamajig could be modeled by precise, mathematically amenable formulae, in a coherent, systematic framework that approached the elegance and power and quality assurance of theories in the physical sciences. Generative Semantics tried to cash in both of these promises, the promise of meaning and the promise of formal modeling. But the promises proved incompatible, at least with the machinery that was available. Value hierarchies shifted. Priorities changed. Postal chose modeling over meaning (Relational Grammar). Ross and Robin Lakoff chose data fidelity over either. McCawley and George Lakoff tried to maintain them both, Lakoff for the most part giving the edge to meaning, McCawley to modeling.

What looked like a growing monolith in the mid-1960s, rising from the bedrock of *Aspects of the Theory of Syntax*, split in the late 1960s, then splintered in the

1970s and 1980s into an assortment of partially overlapping frameworks, clearly defining themselves in opposition to aspects of *Aspects*, all of them bearing significant marks of the Generative/Interpretive dispute and a range of intersecting, overlapping, or conflicting value commitments. Returning to Gazdar's roll call from the last chapter of new grammatical countries for Generative-Semantic émigrés, but leaving aside Chinese cooking, we have three, Montague Grammar, Radical Pragmatics, and Relational Grammar (Gazdar 1979b:179). They were only the beginning.

Alphabet Soup

By the mid-1980s, a veritable alphabet soup of competing frameworks had come into being.

—Frederick J. Newmeyer (1996:156)

Montague Grammar was among the first alternate models to arise, with a more rigorous and more credibly pedigreed semantics than either Generative or Interpretive Semantics could achieve and a syntax as good as either had produced (because, well, they *had* produced it; it was imported directly from Transformational Grammar). Richard Montague was a philosopher of logic and language, tragically killed in a still-unsolved 1971 murder, after a triptych of rich papers. The theoretical force of those papers is summed up in the title of one, “English as a Formal Language” (1970a), and the machinery it deployed had a lineage running through the Semantic Demi-gods, Frege, Carnap, and Tarski (the latter having supervised Montague's dissertation and founded the approach Montague championed, model-theoretic semantics). Montague's work was directly inspired by the unfulfilled promise he saw in Chomsky's work, both for syntax, which had not achieved a sufficient level of “adequacy, mathematical precision, [or] elegance” (Montague 1970a:374) and for semantics, which he, along with many philosophers, saw as pretty bush-league stuff.

“*Pissed off by*” Chomsky's work would be more accurate of Montague's motivation than “*inspired by*” Chomsky's work. Chomsky does have that effect. Montague complained about “the great sound and fury that nowadays issues from MIT about a ‘mathematical linguistics’ or ‘the new grammar’—a clamor not, to the best of my knowledge, accompanied by commensurate accomplishments.”⁶ As David Lewis, Montague's philosophy hallmate at UCLA, put it, in an arrow at the heart of the Katz-n-Fodorian program, “semantics with no treatment of truth conditions is not semantics” (1970:18).

Montague's work was crafted into an appealing approach for linguists through developments by his UCLA colleagues, principally Lewis and Barbara Partee.

The name *Montague Grammar*—coined by Partee as a commemorative gesture—largely gave way to *Montague Semantics* in the 1980s, in part because the semantics proved quite portable, getting incorporated into other frameworks, and in part because it never developed the scope of other frameworks.⁷ Without a moderately robust syntax, however, Montague Grammar would likely not have survived in the 1970s ecosystem of formal linguistics, and Montague had considerably overestimated the syntactic adequacy of his own work. Partee at their head, a small group of linguists enriched the model. Partee drew together Montague's and Lewis's work, and amalgamated it with transformational syntax. Partee, if anything, was an Interpretivist, while Lewis "was quite sympathetic" to Generative Semantics (Partee 2015a:329), so the architects represented a kind of détente.

Chomsky had attracted a number of people with training in mathematics and philosophical logic to linguistics (including Partee), people who could appreciate the power of Montague's work in ways that previous generations of linguists might not have been able. Montague Semantics grew rather quickly, with notable refugees from Generative Semantics (Lauri Karttunen, David Dowty, and Emmon Bach), along with Computational Linguists, independistes, and various philosophers of language and logic. Interpretivists showed relatively little interest; Chomsky let his disaffection and skepticism be known.⁸

Radical Pragmatics, getting back to Gazdar's roll call, was not a model in the sense of Montague Grammar, Relational Grammar, or other frameworks with that surname. Rather, it was the tag for a loosely organized cabinet of investigations into the interfaces among semantics, logic, pragmatics, and syntax. At worst, it was just "a disparate collection of left-over problems that do not fit well anywhere else" (Stalnaker 1980:902); at best, it was a rich continuation of the rapprochement between philosophy of language and linguistics begun with Ross's and Robin Lakoff's performative investigations. Where Chomsky's engagement with philosophers was mostly confrontational by the 1970s, Generative Semanticists enthusiastically borrowed and blended work, first by Austin and Searle, and rapidly thereafter, by such thinkers as H. P. Grice, Robert Stalnaker, and David Kaplan. Their respective motivations overlapped in central ways. Ordinary language philosophy developed in reaction to narrow truth-functional semantics. Generative Semantics reacted to narrow well-formedness syntax. In both cases, the reaction played to context and situation. In linguistics, this research meant exploding the competence/performance division. Methodologically, Generative Semanticists saw their mission here as pulling data out from under the rug of performance into the light of serious scrutiny.

Linguistic Pragmatics—as I will turn to calling it now, since *Radical* was a short-lived and ill-suited modifier—often intersected with Montague Semantics, and involved some of the same personnel. But it pushed on notions

of grammaticality as much as it pushed on notions of meaning. The Lakoffs, both at the University of Michigan as pragmatic interests started to flower, urged this work forward, with Robin doing particularly ground-breaking research, and a clutch of Midwestern second-generation Generative Semanticists created the field.⁹ The big coming out party was in Austin, Texas, in 1973, known as the *Performatidillo Conference*, followed almost immediately by the Pragmatics Workshop back in Michigan.

Linguistic Pragmatics was nourished by a host of affiliated concerns for discourse, for sociological factors like class and gender, for figural uses of language, for communicative function, politeness, felicity, and other factors implicating context, factors that involved data going well beyond isolated sentences like 1 and 2 to include utterances like 3 and 4:

- 1 The cat is on the mat.
- 2 John is easy to please.
- 3 If you keep playing with yourself, you'll go limp forever. (Borkin 1972:39)
- 4 That deep structure is radioactive, the crazy fool. (Morgan 1973b:743)

With Sentence 3, we start to see a creep of rhetorical figures. It implicates the trope, synecdoche—a semantic shortcut in which a word for the whole entity or object (here, *yourself* and *you*) stands in for a part of that entity (here, the part identified in Postal's relevant rule, *euphemistic genital deletion*). Neither Borkin nor her professors, nor Postal it seems, realized that these data had any relation to rhetoric or figuration.¹⁰ But the theoretical movement away from strict, literal denotation is very clear. The range of data was increasing. And context was inescapable in the trajectory of whatever might be the appropriate solution. For the synecdoche of 3 to go through, language users need a kind of encyclopedic account of the domain (anatomy), and of the social acceptability of anatomical references, a dimension of meaning that goes way, way beyond the entries of an *Aspects* lexicon or any known pronominal rule. Although no one noticed it, this data also calls for another sort of cognitive mechanism; for *any* synecdoche to go through, speakers and hearers need to execute a whole/part referential convertibility.

Sentence 3 exemplifies the sort of data that preoccupied many Generative Semanticists in the early 1970s. It concerns garden-variety distributional facts. People say such things all the time. *Yourself* is a meat-and-potatoes deictic, a reflexive pronoun coding only for person and co-referential with another word sharing the same referent (in this case, the preceding *you*). Yet here it is, doing something very peculiar. Its referential business has less to do with the first *you* than with some anatomical protrusion connected to the person identified by that *you*; the second *you* has the same referential complications. All of

these referential linkages are tricky to a degree unheard of in Transformational Grammar, which is of course the whole point of Borkin's research. She puts the data on display, pokes at it, reveals its complications for transformational mechanisms, and then confesses utter helplessness in dealing with it.

Borkin's 3 also activates cognitive relations of a sort that had not even begun to occur to linguists, and of a far more general sort than the Chomskyan Universal Grammar program entertains. It depends on an elaborate semantico-pragmatic infrastructure (an infrastructure that one might call, somewhat quaintly, *decorum*) that had long been banned from linguistics. It involves not just (1) the referential denotation of its three pronouns or (2) their immediate syntactic environment, or even (3) their discourse environment—all three semantic relations are required, since we need to know there is a second-person addressee to understand the sentence, and that the second (*yourself*) and third (*you'll*) pronouns continue that thread of identity; and what the discourse topic is (the addressee touching a part of his body for sexual gratification), yet there is no true "antecedent" within hailing distance of the second and third pronouns. But Sentence 3 also involves (4) the social unacceptability of using a different word altogether from a class of available synonyms (picking the clinical synonym, let's identify that class by the word *penis*), and (5) the meronymic relationship between the relevant concept (call it *PENIS*) of that class and the addressee.

Whew! I don't know about you, but my head hurts. Take two metatransderivational constraints and call me in the morning.

Conditions (1)–(5) don't get us all the way home, of course, since we need additional anatomical knowledge to extract from the word *limp* that the addressee is male, we need some socio-biological facts about the non-desirability of lifelong penile limpness to infer that the speech act is cautionary in some way, and no doubt much else. But conditions (1)–(5) suffice to describe the tangle of immediate distributional facts about these pronouns that concern Borkin (and Postal before her). No wonder she threw up her hands in a kind of intoxicated despair. "Although I have dealt with these questions in a Generative Semantics framework," she ends her paper, "the facts I have brought up present problems for any theory of grammar, and I know of no way in which any present theory would handle them" (Borkin 1972:44).

Sentence 4 is an even more fraught kettle of fish, at least on the surface, where it doesn't even make sense—a weird complex consisting of a sentence tagged by a seemingly unrelated noun phrase. It's bafflingly elusive, in desperate need of a grammaticality warning sign of some kind from McCawley's stigmata palette, at least in isolation. But it becomes wholly unexceptional when seen as a response to 5.

“Both the syntactic well-formedness and the semantic interpretation [of 4],” in other words, “must be stated relative to the linguistic context” (Morgan 1973b:748). Context affects acceptability; and grammaticality, the defining notion of Chomskyan syntax, is at least obliquely related to acceptability. With 4 and 5 cheek-by-jowl, of course, one can simply account for 4 in transformational terms with an underlying structure like 6, some deletion operations that remove everything between the brackets, and a *the*-insertion rule of some kind:

- 6 [John is claiming] that deep structure is radioactive [which shows us that he is a] crazy fool.

Transformations can do these jobs easily enough; as we keep hearing, they’re powerful rules. But we also know that the only way to motivate the necessary derivation to get from 6 to 4 would be with some additional device (dare we say it?—a transderivational constraint) that has access to at least some aspects of the derivation of 5.

The motive behind the kind of data exemplified by apparent oddities like 3 and 4, and by the related argumentation, is to confront and overturn the *Aspects* orthodoxy. In Thomas Kuhn’s terms, the word is not *oddities* but *anomalies*, his label for data that strains the current paradigm, potentially to its breaking point: facts which “cannot, despite repeated effort, be aligned with professional expectation” (Kuhn 2012 [1962]:6). In retrospect, we can see that there has never been a period of research stable enough to fit Kuhn’s picture of “normal science” within the Chomskyan program, but that’s not how it looked to Transformationalists at the time, who saw *Aspects of the Theory of Syntax* as a scripture of linguistic orthodoxy. Within its framework, much of Generative Semantics enacted the first two stages of Kuhn’s anomaly-to-crisis-to-new-paradigm revolutionary pattern. Certainly, the lesson that many Generative Semanticists took from such data, leading them toward Linguistic Pragmatics, was that the derivational equipment of Transformational Grammar is hopelessly inadequate to account for language use (as, lest we forget, Chomsky had maintained all along with respect to *Aspects*).

Robin Lakoff was a major force in the emergence of Linguistic Pragmatics, both as a scholar and as a teacher. She pioneered politeness studies (when George said Chomsky can’t account for the use of the word *please* back in Chapter 4, it was Robin’s critique he had in mind), and virtually invented feminist sociolinguistics with her *Language and Woman’s Place*.¹¹ So her view of the role pragmatic anomalies played in the crisis-infused last days of the Wars is particularly instructive:

It was at the time of the introduction of pragmatics into GS that the dispute between the two sides got most heated and bitter. Not because one side wanted

to see linguistics as “scientific” and objective, and the other didn’t; but because both did, and neither could reconcile that desire satisfactorily with the data that were now turning up. Both felt frustrated with the inability of their own theories to deal with these facts fully; one turned away completely, and the other attempted to incorporate the problems within the domain of linguistic science. The internal frustrations created irritation—for which each side blamed the other. (R. Lakoff 1989:986)

Neither Radical/Linguistic Pragmatics nor Montague Grammar/Semantics were particularly susceptible to the alphabetic craze Newmeyer notes, but they are exceptions to the rule. From the 1960s through the 1970s the literature bristled with such uppercase coinages as TG, TGG, ST, GS, RG, and EST.¹² My personal favorite is a name that Bach seems to have coined for some late EST advances, and which later showed up in serious books on Chomsky, the *Revised Extended Standard Theory*, as in “Give it a REST.”

There is no RP, and only the rare MG (though, perhaps in compensation, Partee introduced the convention of referring to Montague’s foundational papers alphabetically, EFL, UG, and PTQ¹³). But the Call of the Majuscules was just beginning. Before the end of the century, there was a riot of letters festooning the journals: LFG, DDG, WG, APG, GB, P&P, MP, just to single out a few of the more interesting theories—oh, and GPSG, which really tipped over the sort drawer, begetting HPSG, JPSG, KPSG, LPSG, ETCPSG, . . .¹⁴

These labels are mostly associated with one or two leading researchers, who tend to work only in that one particular framework, but Chomsky is directly affiliated with an astonishingly large brace of them (TG, TGG, ST, EST, and let’s throw in REST, up through the Wars period; thereafter, GB, P&P, and MP, all of which we will hear from in due time).¹⁵ He also has a welter of other such alphabetizations for individual rules, principles, criteria, or domains, completely suffusing the literature, but two new technical terms Chomsky proposed in the wake of the Wars calls for specific attention: *I-Language* and *E-Language*. They are yet further attempts to define which aspects of language he feels responsibility for, and which are outside his (and, in fact, science’s) scope. *Competence* became (sort of) *I-Language*, with the *I* for *Internalized* when he introduced it, later expanding to include *Individual* and *Intentional* as well (1986:22, 1995:13).

Performance, or at least the result of performance, or the set of all potential acts of performance, something like that, became *E-Language*, with the *E* for *Externalized* when first proposed, later broadened to include *Extensional* (1986:20, 1995:14), though perhaps *Effluvia-Language* might be more appropriate because *E-Language* is associated with Bloomfieldians, with Quine, and with others on the wrong side of linguistic history, as written by Chomskyans.

E-Language “appears to have no status in the theory of language,” Chomsky says (1987:180); “virtually no empirical import,” he says (1987:181); “a marginal and derivative notion at best,” he says (1990:144); he especially uses *E-Language* as a focus for his rejection of corpus linguistics and the use of statistics. The upshot of this alphabetization subroutine, in any case, was that the correct characterization of the object of linguistic theory was I-Language. Almost any data one might associate with pragmatics, if you’re wondering, is Effluvia.

Alphabetically, though, the most defining letter for Chomsky was *T*, as in *TG*. The clearest emblem of separation for all of his programs from the other AGs (Alphabet Grammars), was that, whatever other modifications came along, his programs were all still Transformational Grammars. The transformation was seared in the minds and tripped off the tongues or keyboards of all observers and commentators who talked of Chomsky’s famed technical brilliance. The transformation was the flag that flew over his revolution. But, by the 1980s, no one else wanted it.

Generative Grammar without Transformations

In virtually all current theories of generative grammar, much of the descriptive burden shouldered by transformations in Chomsky (1965) and subsequent work has been transferred to other components of the grammar, such as phrase structure rules, lexical rules, and interpretive rules.

—Steven Pinker (1982:665)

In the early 1970s, G. Lakoff imagined “such madness as . . . the elimination of transformations altogether,” but promptly rejected it: “This sounds wrong to me, so far as pure gut reaction is concerned” (G. Lakoff 1973a [1970]:451–52). Within the year, however, his gut had settled down and he pronounced, as one of Generative Semantics’ virtues, that “there are no transformations,” coming up with another innovation. “In their place there are correspondence rules,” he said, “which may have global and/or transderivational constraints associated with them” (G. Lakoff 1975 [1973]:283). In some version or other, correspondence rules became the order of the day in all the new grammars.

The single most important development in this trend, arguably, was actually internal to Chomsky’s program, a thesis by Joseph Emonds in the thick of the Wars, directed by Chomsky: “Root and Structure-Preserving Transformations” (Emonds 1970). Newmeyer puts it cheek-by-jowl alongside Jackendoff’s dissertation of the same vintage, as the two “most impressive pieces of scholarship” coming out of the MIT program in the period: “painstaking works devoted to

detailed examination of particular rules in the context of defending the lexicalist alternative to the then predominant generative semantics" (Newmeyer 1996:57).

Mining restrictiveness veins, and taking explicit inspiration from Ross's dissertation, Emonds provided a taxonomy of transformations in terms of restrictions to their descriptive power. By far the largest and certainly the central category was a class of rules that flipped the Katz-Postal Principle on its head. The Katz-Postal Principle was a meaning-preserving principle; do whatever you want with the structure, so long as you keep the meaning stable. Emonds's relevant category was the *structure*-preserving transformations; change the meaning as called for, but keep the structure stable. By the mid-1980s it was widely accepted that "the structure-preserving constraint ('SPC') . . . [was] the most general principle available for restricting the derived structures that transformations can produce" (Emonds 1985:138). The SPC didn't quite mean that transformations couldn't alter structure, of course. Altering structure is pretty much all there is for transformations. No, the SPC means, rather, that transformations could only alter structure in ways already "allowed" by the phrase structure rules. A transformation could not alter a structure into something incompatible with those base rules. It could not create a substructure, or move anything into a position, that was not generated by the base component. Passive is a classic example: it moves the first Noun Phrase into a Prepositional Phrase in the Verb Phrase. Well, English Phrase Structure Rules define VPs as containing PPs. So, it's OK.

As masterful as this proposal surely appears to you—in effect, the Phrase Structure Rules become one big filter for allowable surface structures—two flags should be going up now. First, a restriction against altering structures is anathema to Generative Semantics. Its bread and butter, going back to its Abstract Syntax roots, was in transformations that could rearrange remote and arcane structures into surface structures. So, the role of the principle in the Wars is readily apparent. But, second, lurking at the heart of Emonds's principle, there is a poisoned pill for transformations. If transformations don't give you anything you don't already get with Phrase Structure Rules (and if transformations are so damn powerful, and if power is a bad thing), what do transformations buy us? Why not just let the Phrase Structure Rules do their thing? Transformations were so enmeshed with the whole idea of linguistics and generativity in the 1970s that this implication lay in the shadows throughout most of the decade, only emerging with the Alphabet Grammars of 1980s.

As Johnson and Postal describe it, the trajectory that defined linguistics from the late 1960s through the late 1970s was to correct a fatal flaw, a "deficiency built into the most basic assumptions of TG theory, namely, the fact that transformational applications destroy or 'lose' information, information which is necessary even after it is 'lost'" (1980:4). The solution to this deep-seated lethal glitch, licensed in part by Emonds's constraint, comes out of a simple

argument: transformations entail derivations; derivations lose information; eliminating transformations eliminates derivations; therefore, eliminate transformations. Voilà, the information-loss problem is solved.

"But, really?" perhaps you're wondering. "No transformations? What about those definitive rallying-cry arguments back in Chapter 2 that transformations were necessary for any adequate grammatical model?" Chomsky built his case for the necessity of transformations on the alleged weaknesses of (Bloomfieldianesque) Phrase Structure Grammars. They couldn't handle the syntactic load themselves. They needed something extra. Chomsky's something extra, inherited from Harris, was the transformation. The new grammars coming online in the 1970s and 1980s had other ideas.¹⁶

Relational Grammar—RG to its friends—was at the head of the class, and arguably contributed most to the splintering of the generative enterprise. RG had clear Generative Semantics ancestry—not just in the person of Postal but in work by G. Lakoff and Ross and Morgan, as well as by sympathetic and consonant researchers, like Gruber and Fillmore; and, not insignificantly, RG retained a stance of opposition to Chomsky. It was generative in the original sense of precise formalization and (especially in its abbreviated offspring, APG [Arc-Pair Grammar]; Johnson & Postal 1980), it may have been the most precisely and rigorously formalized generative model in a growing field of generative models); it took the universality mandate very seriously, building its arguments and developing its analyses on a wider and more diverse array of languages than was common at the time; and it had the full-bore formalist commitment to abstraction that fueled American linguistics from at least Bloomfield. Pullum has called RG "the last survivor of . . . abstract syntax" (1991:14), but it took a sharp right turn and adopted a markedly different commitment about the objectives of linguistic theory from recent programs, subordinating both mediational and distributional goals, and discarding psychological interests, in order to pursue a broader empirical question, "In what ways do natural languages differ, and in what ways are they all alike?" (Perlmutter 1980:195).

RG's name gives away its defining innovation, that grammatical relations like subject and object belong directly among the core theoretical primitives of linguistics, a self-evident fact with respect to all pre-transformational approaches, but strikingly bold within the Chomskyan tradition. In all Transformational-Generative research, grammatical relations were secondary, derivative, held to follow naturally from structural properties. *Aspects*, in particular (Chomsky 1965 [1964]:71), defines *subject* as "[NP, S]," effectively, the first NP of a canonical Sentence (*Postal* in "Postal broke the transformation"); *object* as "[NP, VP]," the first NP of a canonical VP (*the transformation* in "Postal broke the transformation"). To define them otherwise, Chomsky says, in his inimitably sweeping way, would "merely confuse the issue . . . is mistaken . . . redundant . . .

[a] fundamental error” (Chomsky 1965 [1964]:68–69). In fact, deriving grammatical relations was seen as one of great efficiencies of the *Aspects* model, one of the New-Grammar advances of precision over the loosey-goosey Old Grammar (Viertel 1964: 79–80).

But Generative Semantics research had begun to undermine these kinds of configurational definitions for grammatical relations and the Universal Base Hypothesis pulled toward “a fixed set of universal grammatical relations such as *subject-of*, [and] *object-of*” (Bach 1968:114). Gruber and especially Fillmore’s work on “deep case,” an inventory of semantic relations that cross-cut grammatical relations in evocative ways, was also influential. Important work by G. Lakoff and Ross, among others, increasingly put explanatory weight on grammatical relations. Lakoff later claimed that acknowledging the semantic dimensions of grammatical relations was a hallmark that distinguished Generative Semantics from other theories in the generative tradition, back to Harris (Lakoff 1987:464).¹⁷

Relational Grammar emerged from this climate, discarding almost the entire apparatus of transformations: no movement, no derivations, no cascade of representations for a single sentence. No matter how intricate the syntax of a sentence, it only needed one single tree (or “arc,” a related species of representation). But RG remained true to the compelling initial themes of Chomsky’s program—universality, formal precision, and explanatory adequacy, proposing a number of “Laws of Grammar”—while at the same time systematically exposing weaknesses of that program, and eliminating those pesky transformations.

Relational Grammar was not interested in different linguistic concerns from *Aspects*, as Linguistic Pragmatics largely was. It did not splice a new semantics onto a pre-existing syntax, as Montague Semantics (née Grammar) largely did. It was an arresting new model—Generative Grammar 2.0—and its successes were exhilarating, most dramatically demonstrated on the familiar proving grounds of active-passive relations (Perlmutter & Postal 1977).

Still, RG appears to have been too little and too late for the linguistic ecosystem of the late 1970s. The grammarians, they were restless.

One locus of discontent was to be found, shockingly, in Building 20, down the hall from Chomsky. Joan Bresnan, one of his Interpretivist-era students, who joined the faculty there, began working with a small group of collaborators—most prominently, Ronald Kaplan, a computational psycholinguist across town from her, at Harvard—and brought forth LFG. The *L* is for *Lexical*, signaling its allegiance to Chomsky’s Lexicalism. The *F* is for *Functional*, drawing this time more from the GS side of the ledger, since it coded for *grammatical functions* in LFG, what most everyone else called *grammatical relations*, like subject and object. The *G*? You don’t need a trig-equipped pocket calculator to figure that one out, the last name of virtually all linguistic models: *Grammar*.

At its heart, LFG was a purified *Aspects* model, with the same mediational goal of linking representations of form with representations of meaning—though with more prudence about meaning and greater modesty about overall implications—which raised one particular line of appeal in *Aspects* to Prime Directive status, what Bresnan called the “grammatical realization problem”: that is, “to specify the relation between the grammar and the model of language use [performance!] into which the grammar is to be incorporated” (Bresnan 1978:1). Chiefly, that meant psychological reality, but psychology in the Transformational-Generative tradition is in large measure conceived computationally, so LFG had a resolute eye on mathematical/computational tractability.

LFG also took the lead on a movement Newmeyer terms *Superlexicalism* (1986a: 187–91, et passim), a ramping up of Chomsky’s and Jackendoff’s shifting of transformational duties to the lexicon.¹⁸

The most impressive innovation of LFG, for most of its customers, was the way it accounted for the sorts of semantic and syntactic generalizations that Chomsky and Harris had treated as largely discrete operations that permuted algebraic symbols, into rule-governed attributes of word classes (for instance, that only transitive verbs can participate in passives; again, active-passive relations are the parade example). By directly implicating words, not just abstract category-variables, the approach immediately becomes more concrete, therefore more “realistic,” and by moving all the action “into” the lexicon, it responds to the restrictiveness issues that plagued syntactic transformations.

And there was another base-enrichment movement afoot, which we might call *Superconstituentism*.

It featured direct contributions by Geoffrey Pullum, Ewan Klein, Ivan Sag, and cognate or overlapping or otherwise influential work by Edward Keenan, Carl Pollard, Henry Thompson, and the ubiquitous Emmon Bach, among others (Gazdar & Pullum 1982:ii–iii), most of them affiliated at some degree of separation or another with Generative Semantics. But Gerald Gazdar was widely regarded as the lead engineer of the specific model that coalesced out this research, GPSG. Gazdar was so instrumental in the development of the model, and so prominent in its advancement, that he and Pullum christened the model with the unwieldy label, *Generalized Phrase Structure Grammar*, largely to cut short the “growing tendency for people to employ the unpleasantly alliterative (and attributionally inaccurate) name ‘Gazdar grammar’” (Gazdar & Pullum 1982:iii).

Gazdar was a late Generative-Semantics sympathizer and pragmatics pioneer in the 1970s who realized the rational conclusion of Chomsky’s arguments (and the always looming Peters-Ritchie results) against the disastrous expressive power of transformations: get rid of them, every last one. For Gazdar and associates, that meant going back to the demonstrably less powerful Phrase Structure Rules. GPSG was simultaneously regressive and progressive, a return

and a rejuvenation, marking a sort of natural culmination of developments that followed the pre-*Aspects* trajectory of work by Lees, Klima, Katz, Postal, and Chomsky, who moved transformational powers into the Phrase Structure component.¹⁹ GPSG, like LFG, did the same basic lexicosyntactic work of Transformational Grammar, but with less machinery. And the semantics? GPSG happily incorporated Montague Semantics, adopting Bach's (1976:2) rule-to-rule policy of pairing up all syntactic rules with a semantic rule; a policy, in fact, that we might call "the Montague mandate."

The appeal of LFG and GPSG was tinged with nostalgia. Their "attempts to preserve certain attractive features of the earlier phases of generative grammar" (Wasow 1985:197) harkened back to the mathematical precision and formal rigor of early Generative grammar, to the "Three Models" and *Logical Structures* era. LFG additionally harkened back to the psychological promise of Chomsky's late-1950s/early-1960s work with George Miller. Both grammars also manifest a clear rejection of Chomsky's REST trajectory of maintaining transformations while keeping them in line with an increasingly elaborate system of regulatory mechanisms.

But let's not miss that, even more fully, by rejecting transformations these models absolutely rejected the last clear formulation of Generative Semantics, a grammatical model that ran everything—semantic, syntactic, lexical—through an all-purpose transformational engine.

The main work of transformations was handled by these new models through different kinds of correspondence rules.

Chomsky's arguments for transformations were largely arguments *against* an impoverished grammar, consisting solely of Phrase Structure Rules, that couldn't handle crucial syntactic phenomena. It needed something extra. When that something extra was added, transformations, the impoverished "grammar" became a "base component" and transformations went to work hopping affixes around to account for discontinuous constituents, moving other constituents from spot to spot to account for phenomena like active/passive relations, and so on. But the 1980s base component was not your parents' base component. All of the work building toward, and then building upon, *Aspects of the Theory of Syntax*, had resulted in a powerful lexicon, beefed up and tricked out Phrase Structure Rules, and various interface tools.

LFG makes especially elegant use of the lexicon, reimagining the old Passive transformation, for instance, into a lexical rule. GPSG makes good use of the lexical properties, too, but it developed ingenious "meta-rules." Meta-rules don't relate structures, as in a derivation. They relate the rules that generate those structures. To offer a crude reduction: one Phrase Structure Rule makes actives (call it *PSR1*), another makes passives (*PSR2*), and a meta-rule pairs them up ($PSR1 \Rightarrow PSR2$). The difference may seem subtle, but the generalizations come at

a higher level, there are no derivations, and the “the gravest defect of the theory of transformational grammar” is avoided; namely, “its enormous latitude and descriptive power” (Chomsky 1972b [1969]:124–25).

There was ingenuity galore, a renewed sense of collective purpose, and lots of shared mechanisms drawn from both Interpretive and Generative Semantics legacies: primitive grammatical relations and Ross’s auxiliary analysis, from the one side, and lexical redundancy rules from the other, with $\bar{x}$ -syntax becoming the lingua franca of phrase structure.

Whatever direction Chomsky’s developments took in this period, and there were many, his models always flew the transformational banner. He was unmoved by all this activity to eliminate his signature device, at least outwardly, and his bellicosity was dialed relatively low. He took only a few scattered shots in public at the alternatives. GPSG, in a tired echo of his early Generative Semantics attacks, he dismissed as notationally equivalent to Transformational Grammar, except for its “needless complexity”—which, of course, made it inferior. GPSG was the same, but worse (Longuet-Higgins et al. (1981:[64f])). Meanwhile, in a virtual déjà vu of Ross’s experiences, Bresnan was one of Chomsky’s most talented students, who moved into a faculty position alongside him at MIT, resulting in some unpleasant episodes as their positions diverged.²⁰

On the broader stage, levels of hostility among most practitioners of the new models on the linguistic landscape were decidedly lower than anything the Wars had seen. Frequently, they were downright congenial. The late 1970s, through the 1980s, was largely a period of healthy trans-border generative economies of methods and instruments. Even McCawley, who maintained his commitment to transformations and wholly eschewed the marketing of theories (“when you hear a linguist use the word ‘theory,’” he said, “you should put your hand on your wallet”—McCawley 1989a [1978]:83), cheerfully revised and refitted his approach on the basis of these developments. When he published his archly entitled *Thirty Million Theories of Grammar*, for instance, he renounced his arguments for deep Verb-Subject-Object order on the basis of the RG and GPSG dissociations of linear order and hierarchical structure, and, in consonance with RG and LFG, he embraced grammatical relations:

I now regard the case that I offered [1970b] for deep VSO word order in English as very weak because of my gratuitous assumption that there is a deep constituent order, . . . I now consider the VSO order that appears in structures I propose to be simply a makeshift way of indicating the grammatical relations between predicates and arguments. (McCawley 1982b:7)

For exactly the chance to fix bugs like these in his own linguistics, McCawley welcomed the alphabetic fecundity of the 1970s and 80s. “I regard the multiplicity

of frameworks as highly desirable," he said. "Any framework is going to lead its adherents to come up with facts that quite likely you wouldn't come up with so easily in your own framework" (Cheng and Sybesma 1998:1).

The multiplicity of frameworks was remarkable, signaled most clearly by the vibrant 1979 *Conference on Current Approaches to Syntax*, sometimes just called *The Milwaukee Conference* but often referred to at the time as the *Syntax Sweepstakes* (Kac 1980, Moravcsik & Wirth 1980). GPSG and LFG apparently did not feel quite ready for prime time and went unrepresented. But DDG was there, and RG, and Montague Grammar (in point of fact, the presented model was labeled *Montague Syntax*), along with RRG, CORG, and EG, and a half dozen or so more.²¹ Nor was this the end of it. Yngve identified forty-two grammatical models by name in the mid-1980s, terminating the list with "among others" (Yngve 1986:108)—so, not quite McCawley's thirty million. But a lot. The linguists plying these models largely appreciated one another's work, cheerfully sharing axioms, borrowing innovations, and cooperating harmoniously. The only steadily visible resentment in the period was directed at Chomsky.

The rhetorical focus of this resentment was on what appeared to be growing inconsistencies in Chomsky's work, especially in his adoption of positions he had previously denounced, and on Chomsky's growing indifference to the technical machinery required by his own proposals. We enter a period in which "trashing Chomsky was the only reputable occupation for a self-respecting linguist" (Harpham 1999b:211). Michael Brame is a case in point. Not long removed from his (1976) EST attack-dog role against G. Lakoff and the Generative Semanticists, he railed not only about Chomsky's stealthy adoption of many features from that program (a charge to which we will return), but about an even more egregious defect, Chomsky's assumption of Generative Semantics' nonchalant imprecision. He complained that the post-bellum Chomsky now regularly failed to formulate explicitly the rules sketchily evoked in his arguments. "Without explicit rules," Brame says, targeting one particular claim, "it is difficult to envision what such an analysis would look like, and whether, in fact, it would even be formulable" (1978:210). Of another: "the formal account of the actual content of the words is taken to be a mere detail, a trait of Generative Semantics in its heyday" (1978:12). Of an entire subtheory:

As time now runs out on trace theory, one sees ever more far-fetched devices proposed to accommodate counterexamples that genuinely follow from more realistic approaches. Just as Generative Semanticists were inspired to propose global rules and other prophylactic devices to immunize their theory against refutation, so also trace theorists have begun to follow suit by adopting theoretical constructs which are seldom made explicit. (1978:13).

Gazdar and his GPSG collaborators went further, ritualistically excommunicating Chomsky from the church of which he was (or, rather, an earlier version of him was) still revered as the originating prophet. One would be hard pressed to find a more unequivocal charge of scientific impiety than the one they lay against Chomsky, setting his founding scripture against his contemporary blasphemies:

The term “generative grammar” is sometimes used [in the linguistic literature] as if it referred to (even solely to) contemporary work in Chomsky’s “Revised Extended Standard Theory” (REST) such as “Government-Binding” (GB; Chomsky 1981[a [1979]]) but not, for example, GPSG, Lexical-Functional Grammar (LFG; Bresnan 1982b), or Arc-Pair Grammar (APG; Johnson & Postal 1980). . . . It will be clear that our use of the term ‘generative grammar’ covers GPSG, LFG, APG, Montague Grammar in all its varieties, the work presented in *Syntactic Structures* (Chomsky 1957), Stockwell et al. 1973, Lasnik & Kupin 1977, and other work, but includes little of the research done under the rubric of the ‘Government Binding’ framework, since there are few signs of any commitment to the explicit specification of grammars or theoretical principles in this genre of linguistics. (Gazdar et al. 1985:6)

From the hostile outside—and the contingent of linguists who regarded the entire generative enterprise as a sham was growing—*all* generativists were contaminated:

The radical nature of variants of Chomsky-like linguistics is reflected by a particular attitude of their proponents: they tend to see their variant of Chomsky-like linguistics as the only “true” or “pure” representation of The Master’s views, often using the term “generative grammar” in a monopolistic fashion to denote this, and no other, variant. “I am not the one to fault,” they often claim, “it is The Master himself who has deviated from the straight and narrow road to linguistic salvation.” [Such representations only amount to “a Deceptive Detour” leading to a] crazily confused . . . corner of [the] detractor’s own pitiful little private property. (Botha 1987:8)

But—you’ve been with me a while now, so this will not shock you, I’m sure—it turns out that Chomsky didn’t need Brame’s blessing, or Gazdar’s, or Bresnan’s, or Botha’s, or [insert name here]. He lost no sleep over their assaults, and his framework lost no unrecoverable ground to the various alternatives. His program was sputtering, but it was still the benchmark; indeed, as his program alone was becoming plural, it might be more appropriate to say *they* were the benchmarks. His constraints-based framework of the 1970s, even with a much greater field of

competitors than in the Wars, was the common measure for all of these models. Every theory defined itself first against *Aspects*, their shared stock, and then against assorted Chomskyan developments in the wake of *Aspects* (usually identified as EST, REST, or, sometimes Trace Theory). Even with several pre-1957 and alternate-tradition frameworks represented at the Milwaukee Conference, for instance, Giorgio Graffi rightly notes how thoroughly Chomskyan that event was, in terms of the themes addressed and even the suite of common sample sentences they referenced (2001:369–70).

With *Lectures on Government and Binding* (Chomsky 1981a [1979]), the game changed again.

While American linguistics was still somewhat fractious—not bitter, not particularly quarrelsome, but alternate models were jostling each other for market share in the linguistics bazaar—Chomsky’s (1973a [1971]) paper, “Conditions on Transformations,” caught some eyes in Europe. “Conditions” offered the first set of clearly articulated positive proposals since *Aspects*, and it entered circulation just as the looser and more tentative proposals of “Remarks” (Lexicalism and $\bar{x}$ -syntax) were flowering under the careful tending of Jackendoff and others. The ideas resonated in Paris and Pisa, and most strongly in the Netherlands, where Chomsky presented the work in 1971 (followed up by a compelling lecture by Emonds the next year). As we have seen, Generative Semantics had established itself widely in Europe, including the Netherlands. Pieter Seuren was a commanding theorist, functionalist Simon Dik was supportive, and young researchers like Henk van Riemsdijk and Jan Koster were enthused. But not for long:

[The Dutch] consensus about generative semantics broke down because students . . . became more and more skeptical about the ever wilder extensions of grammar, especially in the hands of George Lakoff (Broekhius et al. 2006:xix)

It didn’t hurt, either, that Brame had come through Utrecht with his anti-generative semantics harangue, with Chomsky’s and Emonds’s persuasive account of tractable alternatives tipping the balance decisively.

Yet again, revolution crackled in the Chomskyan air. There was a feeling of “a real crisis in linguistics” (Koster 1990:306). Van Riemsdijk and Koster both spent sabbaticals in Mecca—Building 20, MIT—and returned to spearhead the formation of a new European group, GLOW (Generative Linguistics of the Old World). Their manifesto (written with Chomsky’s student, Jean-Roger Vergnaud) spoke in the now-familiar terms of a rising new epoch. In the light of later Chomskyan developments, the manifesto now looks to be “in retrospect a document of

touching orthodoxy” for at least one of its authors (Broekhuis et al. 2006b:xix), but it carried the revolutionary banner to new territories:

The Chomskyan revolution has been a revolution of goals and interests as much as a revolution in method or content . . . In our opinion, generative linguistics acquired a new momentum in Europe after Chomsky’s “Conditions on transformations” (1973). This epoch making paper shifted the interest of linguistics from rather arbitrary rules to simple well-constrained rules operating under general common ground. (Koster, van Riemsdijk, & Vernaad 1978:5)

The first GLOW conference was in Amsterdam; at the second, in Pisa, Chomsky delivered *Lectures*, and with it, he once again pulled ahead in the Syntax Sweepstakes, shortly thereafter lapping the field. The Pisa lectures advocate a recognizably new program in familiarly paradoxical terms: reclaiming a revolutionary stance while simultaneously maintaining continuity. To this day, Chomsky can be seen tying himself in rhetorical knots by portraying the GB phase as an inevitable progression from his previous work and a radical shift in direction (e.g., 1982a:67, 2005:8, 2013:38). Its impact was even greater than the rapid growth of his Transformational-Generative program the first decade of Chomsky’s ascendancy, given how vastly the field of linguistics had expanded in the twenty-five years since he broke onto the intellectual scene. *Lectures* has now gone through seven editions; *Syntactic Structures* and *Aspects of the Theory of Syntax*, legendary pillars of Chomsky’s legacy, have gone through only two each.

Government and Binding, Principles and Parameters

A plausible assumption today is that the principles of language are fixed and innate, and that variation is restricted. . . . Each language, then, is (virtually) determined by a choice of values for lexical parameters: with one array of choices, we should be able to deduce Hungarian; with another, Yoruba. This principles-and-parameters approach offers a way to resolve a fundamental tension that arose at the very outset of generative grammar.

—Noam Chomsky (2000a:122)

He was speaking somewhat from the margins, advancing a quite specific grammatical model as other models were challenging or emerging, but Chomsky begins *Lectures on Government and Binding* in the well-earned tones of someone representing the entire field of generative grammar, with a chapter that chronicles

its development as the natural emergence of an *Aspects*-era rule system, identified in the following way:

- 7 (i) lexicon
 - (ii) syntax
 - (a) categorial component
 - (b) transformational component
 - (iii) PF-component
 - (iv) LF-component
- (Chomsky 1993b [1979]:5; the categorial component generates phrase structure; *PF* is *Phonetic Form*; *LF* is *Logical Form*.)

Subcomponents (i) and (iia) are effectively the *Aspects* base, generating “D-structures (deep structures) through insertion of lexical items into structures generated by (iia),” which are then turned by (iib) into “S-structures [Chomsky provides no gloss; give it your best shot] which are assigned PF- and LF-representations by components (iii) and (iv)” (1980a [1979]:5). The rules of component (iv), that is, are updates of the Semantic Interpretation Rules. This is the shape of Universal Grammar. The story continues.

After the inevitable emergence of this view of language, generative grammar came to the obvious realization that multiple systems of principles, each with its own “theory,” are responsible for the articulation of the grammar in any language:

- 8 (i) bounding theory
 - (ii) government theory
 - (iii) θ -theory
 - (iv) binding theory
 - (v) Case theory
 - (vi) control theory
- (Chomsky 1993 [1979]:5)

The architecture of 7 and the specific machinery of 8 represent the culmination of generative grammar, we learn. But also, now that the field has reached this achievement, we approach a tipping point into a radical new paradigm.

The defining machinery in this conception is not, of course, transformational. It is the devices that restrict transformations—bound them, govern them, bind and control them. There is only a single transformation in the (iia) syntactic sub-component, a highly general one, *Move*, a rule that does double and triple duty by also operating on phonological (PF) and semantic (LF) representations. It works indiscriminately to shift anything anywhere. *Move* is, on its own, just permutation run amok. But the elaborate system of shackles and constraints built

up from the early 1960s prevents ill-formed sequences by precluding extraction sites, landing sites, or in-transit sites under the conditions stipulated in these various subtheories (8(i)–(vi)).

Bounding theory, for instance, is effectively a reformulation of the island constraints by way of movement traces. θ -theory (pronounced *theta-theory*) concerns the assignment of θ -roles, the GB version of Gruber's thematic roles/Fillmore's deep cases; things like, AGENT, THEME, GOAL, and so on. It ensures the appropriate who-is-doing-what-to-whom semantic readings, but it also filters off ill-formed structures by precluding the ones that don't match the specifications of the relevant verbs. Case theory assigns something called *abstract Case* (always capitalized), which may or may not be realized as morphological case. Many languages have widespread morphological case systems (German, Russian, Latin), but English isn't one of them. We just have a little bit in our pronouns, but "case" is what makes 9 and 10 grammatical, in contrast with the ungrammatical 11 and 12.

9 She loves him.

10 He loves her.

11 *Him loves she.

12 *Her loves he.

GB has a Case Filter which sifts off 11 and 12, since Move would otherwise happily serve them up, but it also separates 13 and 14, branding the latter ungrammatical because *with the Bordeaux* blocks verb-to-NP Case assignment (*present-to-Sonia*):

13 Dave presented Sonia with the Bordeaux.

14 *Dave presented with the Bordeaux Sonia.

It doesn't matter that we can't see the Case. It's there—invisible and inaudible in the best abstract morpheme tradition, but there—and the Case Filter is on the job to exclude 14 from English.

Syntactic Structures-era grammar, in short, gets utterly flipped on its head in this model. There is no Passive Rule, no Affix-hopping, no construction-specific rules at all. Rather, all of the possible passives and all of the raised constructions would be generated, helter-skelter, by the promiscuous Move, along with every other conceivable permutation of words, without this elaborate assemblage of subsystems getting in the way.

Chomsky maintains almost total indifference to competing frameworks in *Lectures*. Aside from a few passing allusions to other models, his grammar—the natural, inevitable, descendant of *Aspects*—is just the only game in town. He notes, for instance, that “it would be unreasonable to incorporate . . . such notions as ‘subject of a sentence’ or other grammatical relations within the class of primitive notions” (Chomsky 1993 [1979]:10) without mention of Relational Grammar or its Generative Semantics antecedents, or the emerging Superlexicalist work—without even a clear sign as to why he might want to caution his readers about such unreasonableness—and then he gets back to his own proposals.

But, Dear Reader, there’s more. Not just a product of natural scientific development, his grammar is also radical. There “is something relatively new and quite important” overlaid on all this inevitability Chomsky says (1993 [1979]:4), representing “a substantial break from earlier generative grammar, or from the traditional grammar on which it was in part modeled” (Chomsky 1993 [1979]:7). This is where the notion of Principles and Parameters comes in.

Chomsky was not merely waving new banners in an old revolutionary parade. *Lectures* highlighted an electrifying coalescence in his program that rapidly charged the discipline. Yes. Again.

The stacking and nesting of labels around his work and Chomsky’s congenital shifting of focal range in his arguments blurs the picture somewhat. But, very roughly, the two main labels, *Government-Binding* (GB) and *Principles and Parameters* (P&P) take their names from mechanisms that drive in opposite directions; the first centrifugally, toward modeling individual languages, the second centripetally, toward the constrained variety of all languages; ultimately, toward the universal core of all languages. Chomsky’s program had seemed like a bit of a moving target through the 1970s, but the restrictiveness mandate had been consistent. Still hewing to that mandate, *Lectures* coupled a renewed sense of descriptive elegance (GB) with a distinct research agenda for charting Universal Grammar, along with intimations of direct genetic compatibility (P&P).

Some linguists were jaded, some were happy working with the new generative models, and a few were setting off with very different ideas of cognition. But some (Howard Lasnik, Joseph Emonds, Richard Kayne, Luigi Rizzi) had helped lay the groundwork for *Lectures*, and many were ready to be inspired. “In a tightly integrated theory with fairly rich internal structure,” Chomsky told them, riffing on an insight from Rizzi (1978) and sounding very much like his old *Syntactic Structures*, a-grammar-is-a-scientific-theory self,

change in a single parameter may have complex effects, with proliferating consequences in various parts of the grammar. Ideally, we hope to find that complexes of properties differentiating otherwise similar languages are

reducible to a single parameter fixed in one way or another. (Chomsky 1993 [1979]:6)

A single parameter fixed one way could give you Italian, say, or Spanish; fixed the other way, English or French. Humans are born with a basic grammatical capacity, a “faculty of language” in a richly prepared but incomplete “initial state” that we can think of as

a fixed network connected to a switch box; the network is constituted of the principles of language, while the switches are the options to be determined by experience. When the switches are set one way, we have Swahili; when they are set another way, we have Japanese. Each possible human language is identified as a particular setting of the switches . . . we should be able literally to deduce Swahili from one choice of settings, Japanese from another, and so on through the languages that humans can acquire. (Chomsky 2000a:8)

The picture is not quite as tidy as this suggests, since the switch box image suggests one binary setting per “circuit” in the network. But the circuits of GB correspond to the various sub-theories—Bounding Theory, Government Theory, θ -Theory, and so on (that is, the components 8(i)–(vi) above)—which are not solitary principles, but systems of principles. So, we end up with something more like an array of dials rather than a single, master switchbox. But the metaphor, like many of Chomsky’s at key moments of theory shifting, is arresting.

The principles of P&P are universal properties, present in all languages, hallmarks of Chomskyan linguistics back to Ross’s islands of transformational resistance and beyond. But the parameters, the switches, were new. They determine the shape of specific languages. Together the Principles and the Parameters breathtakingly determine the categories of possible languages, explaining the snake bed of differences among all human languages that exist, have ever existed, ever will exist.

These mutually defining concepts are responsible for changes in the history of languages, for the differences between and within language families, responsible for the specifics of language acquisition, responsible for all the matters of stability and variation that characterize human language. It’s all just differences in settings. In acquisition, for instance, the merest environmental exposure is all that is required to trip the parametric switches, with a cascade of subtly intertwined linguistic properties falling into place. In diachronic change, pressures of some kind—isolation, contact, tribal power struggles—trip parameters, and we enter a new stage in the life of that language.

The opportunities were invigorating. Hands could really get busy. New vistas of research were open. New possibilities for scientific advancement

were available, not just at home but in related disciplines as well, with linguistics taking the lead. Chomsky had moved the needle in psychology in the 1960s, over innateness, cognitive processes, and Deep Structure. Would it be molecular biology this time? The Government-Binding end of the program was making descriptive headway, giving credibility and cachet to the whole Chomskyan-generative enterprise. But the universalist Principles-and-Parameters was the revolutionary end.

The P&P parade example was Rizzi's *null subject parameter* (sometimes known as the *pro-drop parameter*; *pro-drop*, for short), which, operating on a principle of Case Theory, supplies a clean dividing line for languages. Flip the switch up and you get all the null-subject languages, like Spanish and Italian. Flip it down, you get all the non-null-subject languages, like French and English. One principle + one parameter $\times$ two settings = one neat division. Null-subject languages on the left, non-null-subject languages on the right. The basic data looks like this (those *es* are empty categories, 'dropped pronouns' or unpronounced null subjects, the asterisks telling us they can't be 'dropped' in English):

- 15 a *e* verrà
 b **e* will come
- 16 a *e* verrà Gianni
 b **e* will come Johnny
 (slightly adapted from Rizzi (1978:116))

The a-examples are well-formed, grammatical sentences in Italian (the null-subject switch is up). Their direct correspondents in English, the b-examples, are ill-formed, ungrammatical non-sentences (switch down). (See Chomsky 1993 [1979]:253–54.)

Other parameters included the configurationality parameter, which divided fixed word-order languages (switch up) from free word-order languages (switch down) (Chomsky 1981 [1979]:133; Hale 1982 [1978]), the head-directionality parameter, to distinguish head-initial languages (in which head words, like nouns, occur before their complements; switch up) from head-final languages (heads after complements; switch down) (Smith 1989:69–71; Chomsky & Lasnik 1993:518), and the verb-second parameter for separating languages in which finite verbs are the second constituents in clauses (switch up) from languages in which they show up elsewhere (switch down).²²

Much of the attraction was the elegance of a simple binary, on/off notion that linguists have always found compelling (think of those $\pm$ semantic and syntactic features, for instance; phonology has them too). Part of the attraction was the scope of explanation that followed from that simplicity. But a goodly

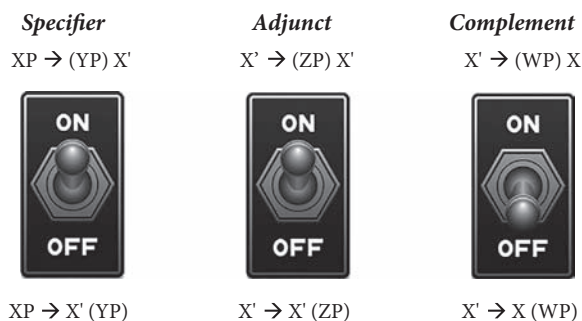


Figure 8.1 $\bar{X}$ -syntax parameter settings rendered as electrical switches: up gives one order, down gives another. Adapted from Carnie 2002:128.

part of the attraction was the Gyro-Gearloose joy and challenge of problem-solving science. The GB/P&P system is ramified and intricate. The work is hard, but the results are promising, and the reward potentially immense. The genetic implications were stunning: the great apparent surface variation of languages resulting from small blueprint changes at some deep assembly level, like eye-color, or blood type, or having a widow's peak. The switch-box metaphor was especially appealing. One textbook even provided an illustration of the switch settings for various linear order patterns in terms of $\bar{x}$ -syntax parameters (Figure 8.1).

Both the mechanisms and the goals of GB/P&P were rapidly influential, avidly championed by GLOW. For the first time in a decade, Chomsky was generationally persuasive, not just for his students but across the linguistic landscape. The timing could not have been worse for the alternate generative models that had developed in the wake of the Linguistics Wars. On the sidelines, the weather-beaten Fred Householder seemed rather pleased at the fractioning of generative grammar. "Any observer of the American linguistic science during the past few years," he wrote in 1978, "cannot help noticing that the natives are restless. . . . So many people are looking for a Moses, at least, to lead them out of bondage, if not a true Messiah" (Householder 1978:170, 171). What he failed to notice was that the old Messiah was still in business, and new disciples were gathering. A reviewer of two far-reaching Relational Grammar volumes that appeared in the mid 1980s, for instance, was compelled to observe that

had these volumes appeared, say, five years ago, then I think they would have aroused great interest. My suspicion is that in the present climate they will go largely (and unjustifiably) ignored. In part, this is due to recent changes in orientation in syntactic theory: government and binding

syntax, following on from the publication of Chomsky (1981) [*Lectures on Government and Binding*], seems to have caught on as the dominant formal syntactic theory (dominant in the sense that it is more dominant than any other single theory), and certainly it is government and binding, rather than any other model (including relational grammar), that seems to be attracting the best minds among the upcoming generation of formal syntacticians. (Comrie 1986:774)

The reviewer spells out the implications for Relational Grammar somewhat reluctantly, given the lack of fresh blood (“it could turn out that relational grammar has already provided us with the major insights into language that it is capable of providing,” 788), and history has largely proven him right on that score.²³ Work in RG had tailed off; by the 1990s, it was effectively extinct. But reviews of the major LFG and GPSG books which came out at roughly the same time as these volumes (Bresnan 1982a, Gazdar et al. 1985), might have offered similar conclusions, at least about the growing ascendancy of GB.

It’s not that other frameworks from this period no longer have any adherents. One of the offspring of GPSG, for instance, HPSG, is quite successful, and for a time was the most widely deployed grammar in computational linguistics. LFG, too, has a significant presence in computational linguistics (and for much the same reason, careful formalization). It also has several major publications in this century (Bresnan 2001, Dalrymple 2001, Kroeger 2004, Dalrymple et al. 2019), a broad contingent of practitioners working on numerous languages, and a big annual conference. And the best half of Montague Grammar lives on as Montague Semantics.

But there was something else coming online at the same time as Government-Binding Theory that would have a much broader impact than any of these frameworks. It had a minor airing at the Milwaukee conference, where it was voted Theory Least Likely to Succeed.

The proponent of that approach could not show up. He was ill. The scheduled discussant, a friend of the proponent’s, had to present the model in his stead, with some notes but no manuscript, and the discussant’s role was taken up by someone else, a colleague drafted at the last minute. The best days of proponent and his friend were thought by some to be behind them. No manuscript was in fact ever produced, so the approach had no presence in the resulting volume (Moravcsik & Wirth 1980). The proponent was George Lakoff, the friend was Haj Ross, the last-minute replacement for Ross was John Lawler—Generative Semanticists all, past tense—and the framework carried the label *Cognitive Grammar*.²⁴ The tangled presentation circumstances led to one of the weirder titles in the annals of discussion papers: John Lawler’s “Remarks on [J. Ross on [G. Lakoff on Cognitive Grammar [and Metaphors]]]”

(Lawler 1980). It was Lawler who voted this inauspiciously debuted model Least Likely to Succeed.

“Metaphors” George Lakoff Lives By

In 1978, I discovered that metaphor was not a minor kind of trope used in poetry, but rather a fundamental mechanism of mind.

—George Lakoff (1999)

An innocuous-seeming little monograph showed up the year that Lakoff could not give his talk in Milwaukee. The book, by Lakoff and a young philosopher, Mark Johnson, has a distinctly late-Generative-Semantics flavor. It is chock-full of data and redolent with Lakovian grand pronouncements. But it plots a very different course from anything predictable from the beginnings of that movement; from, say, *Irregularity in Syntax*. Chomsky had this work in mind when he told me, with his familiar casual dismissiveness, “Lakoff simply abandoned the study of language.”

Quite the contrary. *Metaphors We Live By* has expanded the study of language in richly traditional but also innovative ways, bringing a new clarity to figurative dimensions of language informed by distributionalist argumentation. The three traditional language sciences, the classic and medieval “trivium”—grammar, logic, and rhetoric—have severed and recombined in various ways over the millennia. Zellig Harris brought grammar back together with logic, with very notable downstream effects we have looked at. Lakoff and Johnson’s program brings linguistics and rhetoric back into alignment for the first time in over a century (while also continuing to implicate logic).

Curiously, however, the alignment of linguistics and rhetoric is not on their agenda at all, and their presentation is actively hostile to the rhetorical tradition. Chomsky’s *via negativa* argumentation style is also Lakoff’s.

Nor does Lakoff and Johnson’s book even concern metaphors, properly understood. It focuses rather on analogic lexical clusters, like the cluster illustrated in this group of examples:

- 17 Lakit *defended* his claims admirably.
- 18 Harris *fortified* his argument with additional evidence.
- 19 Lakit’s criticisms *blew him out of the water*.
- 20 Harris *shot down* his main points.
- 21 Nobody has never *been victorious* in an argument with either of them.

Or, take this group of examples:

- 22 Aiden never *wastes* a moment.
- 23 Lori invented a gadget that *saved* them hours.
- 24 Izaiah *invested* a lot of time in that project.
- 25 Jaiicee *spends* hours telling jokes.
- 26 That flat tire *cost* Jeff and Verginia a whole afternoon.

Sentences 17–21 manifest the specific cluster Lakoff and Johnson label ARGUMENT IS WAR (1980 [1979]:4); 22–26 manifest TIME IS MONEY (1980 [1979]:8). (The small-cap naming convention for such clusters is theirs.) They call these phenomena, influentially but erroneously, *Conceptual Metaphors*.

The clusterings in 17–26 exhibit vocabularies (italicized) that are referentially “out of place,” revealing a subsurface merger of the semantic domains of arguing and warfare on the one hand (17–21), time and economics on the other (22–26). When people talk about argumentation, they often draw on words of warfare, employing a domain-merger “we are hardly ever conscious of” (Lakoff & Johnson 1980 [1979]:5); Lakoff, no doubt, had heard and used lots of such vocabulary over the course of the Linguistics Wars himself. The 22–26 clustering exhibits the same kind of subterranean lexical assimilation, from the management of capital to the management of time. People talk about time with an economic vocabulary.

“Argument is war” is a metaphor, albeit a flaccid one. “Time is money” is a metaphor, so flaccid as to have become a cliché. The *names* of these clusters are metaphors. But the clusters themselves are not metaphors, and calling them so only confuses the cognitive affinity we have for analogy and comparison with the linguistic reflexes of that affinity (that is, analogic clusters of this sort, but also similes, conceits, allegories, and the whole welter of cross-domain mappings that populate human language; yes, centrally including genuine metaphors).

“The most important claim we have made so far,” they proclaim at the crescendo of chapter one,

is that metaphor is not just a matter of language, that is, of mere words. We shall argue that, on the contrary, human thought processes are largely metaphorical. This is what we mean when we say that the human conceptual system is metaphorically structured and defined. Metaphors as linguistic expressions are possible precisely because there are metaphors in a person’s conceptual system. (1980 [1979]:6)

At what or at whom their “on the contrary” is aimed is difficult to know. Association psychology had long insisted that a “comparative” or “analogic” or “similitudinous” affinity shapes human thought and language, back at least as far as Aristotle (*Of Memory* 451^b), and this affinity has been consistently linked to metaphors and other figures throughout history, as well as genres and argumentation styles.

Lakoff and Johnson’s scholarship on this matter is disgracefully negligent (with the greatest guilt clearly falling on Lakoff, by far the senior scholar and the lead author). They are blithely indifferent to millennia of prior research, and feign ignorance of the more recent interdisciplinary obsession over metaphor that was cresting in the 1970s.

Beyond some dismissive remarks about the pervasive errors of “most people” for thinking metaphor is merely “a device of the poetic imagination and the rhetorical flourish” (Lakoff & Johnson 1980 [1979]:3), they do not so much as nod at generations upon generations of scholarship in rhetoric and grammar (what Lakoff would later collapse under the label, “the old theory,” 2008:252), a tradition which prominently attended to metaphorical and metonymical extensions. One particularly relevant voice, for instance, is Quintilian—as closely associated with “the old theory” as any one might be—who cites the following set of expressions used about argumentation: “to fight firm; to aim at the throat, and, to draw blood” (*Institutio* 8.6.51). Quintilian was not alone. The history of noting analogic lexical clusters in ordinary language is long, including such prominent thinkers as Cicero, Vico, Peacham, and Dumarsais. Add to that “the whole bonfire of metaphor [studies]” in lexical semantics from the nineteenth and early twentieth centuries, including Gustav Gerber, whom Nerlich and Clarke call “the Lakoff of his generation”! (2001:41, 43). Lakoff and Johnson also somehow miss the burgeoning metaphor research in philosophy, psychology, and English studies that was going on all around them, for the two or three decades preceding publication of *Metaphors We Live By*. One observer was willing to “wager a good deal that the year 1977 produced more titles [on metaphor] than the entire history of thought before 1940” (Booth 1978:49).

In fact, even a mainstream Chomskyan textbook of the period notes the pervasiveness and productivity of analogic thought in ordinary language, serving up data like this (using the same italicizing typography that Lakoff and Johnson would shortly adopt):

- 27 I’ll have to *chew* on that idea for a while.
- 28 They just couldn’t *swallow* that idea.
- 29 On the exam, please don’t merely *regurgitate* what I’ve told you.

Packaged up with five more similar sentences, the authors remark that these examples illustrate “an interesting case [of] the metaphorical extension of words from the physical realm of food and digestion into the mental realm of ideas” (Akmajian, Demers, & Harnish 1979:114–15).²⁵

Figurative language had little presence in American linguistics, especially generative linguistics, until it started to seep in—largely unrecognized by the linguists themselves, so long had the discipline been estranged—via the work of Postal, Borkin, Morgan, and others. But that these two guys in particular would utterly neglect such an extensive body of recent research—Johnson, a young philosopher fresh off a dissertation on the intersection of cognition and metaphor, directed by Paul Ricoeur;²⁶ Lakoff, who majored in English studies and whose first linguistics course was with Roman Jakobson;²⁷ both of them having keen interests in psychology—is extraordinary, except for the shabbily obvious; namely, that it contributes to their self-portrait as unanticipated prophets of metaphor (“We have found, on the contrary, . . .”).

What they have “found,” on the contrary, is not metaphor. Quintilian calls this kind of cross-domain lexical merger *allegory*—using his data, as Lakoff and Johnson use theirs, to exemplify how figuration operates in “[our] most common understandings, and our daily conversation” (*Institutio* 8.6.51). Lakoff and Johnson’s data, like Quintilian’s, illustrate submerged analogic frames, activities from one domain expressed through a vocabulary entrenched (“literally”) in another domain. The individual lexical reflexes (*defend*, *attack*, *fight firm*, *draw blood*, and so on, in the ARGUMENTATION:BATTLE frame; *waste*, *invest*, and so on, in the TEMPORAL:ECONOMIC frame) are *metaphorisms*, as Michael Reddy called them in the paper that seems to have sparked Lakoff and Johnson (Reddy 1979:299)—small, vaguely metaphorical thingies.

Lakoff and Johnson exaggerate their own accomplishment and massively denigrate the accomplishments of others, of whom they are either irresponsibly ignorant or unethically ignoring. As scholarship, it is disreputable, but as academic imperialism, it is brilliant. It also has more in common with some of Chomsky’s practices than Lakoff would ever comfortably admit.

But—and I do not want to obscure this point by justified complaints (if you want to call them *sanctimonious* I would not object) of error and omission—Lakoff and Johnson’s work is both important and deservedly influential, initiating the most significant research program into the cognitive and noetic entanglements of thought and language in the current century. It is a substantial advance over previous scholarship going well beyond earlier research into analogic lexical clusters. In particular, they provide a principled taxonomy of such clusters and thoroughly chart their respective and collective implications. The examples above (17–26), for instance, are Structural Analogic Frames because the correspondences impose structural relations in target domains on the basis

of relations from a source domain (time in terms of commodity transactions, for instance). The other two taxa are Orientational Analogic Frames like 30–35, where the vocabulary of space and directionality is used for concepts that “literally” have neither, and Ontological Analogic Frames like 36–41, where a vocabulary of solidity and substance is used for abstract concepts (traditionally, these are called *reifications*).

HAPPY:UP

- 30 Kem is feeling *up*.
- 31 Diana’s spirits *rose*.
- 32 Thinking about Hayden always gives Devon a *lift*.

SAD:DOWN

- 33 Yankai was a bit *low*.
- 34 Katherine is *down*.
- 35 Surprisingly, Kyle never *sank* into depression.

IDEAS:FOOD

- 36 We all know that studying linguistics *nourishes* the mind.
- 37 Monique loves to tear into *meaty* subjects.
- 38 Yetian *devoured* all the rhetoric he encountered.

VISION:CONTAINER

- 39 Olga was just going *out of* view.
- 40 Bob had her *in* sight.
- 41 Michael looked *into* the yard.

The extent of such analogical terminology is remarkable, but correlational frames (aka “conceptual metonymy”²⁸) are equally extensive. Metonymy depends not on correspondences but on correlation—taking a hoary example, “The pen is mightier than the sword,” conveys its meaning because pens correlate with language (therefore, argumentation, diplomacy), swords with hostility (militarism, warfare)—and there are systematic lexical patterns that frame one class of concepts in terms of a correlated class. Most immediately, for instance, the citational style of this book, which takes the form of *Chomsky (1957)* and *Lakoff and Johnson (1980)*, identifies

PRODUCTS by the names of their PRODUCERS (books by the names of their authors), and further differentiates those products with the TIME of a significantly related EVENT (namely, the year of publication). Here are some further examples of these correlational frames:

PRODUCER/PRODUCT

- 42 Linguists should read more *Burke*.
- 43 She wore *Tommy Hilfiger* to the ball.
- 44 He parked his *Audi* in the alley.

TIME/EVENT(S)

- 45 We don't want another 9-11.
- 46 *Friday* was a lot of fun.
- 47 *The sixties* changed everything.

PLACE/INSTITUTION

- 48 One *White House* gave us health care, then another tried to take it away.
- 49 *Wall Street* is volatile this month.
- 50 *Hollywood* hasn't made a good western in years.

Many aspects of Lakoff and Johnson's work had been long understood, especially the utter pervasiveness of figurative vestiges in language, the use of concrete terminology for abstractions, and the tendency to favor certain domains in that terminology (humans, bodies, locations). But, by bringing the standards of evidence, methodological systematicity, and conceptual tools of contemporary linguistics to the task, Lakoff and Johnson—and the many linguists and cognitive scientists they have inspired—have raised the level of understanding for these phenomena and, in the bargain, raised a central pillar of a new framework that was coalescing at the time.

On the basis of that pillar-raising, *Metaphors We Live By* signals the clearest transmutation of Generative Semantics into a new and vibrant framework. That book certainly has earmarks of the movement. "It would not be far off the mark to call [*Metaphors We Live By*] a Generative Semantics book," John Lawler noted:

Aside from the fact that Lakoff was a leading figure in GS, the book bases its argumentation firmly on the generative potential of metaphor, which is clearly

semantic in nature. The wealth of examples provided is also typical of GS at its height, as is the rejection of traditional limitations on linguistic analysis. (Lawler 1983:203n5)

And then there was this, overlooked or set aside by Lawler: *Metaphors We Live By* is utterly contra-Chomskyan, pitching itself wholly against the line of thought “epitomized by the linguistics of Noam Chomsky, who has steadfastly maintained that grammar is a matter of pure form, independent of meaning or human understanding” (Lakoff & Johnson 1980 [1979]:205).

In the end, though, Lawler did allow for one deviation in *Metaphors* from the Generative Semantics program, “There are, however,” he noted sadly, “no puns.”

Pun-attribution aside, Lakoff is the horseman who has always been most preoccupied with paradigm-formation, and he had been widely test-marketing a variety of cognitivist ideas to support a new framework in linguistics (prototypes, amalgams, fuzziness, gestalts). None of them really stuck until his work with Johnson, and, as Lakoff later noted, the implications of what he calls *metaphor* marked a crucial turning point in the late 1970s:

In 1975, I became acquainted with certain basic results from the various cognitive sciences pointing toward an embodied theory of mind—the neurophysiology of color vision, prototypes and basic-level categories, Talmy’s work on spatial relations concepts, and Fillmore’s frame semantics. These results convinced me that the entire thrust of research in generative linguistics and formal logic was hopeless. I set about, along with Len Talmy, Ron Langacker, and Gilles Fauconnier, to form a new linguistics—one compatible with research in cognitive science and neuroscience. It is called Cognitive Linguistics, and it’s a thriving scientific enterprise. (G. Lakoff 1999)

Returning to Lawler’s comments on Lakoff’s non-paper at the Milwaukee Conference, Lawler did not hold out very much hope for Lakoff’s latest approach. He called Cognitive Grammar “dead” and “stillborn” (Lawler 1980:54), “only a steppingstone in a history of theoretical research which proceeds through ‘Linguistic Gestalts’ (Lakoff 1977[a]) [to experiential linguistics]” (Lawler 1980:51). Lawler’s asides on Generative Semantics were not hopeful either; it was a near-extinct ancestor of Cognitive Grammar, he suggested, with all the utility for the linguistics of 1980 that Etruscan had for dinnertime conversation.

That characterization was largely true through the 1980s and into the 1990s, but by the turn of the twenty-first century, the general amnesia about Generative Semantics, punctuated occasionally by a casual dismissal, had begun to lift somewhat, giving way to a range of acknowledgments that Generative Semantics was an experiment of considerable worth—especially as many of its

proposals began to surface in work championed by Chomsky; as the Minimalist Program emerged, with an architecture eerily reminiscent of Homogeneous I; and as Cognitive Linguistics, a constellation of non- and anti-Chomskyan developments with Generative Semantics pedigrees coalesced into a formidable framework, formidable in terms both of coherence and adherence. If the appropriate image for Brame's (1976) assault was shoveling dirt over the remains of Generative Semantics, the one to mark the twenty-first century shift in perspective might be the iconic horror-movie poster where a hand rises from the grave. And . . . wait a minute! . . . that's not just any hand. That's George Lakoff's hand!

The Aftermath: Twenty-First Century Linguistics

By the mid 1970s, theoretical linguistics, especially for Lakoff and Langacker, had lost its way, and a reboot was required.

—Vyvan Evans (2016 [2014]:283)

The problem of the evolution of language arose at once in the mid-twentieth century when the first efforts were made to construct accounts of language as a biological object, internal to an individual, and capturing what we may call the Basic Property of human language: each language yields a digitally infinite array of hierarchically structured expressions with systematic interpretations at interfaces with two other internal systems, the sensorimotor system for externalization and the conceptual system for inference, interpretation, planning, organization of action, and other elements of what is informally called “thought.”

—Robert C. Berwick and Noam Chomsky (2016:89–90)

Chomskyan linguistics bifurcated after *Aspects of the Theory of Syntax*, and then branched widely, with offshoots on offshoots on offshoots, blossoming widely. Chomsky, not so much.

George Lakoff turned his back completely on the entire Generative tradition. Generative Semantics, he said, made

fundamental formal mistakes. The most obvious one was taking from generative grammar the idea of phrase-structure trees and derivations. This led to endless patching: output conditions, a theory of exceptions, global rules, transderivational rules, syntactic amalgams. (1977:284)

Tossing out “phrase-structure trees and derivations,” Lakoff said of the innovations that launched Chomsky’s career, was the way forward, and he moved toward the approach that became known as *Cognitive Linguistics*.

Chomsky turned more and more toward a single defining goal, which had been central to his platform since the historico-philosophical setting he created for the *Aspects* model, Universal Grammar. This turn took him first toward the broadly cross-linguistic, abstractly genetic framework, *Principles and Parameters*, and then toward a stripped-down but richly suggestive enterprise, the *Minimalist Program*, itself somehow blurring into a latterly favored label, *Biolinguistics*, shedding methods and instruments as he moved on, and apparently losing all interest in the specificity and precision that were the calling cards of his revolution. As always, the cast of linguists developing his ideas changed and changed again, though with some lines of continuity and, overall, decreasing animosity.

The Wars left their imprint on both of these trajectories, Lakoff's and Chomsky's, Cognitive Linguistics and the Biolinguisticky Minimalist Program, and therefore on the linguistics of the twenty-first century. That is perhaps not so surprising, given the power and reach of these two men's gifts to innovate and synthesize, and especially to influence and inspire others. What might be surprising, however, is that *both* turns, Chomsky's as well as Lakoff's, bear the unmistakable imprint of Generative Semantics.

To oversimplify (why stop now?), there are two rough patterns of the Generative Semantics legacy, with Chomsky deeply enmeshed in both. One is defined in terms of wholesale opposition to Chomsky and most things Chomskyan. This one aligns with the Cognitive Linguistics framework. The other is defined in terms of adherence to most things Chomskyan.¹ In the first instance, Generative Semantics served as the thin edge of the wedge which brought context, variation, and the slippery, pragmatical pig of moment-to-moment language-making back into the field, its central legacy on this front being Linguistic Pragmatics, Cognitive Linguistics, and Construction Grammar, though it also fostered the (re-) emergence of sociolinguistics, functionalism, and other varieties of *in vivo* linguistics. For scholars in these fields, when they are given to historical reflection, Generative Semantics serves as something of a Thermopylae or an Alamo, the honorable massacre.

In the second instance, the Generative Semantics legacy to *in vitro* Chomskyan linguistics (in the rule-based, grammar-modelling sense of *Chomskyan linguistics*), the contributions are more specific and technical. They are, consequently, also quite a bit easier to chart. GPSG, for instance, unequivocally adopted Ross's auxiliary analysis, and has an explicit, logic-influenced level of semantic representation, as does LFG. But the interesting wrinkle here, is that GB, the direct descendant (insofar as *direct descendant* makes sense in linguistics, or any science) of Chomsky's (Revised) Extended Standard Theory, also makes very liberal use of the technical proposals of Generative Semantics, including a good many proposals that Extended Standard Theorists expended

great energy attacking. For this group, Generative Semantics represents irrationality overcome, but once that bastion of error had been torn down, there was apparently no contradiction in pillaging and looting and taking their prizes home—lexical (de)composition, for instance, or logical form—to help build their own truths.

On the one hand, that is, we see the return of the oppressed, Generative Semantics positions that have ended up in the Chomskyan fold. Postal (2004 [1988]) calls this “the right of salvage.” On the other hand, the up-from-the-grave Lakovian hand, there is a prodigious reworking of linguistic assumptions in continuity with late Generative Semantics trajectories. Bruce Fraser calls this “the greening of linguistics” (Ross 2000).

Along with these broad legacies, too, our *dramatis personae* all have individual legacies to consider.

Jim McCawley’s Linguistic Flea Circus

The depth of his understanding and the quickness of his mind were awesome. His ability to see connections between all the disparate things he knew was humbling. He could instantly see the deep ramifications of some new theoretical proposal, as if standing on a great hill of knowledge, surveying a vast landscape of thought. . . . He was [a] remarkably kind and modest human being. He was the least egotistical person I ever met. He pursued his intensely personal investigations and produced his gigantic oeuvre not out of any desire for personal aggrandizement, and certainly not with ill will toward anyone whose views he found wanting. He just needed to continually advance his own understanding of the things that fascinated him and to share what he understood with as many people as possible.

—Jerry Sadock (in Mufwene et al. 1999)

McCawley, in his post-bellum work, much more recognizably followed the early Generative Semantics paths than any of the other horsefolk, right up until he was unfortunately felled by a massive heart attack on the University of Chicago campus, in 1999, at the age of sixty-one. He was, as Bever called him, “the truest of the true GSers” to the end; his *New York Times* obituary paints him chiefly as someone who “helped instigate the first big ideological rift in modern linguistics” (Fox 1999). His entire career was midway between Cambridge and Berkeley, in Chicago, and linguistically as geographically, once Lakoff’s and Chomsky’s divergences had run to their dialectical extremes, he was somewhere toward the midpoint between those two polarities.

He leaned toward Lakoff and Berkeley on questions of context, meaning, and the importance of general-purpose, non-encapsulated cognitive principles for understanding language. He also may have leaned further than any of the Generative Semanticists in his reverence for linguistic peculiarities. Lakoff, Ross, and Postal all reveled in facts—the harder they were to accommodate theoretically, the more beloved they seemed to be—promulgating such genres as squibs and anarchy notes and creature features. But McCawley gets the nod as the most dedicated curator, renowned for the vast assortment of weird and wonderful examples he had gathered, hither and yon (with hither being his television set, a disproportionate number of examples coming from Spanish telenovelas, and yon being such places as Shakespeare's plays, Mike Royko's *Sun-Times* newspaper columns, Chomsky's papers and books, and a sign in a shop window at the corner of 23rd and Wabash). He printed up and distributed his yearly acquisitions at conferences, and linguists sparkle when they talk of the eagerness with which they awaited them. He called his collection *The Linguistic Flea Circus*.²

He didn't just collect the data, however. He looked for opportunities to explain it wherever he could. He was "a consummate sweeper-up of data" that most "others prefer to step over or sweep under the carpet" (Rosta 2000:717). That fascination with linguistic intricacies, fueled by his boundless curiosity, took him deep into many languages; by his death he had "learned to speak (at least) Dutch, German, Yiddish, Swedish, French, Spanish, Portuguese, Russian, Hindi, Hungarian, Mandarin, and Japanese" (Lawler 2003: 614).

Toward Chomsky and Cambridge—chiefly *Aspects*-era Cambridge, *Aspects*-era Chomsky—he leaned on questions of generativity and many descriptive mechanisms, prominently including transformations and derivations (albeit in a more explicitly metaphorical way—McCawley 1998:23–24).

One would think, midway between these intellectual antitheses, that McCawley would be conflicted. He was not. He had no use at all for theoretical flag waving by the early 1970s. He cultivated a homegrown market-driven philosophy of science, where every proposal is available for a price, no matter from where or from whom it comes, and no matter what auxiliary beliefs or methods might be thought by others to be essential to its adoption.³ "When I teach a course on Relational Grammar or Montague Grammar," he said, "I describe it as a tour, not a sight-seeing tour but a shopping tour" (Cheng and Sybesma 1998:1). He quite cheerfully adapted $\bar{x}$ -syntax and such notions as c-command in his work, for instance, which came out of Chomsky's program, as well as Emonds's distinction among structure-preserving, root, and local transformations. But he also maintained a full catalog of transformations, a close relationship between the deepest syntactic level and semantics, and a steadfast refusal to concede any usefulness to the notion of grammaticality. If he hadn't grown so allergic to labels,

Extended Generative Semantics might have worked for him. It captures the way in which he could make elements of the Extended Standard Theory, the ones he found productive, compatible with what he retained as fruitful from Generative Semantics. Another label for his work, reflecting its diversity, insatiability, and malleability, might be the one entitling a tribute volume to him, *Polymorphous Linguistics* (Mufwene, Francis, & Wheeler 2005).

But of course McCawley resolutely declined to use any name at all for his approach, shucking even his *unsyntax* label before the ink was dry on the Milwaukee Conference proceedings. “If you feel you need a name for [the work I do],” he put on his department webpage, “go and make one up” (McCawley c.1996, also 1998:xix). He did, however, offer a description for that work, sketching out his largely stabilized framework as

a revisionist version of transformational grammar . . . which exploits what I regard as the fruitful ideas of transformational grammar (constituency, multiple syntactic strata, the cyclic principle) and chucks out what I regard as counter-productive ideas (the metaphor of a “base” structure, the idea of categories and structures as remaining constant throughout derivations, the fetish for keeping syntax and semantics separate). (McCawley c.1996)

McCawley is viewed as too idiosyncratic to have a broad influence on the field, but even if he had an airtight, comprehensive, and attractive framework, he was never the evangelist that Ross was for a while and that George Lakoff has never stopped being. McCawley’s distaste for labels followed closely from the “principled aversion to proselytizing for a reified theory” that he developed as the Wars raged (Rosta 2000:18). He refused to promote any position as if it threw all other positions into shadow. Everybody with a serious interest in syntax and semantics reads his work, or should; everybody recognizes his brilliance—those who knew him personally remain in awe of him; and everybody finds something challenging and rewarding they can take from his insights. But nobody does linguistics in his image.

“As an epistemological anarchist,” he said in a late interview, “I am delighted to have multiple frameworks being used.” Further: “the thought of everybody working in the same framework, using the same theory, . . . [is] as disgusting a prospect as everybody espousing the same religion or everybody speaking the same language” (Cheng and Sybesma 1998:1, 28). The attitude is strikingly (and no doubt, at least in some measure, reactively) different from Chomsky’s.

All the same, McCawley’s anarchic broad-mindedness did not prevent him from leaving an important legacy—not a monolithic package, to be adopted or rejected *en bloc*, but an emporium of insights, analyses, and otherwise unseen connections, coupled with an attitude of wholesome plurality, suffused with

inspiring glee. That legacy is not just visible in the many students and colleagues he personally touched, but in his wealth of publications.⁴ In the latter category, the two most significant (and, alas, the only two still offered by his publisher⁵) are *The Syntactic Phenomena of English* and *Everything that Linguists Have Always Wanted to know About Logic*,* both having been refined and bolstered into definitive second editions before McCawley's death (respectively, 1998 and 1993b).

The final word goes to John Lawler, one of his many close friends and the author of his *Language* obituary:

Jim, as he was universally known to his students, colleagues, and admirers—comprising together a large percentage of the world's linguists—was one of the great figures of twentieth century linguistics, a recipient of practically every honor possible, past president of the LSA, and a genuine original. He was greatly loved, and he is greatly missed. (Lawler 2003:614)

It is, alas, a false promise to give someone the last word when death is in the room, and chronicling an episode whose peak activity happened about forty years ago now, it would be surprising if McCawley were the only one who has left us. He is not. Among the noteworthy actors in various parts of our story, we have also lost Zellig S. Harris (1909–1992), Dwight Bolinger (1907–1992), Robert L. Lees (1922–1996), Jerrold Katz (1932–2002), Rudolf de Rijk (1937–2003), Michael K. Brame (1944–2010), Ellen Prince (1944–2010), Ivan Sag (1949–2013), Jeffrey Gruber (1940–2014), Charles Fillmore (1929–2014), and Morris Halle (1923–2018).

RIP

Zellig Harris . . . was one of the half-dozen linguists, since the beginning of the serious study of language a little after 1800, whom anyone conversant with the field would label a genius. He was the first (in 1947) to adumbrate the notion that linguistics could accept the responsibility of synthesizing or “generating” the sentences of a given language (say, English), as in an algorithm or computer program, from some explicit set of rules—and in so doing he exercised a deep and abiding influence on his best-known student, Noam Chomsky; on his many other students; and on all future researchers who yearn to understand language, surely our most distinctively human attribute. [Watt] The work of his first phase as a general linguist is

*But were Ashamed to Ask

now relegated to the history of our subject, and is sometimes cruelly traduced. That of his second phase was eclipsed, after 1960, by Chomsky's. That of his last phase has, for twenty years, been widely ignored. [Matthews]

—W. C. Watt (2005:3), P. H. Matthews (1999:116–17)

[Dwight] Bolinger was the genuine article—one of the most distinguished semanticists of the age, with an uncanny ear for the nuances of words. [He] never lost faith that the remedy for abuses of speech was more speech. He wrote that people had to reassert the public ownership of language; . . . [that it should] “take its place alongside of diet, traffic safety, and the cost of living as something that everybody thinks about and talks about.”

—Geoffrey Nunberg (1992)

Bob [Lees] was a close and dear friend from more than forty years ago, also a very highly valued colleague, even long before he became our first “student”—technically. . . . He's left a wonderful legacy, from his personal as well as professional life, both rich and productive, and I hope as rewarding to him as they surely were to his family and friends, and others lucky enough to have contact with him.

—Noam Chomsky (1997:7)

Jerry [Katz]'s public face was fierce. In philosophy colloquia, he was trenchant and tenacious. He could always be counted on to ask an incisive question, a trait much appreciated by his colleagues if not always by the speaker. It was lots of fun to talk philosophy with him, though also challenging. . . . But in his personal relations, he was the sweetest of men, warm, generous, and affectionate.

—David Pitt (2002:193)

Rudolf de Rijk's untimely death in June 2003 put a sudden end to the work of one of the most brilliant figures in the area of Basque linguistics. He left behind groundbreaking contributions to Basque phonology, morphology, syntax, philology, lexicography, and history . . . , and the unanimous admiration and respect of Bascologists of different ages and theoretical persuasions.

—Jon Ortiz de Urbina (2009:86)

I first met both professors Michael [Brame] and [his wife] Galina in Carmel many years ago, and was truly amazed when they told me that between them they were fluent in 40 languages [Charlton]. . . . Michael

taught in North America, Europe, Asia, and Africa and had been a professor at the University of Washington for more than three decades. He is the author of several technical books and the [founding] editor of Linguistic Analysis, a linguistic periodical with international circulation. . . . Mike was a brilliant linguist, great colleague, and respected teacher as well as a beloved husband and father [Kim].

—Derran Charlton (2010), Soowon Kim (2010)

A pioneer in linguistic pragmatics, Ellen [Prince] worked on her own and with many colleagues and students on various aspects of the subject. . . . Ellen was an inspirational and caring teacher, imparting high intellectual standards while at the same time providing solid support and mentoring to her many students.

—Gillian Sankoff & Tony Kroch (2010)

Ivan Sag was a force of nature. His work in many subareas of linguistics was spread over more than four decades and was respected around the world by the thousands of linguists he taught or befriended or influenced. . . . Forever evolving intellectually, in the last decade of his life Sag found that the degree of detail necessary in an empirically adequate formal treatment of virtually any area of grammar, for example so-called “wh-movement” phenomena, required incorporating into an explicit grammar something like the traditional notion of grammatical construction, along with the mechanism of multiple inheritance. This led him to begin drawing closer to work on the Berkeley variety of construction grammar as developed by Charles Fillmore, Paul Kay, and others.

—Geoffrey Pullum (2013)

Jeff [Gruber] was an important figure in the field of linguistics. . . . [His] thesis includes extensive discussions of goals, locations, sources, themes and agents, as well as many insightful observations on the syntax and semantics of prepositions. Jeff introduced and explored the notion of theme for the first time, which is now standard in the linguistics literature on thematic relations.

—Chris Collins (2014)

Charles J. Fillmore, one of the world’s greatest linguists—ever—was the discoverer of frame semantics, who did the essential research on the nature of framing in thought and language . . . whose importance

stretches well beyond linguistics to social and political thought—and all of intellectual life. The world has lost a scholar of the greatest significance.

—George Lakoff (2014a)

Morris and I were very close for almost seventy years, working together, sharing much else. . . . His contributions to modern linguistic science are incalculable, not least right here at MIT, where even apart from his groundbreaking work, he was primarily responsible for creating what quickly became, and has remained, the center of a research enterprise that has flourished all over the world, far beyond anything in the millennia of inquiry into language. [He was] a wise and compassionate person, more than anyone I've known, whose kindness, warmth, and care touched many lives.

—Noam Chomsky, quoted in Dizikes (2018)

Haj Ross, Sashaying Toward Poeticity

Haj Ross is a Treasure.

—Benzon (2013)

Haj Ross is, if anything, more of an *independiste* than was even McCawley. He aligned with G. Lakoff on some questions (fuzziness and cognition), with McCawley on others, especially maintaining transformations (he calls himself “a dyed-in-the-wool (i.e., a non-recovering) transformationalist” [2011b:243]). But he may have moved further from their common generative starting point on some questions than either of them, venturing into literature and poetry.⁶ Returning to our territorial theme, Ross’s post-bellum trajectory was very different geographically and intellectually. While McCawley was reigning as the guru of Chicago and Lakoff was restlessly searching for an Anti-Chomskyan Shangri-La (physically until Berkeley, theoretically until Cognitive Linguistics), Ross was back in the castle keep; MIT, Building 20; not exactly a prisoner, but something like a perpetual defendant. He maintained a remarkable citational prominence in Chomskyan work, on the basis of his thesis, but the veneration one would expect to attend that prominence was nonexistent. Take van Riemsdijk and Williams’s textbook, *Introduction to the Theory of Grammar*. Ross’s “Constraints on Variables in Syntax” was not only one of the defining texts of the grammatical theory van Riemsdijk and Williams champion in their book, it was (and remains) hugely influential in linguistics generally; every syntactic model

is forced to come to terms with the phenomena and principles Ross explored in his thesis, or it simply wouldn't be taken seriously. Yet (as John Goldsmith shows in a penetrating review) the image of Ross that emerges from their book is of a lumpen functionary who had only the vaguest of clues about what he stumbled onto. Most curiously, there is a strong suggestion in the book—a text which, by its very nature is meant to define future generations of linguists—that Ross was only concerned with a few petty details of English, when in fact “Ross's thesis was the first (and, at the time, mind-blowing) massively crosslinguistic study of an abstract grammatical property, and his conclusions were stated at the level of theory, not that of [a] language-particular property” (Goldsmith 1989:151; also Davison 1993, Dry 1993, and Ingria 1993).

On a more personal level, many appallingly negative and misinformed notions floated around linguistics about him for years; in many Interpretivists' retrospections, and in some Generative Semanticists' retrospections, Ross was regarded, unkindly, as an intellectual tragedy, the fair-haired boy who did promising work under the watchful eye of Chomsky but then fell into bad company and went astray, the rising star who rose too fast and burned out. He certainly went through a period of intellectual depression, trying to survive in what he calls the “Black Hole,” the linguistics department at MIT. He achieved full professorship in the early 1970s—how could he not, as the one linguist whose citations rivaled Chomsky's?—but his research failed to get a toehold among the graduate students there, the only market for ideas that really counts in science. More disquietingly, he also encountered some harassment. One of his teaching assistants, for instance, recalls that at least three times a semester,

the department head would call me up at home and ask me if Haj was showing up for classes on time, if he taught the curriculum, bla, bla, bla . . . And of course, he got no graduate courses, and they'd “forget” to invite him to faculty meetings, and on and on. The jokes about him abounded.

The harassment was reluctant, surely—Ross is well liked on a personal level by everyone, though only Kenneth Hale is singled out as someone who regularly went to bat for him—but good intentions probably didn't make the situation any less unpleasant or debilitating.

His interests had moved so far from MIT's center of gravity that he looked like he had just spun himself off into the outer reaches of research. How far from the center of gravity? Chomsky defines linguistics in a way that leaves recalcitrant data on the extreme periphery, and Ross is a shambolic data-monger, “a lovable bear who has found a cache of honey in a hollow part of the language tree

and is continually astonished at the wonder of it" (Bolinger 1991 [1974]:29), the characteristic dataphilia of Generative Semantics. Chomsky defines linguistics in a way that leaves the aesthetic elements of language on some other planet, beyond the reach of rational inquiry, and Ross became convinced "that trying to do linguistics which has had all its aesthetics siphoned off is ultimately pointless." (Ross 2000:181) Chomsky defines linguistics in a way that draws on literary criticism as a negative example, the style of analysis and thought that linguists should avoid like a case of the clap, and Ross embraces poetics.

His academic style is also about as far from Chomsky on a curve of self-representation as it is possible to get, asymptotically approaching the ultimate Not-Chomsky. The description is his:

Many times, my invisibly structured (not to say chaotic) "methods" . . . leave many of my fellow conversants dismayed, angry, confused, thinking that I am a flake, that nothing is going on except a waste of their time. (Ross c.2000:1)

Whatever else one thinks of when reading such a description, it does not bring to mind Chomsky's penchant for itemizing every argument to the logical equivalent of the final decimal point or Chomsky's utterly crushing certainty. But Ross epigrammatizes the paper where he offers this self-characterization with a passage from Melville: "There are some enterprises in which a careful disorderliness is the true method" (Melville 1992 [1851]:300). The style is one with the inquiry.

In the mid-1980s, Ross left MIT in unpleasant circumstances, holding a variety of positions before settling in at the University of North Texas, plying his unique, meandering, frequently brilliant linguistico-poetic trade. The frenzied-output days are long gone, but he continues to work on syntax alongside, and often inside, his poetics, occasionally publishing technical work with a depth that one would not predict from a self-description of invisibly structured chaos. But there is a certain inevitability to his progression through deep transformational semantics into pragmantax into poetry, a continuum between formal linguistics and the aesthetic use of language, and Ross has traveled it:

The broad questions that I started with—the hope for a purely formal grammar, sharp grammaticality judgements, strong universals—these all crumbled, and I found myself trying to imagine something squishier, rubberier, something more like a poem than like a set of axioms. What I started with was fine but it had to give way pretty soon to an apparently aimless kind of ambling, sashaying towards poeticity. (Ross 2011a)

Paul Postal, Abstract Gunslinger

Paul Postal blazed trails in the wilderness of syntax and thereby gave the field a promise and a vitality that I could not resist.

—David Perlmutter (1968:2)

Postal has no nostalgia for Generative Semantics. The other principals in the movement have all written and talked about the good times, about the virtues, the impact, and the overall salubriousness of Generative Semantics. Not Postal. It was a technical proposal within a framework he now utterly rejects, end of story.⁷

He, too, has diverged from their common origin point, going in the opposite direction, entrenching his work even deeper into generative abstraction. If we take three data points, Chomsky, Postal, and G. Lakoff, this situation provides a textbook case of how differing value commitments can govern (and perhaps bind?) intellectual developments.

The defining mandate of generative grammar (definition courtesy of Noam Chomsky) is to build a quasi-mathematical “device that generates all of the grammatical sequences of [a language] and none of the ungrammatical ones,” a device whose job it is to describe a natural language construed as “a set (finite or infinite) of sentences” (1957a:13). By the early 1960s, that device had become an assemblage of “rules that specify the well-formed strings of minimal syntactically functioning units” as realized in an autonomous system modeling human cognition (Chomsky 1965 [1964]:1), and it is with these two values, fidelity to syntactic autonomy and fidelity to human cognition, that we can plot our three data points, with a side order of grammaticality (“well-formed strings of minimal syntactically functioning units”) seen as the product of some device. All three of our data points (Chomsky, Postal, Lakoff) embraced all three values in 1965: autonomy, cognition, grammaticality.

Lakoff, we know (with Robin, Ross and McCawley, to different degrees), pledged his fidelity to cognition, for which he took his lead from empirical psychology and research into general-purpose mental dispositions (analogic thought, prototypes, fuzzy categorization), leading him to discard both autonomy and the notion of a specialized language device (with the grammaticality it would define). Chomsky’s fidelity goes overwhelmingly to autonomy, which in turn governs his idea of cognition, which sets aside general-purpose mental dispositions in deference to a specialized, encapsulated computational device (grammaticality is a story for another chapter, but it was criterial for a long time).

Postal, an absolute master of quasi-mathematical grammaticality engines, embraced autonomy even more tightly than Chomsky, but that has led him to discard cognition altogether, general or special. The proper objects of study for linguistics in Postal’s view are natural languages—period, full stop, end of discussion.

What then are these objects, natural languages, if not the products of cognition? Sets of sentences, with an ontological status for Postal precisely that of the objects with which mathematics and formal logic concern themselves. “The objects treated in these latter fields are not physical objects,” Postal says. “And so it is with those treated in linguistics proper.” Natural languages (that is, in the linguist’s mania for initials, NLs),

just like numbers, propositions, etc. are abstract objects, hence things not located in space and time, indeed not located anywhere. They are also things which cannot be created or destroyed, which cannot cause or be caused. Rather, NLs are collections of other abstract objects normally called sentences, each of which is a set. (Postal 2009:105)

There is, you will not be surprised to learn, this one unmistakable point of complete convergence with the trajectories of the other horsefolk: Postal’s ontological position “contrasts utterly with Chomsky[’s]” (Postal 2009:106).

Postal is all in on the language-as-abstract-object view—the view that linguistics is not an empirical discipline, like psychology, but a formal discipline, like geometry—but it comes most directly from our old friend, Jerrold Katz (1981). *Linguistic Platonism*, as Postal calls the position (2009b:105–106n6), gives us a lovely symmetry for the alliance of Katz and Postal. They first teamed up to pour the foundations of what became the *Aspects* theory (i.e., Katz & Postal 1964), which Chomsky merged with a compelling rationalism and a famous methodological abstraction, the competence/performance distinction. With their Platonist alliance, Postal and Katz leave Chomsky’s rationalism in the dust.

Linguistics is now “a branch of mathematics, as independent of psychology and biology as number theory,” for Postal and Katz, a position they argue “is the logical next step in the process Chomsky began when he (1965:3–18) first distinguished between [competence and performance]” (Katz 1998:135). In short—shades of Abstract Syntax!—Katz and Postal are merely following out the program of *Aspects* to an inevitable conclusion, which circles around to bite Chomsky. Just as Generative Semantics followed the semantic program of *Aspects* to the point of rejecting its cornerstone, Deep Structure, Platonist linguistics follows the rationalist program of *Aspects* to the point of rejecting its *Aspects* cornerstone, Universal Grammar.

Competence concerns grammatical objects called *sentences*, which have no such concrete dimensions (unlike the utterances of performance). As Postal puts it:

[Utterances] exist in time and space, have causes (e.g., vocal movements), can cause things (e.g., ear strain, etc.). Tokens have physical properties, are

composed of ink on paper, sounds in the air, electrical impulses, require energy to produce, etc. Sentences have none of these properties. Where is the French sentence *Ça signifie quoi?*—is it in France, the French Consulate in New York, President Sarkozy's brain? When did it begin, when will it end? What is it made of physically? What is its mass, its atomic structure? Is it subject to gravity? (Postal 2009:107)

If French sentences don't have mass, aren't subject to gravity, don't inhabit Sarkozy's brain, what can we say, Postal wants to know, about the machinery responsible for that infinitude of sentences, French? Nothing coherent if that machinery is Chomsky's "brain-state" definition of competence, since that account entails an infinite "collection of brainbased expressions . . . [each of which taking] time and energy to construct or, in his terms, generate . . . , store, process, or whatever" (Postal 2009:109). The arguments are intriguing, but the Katz-Postal, languages-as-abstract-objects Linguistic Platonism has not caught fire.⁸

No doubt there were other reasons for Postal to adopt Linguistic Platonism, but one clear recommendation is that it gives him another stick with which to beat Chomsky, Postal's most cherished hobby. His *Skeptical Linguistic Essays*, for instance, is a series of exposés of "Junk Linguistics" which includes over 450 citations to works by Chomsky, none invoked favorably, and scores more to works by Chomsky's supporters, who don't receive much better treatment. One gets the impression that no one, not even his most devout acolytes, reads more Chomsky than Postal does, political writings as well as linguistic writings—which must give him some pleasure, but which has also clearly cost him much tooth enamel. One can almost hear Postal's teeth grinding behind any passage in which he names Chomsky.

Postal's own characterization of one of his most prolonged Chomsky-thumpings is, accurately, "a vitriolic and shocking accusation" (Postal 2009:105). That piece is a feverish close reading of what Postal calls "the most *irresponsible* passage written by a professional linguist in the entire history of linguistics" (Postal 2004:296; his italics). So, it's bad. Here is a sampling of the adjectives Postal uses as explicates that claim, line by line, word by word: *incoherent, perverse, truly deceptive, hypocritical, largely empty, offensive, facile, trivially incoherent, contradictory, inept, grotesquely false, truly outrageous, scandalously unscrupulous, ludicrous, and pointless*. But adjectives and their intensifiers cannot carry the full weight of Chomsky's intellectual and moral transgressions. We also get: *a travesty, empty name-calling, sheer desperation, toxic irrationality, sheer absurdity, a crude and arguably deliberate distortion of the truth, an extraordinary failure on the author's part to take even his own assertions seriously, an ever steeper descent into absurdity, without the slightest plausibility, and revealing*

levels of shoddiness orders of magnitude beyond even the ominous levels already documented. Here's the summing paragraph:

This concludes my analysis of [this passage] and [the] justification for my belief that it is the most irresponsible passage in the history of linguistics. Find worse if you can. My own suspicion though, is that not only will it not be possible to come close to [it] in this regard but also most linguists would, blessedly, be incapable of inventing anything worse, even if they set out with that goal in mind (Postal 2004:205).

Postal is not timid on the topic of Chomsky.

To be fair, a few other miscreants and pervaders of error also populate the pages of *Skeptical Essays*. Even a younger Postal has made mistakes that come in for criticism. Mostly, though, these others are either Chomskyan functionaries or honest knuckleheads (the younger Postal, for instance, was “wrong without being disgraceful”—2004:232). Chomsky is a force of irredeemable malevolence—often, ridiculously so. Postal can be brutally funny. One attestation (concerning a piece included in *Skeptical Essays*):

Paul Postal is the only academic who nearly killed me. He nearly did, really.

. . . It's a good thing I read [his article] at the university library late in the evening, when I was the only person [there]: I was laughing SO hard that the noise level would have gotten me expelled had there been people within ear-shot. . . . An ambulance might have been required had the article been but a few pages longer. (“Etienne” 2012)

Not everyone is appreciative. Here is another response to Postal's anti-Chomsky writings, from a blog entry by Norbert Hornstein entitled “Going Postal”:

Postal is clearly a very angry man. His discussions are crude and, in my view, deeply offensive. I believe that he should apologize for the way that he has conducted himself. He has proven to me that Chomsky is actually a nicer man than I already believed he was. (Hornstein 2013)

Late-career Postal is not all bite and bile, however. His positive contributions are deep and lasting, if somewhat more tangled in the work of others than is common in linguistics. Even Hornstein prefaces his remarks on Postal with “I wish that I had made even a tenth of the contributions to syntax that he has made” (Hornstein 2013), and one review of his last monograph calls it “a very impressive work by one of the giants of the field” (Reeve 2012).

Postal has had relatively few students and many diverse collaborators (including books with at least eight partners, articles with a dozen more, multiple publications with the same partners, several of them heavyweights in their own right)—both relatively unusual patterns for someone deserving, as Postal is, of the designation, *giant*. The chief reason for his lack of students, despite an acknowledged gift for teaching and directing research, is that he spent bulk of his career at IBM's Thomas J. Watson Research Center.⁹ The chief reason for his wealth of collaborations is, it would seem, a good eye for talent, along with a fair dose of humility and a more genial side to his character than his polemics might reveal.

While putting it this way might suggest a shortage of originality to some, a major element of Postal's genius has been in recognizing the power of someone else's ideas and in joining them to articulate, strengthen, and extend those ideas, starting with Chomsky and continuing through all of his other theory allegiances. But he is not a sidekick. His solo production is staggering (nine books and over seventy articles at press time, and counting).

He is at his best as a depth linguist, drilling far down into the specifics of particular phenomena. His solo books include dedicated studies of cross-over phenomena (1970), raising (1974), passives (1986), French causatives (1989), extraction phenomena (1998), and grammatical objects (2011), and his articles, many of them forty or fifty pages long, are exempla of linguistic analysis and argumentation in the Generative idiom.

Postal, still active, has settled into the framework he calls *Metagraph Grammar*, a much more lineal descendant of Relational Grammar than are most current frameworks of anything from thirty-five years ago, albeit under a formal-science construal, but the work is presented—as Postal has always presented his work—in a clearly formulated challenge to other linguists: here is a bunch of facts, mostly unnoticed, underappreciated, or misunderstood heretofore; here is what my machinery can make of these facts; here too, by the way, are my assumptions, some more strongly motivated than others, all motivations signaled; join me, prove me wrong, or do me better.

Robin Lakoff, Revolutionary × 2

The pioneer in linguistic research on language and gender, [Robin Lakoff] provided a starting point for me, and for a generation of scholars, by blazing a trail that has since branched into many diverging paths of inquiry. . . . [She is] a scholar who pursues theoretical research without losing sight of its practical implications.

—Deborah Tannen (1990: 11)

Robin Lakoff has had an active, distinguished, brilliant career, in formal linguistics and predominantly in sociolinguistics, and as a public intellectual. But her major contributions, and *major* might understate them a bit, are to the growth of pragmatics and the virtual creation of feminist linguistics. In the 1970s, as second-wave feminism was cresting, she started poking around to see if English had deeper signatures of gender than just the surface-skimming lexical critique feminists had generated, something more subversively oppressive than the patriarchal vocabulary bias for words like *chairman* and *manhole* cover, or the diametrically different cultural valences of word pairs like *bachelor* and *spinster* or *gigolo* and *whore*, something shaping systemic patterns in syntax, and prosody, and conversational practices. There was anthropological work on languages like Arawak, Japanese, and Koasati, going back decades, that revealed distinct gender effects—morphology exclusively used by female or male speakers, different honorifics and particles, even alleged mutually incomprehensible genderlects. But English? Absurd! “Everyone told me not to do it,” she recalls. “Nevertheless, I persisted.”

She wrote a long, speculative paper (1973c) for the new journal, *Language and Society*, then an abridged popularization (1974) for the new feminist magazine, *Ms.*, which attracted enough attention to earn a contract for a mass market trade book (1975), coming out with the same title as the original article, *Language and Woman's Place*. She was not immediately hoisted on the shoulders of language scholars and given a triumphant ride through the hallways of academia. The book was greeted with complaints about her impressionistic data, her judgments, and her methods—all of which come directly from the paradigm she was in the process of extracting herself from at the time. The methodology of Transformational Grammar is invented data, subjected to one's own judgment, and Generative Semantics had both expanded the reach of the invention and relaxed those already lax methods. Lakoff's reviewers hollered for attested examples, and they hollered for statistics; *real* data.

But Lakoff's *idea* was almost uniformly cheered by those same reviewers, and her motives. Her overall project was embraced, and many of her observations, however produced, were recognized as important insights. As a proof of concept, *Language and Woman's Place* was a huge success. It was also—with a dramatic cover image of a woman's face, half shrouded in darkness, looking hesitant and fearful, mouth taped shut—a cultural and scholarly hit. It was widely read, widely cited, and remained in print for nearly twenty-five years before engendering a second edition (2004).

The second edition is especially revealing, no aspect of it more so than the cover, a reproduction of the first cover, but this time the woman is ripping off the tape. By the 2000s, things had changed, in society and in linguistics—with Lakoff among the scholars and activists who were getting credit for the former, and she was awarded virtual copyright for the latter, feminist sociolinguistics.

Oxford University Press now had a Studies in Language and Gender series, which brought out the second edition in a way that treated it like holy writ. The full title of the second edition is *Language and Woman's Place: Text and Commentaries, Revised and Expanded Edition*. The original text was in fact neither revised nor expanded. It was left undisturbed, with the label, *THE ORIGINAL TEXT*, while rigging and regalia flowered around it. Two introductions were added, one by Lakoff, who also provided fourteen pages of annotations for the text. Twenty-five other scholars, virtually all of whom helped build the field of gendered language studies on the foundation of *Language and Woman's Place*, provided the commentaries.

The roots of *Language and Woman's Place* in Generative Semantics were not missed at the time, and surely contributed to the attention it received, among onlookers as well as insiders. One review begins "Robin Lakoff is one of the major contributors to a new linguistic theory, *generative semantics*," one review begins, "which represents the most nearly adequate grammar for English which linguists have been able to devise." The author follows this by complimenting Generative Semantics on its chief virtue, rejecting the artificial separation between syntax and semantics, which widened the scope of linguistics to the point where it could include "such considerations as language used by and about women" (Scott 1976:74).

Some of the complaints, like Showalter's characterization of the book as "embarrassingly self-indulgent" (1975:450), recall the times and the ethos more than the issues, and Lakoff connects the revolutionary dots between the times and the research, in her introduction to the second edition. "Generative semantics and the women's movement," she says, "both arose as protests against the status quo." After spelling out some of the Chomskyan status quo, she finishes the picture:

Both generative semantics and the linguistic arm of the women's movement started on a small scale, looking at smaller and more concrete aspects of language . . . generative semantics and the women's movement had similarly revolutionary origins and a similar need to question and subvert established belief. For me at any rate they came together in another way as well. My interest in the intersection of language and gender arose on two fronts: my political involvement in the women's movement and my academic engagement in the transformational dispute. (R. Lakoff 2004:18)

Ray Jackendoff, Mr. Fixit

Ray Jackendoff is a monumental scholar in linguistics who, more than any scholar alive today, has shown how language can serve as a window into human nature.

—Steven Pinker (2015)

Two characteristic sorts of intensity defined Ray Jackendoff's involvement in the Linguistics Wars. One sort, for lack of a better word, we can call *political*; the other, for the same reason, *scientific*. He had an intense partisanship in the emerging Interpretivist framework; he had equally intense commitments to meaning, to cognitive science, and to the facts. As the positions and the battlegrounds shifted around him, as his own interests grew and branched, the political commitments receded. The theoretical and methodological commitments did not. If anything, they increased as the mists of partisanship lifted and he could see more clearly. Those commitments had much in common with several prominent Generative Semanticists, especially those of his old Nemesis, George Lakoff. It is no coincidence that they are both now at least as prominent in cognitive science as they are in linguistics.

Jackendoff is a named professor (like McCawley, like Lakoff, like, of course, Chomsky). He is the Seth Merrin Professor of Philosophy at Tufts University, as well as co-director of the Center for Cognitive Studies (with Daniel Dennett), and he is decorated in both fields, having won the Jean Nicod Prize in Cognitive Philosophy (2003), and the highest honor in cognitive science, the David E. Rumelhart Prize (2014). There is also a special issue of *Cognitive Science* dedicated to his work (41.1), and another one of *Behavioral and Brain Sciences* (26.6), and a special issue of *The Linguistic Review* (24.2–4) on “The Role of Linguistics in Cognitive Science” uses his work to set the agenda; there is a tribute volume, *Structures in the Mind* (Toivonen, Csúri, & Van Der Zee 2015); a handful of honorary doctorates; another handful of assorted awards; yet another of prestigious fellowships; presidencies of the Society for Philosophy and Psychology and of the Linguistic Society of America; even enrollment in his high school's Hall of Fame. He doesn't have the widespread fame of Lakoff, but among the very accomplished principals of the Linguistics Wars not named *Chomsky* (who is so astronomically celebrated that it isn't fair to include him), Jackendoff is the most decorated, for good reason.

He has been busy. Perhaps you were wondering, back in Chapter 7, where Jackendoff had gone when Brame and Dougherty and other frontline Interpretivists were putting the boots to George Lakoff and crowing over the corpse of (undead) Generative Semantics. Especially given the contretemps he had undergone with Lakoff, one might have expected Jackendoff to be first in line. But he had long tired of the conflict; in fact, had tired of syntax. Once the lid came off the box of meaning with Katz and Fodor, its tentacles went in many directions—deeper into the lexicon, throughout syntax, into social contexts, with the emergence of linguistic pragmatics, and into an abstract formal system, most notably with Montague Semantics. All the while, Chomsky and his Interpretivists fought to keep meaning closely tethered to syntax, Jackendoff as hard as any of them; perhaps too hard. He wearied of what was really, from the

Interpretivist's vantage, the *syntax* wars. He turned to the lexicon, and the theory of consciousness, and he turned to music.

Jackendoff is a classical clarinetist who had a parallel career for twenty years as the principal clarinet of the Civic Symphony Orchestra of Boston and appearances with many other orchestras, including the world-famous Boston Pops, and who remains an active performer. He has a catalogue of compositions, a couple of CDs, and two of those honorary doctorates are in music. In the mid-1970s, he turned his scholarly interests toward music as well, from a cognitive and a generative perspective, ultimately resulting in a book with composer Fred Lerdahl, *A Generative Theory of Tonal Music* (Lerdahl & Jackendoff 1983). It was heralded at the time as "a virtuoso piece of thinking and reasoning about music," and is viewed retrospectively as "a landmark in music cognition"; in fact, as dating the moment when "music cognition came of age."¹⁰

Jackendoff's turn to consciousness was the more surprising move. Many linguists are talented musically. A few, like Jackendoff, prodigiously so. The great comparativist, Joseph Greenberg, played Steinway Hall at fourteen. McCawley's apartment was dominated by two pianos and he played the harpsichord whenever he found one. Ivan Sag founded and managed a band, the Dead Tongues (not as punk as that sounds; blues-rock), of rotating size and instrumentation, which sometimes swelled to include a full brass section. The personnel, except for a few rare exceptions, were almost exclusively linguists. Geoffrey Pullum even shared the stage with the Rolling Stones and had some UK chart success with the soul group he co-founded, Geno Washington and the Ram Jam Band, before linguistics claimed him. And the interrelations between music and language don't require a PhD in linguistics to sketch out. We speak in *rhythms*.

But consciousness? That's a country for philosophers and mystics. His turn to the lexicon was the least dramatic—he was still in linguistics—but symptomatic all the same of his search for meaning outside syntax.

Maybe, with all these other concerns, you thought he was a goner. But the cat came back.

While he was abroad, he certainly heard the drumbeats from home, and got the occasional Christmas card. He knew alphabetic generative models were proliferating. He knew that Chomsky was toying with switch boxes, and then not. He saw the rise of formal semantics and the distinctly non-Generative influence that *Metaphors We Live By* was having, in apparent consilience with Frame Semantics, Construction Grammar, Cognitive Grammar, and the rise of connectionism. He can take up the story now:

After many years toiling in the terra incognita of lexical semantics, with detours into musical cognition and the theory of consciousness, I returned during the 1990s to syntax, where I had begun my life as a linguist. From the

perspective gained in the interim, it struck me that some traditional basic assumptions about the overall roles of syntax and the lexicon in the grammar were mistaken. In 1965 these assumptions looked altogether reasonable. Without them it is unlikely that the field could have progressed with the exuberance it did. However, as such things often do, these assumptions first hardened into dogma and then disappeared into the background, there to be maintained through the many subsequent incarnations of transformational generative syntax: the Extended Standard Theory, Principles and Parameters Theory (more or less alias Government-Binding Theory), and the Minimalist Program. (Jackendoff 2002:xi)

He came back, that is, with a mission, a mission to restore and refurbish Generativism, to shape a more flexible and broader-minded framework, one that takes its lessons not just from the interaction of its own mechanisms in relation to largely canned data and legacy assumptions, but from non-generativist approaches as well, welcoming, on its own terms, “research in language processing, language acquisition, language use, spatial cognition, social cognition, evolutionary psychology, and neuroscience” (Jackendoff 2002:xi). The 2002 summa for his approach—the arguments, the evidence, the case, what Dennett calls, “Jackendoff’s masterpiece” (2003:673)—is his *Foundations of Language: Brain, Meaning, Grammar, Evolution*. There’s not much missing from that title in terms of twenty-first century themes in linguistics and cognitive science.

Jackendoff has quietly—quietly in contrast to G. Lakoff, the band leader; quietly in contrast to Chomsky, whose every murmur or harrumph circles the linguistic world twice before tea time—developed a Grand Unification framework that in a crucial way satisfies the blueprint laid out in *Aspects* and does so with a generative semantics.

You read that right: Jackendoff, veteran of shouting matches over Generative Semantics, ends up with a generative semantics. The big difference between his generative semantics and the upper-case movement is that he doesn’t just move generativity around; doesn’t, in particular, displace it from syntax. He keeps a generative syntax too. And—not done yet—he folds in a generative phonology. His framework, called *The Parallel Architecture* (Figure 9.1), is characterized by a triadic arrangement with three generative domains: syntax, semantics, phonology.

It’s the phonology part that really distinguishes Jackendoff’s framework. The *Aspects* model is tripartite, as befits a truly mediational grammar, with phonology getting equal status to syntax and semantics, sort of. “The syntactic component of a grammar must specify for each sentence,” we all remember Chomsky saying, “a deep structure that determines its semantic interpretation and a surface

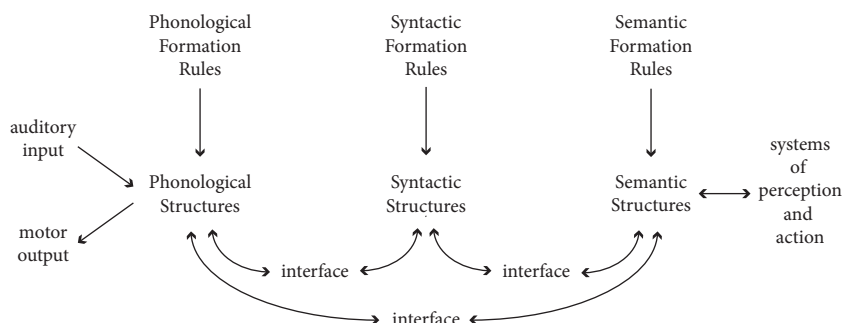


Figure 9.1 Jackendoff's Parallel Architecture, in which syntax, semantics, and phonology are autonomous generative systems linked by interface components. Adapted from Jackendoff 2002:125, 2007b:8.

structure that determines its phonetic interpretation" (1965 [1964]:15): semantics, syntax, phonology. But we also remember that Chomsky followed this architectural overview fairly quickly with "my concern in this book is primarily with deep structure" (1965 [1964]:16), a syntactic conduit for semantics with no implications for phonology. His and Halle's monumental *Sound Patterns of English* was in manuscript circulation at the time and was published a few years after *Aspects* (Chomsky & Halle 1968 [1964]), giving phonology the heft, almost, of syntax, and the heft that the brewing Linguistics Wars was bringing to semantics. So, it briefly looked like all three legs of the *Aspects* grammatical tripod were equally sturdy, at least in principle. But Chomsky never again gave much time to phonology, an attenuation in his linguistics he often attributes—very reasonably; *something* had to give—to his growing political activism after *Aspects*. Nor did the many alphabet grammars that arose over the subsequent decades allocate more than lip service to phonology. Generative Semantics, for its part, had nothing to say about phonology, and Cognitive Linguistics rose from its ashes with a similar gaping oversight.

A quick backward glance, then, suggests that phonology was a casualty of two wars—the Linguistics Wars, which made everything about syntax and semantics (and pragmatics), and the vastly more consequential Vietnam War, which drew Chomsky's attention away from phonology. But no. Look a little longer. Go out the opening, through the discarded popcorn boxes and candy-apple sticks, over to the next tent: if linguistics at the close of the twentieth century was a three-ring circus (and there are worse analogies), syntax and semantics gamboled in the big rings of the main tent. Phonology was in the little tent out back. But it was a very active tent, especially after John Goldsmith proposed an important restructuring in the 1970s. Phonology went through a major surge of theoretical development under which representations lost their flat structures

and their linear assembly models, to take on the shape of syntactic and semantic (Logical Form) trees.¹¹

The great thing about trees is that they show simultaneity. They have layers, or, as Goldsmith calls them, *tiers*. At the same time, we know at one tier that *Floyd* has travelling companions like *broke*, *the*, and *glass*. At another, we know it is a noun, and its companions are a verb, a determiner, and another noun; at another, that it is the head of a Noun Phrase that has a Verb Phrase companion; at another, that it is the first element of a Sentence. This is *logical* simultaneity, representing structures of linguistic information to which language users need access. Phonology needs that kind of information, too (that “f” is a consonant at one tier; the beginning of a syllable at another, and so on), but autosegmental trees can represent *temporal* simultaneity. At the very same time when we are speaking, with partial overlaps, our articulators (tongue, larynx, velum, jaw, . . .) are going through motor programs every bit as complex as our hands, arms, feet, legs, and so on, go through when we are turning a somersault or catching a bus or bidding on an inside straight. Goldsmith’s compelling image is of a musical score, setting out how the various instruments need to play different parts, but play them together. (Jackendoff’s musical interests must have made him a sucker for that image.) Autosegmental phonology was a stroke of genius.

There was a problem, though. Autosegmental Phonology is not particularly tractable for any theory which put syntax in the driver’s seat, like every theory Chomsky has ever offered or endorsed, and most of the theories in the Generative tradition. In *Aspects*, he says “this relation [between sound and meaning] is mediated by the syntactic component of the grammar, which constitutes its sole ‘creative’ part” (1965 [1964]:145), a position from which he has never budged a nanometer (see, e.g., Chomsky 2016a:25). A model in which syntax is the sole generator means the other representations—those of sound and meaning—must be derived from, or otherwise sponsored by, the syntactic representations. Autosegmental phonology doesn’t work that way; not even all the various tiers in a tree can be derived from other tiers. Crucially, for instance, intonation cannot be derived from segments.

In short, a richer, tiered phonology must be *generative* in the same way that the Lakoffs, Postal, Ross, McCawley, and company argued semantics must be generative. Jackendoff, for one, couldn’t have been happier with that position.

Jackendoff’s architecture also finally breaks away fully from what Archibald Hill called the “upward-looking technique” of the Bloomfieldians: the analytic division of language from phonology at the bottom, up to semantics at the top, through various self-governing “levels” (Hill 1991:34). The revolutionary Chomskyans broke away from the injunction against “mixing levels” in the early 1960s, but there remained a stiff bureaucracy among the domains formerly known as levels, and much of the intervening model building that we

have looked at involves different ways of setting up a reporting structure among the components—lexicon to syntax, syntax to semantics, semantics to syntax, lexicon to semantics. . . . “Drawing flow charts” of these various bureaucracies, Jerry Sadock noted, “proposing alternate hierarchizations of grammar,” occupied Generative model-builders for decades, various arguments favoring one arrangement, disfavoring others, collectively showing that no single arrangement “is capable of capturing all of the interactions of components.” The only sensible conclusion to draw from all of these conflicting exercises? “A system of parallel, highly autonomous components operating independently” (Sadock 1991:10).¹²

These parallel autonomous components allow for a compelling solution to “lexical insertion,” one of the issues that most defined the Linguistics Wars. Dennett explains the solution nicely:

In the syntactocentric picture, a word is a simple, inert sort of thing, a sound plus a meaning sitting in its pigeonhole in the lexicon waiting to be attached to a twig on a syntactic tree. In Jackendoff’s alternative vision, words are active: “little interface rules” . . . with lots of attachment prospects, links, constraints, affinities, and so on, carrying many of their combinatorial powers with them. . . . The epicycles of syntactocentric theories largely evaporate, as the division of labor between syntax, semantics, and phonology gets re-allotted. (Dennett 2003:673)

The little interface rules link structures that have mutual affinities. So, the word *cat* is triple-generated as a phonological structure, with certain phonemic, syllabic, and metrical properties (a pretty boring set, to be honest, since it is monosyllabic, but don’t blame me; it’s a favorite example of Jackendoffs), as a syntactic structure, with classificational and agreement properties (boring again; it’s a singular count noun, end of story), and as a semantic structure, with conceptual properties (it’s a certain sort of THING, a TOKEN of the TYPE: CAT). The interface rules put these structures together. They don’t “derive” intonation from syntax, or vice versa. They just say they belong together. Nor do they “derive the meaning [CAT] from the sound /kæt/ or vice versa.” They just bring the two into linkage “when each appears in its appropriate structure” (Jackendoff 1999:397).

So Jackendoff returned to Generative Grammar from wilds of lexical semantics, music, and consciousness, to forge an architecture in order to . . . what? Duke it out with all the other models? Batter George Lakoff about the ears? Unseat the Great and Terrible Chomsky? Find a way, as in his EST work, to honor the Great and Terrible Chomsky’s promissory notes? Yes. And no. Jackendoff didn’t come back in the same fighting mood that possessed him when hostilities broke out in the post-*Aspects* years, but he does claim to provide a framework which accomplishes more things than most other frameworks manage, and most

things better than every other framework does. But he's not at war. When other frameworks do something better or broader than the Parallel Architecture, he simply adopts their insights; when they do something compatible, he celebrates the convergence, even when it is with Lakoff.¹³ We're all in this together, says he. I don't know everything, says he. Life is short, says he. If you're unhappy with the gaps in *Foundations*, says he, "write more chapters" (2002:xiii).

At the same time, though, he does not let questionable claims lie. He clinically delineates the failures and presumptions of other frameworks, in contrast to the corresponding successes of his architecture. In one 2007 article, for instance, he takes on (among others), Cedric Boeckx, Joan Bybee, Terrence Deacon, Tecumseh Fitch, Adele Goldberg, Kenneth Hale, Marc Hauser, Jay Keyser, Philip Lieberman, Alec Marantz, Massimo Piattelli-Palmerini, Michael Tomasello, and Wendy Wilkins, finding agreement where available but disagreeing sharply and strategically as well. Some of these theorists advocate for Chomsky's program, which he finds wanting in many respects. And, if he doesn't actually take on Chomsky directly, he does take on Chomsky's charisma:

I really think that a major obstacle to unification is this insistence on viewing Chomsky's linguistics as the only linguistics worth discussing, which one would think we could get over by now. (Jackendoff 2007b:348n1)

Jackendoff doesn't come to unseat Chomsky, therefore, but to show him the error of his ways, many of them connected to the Minimalist Program (in at least one case, for a lack of constraints!—2007b:356). But he also comes, not with the epaulettes of Chomsky's lieutenant he wore in the 1960s and 1970s, but with the air of a grand old Generative Grammar general, to fulfill a few of the new promises. The stripped-down Minimalist Program, for instance, includes a wholly unspecified Sensorimotor Interface, for which the Parallel Architecture provides considerably more detail, including the division into an auditory interface (for hearing) and a motor interface (for speaking). He also provides a fleshed out syntax with the reductionist impulses of the Minimalist Program ("Simpler Syntax"—Culicover & Jackendoff 2005), and, equally, one that is compatible with Construction Grammar (Goldberg & Jackendoff 2005; Jackendoff & Audring 2020), along with a much richer semantic theory ("Conceptual Semantics"—Jackendoff 1990).

The meticulous concern for details is still there, working in service of the originary Generative vision: a profoundly mentalist substructure, combinatoric descriptive mechanisms, and Universal Grammar. These are "the genuine insights of generative grammar" (Jackendoff 2002:xii), which, if one takes them as seriously as Jackendoff, requires attending to issues of parsing, memory, attention, neural insult, evolution, developmental psychology, philosophy of

mind, and learning theory, as a rough list. *Unification* is his mantra. The Parallel Architecture, Jackendoff believes, offers the best “hope of restoring some degree of much-needed unity to the field of linguistics” (Jackendoff 2002:xii), not just internally but with the cognitive sciences more generally.

Oh, and there’s no Deep Structure; nor even a D-Structure.

George Lakoff at the Epicenter

While the scars [of the Linguistics Wars] have not healed for Lakoff—“It was a nasty period, and it has remained nasty,” he says—he nevertheless emerged as a major force within the discipline. Deciding to get “as far away from Chomsky as possible,” he went . . . to the University of California at Berkeley, where he is still a professor of cognitive science and linguistics. There he helped make the West Coast the epicenter of cognitive linguistics, which extends far beyond linguistics’ traditional focus on overt and observable linguistic structures into the broader realm of cognition.

—Evan R. Goldstein (2008)

George Lakoff is a very ambitious man. Maybe not personally or economically ambitious, though it would be difficult not to be both in some degree, twenty-first century North American hominid that he is; and he *has* done well for himself on both scores. But he is certainly unapologetically ambitious for the ideas he cherishes. And most of those ambitions have been realized. The *CliffsNotes* version of Lakoff’s career is that his reputation in linguistics suffered for a while as a result of the scapegoating campaign we witnessed, as a result of his own eclectic and frenzied style of theorizing, and as a result of his thrashing so publicly against the restrictiveness tide ineluctably raised by Chomsky’s gravity, abetted by the Peters-Ritchie proof. But he is back on top in linguistics, and not just there. His intellectual reach now rivals Chomsky’s in some fields, surpasses it in others. Almost all of this reach traces straightforwardly to *Metaphors We Live By*, and through that book back into Generative Semantics; it also owes more than a little to Lakoff’s relentless self-promotion.

“For 2,500 years,” he told a *New York Times* reporter doing a feature article on his political influence in the mid 2000s, “nobody challenged Aristotle [about metaphors], even though he was wrong.” Variations of this theme—that the entirety of scholarship has suffered from a fundamental error, but Lakoff is here to set things right—are familiar in his writings and his talks, as are his blithe claims about the empirical underpinnings of his own work (snidely captured in Cosma Shalizi’s slur that “George Lakoff uses ‘as cognitive science shows’ to mean ‘as

I claimed in my earlier books,'” Shalizi 2002). It may genuinely be that Lakoff is so ebullient about his own insights that he doesn't realize claims like the one he made to the *Times* reporter puts him above not just the most towering intellect in Western thought, Aristotle, but also above everyone else who ever considered metaphor in the intervening two and a half millennia. Lakoff may still not even realize he is *wrong* when he makes such claims about his 'discovery' of the role of metaphor and analogic thought in the history of ideas, or realize how outrageous it is to claim he surpasses the entire history of Western thought on metaphor. Not everyone in his audience is equally blind to these points, however. “Humility,” wrote the reporter, Matt Bai, immediately after quoting Lakoff's nobody-but-me-challenged-the-sadly-mistaken-Aristotle remark, “is not his most obvious virtue” (Bai 2005).

Lakoff even has an origin story, a Eureka Moment, when his California classroom welled over with “conceptual metaphor” talk:

In 1978, I was teaching an undergraduate seminar at Berkeley and I came upon evidence of conceptual metaphor. . . . [A student] came in late, very upset, sat down. After a minute she said “I'm sorry, but I'm not going to be able to function in the class today. I've had a metaphor problem with my boyfriend. Maybe you can help.” . . . We all said “yes.” After all, it was Berkeley in the 1970s. And it was a true call for help. She said: “On the way over here, my boyfriend said that our relationship had hit a dead-end street.” She said: “I don't know what this means.” So someone said: “Look, if it's hit a dead-end street, you can't keep going the way you've been going.” Someone else said: “Yeah. You might have to turn back.” And then we realized that there was a whole set of expressions in English for conceptualizing love as a journey. Expressions like *The marriage is on the rocks*, or *The relationship is off the track*, or *Look how far we've come*, or *We may have to turn back*, *We are at a crossroads in the relationship*, *We are going in different directions*, *We may have to bail out*. . . .

[We were] *reasoning* about love using the inferential structure of the concept of a journey. (Lakoff 1997:39–40)

From one angle, it's actually a bit charming that a scholar as thoroughly enmeshed in the study of language and mind, from philosophical, psychological, and linguistic perspectives, could be shocked to discover that people reason in analogical frames. But this apparently *was* a revelation to Lakoff, however solipsistic; as well, I would venture, as yet another indication that he should have read his Aristotle a little more closely, and one or two other scholars over the intervening millennia before his 'discovery.'

To be fair, one needs quickly to note that Lakoff's self-importance does not seem ill-placed alongside the importance others now assign him and his

ideas. He is a major figure in cognitive science. He is undoubtedly the best-known linguist in current political circles, reaching celebrity status in the mid 2000s; Bai (2005) calls him “the father of framing” (an epithet Lakoff is happy to propagate, 2014b), remarking that his slim volume, *Don’t Think of an Elephant!* (Lakoff 2004), “became as ubiquitous among Democrats in the Capitol as Mao’s Little Red Book once was in the Forbidden City.” He has a notable presence in philosophy, even a voice in the theory of mathematics. The bulk of his reputation in these fields leverages the incredible reach of so-called “Conceptual Metaphor Theory.” Steven Pinker’s label for him is *The Messiah of Metaphor* (Pinker 2007:245, and yes, the phrase is meant to cut as well as to characterize).

If not quite a messiah, if not quite of metaphor, Lakoff has certainly become the patron saint of something called “metaphor” across the academic and popular landscape. In English studies especially, and in the cognitive humanities more generally, citational obeisance is routine and explicit mention of him declares Lakoff the great prophet of metaphor, with something of a sidekick role for Mark Johnson.

The year 2004 was a particular watershed for him. That’s when he published *Don’t Think of an Elephant!*, a bestseller loosely applying his “metaphor” ideas to the left/right divide in American politics. It is chock-full of advice to Democrats on how to reclaim the rhetorical ground that Republicans had dominated during the George W. Bush years with their “strict father” analogic framing, in contrast to the “nurturing parent” framing of the left. Democrats loved it, bringing to Lakoff “sold-out speaking gigs; invitations to dinner with Democratic strategists, Hollywood liberals and former president Bill Clinton; the label “guru”; and, at one memorable gathering of Senate Democrats, hugs” (Shesol 2014). More books followed, video tapes, speaking tours. He founded a consultancy think tank. The language of political framing was all the rage, with some people—among them, the bashful Lakoff—crediting Lakoff with helping Barack Obama win the presidency in 2009. It also brought attacks from the right, of course, none more irksome to him, I’m sure, nor more revealing about how shallowly the attackers were willing to look in their search for insults, than an editorial in the *New York Sun* that identified him as a “disciple of the notoriously anti-American Massachusetts Institute of Technology professor Noam Chomsky” (Ferguson 2006); a theme that propagated (Nunberg 2006).

Now the august Richard and Rhoda Goldman Professor of Cognitive Science and Linguistics at Berkeley, Lakoff remains as good-natured and open-hearted as ever. *The New Republic* describes him as “an affable and generous man; his doughy cheeks and close-cropped beard exude a warm-and-fuzzy . . . liberalism” (Scheiber 2005). “In public meetings,” a reporter from *The Guardian* noted, “he greets every question with: ‘That is an extremely good question’” (Williams

2014). But along with the affability, he retains feistiness, particularly on the topic of George Lakoff.

Steven Pinker brought Lakoff's public pugnacity back to the fore with a highly dismissive review of Lakoff's *Whose Freedom? The Battle Over America's Most Important Idea* (G. Lakoff 2006a). The review is right on a number of scores, including Lakoff's utter disregard for the scholarly tradition, his tendency to reduce opposing positions to a row of tin cans along a fence top, so as to make his pot shots easier, and a tone that can be infuriatingly presumptive; or, in Pinker's words, "his relentless self-congratulation, his unconcealed condescension, and his shameless caricaturing of beliefs." Pinker's criticism is certainly not without foundation—*Whose Freedom?* is pretty shallow—but the review overall is a two-bit mugging, offering outrageous misrepresentations of Lakoff and his ideas as if they are devastating critiques.

Pinker makes the early allowance, "There is much to admire in Lakoff's work in linguistics." But one does not have to wait long for the blows to start raining down. The concession is a feint setting up the next clause's walloping right cross: "*Whose Freedom?*, and more generally his thinking about politics, is a train wreck." After that combo, the punches come in flurries. He jabs Lakoff's "faith in the power of euphemism," cuffs his understanding of cognitive science and of neuroscience, clouts his "tips in the political arena. . . [which merit only] howls of ridicule," slugs his "considerable ignorance." In one of Pinker's more brutal distortions, he proclaims that "in Lakoff's view . . . Philosophy . . . is not an extended debate about knowledge and ethics, it is a succession of metaphors: Descartes's philosophy is based on the metaphor 'knowing is seeing,' Locke's on 'the mind is a container,' Kant's on 'morality is a strict father.' . . . Mathematics, science, and philosophy are beauty contests between rival frames rather than attempts to characterize the nature of reality" (Pinker 2006). These are flimsy, fallacious dichotomies—er, Steven, is it not possible to have a debate among positions that realize broad analogic frames, or to use aesthetic criteria, like elegance and scope, in building and weighing characterizations of reality?—and it is unsettling to see how easily a linguist, and a cognitive scientist, and an authority on style (Pinker is all three), can fall back on the old "mere rhetoric" charge, the accusation that if you are talking about the way language frames understanding you can't possibly be talking about concepts and thought.

Pinker knows better, but here he is happy to divide things as either debate or metaphor, beauty pageant or serious discussion. The assault, on its own, is of little moment. It is a shallow review accusing a shallow book of shallowness. But it kicks up a bit of dust, providing a moderately recent opportunity to see that the Lakoff of today is the Lakoff of the Linguistics Wars. He puts up his dukes and wades in with his own misrepresentations and innuendo. He does a reasonable job of refuting Pinker's more egregious cheap shots. But he can't resist bringing

in Pinker's damning affiliation with Chomsky and "the old theory," slinging anti-feminist aspersions at him in the bargain, and, Pinker being well known for his incorporation of evolutionary psychology, offering up this explanation for the hatchet job: "[Pinker] is threatened and is being nasty and underhanded—trying to survive by gaining competitive advantage any way he can." Maybe this is not *quite* the Lakoff of the Linguistics Wars. There is a touch more restraint on the page. But one can almost hear a "Nyaah! Nyaah!" behind the keyboard.¹⁴

Frankly, though, it is Lakoff who has the competitive advantage between the two combatants here, especially back home in linguistics, where Pinker is highly respected as an excellent psycholinguist, a careful theorist, and Chomsky's most successful expositor, but where Lakoff is a bigwig, bigger now than at any point in his career. He is so prominent in Cognitive Linguistics that he can claim naming rights. The label is a slight mutation from one of the mid-1970s projects Lakoff championed, the one he was too ill to present at the Milwaukee Conference. You might recall that Lawler, in a diagnosis he probably wishes he could have back, pronounced it "dead" and "stillborn" (Lawler 1980:54). He couldn't be blamed at the time, since Cognitive Linguistics was very sketchy, since there was no reason to believe this most recent Lakovian labelling would last very long, and since the *cognitive* of that label bore little resemblance to the dominant way that word was understood in linguistics at the time; that is, in Chomsky-defined terms, a modular arrangement of complex autonomous devices, highly structured, computational, universal and almost wholly pre-wired, with only slight variations possible, as constrained by a few genetically specified parameters.

A few things happened on the way to the twenty-first century, however, markedly changing the fortunes of Lakoff's program and accomplishing the prodigious reworking of linguistic assumptions that Lawler was so skeptical about. Those things can be tallied easily by way of publications, starting with what Lawler called the "other thing . . . [Lakoff had] gone on to" from Cognitive Linguistics (Lawler 1980:53). From Lawler's vantage, and everyone else's at the time, *Metaphors We Live By* signaled yet another new program for Lakoff, Cognitive Linguistics being no more than the most recent whistle stop. The book barely mentions cognition, or, for that matter, grammar, let alone Cognitive Linguistics, and despite Lakoff's fondness for self-citation, he cites neither of the papers from that whistle stop (Lakoff & Thompson 1975a, 1975b; fair enough, I guess, as neither of them mentions metaphor). The flag *Metaphors We Live By* flew was not *cognitive*, but *experientialist*, the buzzword *du jour* for Lakoff's evolving framework (chosen in part for its anti-rationalist, therefore anti-Chomskyan, flavor). Perhaps most notably for linguists, that framework seemed to be leaving linguistics behind in favor of philosophy.

But *Metaphors We Live By* raised Lakoff's stock considerably. It gave only counterindications about a Cognitive Linguistics, but there was a broad appetite

for his next book, also whetted somewhat by its attention-grabbing title, *Women, Fire, and Dangerous Things* (G. Lakoff 1987). That book was explicitly cognitive, cognitive in a way both very different from Chomsky and more fully articulated than in Lakoff's earlier work. *Women, Fire* gave the colligation *Cognitive Linguistics* sticking power and provided a kind of antonym to *Generative Grammar*; or rather, fulfilling the arc of Lakoff's career from the mid-1970s forward, to provide an *antidote* to Generative Grammar. Most importantly, Cognitive Linguistics leveraged the phenomenal success of *Metaphors We Live By* into a much broader approach to language, one which prominently incorporated the "conceptual metaphor" theory but also much more.

Women, Fire, and Dangerous Things concludes with an autobiographical flourish. The final section, entitled "Generative Semantics Updated," runs through the methods and instruments he retains in his research program from the movement ("conceptual metaphor" theory, for instance, prototypes, radial categories), itemizes the bits he has discarded (transformations, generativity, other trappings of Chomskyana), adds in the guiding principles forged in the debate (a reliance on general cognition, primary allegiances to meaning and communicative function, incorporation of pragmatics): "and the result is cognitive linguistics" (G. Lakoff 1987:582–85). That result looks very different from the floor-to-ceiling trees and extravagant derivations that initiated the movement, or the fairly modest probing of Deep Structure that triggered the debates that triggered the war. If some Generative Semanticist—say, George Lakoff—in the 1963 of "Toward Generative Semantics," or in the 1967 of "Is Deep Structure Necessary?" or in the 1971 of "On Generative Semantics," was presented with a copy of *Women, Fire, and Dangerous Things*, one imagines that linguist would be very challenged indeed to connect it naturally to any of those works, perhaps to the notion of linguistics, even using the scorecard Lakoff assembled. It would look like it came not from another time, but from another planet.

Retroactively, however, the course Lakoff charts at the dénouement of *Women, Fire* is a coherent and sensible map of one linguist's route from the Generative 1960s to the Cognitivist now. In fact, Lakoff's program may well be closer to the one his first book followed, the Abstract-Syntax-bordering-on-Generative-Semantics, *Irregularity in Syntax* (1970 [1965]), than Chomsky's current program is to his first book, *Syntactic Structures*. There is no clear-cut way to make such comparisons, but again we are talking of something akin different planets.

Many people see a powerful aspect of the emotional impetus behind the Generative Semantics movement, especially strongly for Lakoff, as the impulse to out-Chomsky Chomsky—to go deeper than Chomsky, to go further than Chomsky, to be more cognitive than Chomsky, to explain more about language and thought and being human than Chomsky. If so, Lakoff certainly put his money where his mouth was. He worked repeatedly, steadily, to revolutionize

linguistics, with, eventually, remarkable success. There has been no complete overturning of the previous paradigm, but his work was instrumental first in contributing to the pluralization of that paradigm (there is no longer one generative model), and latterly in the formation of a compelling complementary paradigm, Cognitive Linguistics, with a resulting division of intellectual and institutional resources—certainly not the near-wholesale domination of resources we saw with Chomsky's rise, but pretty damn impressive.

But linguistics is only the tip of the Lakovian revolutionary iceberg. He has campaigned to revolutionize philosophy (“to radically change Western philosophy,” G. Lakoff 1997:47; “to rethink philosophy from the beginning,” Lakoff & Johnson 1999:15), and psychology (“to change not only our concept of the mind, but also our understanding of the world,” G. Lakoff 1987:9), and English studies (where his work saves us from “two millennia . . . [of the erroneous view] that metaphor plays no role in the serious matters of life; [that] it can at best serve as entertainment or perhaps play a role in irrational persuasion,” Lakoff & Turner 1989:215), and politics (“We need a new understanding of American Politics,” Lakoff 2002:143). In mathematics, he is going for the creation of an entirely new field, with another rethinking from the beginning of Western thought. In typical Lakovian everyone-else-has-had-it-wrong-forever-but-we-have-the-key-to-unlock-all-mysteries framing, he and Rafael Nuñez begin their *Where Mathematics Comes From* with

As specialists within a field that studies the nature and structure of ideas, we realized that despite the remarkable advances in cognitive science and a long tradition in philosophy and history, there was still no discipline of mathematical idea analysis from a cognitive perspective—no cognitive science of mathematics.

With this book, we hope to launch such a discipline.

A discipline of this sort is needed for a simple reason: Mathematics is deep, fundamental, and essential to the human experience. As such, it is crying out to be understood.

It has not been. (G. Lakoff & Nuñez 2000:xi)

Oh, heck. Let's get it all over with in one fell swoop: “We need a new, updated Enlightenment,” he has proclaimed, “a new understanding of what it means to be a human being; of what morality is and where it comes from; of economics, religion, politics, and nature itself, . . . science, philosophy, and mathematics” (G. Lakoff 2008:13–14). Most of these core areas are famously in Chomsky's wheelhouse, including (lest we forget *Cartesian Linguistics*) an updating of the Enlightenment.

Lakoff's approach in every one of these areas is antithetical to Chomsky's approach, as is the prescription for his New Enlightenment. What we need, Lakoff says, is an approach to "freedom, equality, fairness, progress, even happiness" based on an understanding of the interpenetrating importance of "frames, prototypes, metaphors, narratives, images and emotions" (G. Lakoff 2008:14–15). The prescription is most desperately needed by liberals. "They don't understand their own moral system or the other guy's," he says:

they don't know what's at stake, they don't know about framing, they don't know about metaphors, they don't understand the extent to which emotion is rational, they don't understand how vital emotion is, they try to hide their emotion. They do everything wrong because they're miseducated. And they're proud of that miseducation. (qtd in Williams 2014)

Lakoff is very, very far from the dissident that Chomsky is. He tries to work from the inside. Chomsky is a congenital outsider. But Lakoff also strives, like Chomsky, to make a political difference. Like Chomsky too, since his "spectacular ascent" in the 2000s (Bai 2005), Lakoff has become a very coveted public speaker.

In some fields Lakoff's revolutionary ambitions have been remarkably successful, others less so, but he has unquestionably dominated stretches of the intellectual landscape in the twenty-first century, in ways not unlike Chomsky's impact in the 1960s. I don't think anyone would say—even taking a comprehensive reading of his Generative-Semantics era allegiance to "the idea of not being like Chomsky"—that Lakoff's career was planned out in strategic opposition to Chomsky's. But such systematic, field-by-field, axiom-by-axiom, commitment-by-commitment, yin-by-yang opposition is extraordinarily rare. The intellectual trajectories of Lakoff and Chomsky could not be more antithetically symmetrical if they were plotted by Dickens. Of course, there is one very notable asymmetry. In every instance, Chomsky got there first.

The Legacy of Generative Semantics 1: The Right of Salvage

Examples of Chomsky's late conversion to some of the cardinal tenets of Generative Semantics abound.

—Geoffrey K. Pullum (1996:139)

For Generative Semanticists, Chomsky's most egregious ethical breach was not his hostility to their program. It was what came next, his largely furtive adoption

of many of Generative Semantics proposals once the hostilities were over. Postal explains this in nautical terms: the right of salvage.

With the wreck of *Good Ship Generative Semantics*, great amounts of ideas, data, mechanisms, and perspectives were cast to the seas. Some of it was lost, probably for good; probably, in fact, for the best. But much else made its way into the holds of other theories; most notoriously, into the hold of Chomsky's commissioned frigate, seen most recently flying the colors of Biolinguistics and bearing the name *Good Ship Minimalism*. This fate is one of the two tragedies that ex-Generative-Semanticists recurrently cite as having befallen their model, that their work has been stolen.

The other purported tragedy, that vast quantities of their data are completely and systematically ignored, is confused and beside the point. It is certainly true that some material is gone, but there is a great deal more which has had a profound impact on the way linguists look at language, as we will see. What Generative Semanticists seem to mean by this complaint, actually, is that Chomsky and his kith systematically ignore the data they so lovingly turned up. But could it be otherwise? Chomsky has never had more than a peripheral interest in pragmatics, figurative language, or functional explanations, and he has been unrelentingly hostile to empiricist research strategies in linguistics, such as corpus analysis. It is virtually inconceivable that he would pen a paper on syntactic and semantic horrors you can find in your medicine chest (Sadock 1974b), or on the logic of politeness (R. Lakoff 1973b), or spend much time charting out the syntactic implications of verbs for bitching (McCawley 1973b). So, there's that: utter disinterest. But there's this, too: the problems and mysteries question. Syntactic and semantic horrors are by their nature data that not only *resist* theoretical incorporation, but *confound* theoretical incorporation. That's the *point* of Creature Features. They give theories the heebie-jeebies.

Much data of this cast was never accommodated by the people who brought it to light, either, nor even pursued. So why should anyone else feel responsible to it? And, truthfully, by the time these papers started to come out, the Generative Semanticists were no longer really talking to Chomsky anyway, nor to folks working in his framework. They were talking to each other and to the field at large. The lost-data tragedy is mostly irrelevant, then: (1) much of it is not really lost at all, though it is "lost on" Chomskyan linguists, just as much Chomskyan data is "lost on" people with other theoretical dispositions; and (2) much of it is not really "data" at all, just heaps of oddities that no one can structure into a theoretical argument. Data is only really data when it has structure, and structure is provided by frameworks.

Back, then, to the pilfered-ideas tragedy. How does it fare? Unbelievably better. Let's start with Newmeyer's list of Generative Semantic contributions to formal linguistics, a list that has often been sneered at by ex-Generative-Semanticists as

dismissively brief. It is, in fact, quite brief, brief enough to quote in full, but it is not dismissive:

While Generative Semantics now appears to few, if any, linguists to be a viable model of grammar, there are innumerable ways in which it has left its mark on its successors. Most importantly, its view that sentences must at one level have a representation in a formalism isomorphic to that of symbolic logic is now widely accepted by interpretivists, and in particular by Chomsky. It was Generative Semanticists who first undertook an intensive investigation of syntactic phenomena which defied formalization by means of transformational rules as they were then understood, and led to the plethora of mechanisms such as indexing devices, traces, and filters, which are now part of the interpretivists' theoretical store. Even the idea of lexical decomposition, for which Generative Semanticists have been much scorned, has turned up in the semantic theories of several interpretivists . . . Furthermore, many proposals originally mooted by Generative Semanticists, such as the nonexistence of extrinsic rule ordering, post-cyclic lexical insertion, and treating anaphoric pronouns as bound variables, have since turned up in the interpretivist literature, virtually always without acknowledgement. (1980a:173; 1986a:138)

There was certainly more associated with Generative Semantics that also showed up downstream in Chomsky's program than Newmeyer lists—even the return of Generalized Transformations was proposed in a late article (G. Lakoff 1974:343), and they have come back to Chomsky (Williams 2015)—but part of that is a function of just how much data was churned up in the movement and how many corresponding mechanisms and tentative suggestions were bruited to deal with that data. Newmeyer gives a realistic impact-assessment statement of how Generative Semantics affected Chomsky's program: in innumerable ways, virtually always without acknowledgment.

Chomsky's attitude to intellectual property is cavalier at best—his own as well as others'—and it is an attitude that rubs off very quickly on his students; indeed, transitively, even on students of his students. Their own work, and each other's work, is all that matters. No one else gets too much attention, let alone discussion and acknowledgment. The most obvious, earliest, and longest-lasting example of this quiet appropriation is Chomsky's adoption of logical form (LF)—a representation in terms of the categories and operators of predicate calculus, which G. Lakoff and McCawley argued for in the early 1970s, and which has occupied a central place in all of Chomsky's models since the latter 1970s:

[This adoption] not only served to answer the charges by Generative Semanticists that he had been insufficiently specific about what semantic

representations were and how they were to be arrived at . . . but it also demonstrated that the domain of data which Generative Semanticists had argued should be considered grammatical would not be entirely ignored in the evolving Interpretive theory. . . . by the late 1970s that conception began to bear an unmistakable likeness to the semantic representations that McCawley had earlier argued for. (Huck & Goldsmith 1995:45)

With characteristic modesty, Lakoff stakes sole claim both to the representation itself and to the entire theory housing it, and insinuates plagiarism—"Government and binding, following my early theory of generative semantics, assumes that semantics is to be represented in terms of logical form"—and then dismisses all of it as inadequate for the genuinely important facts about language, "the phenomena covered by the contemporary theory of metaphor [that is, 'conceptual metaphor theory']" (G. Lakoff 1993:240).

Chomsky has a rather different view. As far as he appears to be concerned, Logical Form comes directly from Robert May, who, not coincidentally, completed a thesis under Chomsky exploring semantic representation in logical notation (later revising it substantially for publication—May 1977; 1985). May cites G. Lakoff only once, very briefly, and only negatively, in order to deny that there is any connection between their respective suggestions (1985:158n4). McCawley gets nothing from May (no more, we might notice by the way, than McCawley gets from Lakoff). Not even a comma goes his way, despite the essential part McCawley played in developing a representational level based on logic, despite even the criterial place in May's work for the rule he dubs simply QR, ostensibly for *Quantifier Rule*, but many readers assumed stood for *Quantifier Raising* (a more mnemonic name, since the rule moves quantifiers up trees—see, e.g., DeCarrico 1983, Stepanov & Stateva 2009). With very minor wrinkles, QR is the rule that McCawley proposed much earlier (1976b [1972]: 294), albeit moving constituents in the other "direction," *Quantifier Lowering*.¹⁵

Next on the list of notorious borrowings is lexical decomposition, which also started to show up in Interpretivist work in the mid-to-late-1970s and remains key in the Minimalist Program. Then comes Mark Baker's Chomsky-endorsed Universal Theta Assignment Hypothesis (UTAH), which resembles the Universal Base hypothesis in key ways, followed by a host of small developments, like the global properties of the trace convention and the main-verb analysis of auxiliaries (which, McCawley later pointed out, as the reading lists of him and other narrowly groomed MIT graduates expanded, was fundamentally Jespersen's analysis in any event—McCawley 1984a:xv). In the early 1990s, Chomsky jettisoned grammaticality, with no more than a dismissive footnote saying that it was never important anyway, just a bit of a sop to informal exposition, presumably for those who couldn't follow the corresponding formal exposition. Deep Structure, too, was

dropped. These were notions that Generative Semanticists argued strenuously against. Chomsky simply leaves them on the curb, with minimal commentary.

The defining issue is not whether Chomsky is “allowed” to abandon favored notions that Generative Semanticists had denounced, or to incorporate Generative Semantics innovations into his program—McCawley, for instance, incorporated $\bar{x}$ -syntax in his work without anyone complaining of theft, and nobody seemed to mind when Gazdar and Pullum adopted Ross’s main-verb analysis of auxiliaries—or even whether Chomsky should acknowledge the precedents of such abandonments and incorporations.

The defining issue is that Chomsky denounced Generative Semantics so contemptuously for so many of the tendencies and mechanisms he now embraces, a denunciation—curiouser and curiouser—he still maintains. Take UTAH. Chomsky notes (rather unusually) that Baker’s proposal is similar to one “explored within Generative Semantics”; namely, “that deep structures represent semantic structure quite broadly, perhaps cross-linguistically.” The earlier proposal, however, the Universal Base Hypothesis, “proved unfeasible”; indeed, worse than that, “more or less vacuous,” because of various problems with Generative Semantics having to do with its vast descriptive latitude. However, with the tremendous restrictiveness built into Government and Binding theory, the same proposal “becomes meaningful, in fact extremely strong” (1988b:66–67). Presumably he found similarly welcoming notions about lexical decomposition and Predicate-raising—the former of which had “little empirical content,” the latter of which was “quite unnecessary,” at the Texas Goals conference (Chomsky 1972b [1969]:142–43)—once his model mutated coincidentally in ways that accommodated them.

Not all ex-Generative Semanticists were outraged at such incorporations. In his review of Baker’s book, which not only clones the Universal Base, but also adopts a version of Predicate-raising, and, very interestingly, compromises the once-sacred cow of Interpretive Semantics, Lexicalism, Jerry Sadock remarks,

As one who lived through the anti-Generative Semantics pogroms of the 70s, and experienced the bloody vengeance that was visited upon those who would pollute the modules, I find this *laissez-faire* attitude toward the Lexicalist Hypothesis both refreshing and astonishing. Baker’s work is actually more “generative semantic” than the Generative Semantics of the late 60s and early 70s. (Sadock 1990:130)

Sadock seems amused, not threatened, by these developments, grateful to have the ideas back in circulation, to have them cogently advanced and to see them integrated into other programs, and, whatever the lack of acknowledgment, to see them comparatively free of dogma.

The most striking Generative-Semantic homology of Chomsky's current program, by far, is its architecture. He outlines the model, termed the *Minimalist Program*, this way: "there [are] representations of meaning, representations of form, and relations between the two" (1979 [1976]:150). Oh, wait a minute. Sorry. That's how he outlines Generative Semantics in his account of how it was "virtually empty." My bad. But it *is* the reduction to these three elemental components (sound, meaning, computational linkage, period) that makes his program minimalist. I think I've got the right quotation now:

Computation maps LA to <PHON, SEM> piece-by-piece. [Where LA is Lexical Array (words), PHON is a phonological representation, SEM a semantic representation.] (Chomsky 2004a [2001]:107)

Shades of Lakoff and Ross! There is no Deep Structure in this architecture, no single point of lexical insertion. Shades of Postal! This looks like what he called "the best grammatical theory a priori possible" (Postal 1972a [1969]:136), a mediational account of grammar with two and only two endpoints, sound (PHON) and meaning (SEM), and a homogeneous rule system that links the two (computationally maps a Lexical Array). Between form and meaning, there is "a single operation for building the hierarchical structure required for human language syntax" (Berwick & Chomsky 2016:10)—an operation whose genealogy takes it back to the one that had a starring role in Generative Semantics, the transformation, and which likewise built lexical as well as phrasal structure into hierarchical units. This operation works on these primitive semantic notions, "call them 'atomic concepts' . . . word-like objects but not words" (Chomsky 2016:41); like, er, CAUSE, BECOME, NOT, and, just guessing here, ALIVE?

PHON and SEM have their respective destinations in the Minimalist Program, as they did in Generative Semantics, to SM and to C-I, and, as in Generative Semantics, these destinations implicate general (or, in any case, not strictly linguistic) cognition: "SM is the link to organs of externalization (typically articulatory-auditory) and C-I is the link to the systems of thought and action" (Chomsky 2015a:ix). Figure 9.2, a depiction of this model, should look familiar.

D(eep)-structure finally follows phlogiston and ether and the dodo into oblivion; S(urface)-Structure too. The old dream of a homogeneous theory with only two representations—one of form and the other of meaning—is revived.

Chomsky does not, despite its great resemblance to the blueprint Postal provides (Figure 3.3, page 103), call this architecture *Homogeneous I*. He calls it "the most basic property of human language" (Chomsky 2016:4), frequently throwing it into the steaming alphabet soup bowl of linguistics with the designation *BP*. Nor does he use the label "The Best Theory," but only because he goes one better than Postal's superlative: his favorite adjective for the Minimalist Program

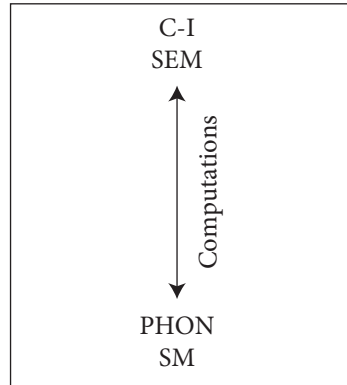


Figure 9.2 The Minimalist Architecture, where *SM* stands for *SensoriMotor*, indicating some interface system that enables the physical realizations of language (the form); *C-I* stands for *Conceptual-Intentional*, indicating some interface system that integrates thought with language (meaning); *computation* covers the relations between conceptual and sensorimotor representations.

is *perfect*. We can now formulate such an architecture he says, because theory has advanced to the point where we can ask, “How closely does language. . . approximate a ‘perfect solution’ to the boundary conditions set by SM and C-I?” (Chomsky 2015a:xvi). Indeed, he goes Postal two or three better (how to count?), and ups the superlative stakes further yet to imply that this architecture describes an “organ of extreme perfection” (Berwick and Chomsky 2016:i). Along with a simple picture, of course, comes a methodology embracing simplicity. We recall that Chomsky once said, “It is often a step forward . . . when linguistic theory becomes more complex,” in his response to Postal’s “Best Theory” (Chomsky 1972b [1969]:126). But complexity had run its course for Chomsky by the 2000s, and we are back, once again, to “naturally we seek the simplest possible account of the Basic Property, the theory with the fewest arbitrary stipulations,” an approach that (like Postal) he regards as “standard scientific method” (Chomsky 2016a:16; see Postal 1972a [1969]:135).

The primacy of meaning in recent versions of Chomsky’s framework also looks hauntingly familiar. Remember how Lakoff based his claim that “semantics may be generative” on “the intuition that we know what we want to say and find a way of saying it” (1976 [1967])? Chomsky now sings in sentimental harmony with his former adversary:

language . . . is fundamentally a system of meaning. Aristotle’s classic dictum that language is sound with meaning should be reversed. Language is meaning with sound. (Berwick & Chomsky 2016:101)

Chomsky actually pushes well beyond Generative Semantics in the meaning-first story of language, often suggesting that cognitively as well as evolutionarily, communication is a derivative function of language (e.g., 2000:30, 2005:3). The “real job” of language is in private representations and reasonings.

The simple polar design of the Minimalist Program, however, obscures much about its realization in any given grammar, again pushing us more toward Homogeneous II than Homogeneous I. The wiring and the plumbing and the ductwork for Chomsky’s basic-property architecture when it is realized in any given language includes descendants of mechanisms Chomsky has championed over the decades. The regime of filters, conditions, constraints, principles and their parameters—the instruments drafted to ensure the right linguistic structures “surface,” while the bad ones don’t—have been largely replaced in the Minimalist Program by “least-effort” and “last-resort” principles of “natural economy” that optimize computation. Some derivations are more costly than others, so they are avoided. But *optimize computation* is just another way of saying *preserve the derivation*, ensuring the correct output. As Newmeyer points out, some of these principles implicate “what have been called ‘transderivational’ principles: the derivation of one sentence involves globally scanning other possible derivations from a given set” (Newmeyer 1998:311). To take this similarity from the odd to the truly bizarre, Chomsky’s labels for these principles also have the distinct cast of Generative Semantics’ naming conventions. One of them is *Procrastinate*; another is *Greed*.

By this point, one knew not to expect acknowledgment of the remarkable convergence his program had with the one he and his kith denounced for a decade, but the almost total lack of argumentation for the changes is striking. A torrent of articles and books were taken up with denunciations and counterarguments—the cost Generative Semanticists incurred for their proposals—but the adoptions apparently come for free, maybe through a principle of natural economy. The lack of justifications has not gone unnoticed by linguists with a sense of history. Pullum, for instance, noted that the Minimalist Program meant

abandoning the cherished level of deep structure (known as “d-structure” in the last two decades). This is exactly what Postal 1972a [1969] suggested was “the best theory.” But the names of linguists like Postal, Ross and McCawley, who in the late 1960s tried to *argue* for the elimination of deep structure, are completely absent from Chomsky’s bibliography. There is no belated nod in the direction of the literature he resolutely resisted for 25 years but whose central thesis he now adopts. Nor is there any real effort to supply intelligible reasons and arguments for his abrupt conversion to the tenets of generative

semantics. . . . The implied epistemology is one of miraculous revelation. (Pullum 1996:138)¹⁶

And a pair of veteran Interpretivists slyly credit the “eerily prescient” practitioners of Generative Semantics for somehow producing work “in many ways anticipating” developments in the Minimalist Program (Culicover & Jackendoff 2005:98, 96). While Chomsky has nothing to say on this prescience, one of his expositors and apologists notes that the problem with the original proposals from Postal et al. is that “in the 1970s [they were] premature” (Boeckx 2006:72n7); he does not mention whether the *attack* on those earlier proposals might not also have been premature.

The Minimalist Program is not identical with vintage Generative Semantics. There are many features distinguishing the two of them (and, as numerous observers have noticed, many places where the Minimalist Program is lacking in specifics that would allow people to appraise it with respect to other theories). But these moves within the Chomskyan fold do strengthen the impression that the Wars were not primarily about theories or methods.

Chomsky’s denounce-then-adopt policy was a thorn in the side of many ex-Generative-Semanticists for years, and remains a point of amusement for exogenous observers. George Lakoff complained about it bitterly to me, and Postal features it in his most famous polemic, the satirical guide to “Advances in Linguistic Rhetoric.” Postal gives poker-faced advice in the piece to would-be Chomskyans on how to coöpt ideas successfully. “Suppose some proponent, like McCawley, “Postal says,

of the unquestionably wrong and stupid Basic Semantics (BS) movement has, accidentally, hit on one or two ideas you need to use, say hypothetically, the notion that surface quantifiers are connected to logic-like representations by transformational movement operations sensitive to syntactic constraints, or something like that.

When adopting this idea, assuming that you wish to do so, it would be an obvious rhetorical error to cite any proponents of BS. Not only would this waste a lot of serious linguists’ time if they were persuaded to actually read such misguided stuff, it might mislead less sophisticated thinkers than you into thinking something about BS was *right*.

So the correct procedure is to proclaim and get others to proclaim, over a long period, many times, that BS is totally wrong, misguided, unscientific, etc. Then, quietly, simply use whatever BS ideas you want without warning and without any tiring citational or attributional material. A well-known principle of scholarly law known as *Right of Salvage* guarantees that you cannot be held accountable for this. (2004 [1988]:292; Postal’s italics)¹⁷

The Legacy of Generative Semantics 2: The Greening of Linguistics

We are dealing with people, in real, murky, often conflictual, squishy situations, where there is rarely anything like black and white to guide us. We are dealing with negotiated, improvised, always-being-born language.

Haj Ross (2000:179)

One of the ways some detractors look at Chomsky's impact on linguistics is as the last gasp of Bloomfieldianism (for instance, in the best articulation of this position, Moore & Carling 1982:19–47, which has not dated despite the many changes of specifics in Chomsky's program). Bloomfield—particularly as vitrified in followers like Bloch and Trager—kept meaning at bay. Chomsky is a little more optimistic about getting at meaning than Bloomfield was, and has been responsible for a good deal of semantic headway, but never directly, always through what he has set in motion with others. He retains Bloomfield's cautiousness and he retains the general Bloomfieldian dogma that meaning will never get into the driver's seat, even in the Minimalist SEM $\Rightarrow$ PHON architecture. He was arguing the Bloomfieldian party line on how to practice safe linguistics as early as 1955—that meaning can't be allowed to contaminate analyses of form—and he has only occasionally wavered from that position in the more than half century since. If form will help him get at meaning, he's happy for the opportunity, but the reverse is unthinkable. He will never use meaning to get at form.

Bloomfield banished the mind, making *mentalism* an umbrella term for aspects of language that couldn't be approached scientifically. Chomsky broke the taboo about discussing the mind, but he has similar firewalls up for preventing exposure to the mental life of speakers—performance, and its partial descendant, E-Language. Just as Bloomfield's anti-mentalism was one way of keeping meaning away from form, by consigning it to psychology and sociology, so Chomsky's competence and I-Language are ways to keep meaning and other contaminants, like context and belief, away from form, by consigning them to “memory limitations, distractions, shifts of attention and interest” as well as to “the physical and social conditions of language use” (1965 [1964]:3; 1977:3; 1986:31–32)—that is, to psychology and sociology.

In this dying-Bloomfieldian-wheeze interpretation, the Chomskyan hegemony that arose in the 1960s was just a new face on the old unease over meaning and mind. Chomsky belongs, this interpretation goes, not to the true vanguard in linguistics, but to the progressive elements of the old guard, with scholars like Charles Hockett. Where Hockett adopted an evolutionary, steady-accrual-of-knowledge rhetorical stance, however, Chomsky adopted a revolutionary, follow-me-while-I-burn-it-all-down rhetorical stance.

Bruce Fraser's allusion to Charles Reich's *The Greening of America* surely did not have a one-to-one allegorical intent—Noam Chomsky as The Man—but the more general suggestion is unavoidable, that a transformational hegemony was being overcome. Reich's book ends on a crescendo extolling the promise of the counterculture:

The extraordinary thing about this new consciousness is that it has emerged out of the wasteland of the Corporate State, like flowers pushing up through the concrete pavement. Whatever it touches it beautifies and renews, and every barrier falls before it. . . . We have all been induced to give up our dreams of adventure and romance in favor of the escalator of success, but [the new consciousness] says that the escalator is a sham and the dream is real. . . . For one who thought the world was irretrievably encased in metal and plastic and sterile stone, it seems a veritable greening of America. (Reich 1970:341–42)

Here is the higher point of Fraser's allusion: that a new consciousness was taking hold of linguistics in the late 1970s—new perspectives, new methods, new fields of data, new flowers pushing through the Chomskyan pavement.

Generative Semantics certainly does not get sole credit for the greening. As Ross puts it (*verbing* is a rough synonym of *greening* for him): Generative Semantics “was only one part of a general process of the verbing of linguistics, which all began in the 1960s or shortly thereafter.” Among the other contributors to the verbing, he includes ethnomethodology, discourse studies, sign language studies, “the rise of variation theory . . . a variety of different flavorings of functional grammars . . . different kinds of phonologies, . . . the rise of second-language acquisition as a field . . . language and law, language and therapy, language and arbitration, the huge expansion of aphasia studies, the invention of the term *neurolinguistics*, and so on” (Ross 2000:178)—that is, a welter of interests, approaches, and extensions, some coming in response to Chomsky's framework, some attempting to expand that framework, all of them benefiting, like Generative Semantics, from the energy and resources Chomsky's framework attracted to linguistics.

But “generative semantics was right in there in the delivery room for the birth,” Ross adds:

Paul Postal was the syntactician who started it off, by letting syntax and semantics interbe [not a typo]. George Lakoff, of course, gave the birth an immense impetus in his boundary-crossing forays into philosophy and cognitive science. Jim McCawley (and Lakoff, too, to a somewhat lesser extent) did a vast amount of detailed analyses and carried on with the serious working out of

an interfield [also not a typo] between linguistic and philosophical semantics.
(Ross 2000:179)

Some linguistic sub-disciplines and para-disciplines that once sought out Chomsky's work for investigation, application, and validation have since decided they can get along well without him (psycholinguistics, sociolinguistics, computational linguistics, second language acquisition). Linguistics is more vibrant, pluralistic, and daring than it has ever been, and Generative Semantics gets much of the credit in this greening. Certainly, it deserves some retrospective general credit as the thin edge of the wedge that brought into linguistics a good crop of phenomena that Chomsky was content to ignore, along with a range of methods and goals he discounted or despised.

Just the act of breaking the ice was crucial. Take corpus linguistics. It's not so much that it wouldn't be flourishing without Generative Semantics. The computational developments over the last two decades make its growth virtually inevitable, and proposing alternate histories is a sketchy pastime at best. But it seems safe to suppose that if Chomsky's program had grown into the inevitable hegemony rearing in the 1960s, and if Chomsky's data isolationism had not been shaken by the dataphilia of Generative Semantics, that his scorn for corpus studies would have had a much tighter grip on the field than it now has; that corpus language studies might be a somewhat marginal pursuit, driven more by computer scientists than by linguists, that usage-based theorizing might be a fringe activity.

So, Generative Semantics broke the ice. There's that. But it also deserves more specific credit for the kinds of perspectives and the ranges of data it opened up.

In the first instance, there is pragmatics. While it may not seem on the surface reasonable to give credit for the birth of pragmatics to a movement whose most prominent spokesperson once made the notoriously arrogant pronouncement that he had reduced the whole domain to garden variety semantics (G. Lakoff 1972b:655), Lakoff's cheery arrogance about pragmatics probably did more to break down the barriers of context and use in linguistics than any other factor. He was wrong, of course, but it opened up the domain, previously a gated community of philosophers, to linguists.

Linguistic Pragmatics is now a thriving subdiscipline; which dates largely from Ross's and Robin Lakoff's early performative work; which includes Sadock's extensive explorations of speech act theory and George Lakoff's investigations of presuppositions and of Grice's conversational research and Robin Lakoff's charting of politeness and deixis and gender and appropriateness and context generally; among whose chief landmarks are Gazdar's formal text (1979), which began life with a transderivational analysis, Levinson's informal text, which specifically attributes the pragmatic infusion of linguistics to Generative Semanticists

(1983:36), and Green's *Pragmatics and Natural Language Understanding* (1983; 2nd edition, 1996). All of these books bristle with references to Ross, Sadock, the Lakoffs, Davison, Green, McCawley, Horn, and assorted other Generative Semanticists. They take Generative Semantics as their chief methodological and theoretical starting point (along with acknowledging ordinary language philosophy as the source of foundational insights).

In the second instance, there is a thick and interpenetrating flora of developments which may not have begun with Generative Semantics, but most of which received support and recruits from its ranks, and all of which benefited hugely by the break-up of the growing Chomskyan hegemony that began with the disagreements over the Katz-Postal Principle and Deep Structure. Again the 1979 Milwaukee Conference is a useful barometer. The conference featured various refugees from the *Aspects* tradition, from both warring camps and from the sidelines, but also functionalists, European linguists, and even representatives from pre-Chomskyan programs who likely would not have been welcomed just a few years earlier, should they have ventured out from their bunkers.

The most obvious payoff of this greening was the emergence of a new paradigm, distinctly counter to the Chomskyan program: Cognitive Linguistics.

Cognitive Linguistics

Cognitive Linguistics [is] a rejuvenated and invigorated form of generative semantics

—Anna Siewierska (2013:486)

There was a recurrent mixing of the designators, *Cognitive Grammar* and *Cognitive Linguistics*, in the 1980s and early 1990s, partly fueled by Lakoff's use of them as synonyms in *Women, Fire*, and other publications, but they disengaged into a loose subset-superset relation. The former is a specific model of a linguistic system, a *theory*, closely associated with Ronald Langacker (1987, 1990, 1991, 2008). The latter is a broad approach to language with a range of themes, methods, goals, and exemplifying texts (including Langacker's); that is, a research *program*.

As we saw with Lawler's reaction at the Milwaukee conference, evidence in the late 1970s suggesting a healthy future, or any future at all, for something called *Cognitive Grammar* or *Cognitive Linguistics* was neither plentiful nor promising. But the remarkable work of Langacker to carve out a place for the one, and the incubator of Berkeley to foster the other, changed everything. Nor did the phenomenal success of *Metaphors We Live By* hurt. Langacker's Grammar was important in the early days of the program for giving intellectual and methodological

credibility to a general-purpose, integrated cognitive approach to language, distinct from Chomskyan special-purpose modularity, at a time when grammatical models were still the gold standard in linguistics. The Berkeley loam nourished a seedbed of figurative, conceptual, usage-based, symbolically governed, semantically encyclopedic, syntactically profuse arguments, analyses, and proposals that flourished into Cognitive Linguistics as the field was greening.

Langacker's Cognitive Grammar offers a rich, coherent, challenging, and carefully articulated model rigorous enough to earn the honorific surname *grammar*, but one that used its forename, *cognitive*, in a very different way from generative grammar's traditional use of *cognitive*. Langacker—briefly but formatively a Generative Semanticist—was invested equally in the overall program as he was in his own particular model, and a number of its other supporters and fellow travelers figure prominently among his inspirational sources. Bolinger, Chafe, and Fillmore all get singled out (1987:5), and G. Lakoff is particularly praised for opening up several lines of research defining his model. But the important connections are more theoretical and methodological than sociological, and he also warmly acknowledges the congenial research of Jackendoff and Bresnan, along with a range of other scholars working on the interrelations of meaning, syntax, words, and morphology, and yet others investigating cognitive phenomena like categorization, imagery, and processing.

Meanwhile, Berkeley became home to one of the most fruitful scholarly collocations for twenty-first century linguistics, Fillmore and Lakoff, and—no coincidence—emerged as the first, and so far only, genuine rival in agenda-setting linguistics to MIT. *Collocation*, because their combined influence is far more a matter of simultaneous residency than of active collaboration (they never published together). Until Fillmore's death in 2014, they reciprocally propelled each other, and jointly shaped the field, from the beginnings of Generative Semantics and Case Grammar, but more dramatically with the development of Cognitive Linguistics. Lakoff is known in the media as the "Father of Framing," because of the way he has integrated ideas about framing into his views of cognition and also his social and political commentary, and especially for the way he has popularized it. But in linguistics, that paternity is rightly recognized as Fillmore's. Take it from Lakoff. While he is happy to take ownership in popular and political contexts (2014b), in a linguistic context he is clear that Fillmore "was the discoverer of frame semantics, [and] did the essential research on the nature of framing in thought and language" (G. Lakoff 2014a). Conversely, Fillmore is often seen as the founder of Construction Grammar, on the basis of a series of foundational papers in the late 1980s which established its first formalisms and articulated its theoretical underpinnings, because of its obvious indebtedness to Frame Semantics, and because his Case Grammar is seen as the closest thing to a precursor. But Lakoff's (1974) "Syntactic Amalgams" and

(1977) “Linguistic Gestalts” make perhaps the earliest recognizable proposals in the direction of Construction Grammar, and the approach took its basic shape through discussions in which he was a heavy contributor, along with Paul Kay.

Both Fillmore and Lakoff were heavily influenced by prototype theory (Kay is important here as well), both were encouraged by the prospects of connectionism for linguistics, both convinced of the interpenetration of concerns often labeled *pragmatic* with concerns often labeled *semantic*, and both were certain that the generative tradition had outlived its usefulness— a kind of linguistic solid rocket booster that got cognitive science off the ground, if not quite into orbit, and fell back to earth of its own dead weight. They each habitually acknowledge and cite the other’s work, sharing almost completely a core of common interests, presumptions, and inclinations.

While most of the early development of Cognitive Linguistics seems to go through those two, the Berkeley circle had plenty of other heavyweights. Kay, for instance, is a cognitive anthropologist whose influential cross-linguistic work on color terms with Brent Berlin inspired both Fillmore and Lakoff. He became an active interlocutor with them, and a co-creator of Construction Grammar. A watershed event in 1975—the Berkeley equivalent of the 1956 Cambridge Symposium on Information Theory that brought Chomsky and Miller together, except it went on much longer and the coffee was better—brought the three of them together among an especially rich party of thinkers from a range of disciplines. “We had no official courses and no official teachers,” Lakoff remembers:

What we did was set up a schedule of lectures from 10 in the morning to 10 at night in various rooms around the university, for 6 days a week, with the rule that anyone could lecture with three days’ notice. Anyone who came and wanted to talk could simply talk. You just had to give us three days’ notice to put you on the schedule. (G. Lakoff 1997:37)

Fillmore, Kay, and Lakoff all had sessions. Prototype theorist Eleanor Rosch conducted an especially influential session. Larry Horn, Lauri Kattunen, David Lewis, Leonard Talmy, and Terry Winograd all participated; Ivan Sag helped organize it and ran the logistics. While many of the ideas were in the air before the workshop, the central elements of Cognitive Linguistics really coalesced in the years after this workshop.

Other scholars through the early years, established and junior, on the Berkeley faculty, or at neighboring institutions, or who took up research residencies for a spell, in linguistics or in other cognitive sciences, collectively formed a climate in which a new cognitive approach could flourish—Wallace Chafe, Bernard Comrie, Barbara Dancygier, Mark Johnson, Robin Lakoff, Rafael Nuñez, as well

as various itinerant linguists, philosophers, psychologists, computer scientists, mathematicians, musicians, and court jesters. UC San Diego, with its thriving linguistics and cognitive science communities, with scholars like Langacker and Gilles Fauconnier, was a kind of SoCal sister city; faculty and students and visitors at one institution or the other moved between them, shopping their ideas. And, as with any movement, the young were crucial for developing and propagating it. Many Berkeley students grew quickly into influential linguists and cognitive scientists, notably including Claudia Brugman, Adele Goldberg, Knud Lambrecht, Srinu Narayanan, Eve Sweetser, and Henry Thompson.

But at the epicenter of the epicenter were Lakoff and Fillmore, Fillmore and Lakoff, kindling, encouraging, advancing, and hawking the new linguistic framework—really, a confederacy of frameworks, in part reactively, against the Generative tradition, in part proactively, shaping a fresh new tradition—known as Cognitive Linguistics. Among its more distinctive sociological traits, inherited from Lakoff and Fillmore and others who had learned the hard lessons of the warring 1960s and 1970s, has been a healthy pluralism. There are, for instance, now a dozen or more dialects of Construction Grammar, the main syntactic branch of Cognitive Linguistics (though not confined just to Cognitive Linguistics), but they all happily borrow from each other and cheer each other along and see themselves as engaged in a collective enterprise, quite differently from the dialects of Generative Grammar originating on the other American coast.

Berkeley was the hothouse, but green shoots of general cognition sprouted across linguistics in the 1980s, with many scattered practitioners, and a growing number of allies in neighboring fields. Talmy Givón turned away from Generative Grammar earlier than most, in disgust at the “labyrinthine prison” Generative formalisms had built around the field of linguistics, “out of which no graceful natural exit is possible, short of plowing under the entire edifice and starting afresh” (Givón 1979:2). Chief among principles ruling that prison, which needed to be repealed for the renewal of linguistics, was the exclusion of general cognition: “It seems unwise to rule out the general cognitive and perceptual structure of the human organism from having strong bearing on the structure of language” (Givón 1979:4). And we’ve seen that Jackendoff’s approach, too—in which semantic structure is identical with conceptual structure and which, like Fillmore’s semantics, adapts the AI notion of framing (Jackendoff 1983, 1990)—is highly consonant with the Cognitive Linguistic greening.

Mark Turner in English studies, and Raymond W. Gibbs Jr. in psychology, and Naomi Quinn in anthropology, among a growing throng, were taken with “Conceptual Metaphor” and plumbed it in particularly rich ways, pushing their disciplines to a new understanding of analogic and correlational cognition. Turner showed the pervasiveness and refinement of common analogic frames in literature (1987; Lakoff & Turner 1989); Gibbs (1994) charted figurative

modes of thought; Quinn offered important cultural correctives (1991). By the early 1990s it had spread well beyond California and the United States, with researchers and research communities all over the globe, and widespread institutional validation. The tipping point came in 1989, and—as with Government and Binding and GLOW ten years earlier—it came in Europe, with the formation of the International Cognitive Linguistics Association. The founding meeting took place during a University of Duisburg symposium, promptly rechristened after that meeting as the First International Cognitive Linguistics Conference; the second was held in conjunction with the LSA summer institute at Santa Cruz, California, marking how quickly the program was ready for prime time. The ICLA sponsored a journal, along with the annual conferences; more associations followed, more conferences, more journals. Cognitive Linguistics now has a wide presence in many departments, in most general linguistics journals and generalist conferences, to go with the more specialized conferences and journals.

What distinguishes the program is still, three decades on, often defined against Chomsky, usually *Aspects*-era Chomsky (e.g., Geeraerts and Cuyckens 2010b:11–17; Evans 2014). Its two most fundamental guiding principles, the Generalization Commitment, and the Cognitive Commitment, have Chomsky in their crosshairs. They were named and penned by G. Lakoff and appear in a manifesto gracing the first issue of the first volume of the journal *Cognitive Linguistics*.

The Generalization Commitment . . . is a commitment to characterizing the general principles governing all aspects of human language.

The Cognitive Commitment . . . is a commitment to make one's account of human language accord with what is generally known about the mind and the brain, from other disciplines as well as our own. (G. Lakoff 1990:40)¹⁸

The Generalization Commitment is a clear repudiation of Chomskyan reductionism. The key phrase is “all aspects of human language,” which includes phonology, morphology, and syntax, of course, but also pointedly semantics, pragmatics, discourse, even aesthetic aspects, the latter three being areas of especially low interest to Chomsky (Lakoff 1989:55–56; 1990:40). The Cognitive Commitment is a clear repudiation of Chomskyan autonomy, which puts knowledge of language in a special category, encapsulated away from other aspects of cognition. Against these two commitments, Lakoff lines up a row of unwholesome commitments, prominently including “The Chomskyan Commitment . . . to try to understand syntax as a branch of recursive function theory, that is, as the study of the algorithmic manipulation of abstract symbols without regard to their interpretation, outside of real time, and not taking general cognitive mechanisms into account” (G. Lakoff 1989:56). It's okay to hold

such principles as working hypotheses, he says, but the Generalization and Cognitive Commitments take precedence; if a conflict arises between recursive function theory and an empirical generalization or a fact about general cognition, it is recursive function theory that must go. "That's what it means," he says, "to be committed to linguistics as empirical science, not [as] philosophical speculation" (G. Lakoff 1989:56).

The motivation behind those principles, indexed by the nose-thumbing that often accompanies their presentation, nicely illustrates the sociorhetorical forces that move scientific inquiry. The principles now orient a broad community of scholars: Cognitive Linguistics is distinguished in the ecology of language studies by its allegiance to a wide range of factors conditioning how people speak and to a wide range of data correlated with those factors (that is, the Generalization Commitment); and by seeking explanations or corroborations in what is known from psychological research about how people conceptualize and reason and perceive (that is, the Cognitive Commitment). The most commanding theme from these general cognition studies for Cognitive Linguistics is categorization. Generative linguistics has its own system of categorization, organized in binary terms. Words are [+ Verb] or [- Verb], [+ Noun] or [- Noun], and so on. Categorization is all or none. But human cognition seems to be looser than that, more associative in its category assignments, blurrier at the boundaries between categories; squishier.

There was a difference between the two leading proponents of nondiscrete categorization in linguistics, Ross and George Lakoff. Ross's work was completely internal to linguistics. Even in a long paper addressed to psychologists—"Three Batons for Cognitive Psychology" (Ross 1974b)—he appealed to nothing beyond at-home distributional arguments. He saw his cross-disciplinary job as handing over results (the "batons" of the title) to psychologists for them to make sense of in terms of their own field. Not Lakoff. Lakoff was always wandering down hallways, knocking on doors, going to exogenous conferences, talking to philosophers, psychologists, anthropologists, bottlewashers and baristas, integrating whatever he found.

Women, Fire, and Dangerous Things features three long case studies—deep dives into data—all exemplifying some aspect of prototypicality in cognition. One, on the concept of anger, explores his "conceptual metaphor" research in terms of embodiment, organizing a superficially diverse heap of expressions in terms of heat and pressure (*boiling mad, seething, steamed, bursting a vein, blowing a gasket, hothead, simmer down, keep your cool, contain yourself* . . .). There is a prototypical conceptualization of anger as a hot fluid under containment, which our talk about anger reflects. Another study, on *there*-constructions, organized eleven types of *there*-expressions (called *deictics*, a

word related to *index* finger, because they “point” at discourse elements) around a central usage. Here are a few:

- 1 There's Tommy's Polaris. (Central deictic)
- 2 There's the doorbell now. (Perceptual deictic)
- 3 Bobby Hull, the Golden Jet, now there was a hockey player! (Paragon deictic)
- 4 So, there I was, surrounded by sugared-up six-year-olds. (Narrative Focus deictic) (adapted from G. Lakoff 1987:482–83)

Both studies were important for different strands of the program, and therefore the overall impetus toward Cognitive Linguistics, the conceptual study of anger engaging Frame Semantics, the syntactic study of *there*-expressions helping lay the groundwork for Construction Grammar. But the third one was the most definitive of the three, quickly becoming *a locus classicus* for Cognitive Linguistics. It was based on the “The Story of *Over*,” a 1981 master's thesis by Claudia Brugman written under Lakoff (Fillmore and Kay were also on the committee). It was in circulation within a few years, both in North America (via the Indiana University Linguistics Club) and Europe (via the Linguistic Agency of the University of Trier, coinciding with a three-day lecture series by Lakoff), and formally published the year after *Women, Fire* (Brugman 1988 [1981]). It is widely cited in the developing early literature of Cognitive Linguistics, and invoked in most overviews and introductions to the framework, and featured in its textbooks. As a Cognitive Linguistics marketing tool, it rivals Transformational Grammar's Passive or Affix-hopping.

The story of *over* touches all the bases. It is a paradigm, indeed a prototype, for Cognitive Linguistics. It implicates polysemy (the “many senses” of a word). It relies fundamentally on processes related to rhetorical figuration. It features prototype effects. It involves Idealized Cognitive Models (ICMs), one of Lakoff's most celebrated and cited constructs. Of course, “conceptual metaphor” theory is in the mix. The arguments are even based in part on the work of one of Langacker's students, Susan Lindner (1981, 1982), and Brugman maintains Langacker's basic machinery (though Langacker had not quite seen the terminological light at this point; the shingle outside his office read *Space Grammar* at the time, the label he used before borrowing Lakoff and Thompson's). And it puts all these notions into effective play in the analysis of a lowly preposition, *over*.

The story includes such data as:

- 5 Riley's painting is over the mantle.
- 6 Riley's sculpture is falling over.
- 7 Addy-Rae is flying over the hill.
- 8 Addy-Rae is walking over the hill.
- 9 Sydney jumps over the wall.
- 10 Sydney lives over the hill.
- 11 Layla spread the picnic blanket over the ground.
- 12 Linden ran all over the place.
- 13 Addyson turns over.
- 14 Addyson turns over the rock.
- 15 Kevin's song was over.
- 16 Kevin's song was overlooked.
- 17 Marianne and Jeff talked over the problem.
- 18 Marianne and Jeff talked over lunch.
- 19 This suite of sentences, and maybe your patience, is over the limit.

These sentences no doubt all look dreadfully routine, rivaling *John is easy to please* in the yawn-inducement department. *Over* is a simple spatial-relation word, not a high-density noun or verb; not as rich semantically, one would assume, as even the *bachelor* of Katz and Fodor or the *kill* of G. Lakoff, let alone the piquant lexemes of Quang Phuc Dong. (You want polysemy? A word with near-infinite referential activity? Try *fuck*.)

But the lowliness of *over* is the point, its mundanity, its utter disappearance into the backwash of language. Brugman showed, when you press on that lowly preposition, a lot of semantics come out. I could spell the meanings out for you—no doubt, you could likely spell out a few yourself, with a bit of time and thought, now that they are arrayed in front of you—but they lend themselves even better to visual depiction, as in Figure 9.3. The details are abstracted away. You can't see what colors Riley's lovely painting uses or the jaunt in Addy-Rae's step as she tramps over the hill, or whether Addyson's rock is granite or limestone, on the beach or in the forest, large or small. The images are idealized representations of the relative positions and motions of the entities (TRs and LMs); they are ICMs.

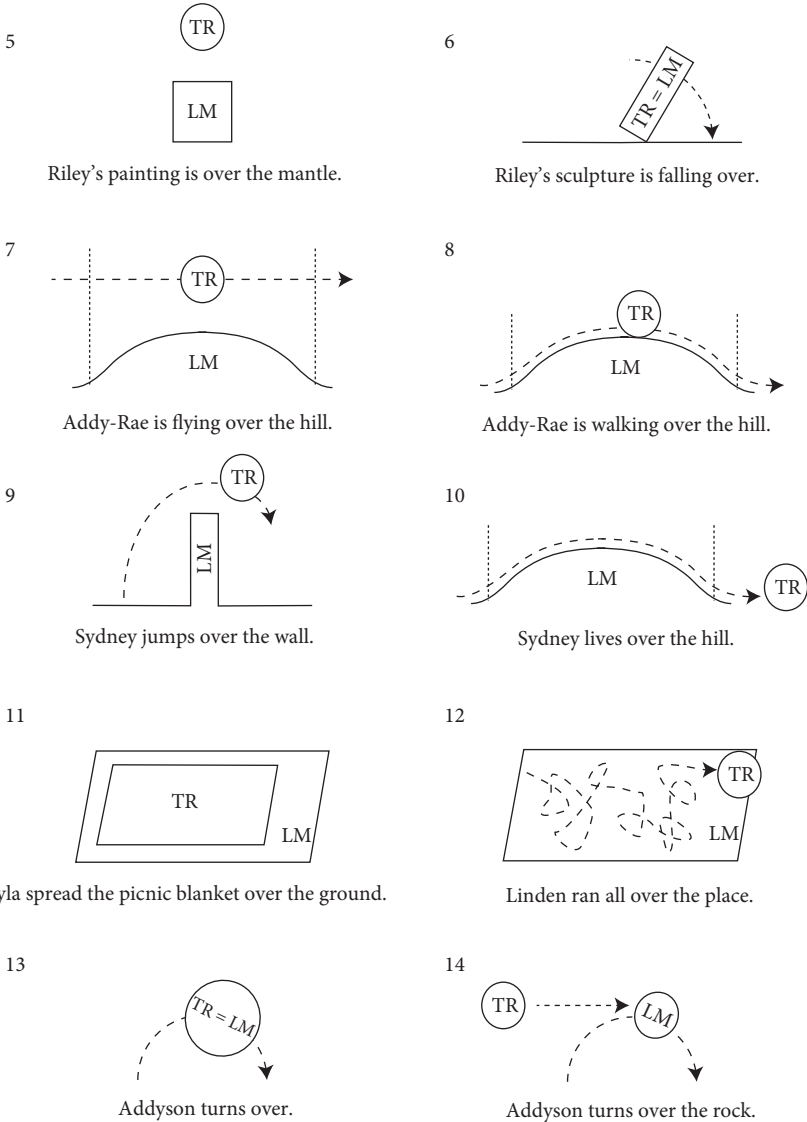


Figure 9.3 The Story of *Over* in Pictures. (TR = Trajector, LM = Landmark)

We find ourselves beset, yet again, by the alphabetic fetish. *TR* (= trajector) and *LM* (= landmark) are Langacker's terms for (respectively) the thing "within a relational profile" and the thing situating that relation: the *TR* in 5, Riley's painting, is situated above the *LM*, the mantle.¹⁹ (I told you it was easier to show a picture.) An ICM (= Idealized Cognitive Model), meanwhile, is a

skeletal representation of categorical knowledge governed by prototypicality and networked relations.

Birds all have wings, beaks, feathers, lay eggs; most of them are smallish, fly, nest in trees. Recalling our Rosch, people categorize birds on the basis of these properties and tendencies, and we regard certain bird representatives as more birdy than others based on their specific clusters. There is a kind of centrality for such clusters and representatives; and therefore a kind of marginality for other clusters and representatives; and therefore a kind of network among instances radiating out from an idealized center. But wings and beaks and eggs are categories as well, with their own property clusters and representatives, their own centralities and marginalities. And these categories are relevant to homologies among categories. Birds are homologous to bats, which have wings and fly, as well as to lizards, which nest and lay eggs. So, there are networks within networks within networks in our knowledge representations. ICMs chart knowledge in these terms. They also *reflect* knowledge in these terms, so the best way to understand ICMs is to look at their exempla, which takes us back to Figure 9.3.

Over, we can see in these pictures, confirming my intuitions and I'm guessing yours, has an ABOVE quotient to its central meaning. Sentence 5 capitalizes most clearly on that quotient, though 5–14 all exercise ABOVENESS in some degree: Riley's painting is ABOVE the mantle, but Addy-Rae is also ABOVE the hill she is flying over. We're not done, of course: *over* also has an ACROSS quotient, illustrated by 7 and 8; themselves differentiated by whether or not there is CONTACT between the relevant entities. Now, ACROSS implies motion, and motions have completions, END-points: sentences 9 and 10 focus on completion. When Sydney's trajectory ENDS, she is on the other side of the wall. When we get to the END of crossing over the hill, we find Sydney. In sentence 6, Riley's sculpture is ABOVE some unnamed stable entity (the ground, the floor) and in some CONTACT with it, when its motional trajectory started; when the movement has ENDED, a different part of the sculpture will be in CONTACT with that entity. Sentences 11 and 12 show there is a COVERAGE quotient as well. The picnic blanket is ABOVE the ground, in CONTACT with the ground, but also COVERING a noteworthy portion of that ground, and Linden COVERED a lot of the place he ran all over; the difference is that the trajector is effectively a stationary plane in the first case, a mobile point in the second case, while the landmark is a plane in both cases.

Sentences 6, 13, and 14 are curious anomalies: there is nothing apparently to be ABOVE, nothing to move ACROSS, no point of CONTACT or COVERAGE. But they resolve elegantly with the notion of *reflexive trajectory* (Langacker 1982b [1979]:268; Lindner 1981:187), in which subparts of an entity are in relation to other subparts (so, the trajector is the landmark, and vice versa). In 6, one side of Addy-Rae's sculpture is ABOVE the other side when the trajectory has ENDED; one side of Addyson in 13 is above her other side, and one side of the rock in 14

is ABOVE the other side, at the END of their trajectories. And, in a sense, one part travels ACROSS another part in each reflexive case as well.

With 15–19, we have a different kettle of fish, however. There are no spatial relations, no spaces at all; nothing is above or across or in contact with anything else, just talking and singing and mild whimsy. What exactly are Brugman and Lakoff (. . . I apologize ahead of time; it was too hard to resist . . .) trying to put *over* on us with examples like these? The question is rhetorical. So is the answer: these uses of *over* are analogically spatial. They manifest that analogically framing phenomenon Lakoff and Johnson call “conceptual metaphor.” Again, pictures help (Figure 9.4). A song, like most durational events (plays, movies, vacations, sex, sleep, illnesses, relationships, life, games, mowing the lawn, writing and reading books, . . .) lends itself naturally, relentlessly even, to a linear spatial analogy. We routinely talk about time as if it had length (long days, short nights, stretching out our moments). So, Kevin’s song in Sentence 15, is very much like Sydney living on the other side of the hill (Sentence 10);

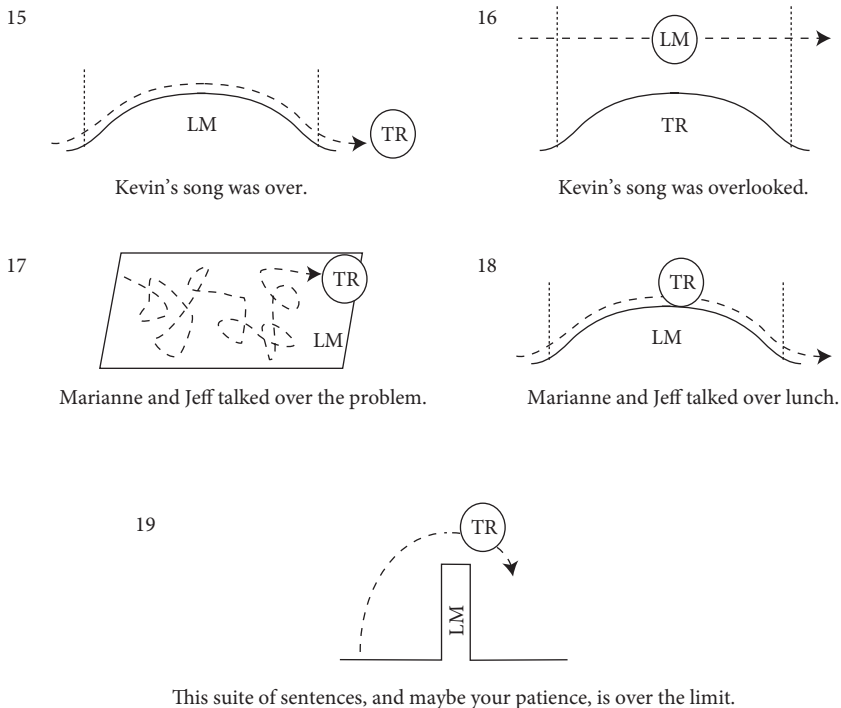


Figure 9.4 The Story of *Over* in Pictures, The Sequel. (TR = Trajector, LM = Landmark)

when you get to the END of the time it takes to go ACROSS the durational space, it is *over*. In another standard-issue analogic framing, abstract objects are habitually reified, framed as if they are visible and palpable. So, Kevin's song in 16 is framed as a thing that might be seen; sight, for its part, is often framed in a folk theory as if it goes out from the eyes, like Superman's heat vision. When something is *overlooked*, it is as if the line of sight goes ACROSS the space ABOVE something, missing it all together.²⁰ Conversations can COVER a topic (as in 17), but since conversations are durational, rather than spatial, the activity is more like Linden COVERING a lot of ground as he runs about (12) than like Layla's picnic blanket obscuring part of the ground (11). Similarly, while lunch is certainly a durational event (like the song of 15), it can also be reified (like the song of 16). Marianne and Jeff, our compound trajector of 18, talk over lunch as if they were walking over a hill (or, for that matter, a dale).

As for my sorry joke about too many example sentences: most of the stuff that one quantifies has some conventional amount that serves almost literally as an LM (indeed, such quantities are often called colloquially *benchmarks*). Six feet, for instance, is a benchmark for tallness in men (one often hears, "he is over six feet"). Well, even in a book like this one, which can be guilty of excess detail, one might assume some general benchmark for a reasonable number of example sentences, a limit—five, say, or ten—which fifteen exceeds (in Sentence 19). So, fifteen sentences goes over some vague but expected threshold much like Sydney going over a wall in 9 (Brugman calls this "boundary-traversal," 1988 [1981]:24).²¹

Rather than complaining about excess, however, you might want to thank me for restraint. The actual number of individual senses for *over* that Brugman charts is unclear, depending on how one groups those senses. But it is way *over* (threshold usage) what I have sketched out here; conservatively, around double.²² Even more impressive is the way she links them together, while simultaneously teasing apart a subtle range of meanings, through a few key factors. While she is working from the template of Lindner's (1981) superb doctoral work on the prepositions *out* and *up*, Brugman is mining very new territory here, unearthing remarkable results, and this bears repeating for such a germinal piece of work: it is a master's thesis, by someone in her early twenties.

When syntax is both autonomous and in the grammatical driver's seat, words are just passengers. Several trends in the Linguistics Wars, on both sides, had increased the grammatical dynamism of words into a sort-of Aunt Beulah role, backseat driving. But the *Aspects* lexicon was a vast bus, with tens of thousands of seats, each one a pigeonhole for a word, in Dennett's imagery; Phrase Structure trees were all that truly counted in the base component, words existing mostly to find their way to the right twig (2003:673). Cognitive Linguistics emptied the bus, wiped the slate clean, started *over*. What would a cognitive account of

language look like if Chomsky's autonomy thesis had never been raised, they wanted to know, if linguistics did not exist only to serve syntax?

Cognitive Linguistics focused on the concepts historically associated with words and meaning: polysemy, figurative dimensions, and categorization. But there were no pigeonholes, no trees, no syntactocentricity, no autonomy; in a sense, no words and no syntax at all, a rather continuous movement from meaning to expression:

There is no meaningful distinction between grammar and lexicon. Lexicon, morphology, and syntax form a continuum of symbolic structures, which differ along various parameters but can be divided into separate components only arbitrarily. (Langacker 1987:3)

It is symbols all the way down, with their various combinatoric dispositions. Two theories, affiliated with Cognitive Linguistics chart these dispositions from different ends: Frame Semantics and Construction Grammar. Frame Semantics charts their possibilities. Construction Grammar charts their recurrent realizations.

Frame Semantics centers the meanings of words within a highly interconnected network of situational understandings—frames. Reciprocally, the frames are understood by the conceptual relationships among its central words. While frames are rich in details and interconnections—"We can think of a frame as a network of nodes and relations," Marvin Minsky says (1974:1)—they are still highly abstract and idealized. Fillmorean frames are stripped down, prototypical representations of slices of knowledge, as they implicate lexical semantics, in a vast web of such representations. The COMMERCIAL TRANSACTION frame, for instance, includes the mutually defining concepts of *seller* and *buyer*; you can't have one without the other. Nor can there be a sale without the transfer of goods or the performing of services. Money must change hands, and so on. Understanding a sentence like 20 is not a matter of accessing individual denotations and designations but of fitting it into a conceptual system that connects nodes such as the COMMERCIAL TRANSACTION frame, the GIFT frame, the PET OWNERSHIP frame, and so on, each implicating the participation of various thematic roles, like AGENT (the buyer of the cat, the giver of the gift), THEME (the entity that is bought and is given), RECIPIENT (the receiver of the gift), and so on; these are the descendants of Fillmore's deep cases.

20 Tess bought Urs a cat.

The sentence doesn't give us very many details, but because it activates the COMMERCIAL TRANSACTION frame, we know that questions like "How much was it?"

and “Where did she buy it?” have answers. Because the GIFT frame is hooked in, questions like “Did she give it to him yet?” and “What was the occasion?” even “Did she put a bow on it?” have answers. Because PET OWNERSHIP is a node in the network of 20’s semantics, we might ask, or wonder, if the cat has a name, if it has had its shots, is house-trained, and so on.

All this stuff clearly has to be part of what we know and how we act in the world, including how we act with language. In the Katz-n-Fodorian tradition, a word like *buy* is labeled for how it can co-occur with nouns like *Tess* and *Urs* and *cat*, but semantically it is little more than an address for some other part of the mind where you can go and do your thinking about such matters. In Frame Semantic terms, 20 is embedded in that thinking. Katz and Fodor assume a kind of semantic autonomy; in particular, “information about setting” is banished (1964b [1963]:484), but Fillmore (1982:115) saw the meaning of a word as a function “of a small abstract ‘scene’ or ‘situation’;” a setting. The move from *Aspects*-style semantics (and from Montagovian model-theoretic semantics for that matter) to Frame Semantics is the move from a dictionary + rules to an encyclopedia; or, in Fillmore’s terms (1985a), from T-semantics to U-semantics, from a preoccupation with Truth conditions, something that most people don’t think about, unless those people are semanticists, to a focus on an essential goal of most, even semanticists, in their daily traffic in meaning, Understanding.²³

Other sentences that activate the COMMERCIAL TRANSACTION frame might hook into the BARTER frame in the network, when the price or the use of money is negotiable, or the FRAUD frame if one of the AGENTS is deceptive. If this account of meaning doesn’t look familiar, try thinking of it as a really big tree with lots of substructure strings like *x CAUSE TO OWN (x, z)* and *EXCHANGE (w, z)*, and *x INTEND TO CAUSE TO OWN (y, z)*, or whatever. Generative Semantics was turning the *Aspects* dictionary into something more like an encyclopedia, and Frame Semantics pulled it off. Those gigantic trees, if you add transderivational constraints, are networks.

The “twin sister” of Frame Semantics is Construction Grammar (Dirven, Pütz, & Radden 2008). The two arose largely at the same time, in roughly the same place, with many of the same proponents, in consilience with the same principles, in reaction to the same history.

Construction Grammar (CxG) ignores the whole point of transformations (moving things around subterraneously to express surface relations), attending rather to all the bits and pieces of language, arranged in more or less stable patterns, however they got that way. Construction Grammar is literally antithetical to the entire Chomskyan program, which has, since the early 1960s, reduced, restricted, and eventually eliminated the notion of constructions (like, say, actives and passives and questions) from its core mechanisms. As befits its name, CxG *glories* in constructions, of every shape and size; often, the weirder,

the gloriously (that pattern, by the way, is a CxG favorite, colloquially called “The X-er, the Y-er Construction,” because one comparative correlates with another—here, X = *weirder* and Y = *gloriously*). Construction Grammar also aspires “to account for the entirety of each language” (Kay & Fillmore 1999:1), in stark contrast to Chomsky’s categories of aversion (performance, the periphery, E-Language). It is also doubly or triply cursed in Chomsky’s eyes because most Construction Grammars (there are lots of them) are usage-based, which means they get their evidence exclusively from corpora, something that Chomsky has always considered the height of uselessness in linguistics. When Lees was pretty much the Transformational Grammar Press Officer in the early 1960s, for instance, here is what he told a linguist who had just received a corpus-studies grant:

That is a complete waste of your time and the government’s money. You are a native speaker of English; in ten minutes you can produce more illustrations of any point in English grammar than you will find in many millions of words of random text. (Francis 1979:110)

If anything, the antipathy has grown. Chomsky has more recently quipped that “corpus linguistics doesn’t mean anything.” His argument? This analogy:

Suppose physics and chemistry decide that instead of relying on experiments, what they’re going to do is take videotapes of things happening in the world and they’ll collect huge videotapes of everything that’s happening and from that maybe they’ll come up with some generalizations or insights. (Andor 2004:97)

Construction Grammar also does not wait around for a semantic interpretation to be assigned through some special component. Constructions are by definition symbolic, which means they are form-meaning pairs.

The most famous, much traveled, argument for Construction Grammar comes from another one of Lakoff’s students, Adele Goldberg, on the Ditransitive Construction. In the *Aspects* view, maintained pretty much throughout the Wars, certain verbs are intransitive (subject only), others are transitive (subject and object), and a few are ditransitive (one subject, two objects). They all have to do with transferring control or ownership over objects. Sentence 20 exhibits such a transfer. In its full trajectory, ownership of the cat transfers from Tess to Urs. *Aspects* tells us that is one of the functions of the verb, *buy*. Most of the time, *buy* is a simple transitive (“Tess bought a cat”), but once in a while, as in 20, *buy* shows up as ditransitive, so the *Aspects* lexicon gives it an extra line in the dictionary (a “selectional restriction”) to signal its extra duty.

But Construction Grammar tells us the on-again, off-again ditransitivity of *buy* is just an illusion. It’s not the verb that calls the shots. It’s the construction: “the

ditransitive syntactic pattern is more felicitously associated directly with the construction as a whole,” Goldberg says, “than with the lexicosemantic structure of the verbs” (1992b:69). Her argument is remarkably sophisticated, but it comes down to (or, at least, for our purposes, we can pretend it comes down to) the way we can describe such activities as the ones in 21–26.

- 21 Tavares shot Marner.
- 22 Tavares whipped Marner.
- 23 Tavares passed Marner.
- 24 Tavares shot Marner the puck.
- 25 Tavares whipped Marner the puck.
- 26 Tavares passed Marner the puck.

The verbs in 21–23 look like the verbs in 24–26. But they are doing something very different. For *Aspects*, oh well, sometimes *shoot* is transitive, sometimes it is ditransitive, and I guess its meaning is different in both cases; oh well, *whip* is sometimes transitive . . . But Goldberg points out that the Ditransitive Construction makes the verb do its bidding, not that the verb is hanging around in some chat room with the tagline, “looking for a subject and two objects.” If you doubt her, take a look at 27–29.

- 27 Tavares elbowed Marner the puck.
- 28 Tavares saucered Marner the puck.
- 29 Tavares goldberged Marner the puck.

None of the key words here are even verbs, strictly speaking, and the precise meaning may be a little hazy without more context, but (1) the construction insists that they have to be verbs if they are going to have a job; and (2) no one has any trouble understanding that whatever elbowing, saucering, and goldberging might be, Tavares had the puck before he engaged in that activity and Marner had it when he was finished. It doesn’t matter if goldberging is completely opaque or if Goldberg is known to the interlocutors for her particularly impressive behind-the-back drop-pass: Tavares had the puck; Tavares did something; then Marner had the puck. The construction tells us that. While they are not seamlessly integrated, you can see easily here how compatible Construction Grammar is with

its twin sister. Understanding the ‘verbs’ *to saucer* and *to golberg* here involves fitting them to a TRANSFER frame in a network that connects them to a TEAM-SPORT frame.

I said earlier, paraphrasing Langacker’s lexico-syntactic continuum, “It’s symbols all the way down.” Here’s what Goldberg says: “It’s constructions all the way down” (2006: 18). Potato, pahtahtah. Meaning and form, form and meaning. They come as a pair in Cognitive Linguistics. That’s what Generative Semantics was after all along, but now all the elaborate connective mechanisms inherited from the Chomskyan program are gone.

Where we end up, here in the twenty-first century, is with two basic polarities associated with the word *cognitive*. It came into linguistics under Chomsky’s influence, who famously said in the heyday of Transformational Grammar that linguistics was a “branch of cognitive psychology” (1968:1), by which he meant something very much like what Miller, Galanter, and Pribram meant in 1960: a fundamentally computational mental system—modular, procedural, rule-governed, and, in principle, amenable to precise modeling. But Cognitive Psychology changed under Chomsky’s feet. Predominantly it now means a fundamentally organic and embodied mental system, decidedly nonmodular, in which perception, memory, principles of categorization, and general dispositions of knowledge formation, such as analogy, correlation, and meronymy, are all deeply enmeshed. Allegiance to this organic cognition pole defines the confederacy of approaches under the label, *Cognitive Linguistics*. Allegiance to the computational cognition pole continues to define Chomsky’s approach.

While he has now terminologically dissociated himself from transformations and grammaticality and D(eep)-Structure and almost everything else that brought him such rapid fame across the academic landscape in the 1960s, while he is bucking the cognitive and computer science trends that he helped to kindle, while much of the field is working on problems different from his, with methods different from his, probing data different from his, Chomsky remains “the 800-pound gorilla in linguistics” (Hughes 2006 [2001]:83).

10

Chomsky Agonistes

With the growth of a “Chomskyan era,” linguistics has definitely become a discipline worth breaking heads over.

—Anonymous (in Chomsky 2000d: 39)

Rust never sleeps.

—Neil Young (1979)

Chomsky, as the 800-pound gorilla in linguistics, is “the one whose work every student has to deal with, and whose dominance in the field is often compared to the relative dominance of people like Einstein and Freud” (Hughes 2006 [2001]:83). This might be the best one can do with a cliché trying to express his significance to linguistics, but there is more to it than that, which requires some baroque genealogical imagery. Chomsky is the 800-pound gorilla who has defined and then populated his own jungle, begetting troops upon troops, generations upon generations, competing and coöperating with each other, coöperating and competing; all of them, all of the time, keeping an eye on every move of their enormous progenitor, who moves a lot.

Chomsky’s influence over the course of linguistics in the six decades he has been influencing it recalls an exchange in *Hamlet*:

HAMLET: Do you see yonder cloud that’s almost in shape of a camel?

POLONIUS: By the mass, and ‘tis like a camel, indeed.

HAMLET: Methinks it is like a weasel.

POLONIUS: It is backed like a weasel.

HAMLET: Or like a whale?

POLONIUS: Very like a whale.

(Shakespeare, *Hamlet* III.2)

“Do you see yonder cloud that’s almost in shape of a camel?” Chomsky asked linguists in the 1950s. “By the mass, and ‘tis like a camel, indeed,” they said. They got to work, charting its humps and its underlying structure, theorizing about its ideal abstract nature, setting aside any consideration of the wind. Then, about

ten years later, most of them were talking as if the underlying structure *was* the cloud-camel, a suggestion Chomsky then rejected as counter to the progress of generative meteorology, because the surface of the cloud is more important than its depth. And, wait, the whole shape seems to have changed, too. “Methinks it is like a weasel,” Chomsky tells them. Rinse, repeat. A decade later: “Or like a whale?” Rinse, repeat.

There is, of course, at least one important way that Shakespeare’s dialogue doesn’t map as closely to the history of Chomskyan linguistics as well as it might seem on the first pass. We have the same moody Hamlet throughout, but scores of conflicted and conflicting Poloniuses (*Polonii?*). Each time Chomsky goes through one of his mini-paradigm shifts, he litters his wake with what Jackendoff calls “disillusioned Kuhnian debris.”¹ The field is more rancorous, and the paradigmatic models more ephemeral than most. But it may also be richer than most, for exactly the same reasons. Discord and shifting grounds keep the practitioners alert at the post; whatever else can be said for linguistics, it is not a sleepy field. Language, it would seem, is far too complex to give up its secrets in one fell swoop by one fell linguist, however hawk-eyed.

Chomsky is *always* changing. There are landmarks when a “new theory” arises, camel becoming weasel, sometimes even acknowledged as such by Chomsky. But in every paper, every lecture, it seems he is trying something new, losing faith in something old, resurrecting something once abandoned. Take just his most totemic instrument for five decades or so, the engine at the heart of the Generative-Interpretive Semantics dispute, the transformation. It’s gone now. Conceptually, that would seem pretty dramatic. Eliminating transformations is what set off the cascade of Alphabet Grammars in the 1980s. But at Chomsky Inc., its removal twenty years later was just another day at the office. Quite literally, the last remaining transformation, Move, was given a new name one day, assimilating it methodologically into the new star in the program, Merge. We start getting locutions like “Internal Merge—often called Move . . .” in the literature, and then Move simply drops from the vocabulary (e.g., Chomsky 2005a:12, 2006a:21, 2007b:16). One is tempted to wonder at this point if the MP here becomes the EMP, the Extended Minimalist Program.

David Golumbia puts the number of Chomsky’s revolutions at five (2015:25). It might be more accurate to put the number at whatever the number of technical papers Chomsky has written (I don’t have the stamina to count), since even the major books don’t stabilize the churn of proposals and modifications and speculations, sometimes revising proposals in one chapter that have been offered in earlier ones. These equations, “Revolutions = 5” and “Revolutions $\geq$ 100” may be matters of granularity more than anything, since every program goes through camel-weasel-whale shifting of some sort, especially in the crucible of debate, something endemic to Chomsky’s program. But, if we take the long

view, and ratchet the word *revolution* up in science to Copernican levels, to mean the shift to a new, profound, field-defining, epistemological and ontological understanding of the object of inquiry—for us, Language—the only equations that matter are “Revolutions = 1” and “Revolutions = 0.”

We will return to those equations in the end, but *Merge*? What’s that? Where is Chomsky’s program now?

Minimalism, Biolinguistics, Recursion

There is surely no reason today for taking seriously a position that attributes a complex human achievement entirely to months (or at most years) of experience, rather than to millions of years of evolution or to principles of neural organization that may be even more deeply grounded in physical law.

—Noam Chomsky (1965 [1964]:59)

We saw how Chomsky’s GB (Government-Binding theory) eclipsed the other AGs (Alphabet Grammars) that arose in the 1970s and 1980s as a specific theory of syntactic representation, with the more generalized Principles-and-Parameters framework (P&P) sweeping in to sharpen the focus on Universal Grammar and chart language diversity. Zeal was running high. The vision, as Martin Haspelmath summed it up, was stunning: each and every single descriptive grammar of a language—all those great volumes, hundreds of pages most of them, all the way back to Pāṇini— might be replaced under Chomsky’s P&P program with “a simple two-column table with the parameters in the first column and the positive or negative settings in the second column.” Reducing these works “to one or two pages [each] would truly be a spectacular success.” Many of those grammars are staggering accomplishments of erudition and endurance and scientific method. The all-time record-setting grammar, apparently, is a tenth century Arabic tome that clocks in at “1514 dense pages” (Owens 2000:287). Haspelmath concedes, however, that “we may still be a few decades (or more) from this ultimate goal” (Haspelmath 2008:80–81).

Talk even caught on of some parametric equivalent to the periodic table in chemistry arising from the P&P framework (Baker 2001 made the original suggestion; see, e.g., Boeckx 2006:3, Ludlow 2011:32, Moro 2015:93), and Neil Smith characterized Principles and Parameters as “the first really novel approach to language of the last two and a half thousand years” (2000:xi). The level of starry-eyed enthusiasm rivalled even the 1960s fervor for Transformational Generative Grammar. Chomsky’s position at the top was once again secure. Time to sit back, at the culmination of a stormy, astonishingly influential career, fold his hands

across his tummy, feet up, and foster the programs he has founded, maybe even turn largely to political concerns and pass the linguistic helm to new generations.

But calm waters, apparently, are not calming waters for Chomsky, who sees himself perennially hunkered behind the gunwales, taking fire from all sides in a burning sea; nor is terminological stability his strong suit. Hence, perhaps, the Minimalist Program.

Or perhaps, as Chomsky recurrently suggests, the MP is just where you end up, after fifty years of thinking, if you start with *Morphophonemics of Hebrew*, his undergraduate thesis. Probably, given the data, it is both—the latest point of a continuous trajectory, but also a reactive leap, a response to pressures building up in the theory and in the theorist. Another saltation from an habitually saltationist thinker, but teleological all the same. Chomsky's stated motivation is clear: to do what he does best: to turn linguistics on its head. The first four decades of generative grammar, as Chomsky now characterizes them (for instance, 2009:25), went at the problem of Universal Grammar from the “top down,” specifying as rich an account of our genetic endowment as language acquisition seems to require. The minimalist strategy is the reverse, coming from the “bottom up,” specifying as limited an account—as *minimal* an account—as required to determine language acquisition (and, latterly, also fit an evolutionary scenario).

Whatever the psychobiographical/intellectual-progress scenario—Colapinto (2007) just says “Chomsky's system of rules [seems to have] reached a state of complexity that even Chomsky found too baroque”—the MP is Chomsky's latest (final?) major reorientation of theory, stripping his approach down to its Generative-Semantics-reminiscent nubs.

The Minimalist Program appeared, to various measures of resigned sighing (“here he goes again”), incredulity by those who remembered the Best Theory dispute, and enthusiastic welcome, in a 1992 “occasional paper,” followed shortly by formal publication, and then expansion into a book (Chomsky 1992a, 1993a, 1995; also 2015a). It is less of a new direction than a step back, a retreat from the intertwined specificities of preceding work, especially from the rather tangled state of the P&P switchbox, to the ultimate big-picture Chomskyan view of language. That it resembles the Generative Semantics model is surely a matter of “accidental” convergence. No one supposes, not even Lakoff or Postal, that Chomsky was staying up late, under cover of night, cribbing from Postal's “Best Theory” Homogeneous I diagram (Figure 3.3, page 103) for the architecture of MP (Figure 9.2, page 339). Virtually all models of language from high enough up look the same, certainly all mediational models; both Postal (1970) and Chomsky (1992a) are characterizing the same phenomenon, language, by way of its two endpoints, form and meaning. The move certainly raises questions, as so many of Chomsky's moves do; in this case, why his hackles bristled over Best Theory argumentation in 1969, why he attacked it, why he turned away from

simplicity for a time to a complexity appeal, and why go back now? But it does not suggest theft.

One answer to why we see the Minimalist Program in the 1990s—the clearest answer in retrospect—may be the shift in disciplinary focus toward evolutionary accounts of language, which Chomsky, playing catch-up for a change, has taken up over the last decade, with the Minimalist Program prominent in his claims and arguments. He has reduced the circumference of his gaze even further, down to the notion of recursion, and assumed a new label, *Biolinguistics*.

Biolinguistics is, in sync with many of Chomsky's favored terms, systematically ambiguous, allowing him to change the scale of his arguments effortlessly. On the obvious scale, *Biolinguistics* merely names the study of "human language, a particular object of the biological world" (Berwick & Chomsky 2016:53). The label in this sense is virtually synonymous with *linguistics*. Aside from programs explicitly opting out of such a conception, as with the Katzian Platonists, it is difficult to see whose theories might be excluded from this definition. Despite this very broad definition, however, the word *biolinguistics* turns out in application not to be for everyone. In practice it is trademarked, co-extensive with Chomsky's program.²

Chomsky backdates Biolinguistics to "a few graduate students at Harvard" in the 1950s (Chomsky 2005:1). He leaves them unnamed, but a bespectacled young man toiling on *Logical Structure of Linguistic Theory* in the Harvard stacks was chief among them, along with his friends Morris Halle and Eric Lenneberg. In this usage, *Biolinguistics* is the name of a field almost wholly circumscribed by their work. "The biolinguistic approach to language," Boeckx says, is "often referred to as the 'generative enterprise'" (2006:5; though see Boeckx 2015).³

The *biolinguistic* displacement of *generative* in recent Chomskyan theory might best be explained by the story of FOXP2. The tale begins with a Canadian linguist, Myrna Gopnik, and her brief 1990 letter to *Nature* with the inauspicious tag-line "Feature-blind Grammar and Dysphasia." The letter sketches congenital language problems afflicting three generations of a British family. Half of them (16 of 30) have the same set of language impairments (dysphasias); a textbook Mendelian pattern. They develop language late, remaining largely unintelligible until about age seven, with difficulties in pronunciation persisting into adolescence. Hearing is normal, intelligence is normal, there are no relevant environmental factors, and by adulthood their articulation is fine. Their language use passes for normal. They tell stories and jokes, they tease and complain, make requests and responses, like anyone else. Gopnik's testing showed that they follow complex commands ("Drop the yellow crayon on the floor, give me the blue one, and pick up the red one"); they have no problem with reflexives, negatives, and passives; they are fine with possessives. In all of these respects, and many others,

they are just like those of us who did not acquire language late, nor produce garbled phonology for a decade or more.

But Gopnik kept looking. In one revealing probe, she put some objects before them, including a single book and a small stack of three books. Then she asked them (and a control group, in randomized tests) either to “touch the book” or to “touch the books.” The controls all touched the single book for the first request, the stack of books for the second. You and I would likely do the same. The KEs—as the family came to be known in the literature (they have now been much studied, much debated)—responded rather differently. They might point to a single book in the stack for the first request, or hesitate and ask “which one?” They did not automatically assume the one book on its own was the most natural referent for “the book.” For the second request, they always touched all four books, the single one on its own as well as the ones in the stack. They got the plural-identification tasks right, in other words, but in a roundabout and atypical way.

“Their normality is only apparent,” Gopnik notes. “They may have learned strategies for coping with language but their underlying grammar is still severely impaired” (1990:715).

She asked them to sort good sentences from bad sentences when some of the verbs were awry. The dysphasic KEs were worse than chance. Subject-verb agreement is a problem for them. She gave them something called the Wug Test, a brilliant little nonsense-word check for morphological regularity that toddlers pass with ease (Berko 1958). It involves completing the second member of sentence pairs like 1 and 2 reproducing the nonsense word and adding the right affix (plural for 1b, past tense for 2b):

- 1 a Tiffany had a wug and then she found another.
 b Now, she has two _____.

- 2 a Tiffany really likes to spow.
 b Yesterday she _____ for two hours straight.

The dysphasic KEs couldn’t do it.⁴

In short: we see grammatical effects in a small population following a clear genetic pattern. Debate ensued. Some researchers, including Gopnik, saw the KE’s genetic glitch as triggering a grammar-specific disorder of morphology and syntax. Others saw a broad pattern of intellectual and motor impairments that implicates morphology and syntax almost accidentally.⁵ But the positions hardly mattered. Languages and genes had never been in such close scientific alignment.

Meanwhile, Chomsky was rekindling the public imagination again. He had become the patron saint of several major rock bands because of his tireless

activism—Bad Religion, Pearl Jam, Rage Against the Machine, U2, R.E.M.—who quoted him on the stage and on the page, included his imagery in their CD packaging, his samples and full talks on their CDs. R.E.M. asked him to tour with them and give a talk before every show (he declined). Bono famously called him “rebel without a pause.”⁶

For his linguistics, he was also now celebrated widely as the grand theorist of the genetic basis of language, largely on the strength of Steven Pinker’s (1994) bestselling popularization of his theories, *The Language Instinct*. The book sold very well and its genial, telegenic author was interviewed hither and yon (in a cosmic synchronicity with the real rock stars who promoted Chomsky in the 1990s, Pinker is almost never mentioned in profiles without reference to his long curly hair, firm-set jaw, Cuban heels, and other features contributing to his overall “rock-star looks,” Douglas 1999). *The Language Instinct* tied the ribbon of genetics around the Chomskyan package. One does not *learn* an instinct. One *inherits* an instinct. The book prominently features Gopnik’s research, noting that “if there is a language instinct, it has to be embodied somewhere in the brain, and those brain circuits must have been prepared for their role by the genes that built them” (Pinker 1994:299).

When a mutation of the gene FOXP2 was found to be responsible for the disorders the KEs exhibited, a little more than a decade after Gopnik’s letter, Pinker had the bow he needed for his genetics ribbon; or, to use his own *film noir* metaphor, the “smoking gun” for Chomsky’s program (Pinker 2001:465). News of FOXP2 swept through the field, then quickly beyond. “Language gene found,” proclaimed a Science Update headline in *Nature* (Whitfield 2001). “Language Gene is Traced to Emergence of Humans” said the *New York Times* (Wade 2002). “First Language Gene Found,” quoth *Wired* (Kenneally 2001). Wither went mention of FOXP2, thither went mention of Chomsky. “At stake” in all of this language-gene talk, *Wired* said, is the theory “originated by Noam Chomsky, about language and the brain . . . that [claims] because all children are born with an innate knowledge about language, grammatical structure must be biologically determined . . . [and therefore] can be tracked back to specific genes.” A lead editorial in *Nature Neuroscience* puts all the pieces together like this:

Ever since Chomsky suggested that humans have a “language instinct,” people have been debating the possible existence of genes that underlie our linguistic abilities. Now, in the first big triumph for the new field of “cognitive genetics,” such a gene has been identified [FOXP2]. The data seem clear-cut, and the discovery has been greeted with justifiable excitement; the [KE] deficit seems specific to language, and unlike the weak associations that are common in behavioral genetic studies, this gene shows a strong Mendelian pattern of inheritance. (Jennings et al. 2001)

The next year, *Nature* published a letter arguing on the basis of comparative DNA sequencing among several primate species (human, chimp, gorilla, orangutan, and rhesus macaque), as well as with our more distant relative, the mouse, that FOXP2 was recently “targeted” by natural selection, “concomitant with or subsequent to the emergence of anatomically modern humans” (Enard et al. 2002:871). (A few years later, Neanderthals were brought into the picture; no difference was found between their FOXP2s and ours—Krause et al. 2007.) As a transcription factor, FOXP2 is part of the regulatory genetics of building some part of our language machinery, it was shaped by natural selection, and it corresponds with our appearance as a species.

Into this context, at the turn of the century, came Chomskyan Biolinguistics. It faced an uphill battle, but that is Chomsky’s favorite kind. While the popularizers and the media hailed Chomsky as the genius behind the grammar gene, the growing number of scientists (linguists, neuroscientists, anthropologists, primatologists, . . .) theorizing about language evolution through the 1990s had a much different view of his role. Most were mystified why Chomsky had said so little about evolution over the years. Some were positively hostile to his occasional oracular pronouncements about “principles of neural organization . . . grounded in physical law” (1965 [1964]:59), and his recurrent dismissals of natural selection.

Chomsky’s early comments on the origins of language were not promising. Transformational Generative Grammar, he suggested, was so inevitable, so definitive, that there were no conceivable alternatives. An organism with “certain . . . physical conditions characteristic of humans” would just have a Universal Grammar—so far so good—but in such a case, he said, “talk about evolution of the language capacity is beside the point” (1968:83). The clear and rather baffling implication is that humans have language not for the reasons we have opposable thumbs, bipedal motion, descended larynxes, and all our other distinctive traits; namely, because genetic variations were favored under shifting environmental pressures and opportunities over a vast evolutionary past. Rather, we have language for the reasons that apples fall, bodies displace water, light has a constant speed; namely, physical laws of the cosmos. When he bothered to speculate about such laws, he threw up a Hail Mary. “We have no idea, at present,” he said in 1980, “how physical laws apply when 10^{10} neurons are placed in an object the size of a basketball, under the special conditions that arose during human evolution” (1980d: 321). “No idea” is what he said, but “maybe something good” is what he suggested, maybe Language. Maybe there is some neuron-packing threshold at which—kapow!—language appears.

His first intimations in these direction, in books like *Aspects* and *Language and Mind* (1965 [1964]:59; 1968:83), came when his model was very widely admired for its elegance. But the elegance receded. *Complexity* displaced *simplicity* as a

justifying appeal. As the elegance receded and complexity took precedence, a fault line seemed to arise in Chomsky's program. Universal Grammar, the basic calling card of his framework, called rather naturally for an evolutionary explanation; inversely, its amenability to an evolutionary account was a large part of the framework's attraction, increasingly so as it entered the Principles and Parameters phase.

But the specific mechanisms of individual language grammars—plotted in terms of the subtheories of Government and Binding—do not call as naturally to genes and evolution. Their arcane inventory of gears and levers, and their intricate interworkings—coupled with their appearance nowhere else in the biological world—make them look more like the contraptions of a brilliantly deranged engineer than the developments of a biological process. As results like the FOXP2 findings arose, and evolutionary accounts of language became more fashionable, critiques of Chomsky's gears and levers began to arise, most featuring the byword *implausible*. His framework, Jackendoff noted, calls for “parameters of such niggling specificity that they are hardly plausible as universal possibilities” (2002:190). Philip Lieberman complained that “the cumbersome and inadequate algorithmic descriptions and innate Universal Grammar specifying the ‘rules’ of syntax proposed by Chomsky and his disciples are not plausible” (Lieberman 2001:48).

Chomsky, you might be surprised to know—though at this point in our chronicle *Chomsky* and *surprise* may be mutually exclusive terms for you—agrees. In fact, he goes considerably further (surprised?) on the implausibility front than Jackendoff or Lieberman. He trumpets the dysfunctionality of his Universal Grammar, and therefore its sheer impenetrability by natural selection. “Point of pride” would be too mild for how he regards the vast implausibility for natural selection to select his Universal Grammar. It's hard to disagree.

Darwin personifies natural selection, the great explanatory engine of his theory, as an omnipresent gardener or breeder, spending every moment looking for and approving those traits that promote survival and propagation, throwing out anything that hinders survival or propagation:

Natural Selection is daily and hourly scrutinizing, throughout the world, the slightest variations, rejecting those that are bad, preserving and adding up all that are good; silently and insensibly working . . . at the improvement of each organic being in relation to its organic and inorganic conditions of life. (Darwin 1932 [1859]:66)

What possible survival or propagation advantage might such a Godlike Horticulturist, no matter how closely She scrutinized, find in a parameter that “drops” pronouns, set one way, but “keeps” them when set another, or in the

head-directionality parameter, or in the Tensed-S Condition? As Newmeyer puts it, surely no one “would argue that being forced to delete a tensed subject might impact one’s chances for reproductive success!” (1998:309). For Chomsky, it’s even worse than that: “Every language [as described in his theories] permits many different categories of expressions that cannot be used or understood readily (or at all), though they are perfectly well-formed” (Chomsky 1992:16). Languages are full of defects, malformations, and glitches in the criteria important to the Great Horticulturist. Not only would she fail to preserve them, she would stomp them out the moment they appeared in Chomsky’s story. But none of this matters to Chomsky, because natural selection is irrelevant to Universal Grammar. What is left, if we remove Darwin’s engine from an account of Universal Grammar? Principles of neural organization that somehow—kapow!—result from unknown physical laws.

Chomsky’s kapow! observations (they do not amount to an argument)—rest on a combination of ignorance and infinitesimally bad gambling odds. We don’t know what happens, other than squishing, when ten billion (actually, the figure is closer to a hundred billion) neurons are crammed into an organic basketball, but the chances that, *ex machina*, language is just conjured up are . . . well . . . beside the point really. Even his most faithful expositor could not follow him that far, pointing out a fatal flaw in his initial premise, and revealing the upside-down logic of Chomsky’s careless speculations:

Why would evolution ever have selected for sheer bigness of brain, that bulbous, metabolically greedy organ? A large-brained creature is sentenced to a life that combines all the disadvantages of balancing a watermelon on a broomstick, running in place in a down jacket, and, for women, passing a large kidney stone every few years. Any selection on brain size itself would surely have favored the pinhead. Selection for more powerful computational abilities (language, perception, reasoning, and so on) must have given us a big brain as a by-product, not the other way around! (Pinker 1994:363).

Pinker had given this some thought. He was instrumental in setting off the surge of interest in evolutionary theory among linguists, in a lengthy, methodical, inspiring paper with Paul Bloom. Chomsky shows up in it primarily as a foil. Centrally, the essay takes Gopnik’s KE research as “direct evidence against [kapow!-like] speculations that language is a necessary physical consequence of how human brains can grow” (Pinker & Bloom 1990:721), and when James Hurford credits Pinker and Bloom with “clearing away . . . spurious intellectual obstacles that had begun to block the path of a research program to integrate linguistics and evolutionary biology,” he seems to have Chomsky in mind (1990:736).

Sooner or later, the giant was going to wake.

Chomsky entered the evolutionary sweepstakes in a serious way in the early 2000s, with a paper in *Science*, “The Faculty of Language: What Is It, Who Has It, and How Did It Evolve?”—and, for all the rhetorical positioning of some fifty-year lineage for a generative Biolinguistics, it is this paper that marks the beginning of a central and sustained Chomskyan engagement with biological issues.⁷ Co-authored with a psychologist of animal communication, Marc Hauser, and the stylishly monikered evolutionary biologist, William Tecumseh Sherman Fitch III, the paper leaves basketballs and neural density behind. But it sticks to a version of the kapow! story.

Their aim is overtly conciliatory, to get past the “many acrimonious debates” that have plagued origins-of-language research, and thereby to foster a community of biologists, anthropologists, psychologists, neuroscientists, and linguists working in a “collaborative, empirically focused and comparative research program” (Hauser, Chomsky, & Fitch 2002:1569, 78). But it is also clearly promotional. Like the many marketing articles in the 1950s and 1960s by Chomsky and the Chomskyans in psychology, computer science, composition, literary studies, and foreign-language learning journals, the principal goal of Hauser, Chomsky, & Fitch (2002) is to advance a particular view of language and linguistics to other disciplines, to promote the “biolinguistic perspective on language and its evolution” (Hauser, Chomsky, & Fitch 2002:1570). They sum up that perspective in a graphic (Figure 10.1).

The centerpiece of the Hauser-Chomsky-Fitch program is the Faculty of Language realized in all humans, separating us from all other organisms. This Faculty—or, let’s go with *FL*, since by this point you are utterly immune to alphabetization anxieties—is the generalized phenotype of language (that is, the evolutionary “target,” what it is that evolution explains). We all speak, understand, and (rather crucially for Chomsky) think because our genes have expressed themselves as our FLs. But our FL is critically understood with two distinct scopes.

You may have to grit your teeth for this one: remember how competence/performance begot I-Language/E-Language, with E-Language being left at the curb? Well, *FL* is pretty much another term for *I-Language*, and the two different scopes are a way for Hauser-Chomsky-Fitch to beget another dissociation, this time between a Broad FL and a Narrow FL (FLB and FLN), and another trip to the curb, this time to drop off the FLB.

The Broad scope of the Faculty of Language encompasses all the resources with which we speak and write, hear and read, neurocognitively spliced fully into our systems of knowledge and belief; all, except for recursion and some narrow band of machinery directly wired in alongside recursion. If this FLB doesn’t look familiar, you have forgotten your Minimalist Architecture/Basic Property. The Conceptual-Intentional System is where brain-internal linguistic entities (call

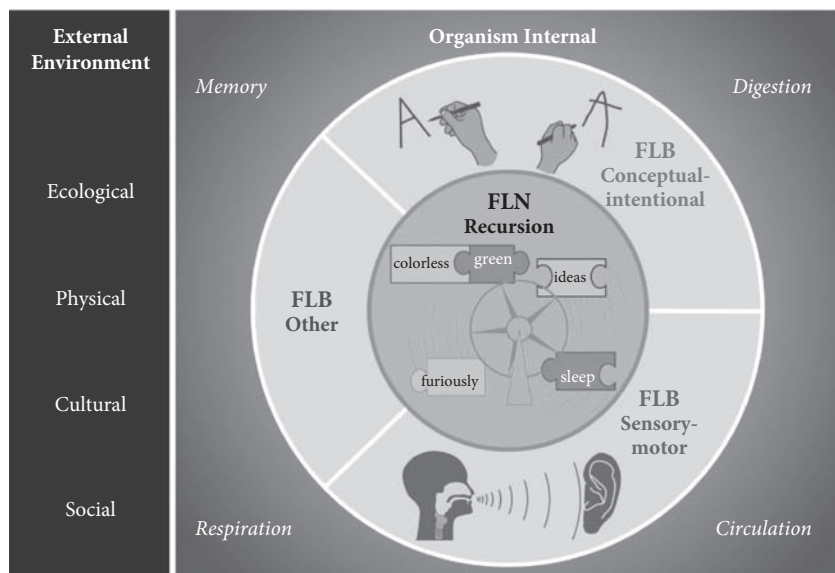


Figure 10.1 A schematic representation of organism-external and -internal factors related to the faculty of language. FLB (The Faculty of Language, Broad) includes sensory-motor systems, conceptual-intentional systems and other possible systems (which the authors leave open); FLN (the Faculty of Language, Narrow) includes the core grammatical computations, limited to recursion. (From Hauser, Chomsky, & Fitch 2003:1570. The text is theirs, slightly modified for clarity.)

them representations) interface with beliefs, thoughts, and plans (a word prominent from the early cognitive days of Transformational Grammar). The Sensory-motor system is where the representations interface with speech and hearing, as well as the visual and somatic systems necessary for reading and writing, and for manual languages. Whatever else might be conceivably relevant to language—emotions, for instance, perceptions, actions, endocrinal drives for food and procreation and nurturing offspring—are in the wholly unspecified Other segment, while a few specific neural functions and states float around the FLB.⁸

The Narrow scope of the Faculty of Language defines the centerpiece of the centerpiece of the program. It is very, very Narrow, restricted to “the computational mechanisms for recursion” that, in a familiar refrain of Chomskyan linguistics back to the early 1960s, provide the “capacity to generate an infinite range of expressions from a finite set of elements” (Hauser, Chomsky, & Fitch 2002:1569). Creativity! We have an asemaantic arrangement-of-constituents Faculty here—or, in the language familiar from the Wars, autonomous syntax—which is why the FLN region of the diagram has puzzle-pieces with the Chomskyan calling-card

sentence in mid-assembly here. The words seem to be whirling around in some kind of computational vortex, with two of them clicked together so we get an idea of the constraints that will ensure the sentence is perfect.

The puzzle pieces illustrate assembly conditions of a sort. They can click together in certain ways, but not in others. They exhibit light/dark color-coding to indicate the approved sequencing. Two of them (*colorless* and *furiously*) have terminal sides because they can (respectively) begin and end the appropriate sentence, but not show up in the middle. When the FLN has done its work, these pieces are arranged in a syntactically impeccable, but semantically nonsensical, expression. The FLN does not care about meaning.

The *Science* paper does not spell this next part out, but Chomsky subsequently emphasizes it repeatedly: the Minimalist Program provides the phenotype for FLN, for the engine of natural language, the trait that philosophers and linguists have long claimed best defines the uniqueness of our species against the rest of the biosphere. Two sets of implications attend this claim whenever it shows up in Chomsky's writings. Firstly, no other theories about the evolution of language bother with a phenotype; and secondly, the specification of this phenotype has been the principal goal of Chomskyan linguistics back to its very beginnings, among those few Harvard graduate students who pioneered Biolinguistics.

Hauser, Chomsky, and Fitch frame the origins-of-language problem by way of three dichotomies:

1. (a) slow accretionary growth	versus	(b) abrupt appearance
2. (a) shared mechanisms with primates and other animals	versus	(b) a species-specific, uniquely human capacity, utterly unlike animal communication
3. (a) continuous functional development of the faculty	versus	(b) a sharp button hook from some other function (exaptation)

These paired positions look like perfectly balanced alternatives, but our authors have their thumbs on one side of the scale, the (b) side, by way of another dichotomy, something of a stealth dichotomy: FLB versus FLN. The diagram pictures those two concepts in a simple subset relation, one containing the other, integrated seamlessly with thought and action, a part of the human organism. But the FLN is a wholly encapsulated bastion of syntactic autonomy.

The (a) options are the most obvious and congruent with evolutionary theory, understood primarily through Darwin's masterful contribution. Natural selection—the “universal solvent,” Dennett calls it, “capable of cutting right to the heart of everything in sight” (Dennett 1995:521)—works very slowly, taking

shared mechanisms on divergent paths, continually shaping specific organic functions to maximize survival and propagation, exactly what Chomsky has long rejected for the “special properties” of language.

Accordingly, our authors strongly associate the standard Darwinian Scrutinizer story with broader, apparently more mundane aspects of language, the FLB. Language-ready traits like our descended-larynx vocal tract, phonologically precise auditory discrimination, and principles of concept formation are all part of an ancient evolutionary history. In complete contrast, the narrow Chomskyan component of language, the relatively recent FLN, treated more as a fact than a hypothesis, suddenly appears (1b), is a uniquely human mechanism evolved for one function, thought (2b), but exapted to another (3b), communication.

What looks diagrammatically like a subset relation, in other words, is a radical qualitative difference; in evolutionary terms, “the core computational mechanisms of recursion,” appear in an evolutionary flash and we have our FLN (Hauser, Chomsky, & Fitch 2002:1573). The kapow! in this theory is muffled—smaller and more localized—than earlier suggestions seem to suggest. We don’t have language (FLB) showing up *en bloc* with a crack of thunder when some unknown physical law kicks in at a mysterious neuron-compression threshold, just the recursive procedure that licenses the “creative” syntactic aspects of language showing up with a small, chance mutation. In this view, it is an increase of private intellectual ability (planning, simulating, analyzing) that gets the Great Horticulturist’s approval, not, as in virtually all other theories of language evolution, an increase of social coöperation (sharing information, intentions, beliefs). In a sociological evolutionary theory, language can evolve in a population incrementally. In an exapting, psychological kapow! theory, one individual, then others, then others, would need to plan and plot in ways that helped them survive longer and propagate more until they discovered they could talk to each other.

The FLB is a typical evolutionary pastiche of jerry-rigged strategies, overlapping functions, and kludges, but the FLN exhibits perfection. “Recent work on FLN,” they say (citing a few of Chomsky’s MP publications, as well as Jackendoff’s rather different *Foundations*),

suggests the possibility that at least the narrow-syntactic component satisfies conditions of highly efficient computation to an extent previously unsuspected. Thus, FLN may approximate a kind of “optimal solution” to the problem of linking the sensory-motor and conceptual-intentional systems. In other words, the generative processes of the language system may provide a near-optimal solution that satisfies the interface conditions to FLB. (Hauser, Chomsky, & Fitch 2002:1574)

It's unclear why a mutation that improves thought, a mutation for which communication is only a by-product, has any direct connection to a sensory-motor system, let alone represents an optimal solution for it. But nevermind: This sudden-onset, perfect-solution, recursion-über-alles story is the essence of Chomsky's Biolinguistic program. There are lots of bits and pieces that make up the human capacity for language, integrated with cognition broadly, but the computational mechanism arrived in a burst between 50,000 and 100,000 years ago, making us us.⁹

The miraculous mutation is Merge.

Merge Is All You Need

All you need is Merge.

—Robert C. Berwick (2011)

That autonomous syntactic organ, the FLN, consists of (1) a big box of atomic word-like conceptual objects; (2) an operation that, two-by-two, combines those objects with each other and also with products of its own operation iteratively (hence, recursion). That's it: one set of objects, still called, if only for convenience, *the lexicon*; one procedure, *Merge*.

Chomskyan syntax is Combinatoric Central, and Merge is the ultimate combinatoric rule. All it does is combine two objects into one new object, two objects into one, two objects into one, operating recursively, with the output of one Merge operation serving as the input for another Merge operation. Until it doesn't, and we have a sentence. Merge does this to conceptual atoms, to morphemes, to words, to phrases, even to independent sentences. Remember Generalized Transformations like T_{conj} and T_{so} ? They spliced sentences together. Developments leading to the Katz-Postal Principle put them out of business because by combining sentences they combined meanings in unpredictable ways. But that stopped mattering long ago. So, they get reincarnated in the operations of Merge. Remember Phrase Structure Rules, those devices that put words and phrases together? Merge again. Affix-hopping? Merge. Passive? Raising? Sluicing? Q-Magic? Irving? Euphemistic Genital Deletion? Merge. Merge. Merge.

Merge does it all. Here's how Berwick and Chomsky describe it, with a touch of history to stress the inexorable development of generative grammar:

Over the years, research has found ways to reduce the complexities of [grammatical] systems, and finally to eliminate them entirely in favor of the simplest possible mode of recursive generation: an operation that takes two objects

already constructed, call them X and Y, and forms from them a new object that consists of the two unchanged, hence simply the set with X and Y as members. We call this optimal operation Merge. Provided with conceptual atoms of the lexicon, the operation Merge, iterated without bound, yields an infinity of digital, hierarchically structured expressions. (Berwick & Chomsky 2016:70)

Here's how it works, with familiar liberties. Take a sentence like 3.

3 What is Floyd breaking?

Merge assembles the word *breaking* from its constituent morphemes, and assembles a sentence by successively joining it with other words, as in Figure 10.2, going through five iterations to derive the structure for Sentence 3.

It turns out there isn't just one Merge, after all. There are two (I've added subscripts in Figure 10.2 to distinguish them). The first is External Merge, which gives us all of the intermediate structures, in steps 1–4. The second is Internal Merge—so called, because it doesn't have to go outside the structure for its constituent—for step 5. In Figure 10.2, *what* is already on a limb, it gets cloned somehow, and the new version is Merged with the old structure to derive a new one. Movement is gone, the last remaining transformational vestige, but Internal Merge has some sort of copying or matching operation to make up for its disappearance. Remembering our history, we might note the irony that recursion started off for Chomsky as a property of transformations, but then migrated into the phrase structure. The Phrase Structure Rules then evolved into the single recursive operation, Merge, which turned around and ate the final holdout transformation, Move.

Is that all there is, my friend? Is the nut finally cracked? Are we done? Merge and the atoms make your sentences and all is well? No, no, no, and no. The structure we end up after the last iteration of Merge in Figure 10.2 looks a bit like a post-*Aspects* Chomskyan/Jackendovian Surface Structure, in the sense that it provides a way to determine that the WHAT at the beginning of the sentence is at some deeper, underlying level, the object of BREAKING. It is not yet the “real” sentence, however, since there is that extra WHAT; and, in any case, we still have word-like atomic elements, which need some further processing, and some principle has to ensure the lowest-level WHAT is phonologically null. (Speaking of the word-like atomic elements, I don't see any reason we couldn't have Merged up something on the order of WHAT FLOYD CAUSE WHAT TO BECOME NOT WHOLE—possibly even like I ASK YOU WHAT FLOYD CAUSE WHAT TO BECOME NOT WHOLE, though I'm not sure about what the mechanisms might be to erase I ASK YOU.)

The final structure in Figure 10.2 is a dreadfully impoverished sliver of linguistic information, as it is meant to be, of course. It is *minimalist*. It is *narrow* syntax. But the fact remains that facts remain unaccounted for. Maybe, just maybe, Merge is all one needs for an evolutionary account, popping into the

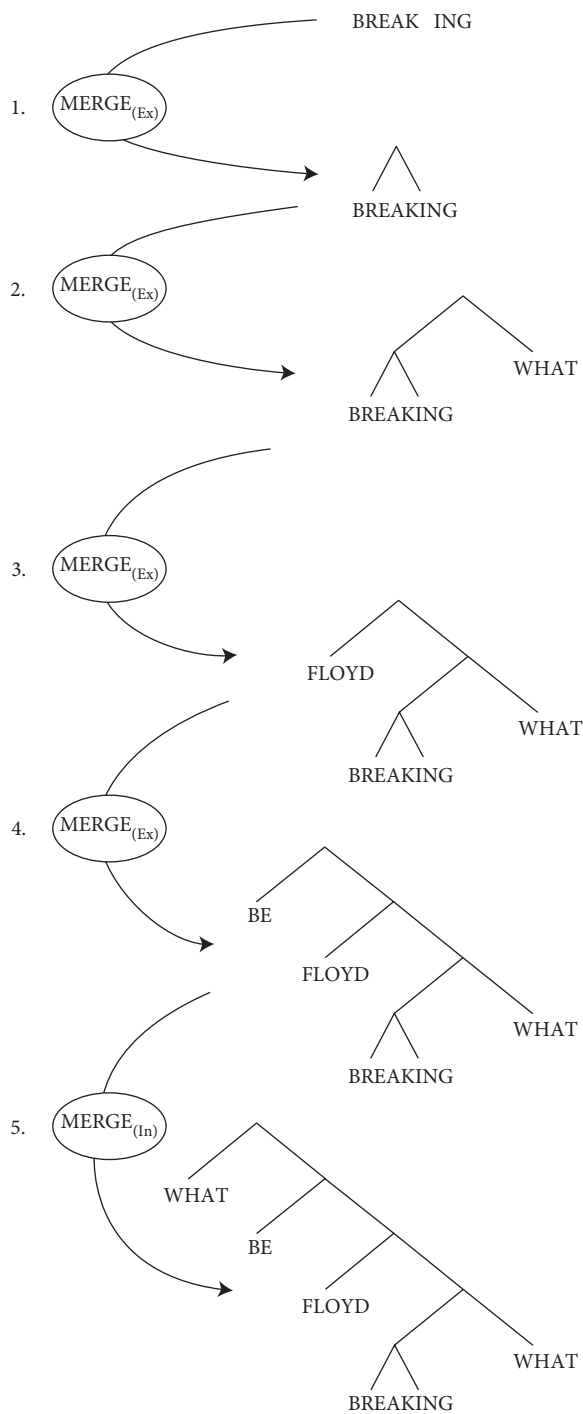


Figure 10.2 A Merge-mediated derivation of the structure underlying Sentence 3.

head of some lucky primal ancestor, but it is not all one needs to describe the core knowledge of language for which *Aspects*, Generative Semantics, Interpretive Semantics, and all the Alphabet Grammars throughout generative history have sought to be responsible, not to mention Cognitive Linguistics.

Minimally, for instance, the derived structure in 10.2 (i.e., the structure after step 5) needs labels of the sort familiar from the days of Phrase Structure Rules. There is no indication what sort of groupings we have in 10.2, or what the word categories are: what the noun, what the verb, what the WHAT. There is a procedure in the Minimalist Program that generates and distributes labels, projected somehow from the lexico-semantic atoms (Berwick & Chomsky 2016:10), so that the structure after the first application of Merge gets labeled a V on the basis of BREAK, the structure after the second application is a VP because BREAKING is the head, and so on, up to S.

Also, there is an extra WHAT. No one says “What is Floyd breaking what?” A movement rule would have extracted the second WHAT (leaving a trace after Chomsky 1973a [1971]), but Merge leaves it in place. “Merge does not change the merged elements,” Berwick and Chomsky say: “it is optimal” (2016:99). Leaving it unmolested is a virtue for the Conceptual-Intentional interface because, as Semantic Interpretation Rules and Generative Semantics transformations alike will tell you, the meaning of 3 implicates a representation like 4:

4 FOR WHAT X, FLOYD IS BREAKING X

So, the extra WHAT is required for sussing out the meaning of 3, on the abstract conceptual side. But it’s a problem on the concrete, empirical, sensorimotor side.

Sentence 3 exhibits a familiar oddity in language that transformations were drafted to help deal with, all the way back to Zellig Harris: displacement. Phrases and words show up in different spots in sentences when we speak from their canonical, grammatical, “logical” locations. Displacement is a weird thing for languages to do, seemingly a hindrance to communicative efficiency. “For many years,” Chomsky says, “it was assumed—by me, too—that displacement is a kind of ‘imperfection of language,’ a strange property that has to be explained away by some more complex devices and assumptions about UG. But that turns out to be incorrect” (2016a:18). It turns out that, “on the contrary, it is an automatic property of a very elementary computational process” (Berwick & Chomsky 2016:99).

Automatic or not, Merge can copy the original WHAT but cannot delete it, which puts the framework in a jam. That low-down WHAT has to go. Structures like that final Merged one in Figure 10.2 are “the wrong structures for the sensorimotor system: universally in language, only the structurally most prominent copy is pronounced, as in this case: the lower copy is deleted” (Chomsky 2016a:18–19). As always in Chomsky’s prodigious and intricate vision, there is another principle or operation or natural consequence to come around the corner at the last moment, like the Cat in the Hat, to clean up the messes. In

Chomsky's latest program, for sentences like 3, a principle called Minimal Computation gets us out of the extra-WHAT jam. Amongst other things, Minimal Computation ensures excess objects get zapped:

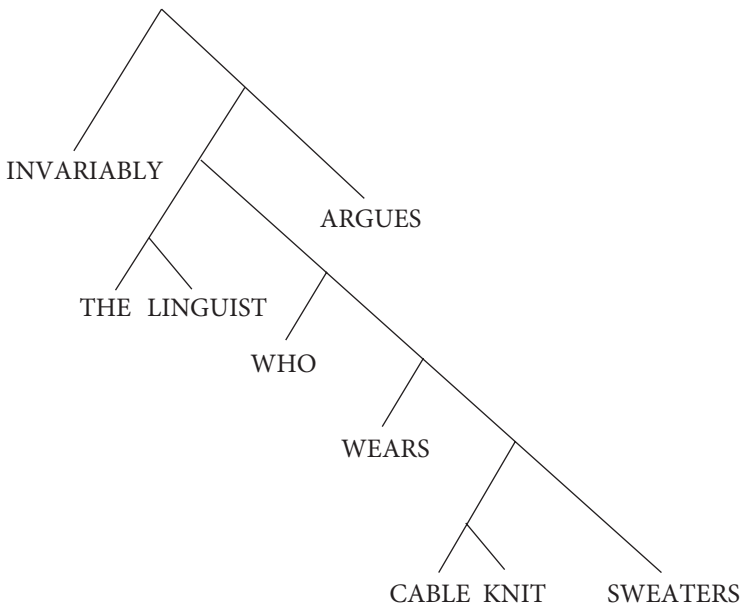
Deletion of copies follows from another uncontroversial application of Minimal Computation: compute and articulate as little as possible. The result is that the articulated sentences have gaps. (Chomsky 2016a:18–19)¹⁰

Where *is* this (uncontroversial!) principle of Minimal Computation, you ask? It comes as part of a cosmic Chinese box arrangement. For instance, Minimal Computation includes (entails? determines?) a principle of Minimal Distance. Minimal Distance ensures that whenever there is competition between possible associations of words, the competition resolves in favor of the association between words that are minimally distant from each other. As, for instance, with the adverb in Sentence 5.

5 Invariably, the linguist who wears cable-knit sweaters argues.

What's really interesting about Minimal Distance—the sort of cool little data-appeal that characterizes so many of Chomsky's proposals (like Affix-hopping and the trace convention)—is that it is computed in terms of structure, not linearity or temporality. That makes *invariably* closer to *argues* than it is to *wears* [*cable-knit sweaters*] (even though it looks closer to *wears* on the page, and sounds closer to *wears* when spoken), as in Tree-1.¹¹

Tree-1



There are two candidate verbs for the association, but the adverb *invariably* goes with the closest one in structural terms (trace out the path in Tree-1), not in linear or temporal terms. All well and good. What is invariable is that the linguist argues, not that the linguist wears cable-knit sweaters. Exactly what we want, and we get the association we need from some overarching principle, a principle of Universal Grammar. But, again, where *is* that principle? Where does it go in Figure 9.3, the MP architecture? Here's Chomsky:

The principle of minimal distance is extensively employed in language design, presumably one case of a more general principle, call it Minimal Computation, which is in turn presumably an instance of a far more general property of the organic world or even beyond. (Chomsky 2016a:11)

In some sense, then, Minimal Computation and its various subprocesses are “in” FLN, since that is where the computation happens. But Chomsky's framework provides them for “free.” They are automatic consequences of biology, so no special account of them is needed by linguists; possibly they are automatic consequences of the universe more generally, so that even biology doesn't need to account for them. They are just there. Chomsky's Platonism is showing.

In short, Merge is *not* all you need. They provide no tally of the mechanisms, but Hauser, Chomsky, and Fitch say that FLN “comprises only the core computational mechanisms of recursion as they appear in narrow syntax and the mappings to the interfaces” (2002:1573). (Okay, so we now add interface mappings in FLN as well.) They left this phrase rather open at the time, but a few years later they elaborated:

Since the “mapping to the interfaces” is explicitly included in this description, it follows that [FLN] includes phonology, formal semantics, the structure of the lexicon (morphology, words), etc. (Chomsky, Hauser, & Fitch 2005:2)

Now, these interface mappings are essentially “computational,” so again we are in territory that may not “cost” the theory anything. But, whatever is going on under the FLN hood, there are a lot more moving parts than Merge.

Whatever is under the hood, it is hard to deny that Chomsky's grand vision is yet again a thing of beauty. *Aspects* was beautiful as a model of deep linguistic uniformity. *Principles and Parameters* was beautiful as a theory of diversity explicable and unified by a switchbox. The Minimalist/Biolinguistic package shifts our focus from a “picture” of language to a “story” about language, but it is a story with an elegant evolutionary plot. It tells of a minor mutation with major implications, endowing us with an incredibly simple but powerful computational

procedure, governed by natural laws that specify optimal linkages between the sensory-motor (form) and conceptual-intentional (meaning) systems, the old dream realized in a new way.

The surface individuality and deep uniformity of all languages is explained by natural laws—like a snowflake, in a currently favored Chomskyan image (e.g., Berwick & Chomsky 2016:71). Every language is utterly unique, intricate, and pretty, but step away and they all look the same, both their particularities and their commonalities are simply what happens when specific natural conditions are met: a certain species undergoes a small genetic mutation, getting Merge, in a universe governed by laws of computation.

The story—recursion showed up and made us us—is undeniably compelling, but Biolinguistics must all come down to genes. So Gopnik's KE findings are an important calling card for the program, largely because they establish the necessary gene-language link so solidly, but also because the Biolinguistics story has a highly plausible chapter on FOXP2 implicating the concentric-circle setting of Hauser, Chomsky, and Fitch: FOXP2 is assigned to the genetics of the ring around the inner circle in Figure 10.1.

A recurrent image of the Biolinguistic core for Chomsky is a central processing unit, the place where the real work gets done in a computer. Aspects of language not directly traceable to that workspace, are figured as input devices, output devices, monitors, speakers, keyboards, touch pads, and so on—the peripherals—which is where we find the Biolinguistic argument about FOXP2. In Berwick and Chomsky's account, FOXP2 is not implicated in any way with the central linguistic machinery. It regulates the genetics of production, "related to externalization" and aiding in the "development of serial fine motor control, orofacial or otherwise: the ability to literally put one 'sound' or 'gesture' down in place, one point after another in time," a claim supported by the role of FOXP2 in songbirds and mice (Berwick & Chomsky 2011:33).

On this story, "FOXP2 is more akin to the blueprint that aids in the construction of a properly functioning input-output system for a computer, like its printer, rather than the construction of the computer's central processor itself" (Berwick & Chomsky 2011:33). Their account is certainly plausible. It doesn't address the KE's defect for agreement and other morphological phenomena (which, on the surface, might seem to involve the FLN/CPU core, more than anything, because Merge puts morphemes together), but the KE's FOXP2 glitch is overwhelmingly productive, and deeply so, with years of interrupted linguistic development that could easily have ripple effects on matters like agreement. The printers of dysphasics in the KE family come online late and sputter for years, the story goes, with a wonky communications protocol set up over the years in some compensatory way.

But here's the problem: we are still left with the desperately underspecified EVERYTHING ELSE. Aside from recursion, everything else is pushed off on the interfaces and various avowed conditions. Deletion, once transformational, is now handled by the Sensorimotor interface. Labelling, once phrase-structural, is now handled by "some algorithm," presumably associated with the Conceptual-Intensional interface. A few mechanisms seem to have disappeared (though one cannot be sure), including both Government theory and Binding theory. Greed is gone. (Where it went is anyone's guess. It is simply not talked about any longer. But—I'm not kidding—a version was briefly called *Suicidal Greed* before it disappeared; see Chomsky 2000b [1998]:127). But most of the mechanisms of GB and P&P have been shuffled in some way to the periphery: "All conditions are interface conditions," Chomsky states (1995:194) as a desideratum of the Minimalist Program. But *how* the complex network of principles and parameters are imagined as interface conditions is left unspecified. Five years later, Chomsky is in fact quite urgent, uncharacteristically so, about giving them some clarity and specificity:

Interface conditions . . . can no longer simply be taken for granted in some implicit way, as in most empirical work on language. Their precise nature becomes a primary object of investigation in linguistics, in the brain sciences, in fact from every point of view. (Chomsky 2000c [1999]:26)

But nothing came of the appeal, and Chomsky's own work failed to reflect this urgency. Another decade and a half along, we find one of his most ardent expositors lamenting, "Unfortunately, the intervening fifteen years seem to have produced virtually nothing about the precise nature of these conditions" (Freidin 2016:685).

Is Chomsky right? The other guy, Lakoff? We know who won the war on the short view. Who won it on the long view? Which program is right, Biolinguistics or Cognitive Linguistics? I have no dog in the fight, but here in the twenty-first century, surely that's the wrong question. The right question would be how much can each of them contribute to the study of language that is both fruitful and durable; eventually, even, compatible. Cognition is ultimately biological, after all, and biology has to go through cognition to get to language.

Neither side can see much of anything of value over the fence. The Cognitive Linguistics framework still often defines itself in overviews against one or more of the 800-pound gorilla's instantiations, usually focusing on autonomous syntax, but once the comparison is over, it barely notices the gorilla or his progeny or their data, in its daily work. The Minimalist Biolinguisticians

are even worse, apparently never having heard of Cognitive Linguistics at all. If we take one defining concept from each camp, metaphor from Cognitive Linguistics and recursion from the Minimalist Program, both of which seem absolute locks as properties common to human language, we look in vain to find even a mention of them in the theories of the other side. In one rather startling example, the title of Cedric Boeckx's (2009) *Language in Cognition* promises a comprehensive overview of the intersection of those two topics, but the book is implacably in the Chomskyan mode. Metaphor is not only an indisputable fact of language, it has also been a preoccupation of cognitive science for over fifty years, but makes no appearance whatsoever in Boeckx's book, not of the standard issue kind ("Anna is a *peach*"), not of the sense-extension kind central to word formation processes ("James broke out of his *information bubble*"), not of the metaphorism kind that has been a crucial explanatory element of Cognitive Linguistics for twenty years ("Evan *spent* a week on that endpoint"), nada. Meanwhile, recursion has been a focus of linguistics for generations, and was absolutely criterial to the other two disciplines foundational to cognitive science as well (psychology and AI). Recursion has virtually no presence in Cognitive Linguistics literature.¹²

There is room for bridging work. We just need more Jackendoffs, linguists who seek explanations with the greatest compatibility, not in ways that definitionally exclude other positions. His syntax is recursive, and his semantics includes metaphor (e.g. 2002: 358-362; see also Jackendoff and Aaron 1991).

Despite Chomsky's personal skepticism, his mini-kapow! FLN hypothesis combines easily enough in principle with evolutionary accounts more at ease with natural selection. Most evolutionary linguists hold that there was a protolanguage of some kind (something like Chomsky's atoms, linked to words and gestures, along with behavioral repertoires). Biolinguistics doesn't require, so far as I can tell, that the lexical atoms and Merge appear with the same evolutionary thunderclap. In fact, wouldn't Merge need something to start merging when it shows up? If these lexical atoms entered into hominid (primate? mammal? . . .) cognition at some point, why could they not be deployed, through noises, gestures, facial expressions, and the like (that is, the sensorimotor system) for communication? Chomsky doesn't believe it, but that would provide a proto-grammar for Merge to super-charge.¹³

Recursion might show up in such a cognitive context, in other words, and boost hominid abilities to the point that *protolanguage* could drop the *proto-*, making us us.

Similarly, the Basic Property of the Minimalist Program (the BP of the MP) is highly plausible, with some explanatory reach. And, like the little-mutation-that-could-story, the Basic Property doesn't have to be segregated from other

approaches to language, even ones engaging in mutual antagonism. Construction Grammar, for instance, doesn't much like Chomsky and Chomsky rejects the notion of specific constructions altogether. But Construction Grammar needs mechanisms that "make" constructions too. One might easily see the MP's Syntactic Objects, assembled via Merge, as fitting certain cognitive criteria that make them candidates for constructionhood (though perhaps only the formal half of the form/content pairs that are constructions).¹⁴

There is at least room for optimism, however, that the two "sides" might help each other out, if the will is there. Again we might invoke Jackendoff and his Parallel Architecture. Jackendoff's framework has a generative component with a rule very similar to Merge, UNIFY PIECES (similar both in its operation and in that it is the sole generative rule of syntax), but it is highly compatible with Construction Grammar (see, for instance, Jackendoff 2013; Goldberg and Jackendoff 2005).¹⁵ It also concerns itself with interface rules that should be of interest to the Minimalist Program, and has a generative semantics component, which should endear it to Cognitive Linguistics. But one needn't be a Jackendoff to find common ground. All it takes is goodwill and openness.

Once more into the Great unNoam

When I began working for Professor Chomsky almost 24 years ago, I was 39 years old, and he was close to 65. Retirement seemed to be on his radar then, but I quickly realized that even if he stopped officially teaching his MIT class, he would always teach and lecture. He retired from MIT (meaning he wouldn't be teaching an ongoing class) about ten years ago, but as I predicted, to this day [as I am retiring] he continues to work as tirelessly as ever.

—Bev Stohl (2017)

Chomsky is still Chomsky after all these years. The architecture and the details of his linguistic program have mutated and modified and morphed, decade after decade, but not him, or not much. He eventually traded his typewriter for a computer and took to email like a swan to trumpeting, but little else has changed. Controversies have come and controversies have gone, in linguistics, in politics, in philosophy, in computer science, in psychology, genetics, and biology, even in popular culture. Fame has flowed and surged, rarely ebbed, and since his gargantuan presence is multivalent, a large proportion of the fame falls in that particular subspecies we call *notoriety*.

He's famous, very famous, and he's private, but he's not a recluse:

Over the years, the parade passing through his office portal has included

the amazing, the unexpected, the scary: students, activists, authors, at least one Sufi, political prisoners, movie directors, comedians, political hopefuls, musicians, overwhelmed fans, world-champion boxers, international leaders, Cirque du Soleil clowns, brilliant thinkers, lost souls. (Stohl 2015b)

A shelf of documentaries have been made about him. Perhaps the best known of these, the full-length movie, *Manufacturing Consent* (Achbar & Winotick 1992), has garnered bunches of awards, been widely translated, was featured at scores of film festivals, played in theaters around the world, and can still be seen at the occasional art house or university campus despite its easy availability on the internet and despite the fact that the specific political topics it highlights are almost thirty years old. Chomsky is all over YouTube. He speaks, speaks, speaks, and speaks some more; writes, writes, writes, and writes some more; engages every issue, answers every email. Rebel without a pause, indeed.

Chomsky is so famously active that the American satirical magazine, *The Onion*, put out one of its mock news releases, maybe its most absurd, entitled "Exhausted Noam Chomsky Just Going to Try and Enjoy the Day for Once." It quotes him as saying that injustice will still be there for him tomorrow; "Today, I'm just going to kick back and enjoy some much-needed Noam Time." But it ends with a final quote (maybe not so absurd after all) that "I'm going back home, writing one—just one—reasoned, scathing essay, and getting it out of my system. But then I'm definitely going back to the park to walk around and just enjoy the nice weather. I'm serious." ("Exhausted").

Noam Chomsky, with so much water under the bridge, over the bridge, around the bridge, in his nineties as we go to press, is a visibly—and astonishingly, *only* visibly—older version of the brilliant, generous, mulish, prolific, indefatigable, brutal, benevolent, chronically argumentative, humble, arrogant, autocratic agitator whom we have seen all along, the man who cut his scholarly teeth denouncing and supplanting the Bloomfieldians and his political teeth denouncing the Vietnam War, and who has kept them sharp politically and academically at every opportunity along the way, the man whom the *New York Times*, in a passage that has become obligatory whenever he is profiled, summed up thusly:

Judged in terms of the power, range, novelty and influence of his thought, Noam Chomsky is arguably the most important intellectual alive. (Robinson 1979:3)

The amount he has accomplished, the pace at which he works, the capaciousness of his intellect, the sheer will of the man . . . it's staggering. So is the devotion and the revulsion he attracts. A character in the historical novel, *The Architect's Apprentice*, says of Michelangelo, "There are those who worship him and those who loathe him. Even God doesn't know which side outnumbers which" (Şafak 2014:163). Perhaps extreme emotions are inevitable with people whose imprint on their world is so large. One wonders if the same people both worshipped and loathed Michelangelo, serially, or if that response is more peculiar to Chomsky. He has those who love him, those who hate him—even God can't count them—but there are also a great many who have done both. Angel? Devil?

Let's try another account of the man, exemplifying a very familiar characteristic not unconnected to all that love and all that loathing: his brute refusal to see the facts as others see them:

"There's no such thing as jet lag," Noam said to me less than twenty-four hours after returning from Australia, where he was honored with the Sydney Peace Prize. Peeking at me through slitted eyes, he poked an index finger into his temple and added, "It's all in the mind," and I watched him weave toward his office like a half-asleep drunken sailor. (Stohl 2013)

Also, when ill, he regularly insists he is not ill. He sneaks treats to dogs. He can't figure out coffee makers. He apparently has no relationship with food beyond a vague awareness it should be periodically consumed.

He is, in many ways a version of the head-in-the-clouds caricature professor who has trouble with the daily hubbub, perplexed by machinery like computers and printers, oblivious to mundanities, a classic naïf. After describing his famously cramped and austere office, piled high with books, with two blocky desks and a few hard wooden chairs, a reporter commented on how fitting it is for "Chomsky to have created an office in which there is nowhere comfortable to sit and no proper space to work. He seems genuinely indifferent to material things. Before his wife took over, he often gave away the copyrights to his books because he didn't read contracts. He would sign anything that was put in front of him. He will wear the same outfit every day for a week" (MacFarquhar 2003). Newmeyer tells a story of Chomsky at a major conference in his honor, entitled "The Chomskyan Turn." It took place over several days in 1988 at the Van Leer Jerusalem Institute, during the Intifada, with multiple acts of violence, insurgency, and oppression boiling up in Israel. "Noam was followed around the entire four days by a hulking young man with an enormous backpack," Newmeyer recalls.

Everybody knew that he was Noam's bodyguard. Everybody but Noam, that is. At one point we were at a restaurant table around which eight or so people

were seated. Noam asked the young man cheerily: “What are you working on?” Startled, he answered “Um, linguistics.” Noam persisted, asking him what topic in linguistics. The answer, barely audible, was “Oh, linguistics linguistics.”

The jig still wasn’t up, but things were now seeming a bit odd even to Chomsky, so the conference organizer finally revealed to him that his constant companion was actually his bodyguard and that, among other tools of his trade, the backpack contained an assault rifle.¹⁶

That conference was occasioned by Chomsky’s sixtieth year on our planet. For his seventieth year, 1998, a tribute website was set up for him, a kind of festschrift (the “editors,” Jay Keyser and Janet Dean Fodor, knew that Chomsky was a megastar, way too big for an ordinary bookbound festschrift). The web was a different place then, with fewer browsers and more search engines, but Google was already on the scene and most academics were active; most linguists, in particular, were early adopters—old hands by the latter 1990s. Not Noam. There was lots of buzz about the site around the field, with nearly two hundred moderated essays and over two thousand birthday greetings. But it was not hard to keep the site secret from Chomsky. Its existence was revealed to him

on the day of his birthday, [when] an elegantly printed list of all the contributors was placed on his desk in a modest red folder decorated discreetly with a gold ribbon. An unsigned birthday card lay on top, its message: Happy Birthday From All Of US.

He still didn’t know what was going on. One assumes he had at least heard of the web by this point but “the truth of it is that my wife [Carol] had to explain to me what was going on,” he told the *New Yorker*. He had the contributions printed and read them on paper. “When I was a kid,” he added for the reporter, “my mother used to arrange a surprise party every year for me, and I never figured it out . . . I was always completely surprised, and it was the same in this case” (Mead 1998:34).

And here’s a factlet that reveals something very personal about Chomsky that has, so far as I am aware, never been published before. Among the countless invitations he gets, Chomsky was invited onto a podcast to talk about Super Mario Brothers. He responded cordially. He always responds. He declined, too many commitments, but his answer tells us something that may surprise even you, jaded reader that you must be by now. Here is his response in full:

I wish I could manage. The rest of ‘20 is so intensively scheduled that I can’t add anything more, and it will be a few months before I can think about scheduling beyond.

My grandchildren always insisted I play that video game for hours. I was Luigi. Always ended up in a ditch or a lake. (@showshowpod 2020)

Chomsky played Super Mario Brothers, for hours, as Luigi.

Chomsky, one finally comes to understand, is just a guy. Whatever else he is—my thesaurus is running on fumes—Chomsky is also just a guy. Bev Stohl was his administrative assistant at MIT for over twenty years and wrote a blog for eight of those years (quoted a few pages back and the source of this section's epigram) that recorded his idiosyncratic eating habits, his mischievous quirks, his affection for Irish cable-knit sweaters and rolled-up jeans, his uneasy, semi-Luddite attitude toward digital technologies, his corny jokes ("Isn't Lent when you have to return all of your overdue books to the library?" [Stohl 2014]), and his generational obliquities ("Tell him I don't know what he's talking about," he annotates a paper copy of an email in response to the automatically generated tag-line "Do you Yahoo?" [Stohl 2015a]), alongside the back-breaking speaking schedule, the inundation of correspondence, rife with political horrors and personal devastation, and the warm, deep, everyday humanity of Noam Chomsky. There is much to admire, much to lament, in Chomsky's career (and much, we have seen, to question in Chomsky's own account of that career). The same can be said of the rest of us, but our scale is so much smaller.

Chomskyan Truthiness

Werner Heisenberg, Kurt Gödel, and Noam Chomsky walk into a bar. Heisenberg turns to the other two and says, "Clearly this is a joke, but how can we figure out if it's funny or not?" Gödel replies, "We can't know that because we're inside the joke." Chomsky says, "Of course it's funny. You're just telling it wrong."

—Katy Waldman and Will Oremus (2013)

If there is a single quality from which one might derive all of Chomsky's rhetorical practices, its kernel, my vote would be for his unshakeable, basal certainty.¹⁷ The Heisenberg-Gödel-Chomsky-walk-into-a-bar joke tells us this (it's an epigram for this section, if you missed it). Heisenberg, who developed the quantum uncertainty principle, recognizes the three of them are in a particular genre, the walks-into-a-bar joke, but he is uncertain if it's funny or not. Gödel, who developed the incompleteness theorem, sees that the joke is incomplete (more technically, that they can only know it's complete when they get out of it, at which point they will be in another incomplete system; more technically, . . . I'll leave that to the mathematicians). Chomsky is certain that the joke

is funny, knows that the joke is complete (in its pure, underlying form), knows more than the other two combined. Actually, this is how the source of that joke, someone known only as *Saboot* in the article I pulled it from, explains the Chomskyan punch line:

Why it's funny: Because Heisenberg is **uncertain**, Godel sees that the joke is logically **incomplete**, and Chomsky is an asshole. I mean, because Chomsky distinguishes between the joke itself and the **linguistic performance**. (Waldman & Oremus 2013)

There is a somewhat oblique relationship between the notion of performance and the “real” punchline that some people might get. But anyone familiar with Chomsky will more immediately get a version of Saboot's faux punchline first. The Deep Structure of the faux punchline, stripping it of the insult, gives us: Chomsky is always right, others necessarily wrong.

His admirer and most successful popularizer, Steven Pinker, knows him pretty well, and would have no trouble getting the joke. He says Chomsky “is always a hundred percent certain that he has been, is, and will be right about everything” (Mead 1998:34). Another informed opinion? A major European linguist who has been an important force in the development and expansion of Chomsky's program through its Principles and Parameters phase, Jan Koster, says Chomsky “has a notorious inability to imagine that there are rational persons with opinions other than his own” (Koster 2013). Another? A very sympathetic journalist says he “is in the prophetic tradition and you can no more truly argue with him than you could have with Isaiah or Ezekiel. . . . His inner certainty seems complete” (Woollacott 1989). Another? A source very, very close to him, his first wife, says “one never wins an argument with Noam” (Hughes 2006:93).¹⁸—These are his allies, supporters, a loved one. He is right; others must be wrong. He even has an opinion (or, rather access to the indisputable truth) on the origins of email, which are apparently controversial. As Chomsky tells it, “email was invented in 1978 by a fourteen-year-old working in Newark, New Jersey,” adding his telltale “the facts are indisputable” (Garling 2012). Don't look at me. I'm not going to argue the point with him.

If we have learned nothing else about Noam Chomsky so far, we have learned that he exhibits what we can call, after Wayne Booth (1974:77), *The One Rhetorical Purpose Dogma*. That purpose? To win. The only acceptable outcome of debate for Chomsky is to vanquish his opposition. Righteous argumentation can have only one outcome, and all argumentation is righteous. Perhaps this would be less of an issue if he wasn't just so damn good at arguing. I gave a quintessential example of Chomsky's debating abilities back in Chapter 2, with a brief description of his demolition of William F. Buckley, but such clips are legion, and

getting legioner; as I write this Chomsky can still be found, daily, hourly even, tying such people in knots, at a time in life when many of us will be lucky to be able to tie our shoelaces. And there's this other factor, even more personal: however much Chomsky claims that it is all just science, only the issues matter, he would change his mind if the evidence warranted it, facts are facts, and so on, it is blisteringly obvious he has a very thin skin.

These traits, the dogma, the brilliance, and the dermal fragility, have a cost. Keyser (2011:13–14) talks about “a kind of intellectual parricide that haunts fields like linguistics,” something Keyser's generation would know more about than most. Chomsky not only promoted academic parricide in his own rise, he has perennially provoked it himself as the father of various movements, usually overcoming the threat by fanning the related urge of fratricide. As Bresnan—his student, acolyte, and opponent (a not unusual trifecta, we have seen)—says Chomsky “revolutionized linguistics but did it in a divisive way. . . . He's a polarizer. He's created warring schools” (Flint 1995:25). But there is a converse, as well, since he can only inspire movements to attack and defend through collaboration and cohort building. While many linguists would find the title of a graphic novel about Chomsky incredibly appropriate, many others would find it bitterly ironic: *The Instinct for Cooperation* (Wilson 2019).

New sources of bitterness and division arise recurrently. A dispute arose in the first decade of this century, for instance, about the implications of an Amazonian language for Chomsky's beloved UG—perhaps the most rancorous episode of the last decade, though the rancor seems largely to have been on one side. The language, Pirahã, is exceedingly cool, and also exceedingly significant culturally, as the last vestige of the otherwise obliterated Mura group, spoken only by a couple of hundred people. (Among its coolest features is that it can be “spoken” in whistles, for ease of chatting when you find yourself in dense jungle foliage. It can also be hummed, perhaps to make it harder for the neighbors to eavesdrop.) But it may be important for theoretical reasons as well. The principal authority on the linguistic features of Pirahã is Daniel Everett, and he claims it does not exhibit the lynchpin of Chomsky's Universal Grammar, recursion; that there are no embedded clauses.¹⁹ “With respect to Chomsky's proposal,” he says, “the conclusion is severe”: no recursion, no Universal Grammar (Everett 2005:622). The reaction, too, was severe, and swift. Most notoriously, just before a talk Everett was to give at MIT in 2006, a new genre of email appeared, the likes of which the well-traveled Pullum had “never seen before: an attack ad against a linguist” (2006), a vicious character assassination of Everett ending in a billow of sarcasm: “You, too, can enjoy the spotlight of mass media and closet exoticists! Just find a remote tribe and exploit them for your own fame by making claims nobody will bother to check!”

The dispute grew in ugliness from there and lingers still. “Some linguists close to Chomsky were furious at Everett’s direct challenge to Chomsky’s views,” Pullum noted, “and began an intensive campaign to discredit Everett. Three of them published a lengthy paper in *Language* [Nevins, Pesetsky, & Rodrigues (2009)]” that argued Everett’s “claim was a lie.” Of the three, one was responsible for the deplorable attack-ad email and another was instrumental in politically blocking Everett’s further contact with the Pirahã, among whom he had lived for almost ten years. Aspersions of racism and data-fakery and grandstanding propelled the attacks on Everett. Chomsky called him an “utter charlatan”; and, in any case, said that the implications of his work for UG are “zero.” (“Ele virou”²⁰). By 2009, when Chomsky made this remark, the implications did indeed seem to have zeroed out, since:

Chomsky and various associates had meanwhile begun to claim that [they] had been misunderstood, and that languages without recursive phrasal or clausal structure are compatible with [UG]. . . . So now nothing is at issue. Continuing work by Everett with Edward Gibson of MIT is still attempting to determine whether “recursion” of any kind is found in Pirahã But Chomsky and his associates now believe it just doesn’t matter. (Pullum 2012)

The Chomskyan position is now that while recursion is fundamental to UG and to the Biolinguistics evolutionary story, not every language need be recursive; rather, because of their innate grammatical endowments, every human *can* acquire a recursive language, but *need not*. “The Pirahã may not deploy recursion when speaking Pirahã,” Norbert Hornstein says, “but Pirahã children have no trouble learning Brazilian Portuguese (an undisputedly recursive language) and so there is no evidence that their UGs are any different from anyone else’s” (Hornstein 2012). Chomsky’s analogies on this front are less than convincing. “The speakers of Pirahã possess the same genetic components we do,” he says,

so children try to build a normal language. Suppose Pirahã does not allow for that. It would be like finding a community that crawls but doesn’t walk, in such a way that children raised there would only crawl. The implications of this for human genetics would be nil. (“Ele virou”)

Another one: “If some tribe were found in which everyone wears a black patch over one eye, it would have no bearing on the study of binocular vision in the human visual system” (Tanenhaus 2016). The existence of Creole languages make these analogies even more absurd than they appear on the surface. Creoles are created

by children in a community that has only a fragmentary language (a pidgin) in common (usually for reasons of slavery or indentured labor, when people from different language groups are thrown together), creating morphology, modal verbs, articles, and so on, in addition to building a much richer vocabulary. Creoles make it abundantly clear that when children are given a broken language they will fix it. Plus, we all know that children will get up and run around, or pull off their eye patches, as soon as the cultural arbiters turn their backs for a moment; nor is there any evidence Pirahã children are punished or coerced out of recursion.

The proclaimed irrelevance of Pirahã data appeared to make no difference to the anti-Everett camp (perhaps because Chomsky coupled this explanation with the “utter charlatan” remark and the observation that “all serious linguists working with Brazilian languages ignore him”—“Ele virou”). Articles in the *New York Times*, the *Guardian*, the *New Yorker*, and the *Chronicle of Higher Education*, among others, quote Chomskyans impugning Everett, and these articles, as reports of disputes involving Chomsky so often do, remark that “linguists seem uncommonly hostile” in expressing their differences. “The word ‘brutal’ comes up again and again, as do ‘spiteful,’ ‘ridiculous,’ and ‘childish’” (Bartlett 2012). Even the dispassionate Hornstein passage I quoted a moment ago was accompanied by a gratuitous denunciation of the accuracy of Everett’s work. Hornstein, like Chomsky, could not resist insulting Everett even while claiming that it doesn’t matter if he is right.

Chomsky often characterizes the Linguistics Wars by saying the Generative Semanticists threw a war and no one showed up; in the Pirahã episode, it might be fair to say that Chomskyans threw a war and no one showed up. Everett did not return the insults and aspersions. He was long a Chomskyan himself, even inhabiting a neighboring office in Building 20 for a year in the 1980s, before eventually coming to see confounding implications for recursion and UG in Pirahã syntax. He professes tremendous respect for Chomsky: “the smartest person I have ever met,” he told one journalist (Schleusser 2012); “I’m not denigrating his intelligence or his honesty,” he told another, “but I do think he is wrong about this and he is unprepared to accept that he is wrong” (Barkam 2008). The most vicious thing Everett has said about him is that the criticism Chomsky has faced is “not entirely undeserved” (Everett 2017).

It has dragged on. “The tussle has now been going on almost as long as World War II,” Pullum noted in 2012, in a report from the field. The shelling has not stopped, getting a particular boost from Tom Wolfe’s book in 2016. Pullum laments that charges raised in the press of “brutality, spite, and puerility” against the discipline of linguistics “may not be entirely groundless.” The guilt for this rhetorical climate is not wholly Chomsky’s, of course, but it would be ludicrous, from what we have seen, to judge him entirely blameless.

The implications of Chomsky's win-at-all-costs dogma are not just in the price paid by the sociology of the field. They also, and very clearly so, compromise Chomsky's own integrity. "We encounter an embarrassment here," one of his targets has said, epitomizing a view that virtually all of his targets share: Chomsky "cannot be relied on to tell the truth" (Boden 2008:1958). We encounter here the great paradox of Noam Chomsky (he says, as if there is only one): how can someone who is so utterly sincere also be so utterly reckless with facts, and especially with the reputations of others, that it becomes indistinguishable from malice? And, let's not forget: he's not a stupid man. Does he not see what he is doing?

Unfortunately, it is virtually impossible to raise the embarrassment of this paradox without immediately contributing to the polarization. If one mentions Chomsky's honesty one is immediately slotted into the anti-Chomsky camp. There is no place in the topography of Chomskyan commentary to put his failings alongside his virtues, on the one side, or his virtues alongside his failings, on the other.²¹

In part, this inevitable slotting is because his work in linguistics is so visionary and expansive and inspirational that people whom it has galvanized become blind to any flaws. But for many it is also because of his political activism. It is just so hard to imagine that a man who wrote a scathingly influential manifesto entitled "The Responsibility of Intellectuals" and who has worked so tirelessly, at personal sacrifice, to expose both the malice of others and the systems of thought control obscuring and misrepresenting that malice, could himself be capable of misrepresentation. But we know that many accusations of vicious professional conduct have been leveled against him, most of them implicating dishonesty, as in Lakoff's "Chomsky . . . fights dirty" (Shenker 1972). The data is quite overwhelming. Postal is far from alone as someone who finds Chomsky's rhetoric offensively dishonest (I have said it myself: R. A. Harris 1998:14, *et passim*), though we can always count on Postal to say it as nakedly as it can be said:

After many years, I came to the conclusion that everything he says is false. He will lie just for the fun of it. Every one of his arguments was tinged and coded with falseness and pretense. It was like playing chess with extra pieces. It was all fake. (Quoted in MacFarquar 2003)

Margaret Boden's statement is among the mildest of these rebukes. I am also now convinced it is the most accurate (and that my own 1998 view was too shallow): it is more a matter of unreliability than of dishonesty. The distinction may seem slight, but I now come down more on the side of reckless negligence than on the side of calculated deceit. Unreliability with the truth certainly does not give Chomsky a halo, and I'm not saying there aren't gray areas, but neither does it fit him for horns.

Whatever it is that Chomsky does with the truth when it fails to suit him, it is not innocent. But neither is it uniformly malicious. About his own life, maybe it is tricks of memory, the distortions of ego; about other's work, tricks of perception, borne of bad reading, lack of goodwill, blinding conviction. But Chomsky's falsehoods, of which there are many, easily and widely documented, alongside easily and widely documented truths, insights, and profundities, are, like the man himself, not simple.

One factor is unquestionably arrogance. While he is remarkably humble in some respects (human beings are not cartoons or allegories; we all have our contradictions), Chomsky is also blindingly arrogant in other respects, particularly noetic respects. He is supremely confident in his knowledge, and in his ability to extract knowledge and understanding in a way virtually everyone else, certainly anyone who sees otherwise, is lacking. Fair enough. He has a lot to be arrogant about. Most of the rest of us would be dreadfully lacking if measured against his capacities; most of us, in fact, would not even register on the same scale. But arrogance is not the best route to clarity, let alone tranquility.

Chomsky perpetually "implies that people who disagree with him are stupid and ignorant" (Pinker, quoted in Flint 1995), but it goes beyond implication, beyond tactics of bullying and dismissal. I see no reason to doubt his sincerity. Every indication is that Chomsky genuinely believes such people—that is, people with other beliefs, opinions, reasoning than his—are stupid and ignorant, with the same utter certainty that he holds his catalogue of other convictions. Minimally, we know that he speaks and writes as if these other people are stupid and ignorant, which can't help but imply he is correspondingly so much more intelligent that he knows better than they do, even about what they are actually saying. Conversely, he also acts as if his own semantic intentions are all that is necessary for his claims to go through, even if others are just too dim to recognize his meaning.

Chomsky has, in other words, (1) a hermeneutic disorder and (2) an expressive disorder. On the first count, he apparently cannot read (or listen) openly; on the second, he is apparently unaware (or just does not care) that his own sometimes idiosyncratic meanings are not shared by all. Both problems would seem to follow from that blinding arrogance.

I know, I know: psychobiography is a perilous activity. But Chomsky's rhetorical practices are so persistent and so manifest and have been so consequential for so very long that *some* explanation is required, and I am more comfortable with the view that arrogance gives him an unreliability with the truth than I am with the view that he lies for sport. If I'm wrong, I'm wrong. But I would rather err by misjudging his personality than his morality.

Chomsky's hermeneutic syndrome includes, as one defining disorder, the affliction that I. A. Richards (1936:24) dubbed *the combative impulse*, a disposition which puts "us in mental blinkers and make us take another man's words in the ways in

which we can down him with the least trouble.” These blinkers can equally make us overlook another person’s words, miss those words that might salvage their argument, or contextualize it in a way that reduces the force of our objection. It is this second aspect especially that explains why Chomsky is such an inept reader.

To call Chomsky inept sounds crazy, I realize, especially as a reader. By all accounts, Chomsky reads copiously, and at astonishing speed, and with remarkable precision of recall about many specific points. But he cannot (or will not) read with goodwill for authors he sees as opponents. Maybe the copiousness and the speed are parts of the problem. Maybe he scans for, or possibly is just magnetically drawn toward, facts and opinions that trigger his dispositions—his conviction that Smith is wrong, his belief that Jones is right, his feeling that P belongs with Q—whereupon his vaunted intellect is off and buzzing. He may not be all that good a listener, either. Certainly, I think it is fair to say, everyone whose work he has attacked feels misrepresented. *Everyone*.

Chomsky’s targets barely recognize themselves in the funhouse mirror he holds up, squashing their claims here, stretching their data there; omitting facts in one place, ascribing unaccountable beliefs in another. Back to Boden. She wrote a very well respected two-volume history of the cognitive sciences in relation to artificial intelligence (Boden 2006)—a history in which, as one would expect, Chomsky plays a significant and overwhelmingly positive role. But it’s a history. Facts count. Not all the facts are favorable to Chomsky. Currents of critical opposition surface in Boden’s chronicle, some levels of enmity get an airing, and some of Chomsky’s self-representations are challenged. Chomsky read it. It made him unhappy. Chomsky—as always, he reports, reluctantly; as always, only at the insistence of others; as always, merely in the service of the truth—attacked. Here is part of Boden’s response to Chomsky, doing double duty since it nicely sums up some of his criticisms as well:

According to [Chomsky], I said that cognitive scientists, himself included, had overlooked Karl Lashley’s paper on serial order in behavior. Moreover, he complains that I didn’t realise that the early ethologists had had much of relevance to say. He’s mistaken on each count. I’d already discussed Lashley at length. I’d even pointed out that [Lashley’s] serial-order talk was converted from “a mini-sensation” at the Hixon Symposium in 1948 into “a genuine sensation” in about 1960 by Miller and—guess who!—Chomsky. Similarly, I’d outlined the work of the pioneers of ethology, including four of the names listed by Chomsky, explaining how their views differed fundamentally from the behaviorist orthodoxy. (Boden 2008:1958)²²

Chomsky, it is clear, has not read the book that he is attacking very well that he is attacking. (You needn’t take Boden’s word for it. Read the book. Read the attack. The mismatches

are glaring.) That is not shocking in itself, of course. He would not be the first reader to skim a book, nor the first polemicist to assemble bits and pieces, pulled out of context, into a straw adversary. But his reading is notable for two reasons (well, for three reasons, but one of them is on a special shelf of its own, always in plain sight: because it's Chomsky). First, the distortions are remarkably blatant. Second, the pattern is endemic to Chomsky, almost to the point of pathology, a word I do not use lightly. All one needs do most of the time is to look at the text he is characterizing: the sentence, or the half-sentence, that he insists is saying one thing, is actually saying something very different, sometimes the very opposite. Really, all it takes is simple literacy to see the misrepresentations. They can be so staggeringly obvious that it is remarkable he thinks he can get away with them. At this point the explanation has to move from something like sloppiness (haste, distraction, whatever) toward something a bit deeper, like a hermeneutic incapacity (or dishonesty).

The Venerable Quine's response to Chomsky's characterizations of his classic *Word and Object* chimes with Boden's:

Chomsky's remarks leave me with feelings at once of reassurance and frustration. What I find reassuring is that he nowhere clearly disagrees with my position. What I find frustrating is that he expresses much disagreement with what he thinks to be my position. (Quine 1969:302)

Worse than the distortion for Quine—whom Chomsky first approached at Harvard when Quine was a professor and Chomsky a Junior Fellow; who became a mentor and a friend—was the latter's utter lack of charity:

The more absurd the doctrine attributed to someone, *caeteris paribus*, the less the likelihood that we have well construed his words. In *Word and Object* I urged this precept. . . . I wish Chomsky had considered this precept before attributing to me the absurd belief that . . . (304)

Quine's precept is exactly inverse of Richards's hermeneutic disorder, incompatible with someone who perpetually believes (or is simply content to imply) his opponents are stupid and ignorant. Chomsky, if he conceives someone as an adversary, appears to feel no responsibility for what their actual claims or intentions might be—very possibly does not even notice what their actual claims or intentions might be—only for his own interpretation of their claims or intentions. Boden remarks on his practice

of continually quoting contemptuous terms picked out of my text as though I had used them myself. I had not. Rather, I had quoted them—from critiques

of Chomsky written by professional linguists and psycholinguists. His inability to see the difference leads to misinterpretation over and over again. It follows from the elementary distinction between mention and use that quotation doesn't necessarily imply agreement. (Boden 2008:1958)

In fact, the terms needn't even be contemptuous, just unwelcome to Chomsky, for reasons often known only to him. My own experience is exactly like Boden's, except in private.

Chomsky's public responses to the first edition of this book are highly disparaging, using terms that don't fit my image of the book or of my scholarship at all well; or, in fact, the evidence. My account of the Linguistics Wars he calls, in one of his favored curse words, *Foucauldian*; I am a postmodernist, he says, believing all is power, nothing is grounded in fact (see Grewendorf 1994; Barsky 1998:56–57). You've read this far now. Have you caught a whiff of Foucault? Go check the bibliography. I'll be here when you get back.

Find Foucault? Any of the familiar French suspects? Derrida? Lyotard? Baudrillard? Turn the whole text upside down in a Where's-Postmodernist-Waldo game if you like. There are no claims that science is a mere collection of power plays, no denigration of facts. But Chomsky's insults are vague and allusive and amount to little more than pique; they can be set aside. Chomsky was kind enough (read *no* sarcasm into the adjective—it was an incredible kindness) to correspond with me at length about the book, however, so I have extensive and detailed letters from him with far more specific criticisms of the book, and other correspondence I've had with him follows the exact same pattern.

My experience of his reading (and quoting and paraphrasing) practices is precisely the one Boden describes and Quine laments and scores of others have complained about, maybe hundreds of others—Chomsky picking words and phrases out of a context that compromises or contradicts the uses to which he chooses to put those words or phrases. But my experience is an even more perplexing one, because it is in private letters and emails, in multiple iterations. I am the only person to see his characterizations, and they are about words that I wrote, and yet Chomsky just has his way with them, repeatedly, in our correspondence.²³

In perhaps the most breathtaking example of Chomsky's misreading, Chris Knight advanced the position that the high level of abstractness of Chomsky's theories is a deliberate strategy to make those theories utterly unusable for such things as natural language interfaces, to prevent the military (which funded a great deal of Chomsky's early research) from incorporating them into its killing machines.²⁴ Knight's whole argument depends on the premise that Chomsky "was at all times refusing to collude" with the military (Knight 2018b). Somewhat astonishing, though, Chomsky seems to think that Knight slanderously accuses

him of complicity with the U.S. military—that his active resistance to the war in Vietnam refutes Knight’s position rather than, as it actually does, supports Knight’s position. Raising the absurdity stakes of his misreading to greater and greater levels, Chomsky goes on to point out that “Knight sidesteps” the matter of his anti-Vietnam activities (Chomsky 2017). Apparently, passages like this one evaded Chomsky’s gaze:

Already celebrated for his linguistics, he soon began commanding a mass audience, helping to organize draft card burning and other direct action against all aspects of the war. In October 1967, with many thousands of others, he attempted to form a human chain around the Pentagon. (Knight 2016:4)

We see Chomsky’s combative attitude to other people’s words playing out in the Linguistics Wars during a rather notorious episode for the Generative Semanticists, an exchange Chomsky and McCawley pursued over the *respectively* argument. Lakoff had heard Chomsky’s treatment of McCawley’s argument in lectures at MIT, and wrote about it to McCawley, who then wrote to Chomsky trying to sort things out. Chomsky responded as only Chomsky responds: a twelve-page, single-spaced letter—with minor editing and a few transitions, it could be an article—telling McCawley that he misunderstands himself. I encourage you to read the saga in Huck & Goldsmith (1995:60–70), who chart the claims and counterclaims closely, pulling out the strains of insurrection in McCawley’s language, the strains of displeasure and distrust in Chomsky’s. But in terms of Chomsky’s rhetorical practices what stands out most sharply is his complete unwillingness to credit McCawley with any understanding of his own argument, his own words.

McCawley writes repeatedly that the position Chomsky ascribes to him is one that he rejects in the original article, and one that he wants, in private correspondence, for Chomsky to realize he rejects. Specifically, he explains to Chomsky that he is only proposing one *respectively*-transformation. The other provisional rules in the article (that is, the postscript to McCawley 1968a) are there only to be rejected, eliminating possible contenders to buttress the final version, a rather standard move in scientific argumentation. Chomsky won’t budge a nanometer. “I simply don’t see the ‘eventual analysis’ that you mention for ‘respectively,’” he says. “What I see are just the ‘bits and pieces’ that I tried to pull together, but no rejection of them” (Chomsky to McCawley, February 12, 1969). It doesn’t matter to him what his former student, just two years out from his doctorate, says about his own intentions and claims. It doesn’t matter that the relevant argument, while admittedly somewhat muddled, has very clear signposts of McCawley’s intentions (“There are compelling reasons why this proposal must be rejected. . . . Thus, in order to explain 141–149, it will be necessary to change

the formulation of the *respectively* transformation. . . . the correct formulation of the *respectively* transformation must thus involve a set index”—McCawley 1976b [1968]:163–64). Nothing matters to Chomsky here but his own unutterable conviction that he has the truth, McCawley not.

As we know, Chomsky went ahead and published an attack on the argument in which he not only ignores McCawley’s stated intentions but ascribes the opposite intentions to him with such feigned clairvoyance as “Presumably, then, McCawley intends” and “McCawley seems to have in mind the following organization,” and then complains that the bits and pieces don’t go together. He follows this with the accusation that McCawley is fallaciously equivocating by using one name (“*respectively*-transformation”) for the different operations performed by those bits and pieces (1972 [1968]:76–80).

Time has not made him more perceptive to meanings on the page, nor more charitable in construing the intentions of others, nor any tenderer in his wording; it might be the reverse on all scores. The most outrageous recent example of these tendencies—we are back, now, in the public sphere—is in his response to an article by John Searle in the pages of the *New York Review of Books*, the scene of Searle’s famous, celebratory 1972 essay, “Chomsky’s Revolution.” Three decades on, after many shifts in Chomsky’s program, after the Linguistics Wars, after the flowering of alternate generative models, after the fading and then disappearance of Deep Structure, after the rise of Cognitive Linguistics, after the quicksand of shifting terminology (*transformations* replaced by *computational operation*, *competence* by *I-Language*, sort of, *performance* out, with *E-Language* as a new kind of foil), and especially after yet one more book by Chomsky in his perpetual-revolutionary mode, on the goals and prospects and achievements of his framework—this one entitled *New Horizons in the Study of Language and Mind* (Chomsky 2000)—Searle had second thoughts about the revolution.

Under the guise of reviewing *New Horizons*, Searle offered his reappraisal, signaled by the title, “End of the Revolution.” Searle’s official verdict is, “Judged by the objectives stated in the original manifestoes, the revolution has not succeeded.” It is hard to disagree if we recall, for instance, Lees’s promotional optimism that Chomsky was ushering in “a comprehensive theory of language which may be understood in the same sense that a chemical [or] biological theory is ordinarily understood by experts in those fields” (Lees 1957:377). That has not proven to be the case.

Searle gives Chomsky his due. The review is respectful, thoughtful, and far from an attack. Searle says,

Something else may have succeeded, or may eventually succeed, but the goals of the original revolution have been altered and in a sense abandoned. I think Chomsky would say that this shows not a failure of the original project but

a redefinition of its goals in ways dictated by new discoveries, and that such redefinitions are typical of ongoing scientific research projects. (Searle 2002a)

Searle is nostalgic. The *Aspects* theory had warmed the linguistic cockles of his heart, as it had warmed cockles throughout much of the academic world at the time, and he misses it. He sketches out the theory wistfully, and says,

It was a beautiful theory. But the effort to obtain sets of . . . rules that could generate all and only the sentences of a natural language failed. Why? I don't know, . . . but seen from outside a striking feature of the failure is that in Chomsky's later work even the apparently most well-substantiated rules, such as the rule for forming passive sentences from active sentences, have been quietly given up. (Searle 2002a)

He supports this lament with this quotation from *New Horizons* indicating that Chomsky's program had indeed

rejected the concept of rule and grammatical construction entirely: there are no rules for forming relative clauses in Hindi, verb phrases in Swahili, passives in Japanese, and so on. (Chomsky 2000:8; see Searle 2002b)

We know Chomsky. We can't expect him to respond simply that, yes indeed, he now believes the *Aspects* conception of rules and constructions has to go. "All the properties which were explained in terms of deep and surface structure were really mistakenly described," he might have said, as he in fact had said to a *New York Times* reporter a few years earlier. "And they ought to be explained, and maybe can be explained better, without postulating these systems" (Fox 1998). He might have clarified that the short-term goals that those systems attempted to satisfy now look to be mistaken, and that longer-term, higher-order goals now take precedence. The hierarchy of values has changed—if not the "redefinition of goals" as Searle suggests, perhaps a realignment of goals.

However, it's Chomsky. So, nothing doing. He is contemptuous of the "redefinition" olive branch Searle holds out, and simply denies ever having been involved in the beautiful theory Searle outlined:²⁵

Searle's project was never entertained, in fact never even mentioned in the past fifty years except to stress—explicitly, forcefully, and unambiguously—that [generative grammar] adopted a conception of the nature, use, and acquisition of language in which his notions play no role at all.

...

Consider Searle's most "striking feature of the failure" of [my] "revolution": that "even the apparently most well-substantiated rules . . . have been quietly given up," specifically, the rule converting "John loves Mary" into "Mary is loved by John." It is true, as he says, that "nobody thinks that anymore," because no one ever did. The rule could not have been "given up" because nothing remotely like it was even formulable in the GG framework. (Chomsky 2002b)

There was, it seems, no Passive Rule in generative grammar, ever; never proposed, never considered, never, ever, thought of, even remotely, and Searle is an utter bonehead—the response bristles with typical Chomskyan *ad personam*s about intellectual feebleness ("[Searle] completely misunderstands . . . persistently misconstrues . . . misses entirely . . . fails to comprehend")—for ever believing there was a project in any way associated with Chomsky that might have included a rule for such phenomena as passive. In fact, such a conception was explicitly, forcefully, and unambiguously rejected for the entirety of Chomsky's career.

The beautiful theory never happened.

Searle surely knew to expect contention and invective. He had been around the block with Chomsky more than once, but the tack Chomsky takes stuns him all the same. "Does Chomsky seriously deny that he held this conception?" he asks in astonishment:

I went to MIT in the 1960s to do research with Chomsky precisely because I was writing a book on these and related issues. There definitely was a passivization rule. I heard Chomsky explain it in detail in lectures at MIT and read it in his books. (Searle 2002c)

Readers with any knowledge of Chomsky's linguistics at all—and *NYRB* readers are pretty well informed—would have been just as baffled as Searle. Chomsky was known as the champion of a new type of linguistic rule, the transformation, and that rule type was exemplified by such things as the relations between active and passive sentences. Indeed, anyone who remembered Searle's original article, in which "Chomsky's transformational rules" are hailed because they "show the similarity of the passive to the active" (Searle 1972), might wonder why it took Chomsky thirty years to object.

Chomsky is not lying. He is selecting and deflecting very ungenerously but he *is* right, in a niggardly, hair-splitting way, hoisting Searle on the petard of a ridiculous technicality. Sentences were not converted into other sentences in the *Aspects* model. True. Deep Structures were converted into Surface Structures, a different theoretical conception altogether. Chomsky is right. He is just absurdly pedantic in his claim to rightness.

But one might wonder, also, about *this* grotesque misrepresentation of Transformational Grammar from another misbegotten soul: the allegation that there is a transformation which “converts ‘the boy is tall’ into ‘the tall boy.’” Or the same confused author, years later, saying, “There is a transformation which converts ‘that he left was unfortunate’ . . . into ‘it was unfortunate that he left’” This author, there can be no question, completely misunderstands Transformational Generative Grammar, persistently misconstrues it, misses entirely the way it functions, fails to comprehend it utterly.

We’ve been keeping company in this book long enough, you and I, that you surely know the punchline: Yes, these quotations are from Chomsky (1957a: 72, and 1964f:13, respectively). *Chomsky* can say whatever he likes, in service of informality and explication for a nontechnical audience. But woe betide *Searle* if he engages in a similar kind of short-hand. Chomsky is permitted to talk loosely, because he really knows the truth, but Searle gets no such license. Looseness for him can only prove incontrovertibly that Searle cannot possibly understand what he is talking about.

If Chomsky is not lying for sport here, as Postal has it, playing chess with extra pieces, he is certainly playing some unwholesome game, some highly skewed scholastic amusement, some excruciatingly petty variant of dialectics, with pieces camouflaged by private definitions, serving one goal and one goal only, to crush Searle.

And there’s something else: Chomsky routinely courts outrage, saying things radically against the grain. Championing rationalism was outrageous in the context of late-1950s philosophy of mind. Advocating mentalism in the context of late-1950s linguistic positivism was outrageous. Appealing to complexity in the simplicity-suffused rhetorical ecology of mid-1960s Transformational Grammar was outrageous; then turning to simplicity/minimalism in the early-1990s Principles and Parameters ecology, suffused as it was with intricacy and complexity; and proposing the 10^{10} neuron-packing account of language evolution; and the repeated claim that “there is only one human language, apart from the lexicon” (Chomsky 1995:131), just a few words separating Hittite from Mandarin from Kwak’wala; and, stretching for further shock-value, that there is really only one *organism* on earth “though with many apparent superficial variations” (Berwick and Chomsky 2016:61), like amoebae, elephants, and praying mantises; . . . one could keep this list of outrageous statements going for a page or two, it is such a standard move of Chomsky’s argumentation, Chomsky’s thought, Chomsky’s rhetoric.

Chomsky has even suggested it is perfectly reasonable that “humans [could] come to have an innate stock of notions including *carburetor* and *bureaucrat*” in the course of evolution; nature would only have to “anticipate” the relevant “future physical and cultural . . . contingencies” (2000a:65–66). And, perhaps

the most outrageous claim of all, casually advancing the most discredited and ridiculed philosophy of mind in the history of philosophy of mind: that we have “some kind of internal homunculus ‘understander’ and agent,” a central scrutinizer of some kind “who’s using the entire sound and entire meaning.” When we speak, he says, we have a lot of factors beyond Merge and our computational atoms in play, factors that are

situation-related, like what . . . you’re talking about, what background information you’re using, etc. But that’s available to the homunculus; it’s not going to be in the language faculty. The language faculty is kind of like the digestive system. It grinds away and produces stuff that we use. (Chomsky 2012b:258, 37)²⁶

Proclaiming to Searle there never were any (sentence-to-sentence) rules in Transformational Grammar, especially no such Passive Rule, is only mildly eccentric in Chomskyan terms.

There is, then, more to Chomsky’s unreliability-with-truth problem than just impaired reading, because his claims, no matter how outrageous, have a foundation of some kind, often a very sturdy one, as with rationalism and mentalism, sometimes a very flimsy one, as with the never-were-any-rules maneuver.

He has carried out some similar sleight-of-hand with the once theory-defining notion of grammaticality. The Generative Semanticists eroded that notion, as we recall, then publicly rejected it as an artifact with little use to linguistics distinct from the context of utterance. Chomsky would have none of it: the first case he prosecutes in “Some Empirical Issues,” the only paper he admits to be a “response” to Generative Semantics, is against Lakoff’s suggestion that there is no encapsulated notion of grammaticality distinct from context and intention. “Consider the matter of grammaticalness,” Chomsky says, thumbs in his vest, “certainly a fundamental issue,” before dismissing Lakoff’s argument as a terminological confusion, “which is typical of . . . Lakoff” (1972b [1968]:120, 122). But things change in Chomsky’s program, and Chomsky later came to abandon grammaticality as well—in a different and altogether more imperious way than the Generative Semanticists. Chomsky doesn’t abandon grammaticality by arguing against it, as they had; nor does he so much as hint there had ever been a controversy about it, any point on which an argument might be raised. He abandons the notion of grammaticality by simply denying it even needed abandoning, denying that it had any importance in his work at all, or in any work related to his program, ever. The notion of grammaticality “has no significance,” he said in the 1990s. Not now, not ever:

The concepts “well-formed” and “grammatical” remain without characterization or known empirical justification; they played virtually no role in early work on generative grammar except in informal exposition, or since. See Chomsky

1955[a], 1965; and on various misunderstandings, Chomsky 1980b, 1986b (Chomsky 1995 [1993]:213n7)²⁷

If you're doubting your memory about whether grammaticality *did* play a role, an absolutely definitional role, in early generative grammar, feel free to go back to Chapters 2 and 3 and dig up some of the many quotations on the matter, from Chomsky and others, or see if you can figure out what all those asterisks are marking if not a lack of grammaticality, or if you can sort out what the point of that famous Chomsky sentence, "Colorless green ideas sleep furiously" was if not to identify grammaticality as separate from semantics. Who would bother to separate grammaticality from meaning if it was a notion without significance?

There is a doth-protest-too-much quality about the abandonment, but the question presents itself, "To whom is he protesting?" No one is arguing with Chomsky that yes, in fact, grammaticality/well-formedness *was* important in early work (where *early* ranges from 1955 to 1993). Yet Chomsky insists that grammaticality has always been a negligible concept in generative grammar, without form or function, and always will be. If that is the case, one of course wonders, why would it need to be said?²⁸

The claim is so outrageous that Pullum calls it a "direct falsehood," and, just to be sure we don't miss his point, "certainly an untruth." It is hard to disagree with him. Chomsky's fingers always seem to be crossed behind his back on claims like this one. But with enough casuistic stretching the claim can be contextualized into some level of Humpty-Dumptyan veridicality ("When I use a word . . . it means just what I choose it to mean—neither more nor less," L. Carroll 1999 [1872]: 213). One just needs to read Chomsky very, very charitably, an exercise we will now mount, pausing only to note that a similar level of charity, or any level at all, is notably lacking in Chomsky's reception of other people's arguments.

Clues can be found in two books Chomsky says are concerned with "various misunderstandings" about well-formedness, *Rules and Representations* (1980b [1978]) and *Knowledge of Language* (1986). Both of them are books in which Chomsky pursues or instigates many philosophical debates, so sifting through them for the treatment of the specific misunderstandings he has in mind here, is a bit like searching for a needle in a haystack; or, rather for a secret decoder ring—the one etched "Well-formedness/grammaticality claims. Save for 1993"—in a secret-decoder-ring stack. But it's there. In particular, with his introduction of the terms *I-Language* and *E-Language* in *Knowledge of Language*, Chomsky does some lumping and splitting with respect to well-formedness that foreshadows his later dismissal of its importance, seeming to associate it with *E-Language* only. If my semantic archaeology is correct, well-formedness/grammaticality belongs with *E-language*. *E-language* played virtually no role in generative grammar. Therefore, well-formedness played virtually no role in generative grammar. Oh,

and E-Language is without characterization or known empirical justification, so well-formedness is without characterization or known empirical justification.

Chomsky's unreliability with truth here comes not with his positions on well-formedness, E-Language, and so on, all of which are articulated fairly carefully and in consonance with the Minimalist Program, which he was initiating in 1993 and which is distinctly uninterested in issues of formal representation or grammaticality. The unreliability comes with Chomsky's retrofitting of this position to a history that, so far from supporting it, only provides evidence that it is a direct falsehood, certainly an untruth. But Chomsky treats his own history, theoretical and academic, as a blob of clay that he can shape any way he likes and never has to fire.

In some imagined universe, it may be that Chomsky always had a trajectory to the Minimalist Program in mind from his first recorded efforts, his BA thesis, and that dallying with well-formedness/grammaticality in the *Logical Structure to Lectures on Government and Binding* period was just a necessary but informal sandboxing of ideas along the way. It may be that when the Generative Semanticists repudiated grammaticality it was premature in this trajectory to share that rejection publicly; in fact, that rejection had to be exposed as a terminological ploy, without substance. But the concept of grammaticality was always informal, without real character or a genuine role, and once the conditions were right this could be made explicit. Grammaticality could be revealed as a trivial notion all along.

In such a universe, with such special knowledge of the long-term plan, and therefore of the meaning of such words as *well-formed* and *informal exposition*, Chomsky's claim becomes truthful. And, just maybe, that universe is the one Chomsky inhabits. None of this elaborate rationalizing refutes Pullum's accusation of a "direct falsehood," of course, but it may be that the rest of us, including Pullum, saw one history. Chomsky lived another.

The same perhaps holds for Chomsky's personal history. Certainly, he lived it intimately, and the rest of us only have data to go on. From the inside, as Chomsky saw his youth,

He always felt completely out of tune with almost everything around him . . . he was always either alone or part of a tiny minority [in his political beliefs]. . . .

He was always on the side of the losers. . . .

[After the bombing of Hiroshima] he just walked off by himself into the woods and stayed alone for a couple of hours. He felt completely isolated. (Otero 1988:22)

The perceptions of his professional life are in close sync with these feelings. In the late 1970s, for instance, after two decades of being lionized as the Einstein of linguistics for utterly changing the face of the discipline, after having spearheaded

at least three recognizably distinct approaches, with their distinct groups of devoted followers, he could say

As I look back over my own relation to the field [of linguistics], at every point it has been completely isolated, or almost completely isolated (Chomsky 1982a [1979–80]:42)

He feels this stance so deeply and so aggressively that he takes offense at anyone who suggests otherwise. “Uh-oh. I think I’ve insulted Noam Chomsky,” begins a 1990 article in *Scientific American*. The author had. His mistake was identifying Chomsky as the principal authority in linguistics.

“No I’m not,” [Chomsky] snaps. His voice—which ordinarily is almost hypnotically calm, even when he is eviscerating someone—suddenly has an edge. “My position in linguistics is a minority position, and it always has been.” (1990:40)

From the outside, this view appears bizarre in the extreme—one that it is virtually inconceivable anyone else would hold about Chomsky’s relation to the field of linguistics—but there may be some justification for this view in Chomsky’s frequent feeling about the way others construe his ideas.

There seem regularly to be substantial misalignments between the intentions behind his claims or observations (to the extent they can be reconstructed) and the interpretations of those claims and observations by others. Certainly he often decries the meanings people ascribe to his statements. His biographer, Robert Barsky, commenting on ideology and indoctrination, says that those factors cause many people to be “impervious to what Chomsky considers obvious truths” (Barsky 1998:17). That is certainly accurate in some cases, possibly most, but another lesson here is that the things Chomsky considers to be obvious truths can be opaque to many others; maybe—dare we say it?—not true at all. The fault might be in ideology (the other person’s). It might be intellectual deficiency (obviously, the other person’s). But once in a while, something neither Barsky nor Chomsky appear prepared to admit, it might just be Chomsky.

It might be Chomsky, and not only because he is unclear or imprecise, which he undoubtedly can be. It might be that he has these unshakeable Humpty-Dumpty convictions about the meaning of words that others cannot access. Despite using the words *well-formed* and *grammatical* in ways that look absolutely definitional of generative grammar for almost four decades, and using them in ways that look pretty rigorous at times, Chomsky can one day remark casually that they have only been used loosely because the concepts have always been peripheral to his program. It’s what he always thought in this isolated Chomskyan universe, one supposes, but didn’t think relevant to tell the rest of us.

In much the way that his polemical targets feel misrepresented when he characterizes their views or even their explicit claims, Chomsky apparently feels misunderstood when he is confronted with these misalignments between his apparently private meanings and the public meanings of words and arguments. It's true that he almost always ascribes unwelcome construals to the low cerebral wattage of the construer, in tones that do not encourage harmony. But there is no reason to believe his feelings are not genuine. He has said regularly he doesn't want followers, in any domain, and he consistently denies any sort of mentorship role to the great scholars under whom he studied (Harris, Jakobson, Quine, Goodman); rather, in his perceptions, they misunderstood what little they bothered to read or listen to.

Chomsky *courts* isolation, in his meanings perhaps as much as in his disciplinary role. Maybe *that* explains the Linguistics Wars and related episodes. Maybe he *wants* to alienate overly enthusiastic acolytes, to purge his program regularly.

Is this why he would take the unpublished thesis of a junior lecturer to be the chief document of the "Transformationalist position" on nominalizations, why he would take George Lakoff as its chief representative, not Zellig Harris, who invented the position, not Robert Lees, whose *Grammar of English Nominalizations* was "the fullest transformationally-oriented grammar" available between "the publication in 1957 of Noam Chomsky's apocalyptic little book, *Syntactic Structures*" and *Aspects* (Schachter 1962:134)? Indeed, why target anyone? Why not offer up his new treatment as act of explicit renovation of his own direct proposals, since the transformational treatment of nominalizations was a set piece of *Syntactic Structures* (1957a:72) and promoted (in opposition to a 'lexicalist' account!) in *Aspects* (1965 [1964]:184)?²⁹

Maybe all of this talk of Humpty-Dumpty and self-image is just a polite and convolutedly psychobiographical way of saying that Chomsky is delusional. Certainly, his claims about the history of his framework, and about the history of his own professional rise, and about the history of his involvement in the Linguistics Wars, are significantly incompatible with the documentary record. His claims are also incompatible with the recollections of many observers, some of whom worked quite closely with him. His claims are so incompatible with documentary and testimonial evidence that we can be sure Chomsky would not hesitate to call them delusional if they came from someone else. I leave the final judgment to you. What else can I do?

Returning to the rhetorical climate of the field, Chomsky's attitudes have unquestionably bred an unwholesome contentiousness in linguistics. Contentiousness is far from universal, is perhaps now at its lowest level than in decades, and Chomsky's own work seems now more relaxed in this respect than it has ever been. Even in the Pirahã affair he said very little beyond the muttered aside that Everett is a "charlatão puro," whose work is unfit for the attention of

serious linguists. Chomsky seems more willing to shift ground in agreeable ways these days, than to shift it in discordant ways. He did not retrench and double down on recursion in the face of the Pirahã data, his familiar pattern. Rather, he said, “It doesn’t matter.” Language is recursive, we would not have language without the mutation that delivered the recursive Merge to us, recursion might be all there is to Universal Grammar, and it is the fulcrum of the Basic Property, but apparently not all languages need to include recursion.

The contentiousness, too, pre-dates Chomsky’s ascension. He didn’t invent bad behavior in linguistics. He entered the field when scorn for traditional language teaching, and occasionally for each other, was common among linguists. But like the increase with many aspects of late Bloomfieldianism (formalism, meaning containment, the interest in syntax, psychology, and mathematical modeling), the level of rancor increased exponentially under Chomsky’s influence. And, for reasons we have seen repeatedly, the eristic climate is rightly associated more closely with Chomsky than with any other figure in the modern history of the field.

The Legacy?

When the intellectual history of this age is written Chomsky is the only linguist whom anybody will remember.

—Geoffrey Nunberg (Goldstein 2008)

Whether Chomsky is right about the nature of human language and cognition is an easy question: he isn’t. More interesting, to my mind, is the question how it could have come about that someone acquired such a towering reputation on such a flimsy basis. . . . Chomsky has been adequately refuted before, for readers willing to entertain the possibility of his being wrong. The time for that may be past. What we do with clowns is simply laugh at them.

—Geoffrey Sampson (2016:597, 601)

In 2011 at the big 150th birthday party that MIT threw for itself, answering a question as part of a panel on the institution’s impact on cognitive science, Chomsky casually and sweepingly dismissed a whole field of inquiry, as he is wont to do. This time it was statistical modeling of language behavior. He said that what researchers in that area call success is novel in the history of science and epistemology, *novel* not in a good way—not, Chomsky insisted, in a “sense that science has ever been interested in.” Ouch.

Greg Marcus notes that “a more polite person would have put that sentiment more gently . . . [while] a less influential person would simply have been ignored.” Neither of these characteristics is to be found in Chomsky. He is not polite in his opinions, and he is a big, big gorilla. So, what happened?

One of the world’s busiest and most influential software engineers—Peter Norvig, the director of research at Google—wrote an eight thousand four hundred word blog post, extensively footnoted, critiquing Chomsky’s remark. It was two hundred or so paragraphs in response to [less than three minutes’ extemporaneous commentary]. In practically any other context, it would be unseemly for a leading researcher at one of the world’s largest companies to spend so much effort picking on an off-the-cuff remark made by a man in his eighties.

“But I see it in a different way,” Marcus adds. “Two titans facing off, with Chomsky, as ever, defining the contest” (Marcus 2012).³⁰

Chomsky is titanic, no question, but his influence in linguistics may be as weak now as it has been in any of the seven decades that he has been ploughing the field. As we have seen repeatedly, Chomsky’s perception of his relation to the rest of linguistics, if not the rest of the world, is aggressively marginal. But, as we go to press, Chomsky might finally be getting his wish. They overstate it for their own promotional purposes, but Ibbotson and Tomasello are not far off the mark when they observe that “cognitive scientists and linguists have abandoned Chomsky’s ‘universal grammar’ theory in droves” (2016).

It is impossible not to notice, among the many other factors in Chomsky’s relative wane, the relative waxing of George Lakoff. Since shaping and settling into the Cognitive Linguistics framework, he has been the more stable theorizer of the two, and Cognitive Linguistics is *very* successful. No one would have disputed Nunberg’s observation about Chomsky’s towering role in the intellectual history of this age a decade or two ago, but Lakoff may be giving him a run for his money these days.

We have these superficial languages that we speak with, the hero (actually named *Hiro*) of a near-future science fiction novel says, written when Chomsky’s fame was at one of its highest peaks; but underneath those languages, there’s another one, “based in the deep structures of the brain, that everyone shares.” Hiro goes on: “These structures consist of basic neural circuits that have to exist in order to allow our brains to acquire higher languages.” Further, “‘deep structure’ and ‘infrastructure’ mean the same thing.” Hiro’s not just giving a lecture. As the climax looms, he’s explaining the plot of the novel, in which nefarious religio-fascistic forces are taking over the world by controlling the minds of computer programmers through special codes that

can tie into the deep structures, bypassing the higher language functions. . . . Once a neurolinguistic hacker plugs into the deep structures of our brain, we can't get him out—because we can't even control our own brain at such a basic level. (Stephenson 2003 [1992]:395)

The novel, *Snow Crash*, testifies not only to the popular reach of Chomsky's ideas—the author is waxing poetical, but he has clearly read a fair measure of Chomsky's linguistics, either secondhand or through books like *Language and Mind* or *Reflections on Language*—but to the enduring power of Deep Structure, not to mention the Universal Base hypothesis.

Snow Crash came out in the 1990s. A more recent science fiction novel, *Embassytown*, goes all in on Lakoff. Set on another planet, impossibly distant from earth and impossibly far in the future, it invokes George Lakoff as one of the great ancient thinkers on metaphor (Miéville 2012:141). Perhaps the author was basing his projection on sales numbers, which favor Lakoff over Chomsky by a very wide margin.

Metaphors We Live By has a sales record and a citational footprint surpassing *Syntactic Structures*, *Aspects*, *Lectures on Government and Binding*, and *The Minimalist Program* combined. And, as always with numbers, it's not just the numbers. Like Chomsky's most renowned works, *Metaphors* has wide spillage beyond the confines of linguistics. Metaphor as a research interest had been all but legislated out of linguistics in its structuralist phases, certainly within Chomskyan structuralism. But metaphor was a very hot property in a number of neighboring areas throughout the twentieth century, so the initial market for Lakoff and Johnson's work came from other disciplines. English studies folk came to the book very quickly, psychologists and philosophers showed early interest, anthropologists and even computer scientists kicked the tires; then linguists slowly started to notice, and bolstered by the kind of work Lakoff highlighted in *Women, Fire, and Dangerous Things*, it really took off.

It was assuredly true in 1980 when Newmeyer made the assessment that, in terms of influence, “no viable alternative exist[ed]” to the Chomskyan paradigm (Newmeyer 1980:249), and for decades afterwards. But there is now. If we confine ourselves just to Chomsky's more local program (the MP/Biolinguistics_{NC} amalgam—NC for *Narrow Construal* or for *Noam Chomsky*, take your pick), Cognitive Linguistics has now certainly surpassed it for disciplinary and cross-disciplinary influence. But even if we take the broader Chomskyan paradigm (including such approaches as Head-Driven Phrase Structure Grammar, Lexical Functional Grammar, Dependency Grammar, and Categorical Grammar), Cognitive Linguistics certainly rivals it. Chomsky's titanic imprint is receding.

Chomsky's legacy certainly seems to be on *Chomsky's* mind lately, and on the minds of those around him, judged by the tone, the content, and the bodies of

work published since the turn of the century, with a consistent and ongoing rhetorical maneuvering to make Chomsky the solely defining voice in linguistics; turning “to beam at the past,” as Nabokov puts it, “while massaging the lenses of the present” (1996 [1953]:303). A familiar refrain out of Chomsky’s camp, for instance, often word-for-word, is that it “is no exaggeration to say that more has been learned about languages in the past twenty-five years than in the earlier millennia of serious inquiry into language” (Chomsky 2008b:7; Berwick & Chomsky 2011:29, 2016:69; Polychroniou 2016).³¹ Undoubtedly, there is little exaggeration here, except in its tacit implication that all this learning traces to Chomsky and his insights. It is fair to wonder, (1) is there a field of knowledge about which the same claim might not be made, after the computationally aided, massively state- and privately funded epistemological explosion over those same years? and (2) is the increase solely, or even largely, a function (as is always suggested) of Chomskyan programs? Would we not want to count corpus linguistics, cognitive linguistics, sociolinguistics, psycholinguistics, neurolinguistics, pragmatics, and computational linguistics, to name a few of the fields and approaches that are largely either indifferent or antipathetic to Chomsky’s work, as contributing to, if not dominating, that expansion of knowledge? Would we not also pause to note, as Blevins does, specifically of the intensive study directly under Chomsky’s watch that it has “produced less of the stable, incremental progress that had been anticipated by early commentators” (2008:723), that it has lurched from model to model, approach to approach, without a clear inventory of which analyses or which results belong only to the period in which they surfaced, and which are claimed to transcend the particular models and approaches?

Similarly, one recurrently reads in the Chomskyan literature that his Merge-pivoting proposals are the focus of widespread evolutionary attention. In the course of dismissing a wealth of proposals in evolutionary linguistics, for instance, Berwick and Chomsky write that for other theorists

Merge has ridden in on the back of, well, almost anything else but what we’ve discussed in these pages: hierarchical motor planning; gestures; music; pre-Google era complex navigation or its rehearsal; complex food caching; a compositional language of thought; a qualitative difference in human plans; knot tying; or even—we’re not joking—baked potatoes. (The story being that we, but not other animals, gained more gene copies to build the enzymes handling more easily digested cooked starch, and this fueled brain expansion after the invention of fire . . .) We’re not convinced. (Berwick & Chomsky 2016:158)

Bless their hearts, all these other researchers, this clutch of country bumpkins with their comically earnest just-so stories, are bustling about, doing their damndest to explain the remarkable evolutionary arrival of Merge, and failing

to see it right before their eyes in the perfectly obvious proposals of Chomsky's kapow! theory. One might look in vain, however, among the gesture theorists or the music-first theorists or the baked-potato theorists for Merge riding in at all, or for any transformations/computational procedures, or even for (kindly) mentions of Chomsky's program. The baked-potato theorists (Hardy et al. 2015) do not, for instance, give any indication that Merge is the entrée, and the most prominent gesture-first theorists penned these bitter lines in *Scientific American*:

Evidence has overtaken Chomsky's theory, which has been inching toward a slow death for years. It is dying so slowly because, as physicist Max Planck once noted, older scholars tend to hang on to the old ways: "Science progresses one funeral at a time." (Ibbotson & Tomasello 2016; the Planck quotation, incidentally, is spurious, and is not infrequently used in attacks on Chomsky)

Another article by Tomasello is even more direct, but has the good taste to keep its funereal suggestions to the entirely theoretical domain: "Universal Grammar is Dead" (2009). Not quite. There are busy hands exploring the implications of Merge, though it is almost exclusively by linguists flying the Biolinguistics_{NC} flag, not by evolutionary theorists of language more generally. Many of them are interested in the evolution of symbols, for instance, about which Merge says nothing.

But it is in Chomsky's publication profile since the turn of the century that one most sees a growing preoccupation with cementing, unifying, and branding Chomsky's role in linguistics. First came *New Horizons in the Study of Language and Mind* (2000), which opens with a whiggishly historical essay delivering up the Minimalist Program. More recently we have *What Kind of Creatures Are We?* (2016a) which addresses perhaps the most fundamental question of humanity by sifting through the historical results of Chomskyan research, and *Why Only Us?* (Berwick & Chomsky 2016), which makes the strongest general-audience claims for his Biolinguistic program. That year also saw the political book, titularly sporting yet another rhetorical question, *Who Rules the World?* (Chomsky 2016b). (Three books in one year, at 87 years old! "How do you account for your amazing stamina and energy level?" an interviewer for the *New York Times* asked him. "The bicycle theory," he said. "As long as you keep riding, you don't fall" [Tanenhaus 2016].)

In between *New Horizons* and the latest spate, among many other publications, have come new editions on the linguistic front of *Syntactic Structures* (2002), *The Generative Enterprise* (2004), *Aspects of the Theory of Syntax* (2014; "the fiftieth anniversary edition") and *The Minimalist Program* (2015; "the twentieth anniversary edition"), as well as, on the philosophical and cognitive science front, new editions of *Rules and Representations* (2005), *Cartesian Linguistics* (2002c, 2009),

and *Language and Mind* (2006), as well as a retrospective collection of many technical papers, including several scattered contributions to the Minimalist Program, *Chomsky's Linguistics* (Chomsky 2012).³² All of these volumes come with introductions or prefaces or forewords—in a few cases, new chapters—that tell the same story. They foreground *Biolinguistics*, a term that otherwise does not occur in the books, and the *Minimalist Program*, a phrase that does not appear in any of them prior to the titular monograph, as the endpoints of the natural, inevitable, uninterrupted march of progress. “MP is a seamless continuation of pursuits,” Chomsky says in the new preface to *The Minimalist Program*, “that trace back to the origins of generative grammar, even before the general biolinguistics program, as it is now often called, began to take shape in the 1950s” (Chomsky 2015b:vii).

The irony of the new *Aspects* preface laying out a minimalist architecture is particularly exquisite. “The most elementary fact about each individual’s language,” the new preface begins,

is that it generates a pair of interpretations (sensorimotor (SM), conceptual-intentional (C-I)) for each of infinitely many hierarchically structured expressions, where SM is the link to organs of externalization (typically articulatory-auditory) and C-I is the link to the systems of thought and action. We can refer to this virtual truism as the *Basic [Property]* of human language, instantiated in one or another form in the brain of each language user. (Chomsky 2015a:ix)³³

Aspects does indeed suggest such a mediational architecture, linking form (here, SM; in *Aspects* proper, *phonological representation*) and meaning (C-I; *semantic interpretation*), though we have seen in considerable depth what happened after *Aspects*, when Chomsky embraced complexity and found highly distasteful proposals from the Lakoffs, Ross, McCawley, and Postal (as well as related ones from Bach, Fillmore, and others) that took the Basic Property to be, well, Basic, with one result being that whatever progress made since the *Aspects* watershed has been very far from seamless. What would linguistics look like, one wonders, if Chomsky, instead of conjuring up “Remarks on Nominalization” in that period, had leapt from his bath with a cry of “Eureka!,” conjured up “The Minimalist Program,” and called Postal on the phone with “Hey, Paul! Let’s really get after this virtual truism we’ve been building toward. *A priori*, it’s the Best Theory possible!”

But, of course, that would not, could not, have been Chomsky, the constant revolutionary, the rebel without a pause button. In the methinks-’tis-a-camel;-nay,-a-weasel;-nay,-a-whale department, it has perhaps been easy to miss the menagerie for the beasts in this story, so let me remind you that the major reconfigurations

have not just been changes of direction, but abrupt reversals over the operation of his defining mechanism, the transformation. In *Syntactic Structures* through *Aspects*, transformations had structural descriptions. If the descriptions were met, the transformations fired; if not, the transformations passed by obliviously (but were presumed, in some abstract way, to “look” for their structural descriptions). In the post-*Aspects* period, reaching a crescendo with *Move* of *Lectures*, transformations (though perhaps the plural no longer makes sense at this point) applied with increasing promiscuity—whenever and wherever they could unless they encountered specific preclusions in specific circumstances. Constraints prevented movements. First transformations were prescribed, in other words, then they were proscribed. With the *Minimalist Program*, transformations once again “looked” for ways and places to apply, operating inevitably, like water in an economy of gravity. They applied on a “least effort” principle—not a regime of preclusions, like GB, with constituents buzzing like insects, everywhere and anywhere, sometimes encountering a hole in the screen, a regime of blocks and constraints; rather, a methodological regime of natural and easy movement, a regime of attraction; not pushing away, but pulling toward,—and then *Merge* emerged, now operating under universal laws of computation.

What comes of all these involutions? What is Chomsky’s linguistic legacy? In a very real sense, everything.

This is far from the whole truth. Chomsky is a creature of Harris, not to mention of Goodman and Quine. He is a conduit for Saussure and Sapir and Bloomfield, not to mention (in his construals of them) Descartes and Humboldt. He is confederate with Bar-Hillel and Halle and Katz and Postal and Lasnik and Berwick. He is a wellspring for Lees and Fillmore and Jackendoff and Bresnan and Emonds, not to mention Ross and the Lakoffs and McCawley. He is neither without the profound influence of precursors nor the vast assistance of colleagues and disciples. Still, . . .

In 1949, a shatteringly precocious undergraduate did write in his senior thesis that the set of sentences generated by the linguistic system he was investigating was “not necessarily finite,” and therefore that “the resulting grammar will in general contain a recursive specification of a denumerable set of sentences” (Chomsky 1979 [1949]:67), an insight that has driven the field of linguistics, through a welter of instantiations and reactions, pretty much ever since. It’s been a bumpy ride. Several instantiations grew mutually antagonistic, most dramatically with the Generative Semantics Heresy, and all of them were definitionally antagonistic to various other approaches. But Chomsky, the presence, has towered over the field for the better part of a century since that thesis, and—look under every blade of grass, turn over every stone, sift every teaspoon of soil—there is not an inch of the field where one cannot find the presence of an idea he has conceived or provoked or fostered or reconceived, or which did not

develop elsewhere in response to one of his ideas, or otherwise develop in some way under his influence. Even non-developments can be pinned on him. Corpus linguistics, as the most obvious example, should by all accounts have exploded in the late 1950s. The Bloomfieldians revered corpora, there were these new machines called *computers* that could process great quantities of texts rapidly, machine translation was a going concern, and Transformational Grammar was drawing impressive resources into linguistics, human and financial. But corpus linguistics didn't really take off until the latter 1970s, and those lost decades are routinely traced to the contempt with which Chomsky dismissed the very notion of corpora in linguistics, and the loathing he holds for statistics in linguistics; attitudes he maintains. But Chomsky's influence over corpus linguistics is literally definitive. Corpus linguists define their mission in strongly *via negativa* terms with respect to Chomsky.³⁴

Where might one go to find a corner of linguistics uninfluenced, or unruffled, or ungoaded, by Chomsky? Beats me. Nothing in linguistics would be the way it is without Chomsky—setting aside the tentacles of his work that have extended into English studies, philosophy, psychology, computer science, and ignoring his impact on political science, media studies, propaganda theories, and more.

That's the short game, our contemporary noetic landscape, shaped as much by Chomsky's divisiveness as by his brilliance, by his personality as by his theories. His contempt, his misrepresentations of history and of other peoples' work and words, his truculent, embattled ethos—these will not be his long-game legacy. Nor will his astonishing generosity with his time, his tireless devotion to intellectual life, his encouragement and support of students and co-workers, his infusion of ideas into their work and critiques of their arguments, perhaps not even his prodigious and courageous career as a dissident; all of this may go the way of his affection for cable-knit sweaters and nerd-jeans. No one except aficionados of the history of science know that Newton viciously attacked Leibniz over the invention of the calculus, or that he was life-long celibate, or that he was legendarily as generous to strangers as he was to family and friends. But everyone knows he "discovered gravity." The question of Chomsky's legacy resolves to this: does he have a gravity?

Newton, in fact, has become one of Chomsky's own preferred points of reference, along with Galileo and the evergreen Descartes. Chomsky regularly appeals to them as scientific exemplars, extracts methodologies and attitudes from his discussions of them, then argues that his own work reflects those methods and reflects those attitudes (and of course, that other people's methods and attitudes do not). Five hundred years in the future, will Chomsky look anything like Newton?

And let's ask another question: Will Lakoff be in the human sciences pantheon instead of Chomsky, or right next to Chomsky, as the Messiah of Metaphor, or

the Father of Framing, or the “discoverer” of general-purpose cognition in linguistics, or not at all? In neither case, Chomsky or Lakoff, is Newton an appropriate point of reference. Each of them may have their “gravity,” but neither have anything approaching a *Principia Mathematica*.

Copernicus might be a more appropriate point of reference for Chomsky, though, if the optimism of his most ardent supporters is realized; if not, perhaps Franz Joseph Gall. Copernicus and Gall have both been hailed as scientific revolutionaries—Copernicus to the extent that *the scientific revolution* and *the Copernican revolution* are virtually synonymous; Gall to a far lesser, largely forgotten and mostly embarrassing extent. Neither has a *Principia*, but both have lasting legacies.

Nicolaus Copernicus compellingly mathematized the ancient theory that the sun was the center of the universe in 1543, overthrowing the long-dominant, Church-sanctioned, Ptolemaic theory that the earth was at the center. We all learn a version of this in grade school, heliocentrism triumphing over geocentrism, and it has become something of a parable for evidentiary reasoning over faith-based reasoning, secular science over religious dogmatism. The cultural ramifications were as profound as the more narrowly scientific ramifications, because scripture seemed to back the geocentric picture (but so, it is often forgotten, did some very reliable mathematics).

What is often left out of the parable, however, is that the Copernican Revolution took a long time, over a hundred years, and not just years in which Copernicus’s theory was simply repeated more and more clearly; years, rather, in which it was redefined, opposed by other scientists, defended by yet others, calibrated, and strengthened, both by observation and theoretical adjustment, gaining persuasion as it grew in scope and elegance. Tycho Brahe, for instance, partially adopted, partially rejected, heliocentrism, and developed his own model of the cosmos, adapting some of Copernicus’s math, but he also made some astronomical observations that compromised the Ptolemaic system. Johannes Kepler changed the geometry of planetary orbits. Copernicus had inherited the geocentric reverence for spherical motion, which required some tricky pushing of the numbers. Kepler showed that if one made the orbits elliptical the math got simpler. Galileo made all sorts of observations with a telescope that either compromised geocentrism or supported heliocentrism, or both. And Newton ultimately sealed the deal in a unifying theory (with *Principia*) that used Kepler’s work to derive his law of universal gravitation.³⁵ The moral in Copernicus’s tale might be something like “Big Ideas take a while. Don’t be in such a hurry!”

Franz Joseph Gall’s story has a rather different moral. He was a physician and physiologist who developed a modular theory of mind prominently featuring mental organs. Different regions of the brain for Gall were responsible for different talents and dispositions: math, language, and music, but also goodness,

vanity, amorousness and religious devotion—twenty-seven organs in all, localized to different areas of the brain. *Organology*, he called his corresponding science. Since we all have those organs but different people have the traits and abilities associated with those organs in different measures, ran the theory, it stands to reason our organs will be differentially developed. Since they are differentially developed, they will be different sizes and shapes. Since they are different sizes and shapes, they will affect the contours of the skull. Since they affect the contours of the skull, one could tell a good person from a bad person, a math whiz from dyscalculic, a criminal from a priest, a hot tamale from a cold fish, by the bumps on their heads.

Gall was especially celebrated for the exquisitely illustrated (and hugely expensive) five-volume *Anatomy and Physiology of the Nervous System in General and of the Brain in Particular with Observations on the Possibility of Understanding the Many Moral and Intellectual Dispositions of Man and Animals by the Configuration of Their Heads*. He worked closely with Johann Gaspar Spurzheim for a period, co-authoring a few volumes of *Anatomy and Physiology* with him. But they split bitterly.³⁶ Gall termed his bump-reading enterprise *cranioscopy*. When Spurzheim broke with Gall, he plied this trade in England and France, naming the practice *phrenology*. He also increased the inventory of mental organs, and their corresponding bumps.

Gall's theory was as influential and popular a theory of psychology in the nineteenth century as Freud's was in the twentieth. Paul Broca, among others, hailed Gall as the author of a scientific revolution, and phrenology swept through Europe. Popularizations—books, pamphlets, lectures, public demonstrations—were commonplace. Itinerant traveling protrusion-readers sprung up. Contour maps of the head, carefully marked off for organ bumps, were all the rage—no doubt you've seen them yourself in antiquarian sepia. People read intimate understandings of others, and their children's futures, and the propensities of entire classes of people, by palpating skulls. Doctors practiced phrenology in their offices. Journals like the *Phrenological Journal and Magazine of Moral Science* and the *Phrenological Journal and Science of Health*, populated the newsstands and the libraries.

Phrenology is remembered today, if it is remembered at all, as the height of pseudo-scientific quackery, but Gall was a serious scientist, with a medical degree, who conducted extensive studies of human and animal brains, publishing highly detailed analyses of the nervous system. He also brought new methods and standards of precision to dissection. "Gall's anatomy was exceptional," one historian of neuroscience says; "his work forced people to entertain the possibility that the cerebral cortex may be composed of myriad distinct functional organs" (Finger 2000:135). The phrenology journals were full of articles on neuroanatomy. But, after a few heated decades, the movement cooled off quickly.

Various cliques of phrenologists and organologists, squabbling among themselves, produced different charts and organ assignments, the count of mental organs going up as high as forty in some quarters. Different readings of the same skulls were not uncommon, and counterevidence began to mount. Phrenology had always had critics, some of them virulent, but by the second half of the century it had come to be exemplary of junk science on a par with reading palms. But here's the thing: however screwy the specific instantiations of Gall's theory, and however amusing his story is in popular science venues, in the specific history of neuroscience he is enshrined as one of the foremost pioneers of brain localization.³⁷ We hear loud echoes of organology in Fodor's influential *Modularity of Mind*, for instance, who sees himself as a Kepler to Gall's Copernicus (1983:14-23), and it is surely no coincidence that one of Chomsky's favored terms is *language organ* (e.g., 2000a:4).

Copernicus had one big idea, sharply articulated, precisely wrought, and cogently argued, but incomplete and underdetermined and out of sync with the astronomy (and culture) of his time. He set generations of scientists in motion until his big idea was firmly embraced, scientifically and culturally, in later centuries. Gall had one big idea, which swept quickly through science and culture, but was subsequently overshadowed by more successful research programs, and laughed off the stage historically.

There are many differences between Chomsky and these two, especially the belief-beggar intellectual fecundity of the man. But if we try to hold Chomsky to one big idea, what would it be? Not Universal Grammar alone. Some attempts to defend that notion against Tomasellian declarations of its death, take that stance, reducing it to utter vacuity. Since "UG is . . . the theory of the initial state of the language faculty," philosopher José-Luis Mendivil (2020) says, "UG exists by definition," leaving us in an untenable bind: "We can only deny the existence of the initial state of the language faculty if we deny that the language faculty exists." By "language faculty" Mendivil means only the fact that humans produce such phenomena as Italian and English, while other species do not. If we can read Mendivil's English, therefore, we cannot dispute his claim. Our knowledge of English came from somewhere. We did not always have it. At some point, we had an initial state.

What Mendivil does not mean, as Chomsky did for a few decades at least, is that the initial state is outfitted with a pro-drop parameter that, set one way, gives us Italian, set another, English. He does not mean that the UG is outfitted with anything very specific at all; rather, he suggests that it can in fact be fully compatible with the general-purpose cognitive dispositions raised by Generative Semantics and characteristic of so many current approaches. But whatever Chomsky's current view is of some particular parameter, like pro-drop (it is unwise to make presumptions about such details), we know there is *something* specific about his Universal Grammar, something about the Language Organ, that is not part of a

general cognitive repertoire—perhaps Merge, perhaps just recursion, to the extent these notions can be separated, and/or the FLN/FLB interfaces.

So, let's take his one big idea to be some amalgam of Universal Grammar and something more specific—call it “the computational workspace for combinatoric creativity”—and try to guess who Chomsky will ultimately prove to be, Copernicus or Gall?

The one-revolution view, the view Chomsky usually favors, gives Chomskyan linguistics a decidedly Copernican cast: still under way, based on a key claim and a steady trajectory. The no-revolutions-at-all position, favored by many opponents, including George Lakoff, makes Chomskyan linguistics look like phrenology, Chomsky like Gall: one big mistaken, and ultimately ridiculous, idea that mushroomed into a cultural phenomenon, with no direct and lasting effect on scientific theory or practice.

Is Chomsky Copernicus? Or is he Gall?

Will Chomsky's work be buried in animosity and ridicule? It's been tried before, at least as early as *The New Grammarian's Funeral* (Robinson 1975), and the rise of Generative Semantics included widespread intimations that Chomsky's creative pulse had stopped, his role in the field over. It's being tried now, in articles like Ewa Dabrowska's (2015) missing-persons report, “What Exactly is Universal Grammar, and Has Anyone Seen It?” and Michael Tomasello's death certificate, “Universal Grammar is Dead” (2009). Attempts in the past have always failed. But attempts in the past have always had to contend with Chomsky, in his direct polemics and in the indirect polemics of the linguists he has inspired, as well as in his deft changes of the entire rhetoricol-scientific landscape. His pulse has never stopped. The bicycle is still upright. That cannot always be the case.

If his work is buried in animosity and ridicule, rather than refined and developed into some future account of language with the power and elegance of classical physics, he will prove, minimally, at least to be a Gall. He has been too astonishingly productive for his ideas not to resurface again, independently or in clusters, combined with other theoretical insights and correlated with new classes of evidence—in linguistics, in neuroscience, in genetics, in evolutionary biology, in Artificial Intelligence, somewhere; very likely multiple somewheres.

Is Chomsky Copernicus or Gall? Gall or Copernicus? Who knows? The future is not here yet. But I wouldn't bet against Copernicus. I wouldn't bet against Chomsky.

Notes

Chapter 1

1. We will come back to Chomsky's version later in the book, in Chapter 7. I should mention here, by the way, in the first of a great many endnotes, that the running commentary of elaboration, qualification, and citation, along with occasional expressions of personal whim, in these notes is parallel, rather than integral, to the story I tell. Feel free to join me here, but feel free to ignore me here as well, as suits your reading inclinations.
2. This is a précis of the version that he tells to John Goldsmith (Huck & Goldsmith 1995:107–19) which is in fairly close accord with the version he shared with me, on the phone, in person and in correspondence, paper and digital; see also his interviews with Francisco José Ruiz de Mendoza Ibañez (G. Lakoff 1997) and John Brockman (G. Lakoff 1999), as well as G. Lakoff 1989, for fuller accounts. In all of these accounts, Lakoff foregrounds a quasi-Lakatosian attitude toward scientific development, spelling out various value-commitments that we will see again.
3. Stabrianus Eros is discussed in §XIII, Lucius Orbilius Pupillus in §IX, Lucius Crassicus in §XVIII.

Chapter 2

1. There is a small chance, given both who wrote this and what his ultimate verdict on Chomsky is in the book, that there is an element of satire here. But so many things are so howlingly inaccurate in Wolfe's book, especially about Chomsky's chronology, that this passage looks to be simple wild-eyed wrongness. Wolfe has Chomsky lecturing at Chicago and Yale in 1955, for instance, about the language organ, Deep Structure, Universal Grammar, the language acquisition device, and so on, all in terms that didn't show up in Chomsky's work until the 1960s (Wolfe 2016:87–88).
2. For a corrective to the allusive caricatures of the Bloomfieldians in this book—which I provide as a guide to the rhetorical climate of Chomsky's rise, not as a realistic account of these linguists—see, for instance, Hymes and Fought 1981 [1974], Seuren 1998:178–219, Blevins 2013, Goldsmith & Laks 2019.
3. See R. A. Harris 2010 for an extended charting of how the Chomskyan revolution was enmeshed with psychology, computer science, and the general cognitive revolution. The first edition of this book has a chapter on the revolution that stands up moderately well, but when I wrote it there was relatively little scholarship on Chomsky's rise. By 2010, that scholarship had grown and my treatment there is more nuanced and balanced.

4. See R. A. Harris 2010:247–49 for a mapping of Chomsky’s formalism against that of Alan Newell and Herbert Simon’s famous Logic Theory Machine, which was unveiled at the epochal 1956 Cambridge colloquium where Chomsky gave his equally famous “Three Models” argument and where Miller completed the foundational cognitive science triple-play with his “Magical Number Seven, Plus or Minus Two.”
5. For other typical applications or explications of Chomskyan linguistics for English studies, see Lees 1963 [1962], Hathaway 1962 & 1967, Ohmann 1964 & 1966, Levin 1963, 1965, & 1967, Thorne 1965, Rogovin 1965, Eschliman, Jones, & Burkett 1966, Hayes 1966, Hunt 1966, Thomas 1965, Roberts 1967, Lester 1967, Steinmann 1967, Auerbach et al. 1968, Beaver 1968, or anything from the literature on sentence-combining (beginning with Hunt 1967; see Stugrin 1979 for a relatively full treatment). Christensen’s two articles, “A Generative Rhetoric of the Sentence” (1967 [1963]) and “A Generative Rhetoric of the Paragraph” (1967 [1965]), though popular, are peripheral. He claims that the relevant term in his title is “not derived from generative grammar; I used it before I ever heard of Chomsky,” but Chomsky’s association with the term certainly gave Christensen’s work a cachet that helped it win some success. For some indication of the success of these efforts, see McCawley’s review (1976b [1967]:15–34) of Owen Thomas 1965.
6. Chomsky 1955d, Bar-Hillel 1954. Bar-Hillel later said that Chomsky’s defense of Harris had been “well taken” (Bar-Hillel 1963:542); see Tomalin 2006:125–39 for a detailed account of the two papers. Goldsmith & Laks 2007:282, in the context of this exchange, note the “stunning disconnect between Chomsky’s willingness to attack others’ models as hopelessly unrealistic, and therefore of no possible interest” and the defence he offers when his own “models diverge from reality,” namely, that it is just a matter of “sound scientific idealization.”
7. The term may have been forged by Bar-Hillel (1962 [1960]:555). Sampson argues that the credit for the hierarchy is only part Chomsky’s; in particular, that “the sound maths of the ‘Chomsky hierarchy,’” so much more impressive than “the lamentable maths of *The Logical Structure of Linguistic Theory*,” were actually provided by Marcel-Paul Schützenberger. (2016:591, also 1979; Sampson is not the only linguist to complain about the quality of mathematics in Chomsky’s work—Pullum 2011).
8. In particular, Chomsky & Miller 1958, Chomsky & Miller 1963, Chomsky & Schutzenberger 1963, Miller & Chomsky 1963.
9. All of these rules show up in *Syntactic Structures* but I have modified them somewhat here and subsequently, for simplification in later exposition. Some linguists will, I predict, be very unhappy about these modifications. It is fairly easy to poke holes in this system (and, in fact, in Chomsky’s original versions as well), but to the extent necessary, these holes can be patched with additional details.
10. Affix-hopping got this name a few years later, in the more insouciant attitude that soon arose in Transformational Grammar. *Syntactic Structures* just calls it “the Auxiliary Transformation.”
11. It can be done, but it took linguists almost thirty years to come up with a solution, downstream from a lot of syntactic research, and using a Phrase Structure Grammar more tricked out than Chomsky’s in 1957. See Gazdar, Pullum, & Sag 1982, which is

- quite critical of Chomsky's rule here, noting that "Affix-hopping has a number of suspicious features in its functioning and its interaction with the rest of the grammar" (1982:614), though by that point, as became rather common for Chomsky, he had moved on from the rule.
12. Chomsky cites Bloomfield here (1957a:81n6) to authorize "underlying form," a notion of critical importance to Chomskyan linguistics, especially in the variety soon known as *Deep Structure*. Seuren 2009:108 traces the notion of "linguistic transformation" to Bloomfield's use of underlying form. See Nevin 2009:469–75 for a response.
 13. Don't worry about little specifics, like how we get from the *Tense* of 1d to the *Pres* (*Present*; or, even more specifically, *third-person, present, singular*) of 13'a and on all the relevant trees. It's actually standard operating procedure to leave many specifics unspecified, since the relevant mechanisms (a Phrase Structure Rule in this case) follow a familiar template and are easy enough to imagine.
 14. John Viertel was writing a dissertation under Chomsky at the time (never completed), and working for him as a translator of Humboldt; the credential line of the article simply identifies him as "a member of the research staff at Massachusetts Institute of Technology" (Viertel 1964:65n1). Philosopher John Searle had an influential article on "Chomsky's Revolution" (1972) which featured a version of the John-is-eager/easy-to-please argument. There was also a *New Yorker* article about Chomsky, and a subsequent book, both with the title *John is Easy to Please* (Mehta 1971a, 1971b).
 15. There have been a variety of claims that Chomskyans wanted to keep the theory to themselves, actively shunning publication, alienating would-be supporters, creating an underground distribution circuit for their writings, and so on (see especially Nielsen 2010)—summarized and largely refuted in Newmeyer 2014. There are certainly coat hooks on which to hang such interpretations, like the long delay in publication of Chomsky's opus, *Logical Structure of Linguistic Theory*, the standard operating procedure of aggression that characterized much of the MIT contingent, and the very active and shifting flow of quasi-publications (imagine pre-internet blogs, dependent on mimeograph machines, the postal service, and word of mouth). But (complementing Newmeyer's evidence), Barbara Partee's recollection puts this claim into perspective: "We [MIT] students were shocked [when we read Bach's 1964 textbook] that someone not at MIT could even know about transformational grammar—we thought that we who were sitting at the feet of the master were the only ones privileged to receive the Word. When some of us met Emmon for the first time at a meeting, we asked him how he had found out enough about it to write a textbook without being there. He smiled indulgently and replied, 'Well, I can read'" (2005:6).
 16. The rest of the remark from Lees, after *coat tails*, is: "We had to. He is so smart that any idea you came up with he had already thought of, and thought over long and deeply. I wouldn't be very happy if you published that. But it's true, so I guess I'd be happy in another way. We all rode on his coat tails to prominence."
 17. For his most concerted discussion in this vein, see his interview with Huybregts & van Riemsdijk (Chomsky 1982a [1979–1980]:37–58; the quotations are respectively

- from p.38 and p.41), but such remarks are scattered through his writings (for instance, 1988b:3, 19, 53, 72, 73; 1991a [1989]:16; 1991b [1989]:42; 2012:84).
18. The University of Minnesota Center for Cognitive Science link to the list is no longer active, but it can be found via the Wayback Machine: http://www.cogsci.umn.edu/OLD/calendar/past_events/millennium/final.html, and there are various other echoes in blogs and discussion lists. The list in *The 100 Most Influential Books Ever Written*, assembled by Seymour-Smith (1998), is a bit idiosyncratic, but *Syntactic Structures* is #82.
 19. Program 143 of *Firing Line* (Season 4, Episode 13), entitled “Vietnam and the Intellectuals,” which aired on April 3, 1969. I acquired a transcript of the interview from the Hoover Institution Archives, but the show is available widely on the internet.
 20. There is an almost shocking irony here, much commented on (see, for a multi-perspectival sampling, Newmeyer & Edmonds 1971, Newmeyer 1988:84–88, Harpham 1999:182–83, Schweizer 2006:21–24, Golumbia 2009:31–38, Knight 2016:28–42, 2020). A substantial portion of the funds for building up the MIT linguistics department came from the U.S. military—either in fairly direct ways, such as funding activity in the Research Laboratory of Electronics (RLE), or more indirectly, through various machine translation projects in Cambridge that hired MIT professors and students. The Cold War was particularly important for this funding. It is no coincidence that the Russian language, for instance, was a major focus of theoretical and applied work associated with the RLE, and the military investment in Chomskyan theory, whether at MIT or elsewhere, was expected to produce results for such military applications as encryption, machine translation, information retrieval, and command-and-control systems for jets and weapon delivery. Chris Knight documents the “high hopes [of the Pentagon] for precisely the new and unusual kind of linguistics being championed by Chomsky in the 1950s and 1960s” (2020:664; see also Newmeyer & Edmonds 1971:288–90). Virtually every paper or book coming from MIT faculty or students until the late 1960s, including *Syntactic Structures*, carried acknowledgments like “This work was supported in part by the U.S. Army (Signal Corps), the Air Force (Office of Scientific Research, Air Research and Development Command), and the Navy (Office of Naval Research)” (Chomsky 1957a:7). That is, the success of the MIT linguistics department (and, in fact, other Transformationally oriented departments, like UCLA’s), from which Chomsky gained much of his authority, comes from the establishment he excoriates. So much the better, many of us think. The funds might easily have been put to quite evil purposes, but Chomsky has latterly often cited them as an indication of his own, almost inevitable, complicity in American international oppression and war crimes. “We’re all compromised,” he said. “Look at me. I work at MIT, which has received millions from the Defense Department” (Bransford 2012). Knight has a theory that guilt over this complicity directly affected Chomsky’s linguistic theorizing, pushing it to levels of abstraction and abstruseness that made his work deliberately unusable by the military (Knight 2016 & 2018a, 2018b, 2018c, 2020). I reject that view (Harris 2018), as does Newmeyer (2018); see Chomsky’s 2019 response.

21. *On Noam Chomsky* (Harman 1974), *Reflections* (George 1989), *A Guide* (Collins 2008), *Cambridge Guide* (McGilvray 2005), *Chomsky's System* (D'Agostino 1986), *Chomsky Effect* (Barsky 2007), *Chomsky Update* (Salkie 1990), *The Chomskyan Turn* (Kasher 1991), *For Beginners* (Cogswell & Gordon 1996), *The Noam Chomsky Lectures* (Brooks & Verdecchia 1992). And then there are such volumes as *Challenging Chomsky* (Botha 1989) *The Anti-Chomsky Reader* (Collier & Horowitz 2004), and *The Top 200 Chomsky Lies* (Bogdanor 2010).
22. It is unclear, twenty-five years later, whether he has relinquished the spot—I could not find a reliable way to investigate this question—but I see no reason to doubt that he remains pretty high up on any such list.
23. www.justsaygnome.net/gnomes-noams--oms---products---ordering.html. They come painted and unpainted.
24. Chomsky 1966b [1964]:25–25, Lakoff 1969a, McCawley 1976b [1968]:183–91, Postal 1964, 1968 [1965], 1966b, & 1966c, ...).
25. Newmeyer (in 1980a:92 and 1986a:80) makes a similar point, also calling upon biblical polysemy.
26. Chomsky is quite clear from the beginning that kernel sentences are where the semantic action is (for instance, 1957a:92, 107–108), but I am ignoring several factors in my kernel-grows-up-to-become-Deep-Structure story, most notably that “understanding” a sentence in *Syntactic Structures* also involved the underlying phrase structure of the relevant related sentence, as well as the derivational history of the relevant derived sentence (captured in a representation called the *transformation marker*). My use of *kernel* in this section is therefore misleadingly broad for historical aficionados. Anyone who objects can mentally edit in “kernel + underlying phrase marker + transformation marker.” But Deep Structure became important to the theory precisely as the kernel became irrelevant, and there are very clear causal connections between their respective wax and wane, one semantic pivot displacing the other as a substantive theory of meaning entered Chomskyan linguistics. Seuren 1998:217–18 traces “deep grammar” to Hockett 1958:252; it is unlikely (though, who knows?) that this work had much direct influence on the Chomskyans, but Chomsky himself certainly read the book, citing it several times, and his famous choice of labels is a distinct echo of the Hockett chapter title, “Surface and Deep Grammar” (see especially Chomsky 1964d [1963]:30). My story also includes anachronisms for continuity with later discussions—for instance, Katz and Fodor did not introduce feature notation (the uses of pluses and minuses to describe attributes); also, trees have generally been simplified throughout. For instance, tense morphemes and Aux nodes are ignored.
27. This discussion involves my familiar anachronistic handling of history: strictly speaking, Katz & Fodor did not introduce [$\pm$] notation, using Porphyrian binary trees to represent the distribution of the semantic and syntactic features.
28. They are adopting homologous proposals from Lees 1968 [1960]:19 and Klima 1964 [1959] here.
29. See Chomsky 1957a:90f for the slight meaning change.

30. See Newmeyer's figure 3.1 (1980:65) for an even kludgier representation of Fillmore's suggestions.
31. Curiously, Chomsky first introduced recursion as a necessary property of the language in a way that implicates the base in *Syntactic Structures* (1957a:18–21), in connection with finite-state grammars, before he rejects such devices as inadequate. Pullum 2011:288 points out that Generalized Transformations (or, at least, T_{Conj}) required something that we will later see being reviled by Chomsky, a transderivational constraint.
32. Actually, Katz and Fodor's equation was "linguistic description minus grammar equals semantics," where *grammar* meant *phonology and syntax*. I've translated the equation into more specific terms, to avoid confusion over *grammar*, which *includes* semantics in this book, and in linguistics generally from about 1965 (see Chomsky 1965 [1964]:16ff).
33. McEnery & Wilson 2001:11 do a more formal corpus analysis of Chomsky's claim and find a wide range of counterexamples to Chomsky's *perform* intuition.
34. See "New Grammar, The" (1965) for the details and quotations in this section, and the photograph. Shugrue 1966 and Pooley 1968 give more comprehensive accounts of these curricular moves, detailing the federally-funded developments in California, the District of Columbia, Florida, Illinois, Indiana, Minnesota, Nebraska, New York, Pennsylvania, Ohio, Oregon, and Wisconsin, as well as related research at numerous universities, and various other initiatives, proposals and studies. The sixteen-school study cited by *Newsweek* is reported in Bateman & Zidonis 1966; see also Zidonis 1965 & 1967.
35. As above, many scholars have commented on the boost that Cold War military funding gave to Chomskyan linguistics, but the educational side of this boost to its popularity often goes unnoticed. The 1957 success of Sputnik threw the United States into a panic over almost every cultural and social factor that might be measured, and literacy was high among them. A 1965 assessment of U.S. education noted that in the late 1950s,

educators and laymen alike awakened to the sharp realization that we must put forth more vigorous effort if we were to preserve and improve the American way of life. In all aspects of national endeavor pressures were felt to produce more and more and to do it faster and faster. In reading, pressure to produce higher competency in a shorter time became apparent. (Smith 1965:312)

In English studies, Transformational Grammar quickly became a front runner among remedies for the perceived literacy gap (Sledd 1966:166–67), with major funding for experimentation, pilot studies, and curricular development through the 1960s.

Chapter 3

1. Warning: This note is for historical aficionados only. The discussion here, and, in fact, this book as a whole, ignores the Generative-Semantics-like proposals by people outside the immediate transformational community that sprung from MIT's loins.

So, for instance, Martin Kay delivered a paper in 1967 sketching a model which mapped semantic representations, expressed in symbolic logic, onto phrase markers; which was encased in an argument from “intellectual hygiene” akin to Postal’s (1972a [1969]) “Best Theory” argument; which included “rhetorical predicates” that paralleled Ross’s performatives; and which showed a concern over the competence-performance distinction that surfaced later in Generative Semantics (Kay 1970 [1967]). This paper appears to have had no influence on Generative Semantics whatsoever. It was delivered at a major conference (the Tenth International Congress of Linguists), at which Ross (and, perhaps, a few others in our *dramatis personae*) was present, but its omission from the Generative Semanticists’ references is not especially unusual. Transformational Grammarians of the period were very parochial and quite indifferent to proposals outside their immediate framework. Similarly, Petr Sgall also “explicitly propose[d] that the basis of a generative grammar should be constructed out of a set of semantic concepts” at a 1964 conference in Magdeburg, Germany (see Brekle 1969b:84–85, who mistakenly calls Sgall the earliest to make such a proposal, indicating just how obscure Lakoff 1976a [1963] was). He, too, made no impression on the group under discussion; very likely, they knew nothing of the proposal at all. Some independent developments in West Germany also bloomed in *Generativesemantische* ways in the mid-1960s (Vater 1971:13; of that group, Brekle, at least, was influenced by Sgall). Several linguists at Warsaw University—most notably, Andrzej Bogusławski and Anna Wierzbicka—began exploring semantic primitives in the early-to-mid-1960s, and Wierzbicka visited MIT in the 1966–67 academic year, when she urged the emerging Generative Semanticists to go more deeply, more quickly, than they were prepared at the time to go. A few of her papers made some impression on the underground circuit (Wierzbicka 1976 [1967]; 1972:166–90, 203–20), and her work was generally well received by Generative Semanticists, but she was never an active member of the school; indeed, she found Generative Semantics semantically rather halfhearted. As she recalls, she pushed Ross and Lakoff to accept “that Deep Structure was both semantic and universal. Both Haj and George listened to me politely but told me that Bogusławski and I were too radical and that they wouldn’t want to go that far themselves . . . You can imagine my shock when one day [they] announced [in their jointly taught class] that they were abandoning Chomsky’s position on the relationship between syntax and semantics, and rejecting a syntactic “Deep Structure” in favour of a deeper, universal, semantic Deep Structure. . . . They didn’t refer to our conversations at all” (Newmeyer 2014:257, quoting personal communication with Wierzbicka from 2012; Newmeyer’s interpolations). Wallace Chafe proposed obliterating the syntax-semantics distinction in generative grammar and dispensing with Deep Structure in a 1967 *Language* paper and a review of Katz (1966) the same year (Chafe 1967a, 1967b; see also Chafe 1970a, 1970b; Langacker 1972). He was an outsider at the time, though he became a sympathizer of the general program of Generative Semantics, while rejecting many of its specific proposals.

Zellig Harris had a quite indirect influence on Generative Semantics, primarily through his influence on Ross. Specifically, Harris proposed a performative deletion transformation which prefigures Ross’s work in that area (see Z. Harris 1968:79–80,

212), and made some suggestions when Ross was working under him which led Ross to the “squishy” notions most identified with his late role in Generative Semantics. (See also Plotz’s 1972 preface, for an unconvincing argument that Harris’s model *is* Generative Semantics.) Uriel Weinreich also had a small but significant influence on the development of Generative Semantics, by way of his suggestion that the semantic elements of lexical entries are, in some important respect, equivalent to Deep Structures (see McCawley’s review of his 1966 [1964] “Explorations,” 1976b [1968]:192–99, especially, 198–99), and by his public entertainment of the “advantages of including semantic features in the base” (1966 [1964]:466). Very unfortunately, Weinreich died prematurely and had no direct involvement in the Generative-Interpretive Semantics debates, on one side or the other (though the direction his influence went is clear from McCawley’s numerous engagements with his work and acknowledgments of his importance, including the dedication of a key paper in the dispute to him (1976 [1967]:59n*).

If I am reading Seuren right (“It was proposed in Generative Semantics, after 1964, that syntactic transformations should be semantically invariant,” 2009:110), he appears to be saying that Katz and Postal created Generative Semantics when they proposed their semantic-transparency principle. Both Katz (categorically) and Postal (temporally) would disavow that association.

I also make very little attempt, except in passing, to follow the developments of Generative-Semantics-like models influenced by the conceptions of the Lakoffs, Ross, McCawley, and Postal. Liefrink 1973, for instance, developed his interesting Semantico-Syntax in the wake of those Generative Semanticists, but had virtually no interchange with them. Similarly Sgall’s later work was influenced by their proposals, particularly through his commerce with German linguists working directly in the Generative Semantics framework (see, especially, Sgall, Hajičová, & Benešová 1973), and Eugene Nida claims “a dependence upon the generative-semantics approach” for his componential analysis (1975:7–8), especially under the influence of Chafe’s work. The one lesson we can take from all of these overlaps of approach privileging meaning is simply how compelling that position is—as a “natural” position, but also and especially in the wake of *Aspects*.

2. Most of these quotes and paraphrases are from discussions, letters, or email. Newmeyer’s comments, however, are also in print (1980a:93f; 1986a:82f), as are McCawley’s (1976a:159), and Ross gives the lion’s share of credit to Postal in the acknowledgments to one paper (1974b:122).
3. See Lakoff’s memoir, “The way we were; or, the real actual truth about generative semantics” (1989), for many insights into the movement overall and some details about her own involvement. Bucholtz and Hall also rightly point out that Robin Lakoff’s pioneering work in feminist linguistics (coinciding with the devolution of Generative Semantics), develops naturally from the pragmatic and sociolinguistic concerns that she developed in Generative Semantics. “Post-Chomskyan” is from Green (1970:153).
4. Nor was Case Grammar formulated in any direct alliance with Generative Semantics. “When I wrote ‘The Case for Case,’” he later noted, “the Generative Semantics position had not yet been formulated . . . in my hearing except in its preliminary version as Abstract Syntax” (Fillmore 1977:62).

5. Lakoff actually dates Generative Semantics even earlier, to his 1962 undergraduate thesis (Huck & Goldsmith 1995:107). I won't pursue those origins here, since (1) Lakoff's undergraduate thesis had a vanishingly small sociological effect, whereas his 1963 paper saw at least modest circulation among relevant linguists, (2) the story I'm telling in this book is of rhetorical currents, not of isolated personal development, and (3) there are some clear lines connecting that paper to the later 1967 joint letter with Ross, which is widely recognized as the manifesto for Generative Semantics, and the trigger for a sociological phenomenon in linguistics. But (4) it is hard not to notice the parallel with Chomsky, who often says of his own undergraduate thesis that it was "the first 'generative grammar'" (1979 [1976]:112).
6. MITRE is professedly "just a name," though it is always given in all-caps, and has often been assumed to stand for *Massachusetts Institute of Technology Research & Engineering* (mitre.org/news/media-resources).
7. More accurately, he softened the distinction on principled grounds by translating it into feature notation—Ross 1969b [1967].
8. Both 6 and 13 have been elided somewhat, to streamline the discussion.
9. For the agitated grammarians in the crowd, yes, I do know that the verb in my examples here is not *show* but one of the special compounds known as two-word verbs—namely, *show off*.
10. There are some anachronisms and simplifications in this discussion—in particular, I am taking the decompositional analysis further than Lakoff does in his thesis, and using abstract verbs rather than feature bundles, but this stretching simply goes in the direction these analyses later followed in Generative Semantics.
11. Tree-2 is taken from Abraham & Binnick 1972:41, who cite an underground Ross paper from 1968 that I could not locate. See also Newmeyer 1980a:95 and 1986a:84, Shenker 1972:70, and Culicover & Jackendoff 2005:1999. Ross 1974b has some fairly wild trees along with considerably more supporting argumentation than in Newmeyer or Shenker.
12. Brief histories of the proposals that brought linguistics to this inventory (with some slight variations) and its relation to symbolic logic are given in McCawley 1976b [1968]:136–39, Newmeyer 1980a:148–50 & 1986a:100–101, and R. Lakoff 1989:946–53. Additionally, not every abstract syntactician was happy with only three base categories; Ross, for instance, retained the VP in much of his work.
13. I have reduced the bracketing somewhat, for expository reasons. A more fully bracketed string for 18 would represent all the lexical categories, as in $((((\text{the})_{\text{Det}}(\text{man})_{\text{N}})_{\text{NP}})((\text{love})_{\text{V}}((\text{the})_{\text{Det}}(\text{platypus})_{\text{N}})_{\text{NP}})_{\text{VP}})_{\text{S}}$
14. The influence of Harris in this area is substantial. He had ensured that Chomsky read widely and studied deeply in modern logic. Harris and Chomsky both stayed away from a direct incorporation of logical syntax and semantics into linguistics, but they borrowed from the mechanisms and terminology for their models eagerly. For attitudes about logical syntax, see especially Chomsky's 1955b response to Bar-Hillel in *Language*, occasioned by the latter's 1954 criticism of Harris. For faith in logical mechanisms, see Harris 1951a [1947]:18. See Tomalin 2006 for extensive analysis of the role of symbolic logic in Harris and Chomsky up to and including *Syntactic Structures*.

15. "Concerning the Base Component of a Transformational Grammar" (McCawley 1976b [1967]:35–58); see Anderson 1976 [1966]:114ff, Lancelot et al. 1976 [1968]:258, and Bach 1968 [1967]:114 for commentary.
16. Greenberg showed up only sporadically in discussions of the universal base (as in Bach 1967; G. Lakoff 1968b [1966]), but R. Lakoff 1989:950 suggests he had a good deal to do with the Generative Semanticists' notions about constituent order.
17. See Newmeyer 1990:170 & 1991 [1989]:208–14 *et passim* for a fuller discussion.
18. Robin Lakoff 1968:170 and McCawley 1976b [1967]:84 both credit Ross with the proposal, and it was one of the highlights of the elaborate *Floyd* talks he gave on the early lecture circuit. In addition to Lakoff and McCawley, Boyd & Thorne 1969 and Sadock 1969 also beat Ross to print with underlying performative treatments. Sadock's work was clearly inspired by Ross, but Boyd & Thorne's proposal appears to have been independent. Their notes acknowledge the comments of Ross on earlier versions of their proposal, but don't indicate any influence beyond useful criticism. In any case, Ross does not mention their work in his paper and it had virtually no impact on the performative debates, which is unfortunate because it is in some ways more subtle, cutting finer semantic distinctions. The paper, published in England, appears to have been a casualty of American chauvinism.
19. Ross says only that the underlying abstract verb is "like say" (1970b [1968]:238), and that it is associated with certain syntactic features, like [+performative] and [+declarative]. Since nothing of consequence hangs on representing the abstract verb as *say* or *declare*, as most representations of his argument do, I have opted for the more congruous *tell*, a convention later adopted by Ross (1975:249n19).
20. According to Ross (1975b:71), Predicate-raising began life as Lakoff's transformation, Plugging-in; presumably this is from unpublished work which generalized inchoative and causative transformations.

Chapter 4

1. Bolinger's comments here are spliced from two sources; some come from letters to me, and some from his "First Person, Not Singular" memoir (1991 [1974]:29). Newmeyer (1980a:93 & 1986a:82) characterizes the Lakoff-Ross seminars as devoted to challenging analyses then favored by Chomsky, which both Lakoff and Ross deny. There is evidence on both sides. Some participants recall antagonism toward Chomsky, others recall reverence; the two attitudes are not exclusive and were probably equally well represented. Indeed, even relatively late in the Wars, Generative Semantics papers could cite *Syntactic Structures* or *Aspects* like scripture and dismiss Chomsky's contemporary work rather curtly.
2. Chomsky's leave was for the fall term of 1966. He returned to teach two courses in the spring term of 1967, "Structure of English I," on phonology, and "Intellectuals and Social Change," which indicates how his political concerns were increasingly taking his energies. The lectures Jackendoff cites (the "Remarks" lectures) took place in fall 1967.

3. In the three-essay book featuring "Remarks," Lees is mentioned eleven times, Lakoff thirty-six, with Ross getting eighteen, McCawley twenty-one, and Postal twenty-two.
4. Chomsky also mentions Paul Chapin even more briefly (1972a [1967]:17n), who presents fascinating case. He was the most obvious 'target' in an essay proposing lexicalism in explicit opposition to transformationalism. The thesis statement of Chapin's dissertation, under Chomsky, is "to show that this proposal [to "account for derivational relationships by an enriched theory of the lexicon"] (which I will call the lexicalist hypothesis) is untenable" (1967: 13). Chapin's thesis was accepted in August 1967, citing the origin of this hypothesis as Chomsky's "lectures and private conversations" with him. Chomsky's "Remarks" paper was mimeographed for his fall-term students (making the rounds much more widely). Yet Chapin, who apparently had naming rights for the hypothesis Chomsky was advancing and who argued extensively for the transformationalist position gets only the most glancing notice.
5. See Ikeuchi 1972, McCawley 1982b [1973]:116n24 and 1988.2:408ff.
6. The reference to *Time* concerns a Lakoff recollection I had just related to Postal: Lakoff, Chomsky, and Ross had only one meeting upon Chomsky's return, which was interrupted by a call from *Time* magazine which took up most of the scheduled time; subsequent meetings were cancelled. Chomsky getting the call is certainly easy enough to believe. Demands for his time were extremely pressing (see Shenker 1971:105, for instance, who discusses these demands, and a few pages later remarks that "characteristically, Chomsky had to interrupt our conversation to attend a meeting of dissident professors at MIT. His colleague Morris Halle . . . replaced him on the dilapidated chair."
7. Chomsky may have adapted the term from Lakoff, or Lakoff may have picked it up from Chomsky's lectures, or it may have just arose in the debates spontaneously to them and others. But Chomsky's first attested use is in "Deep Structure, Surface Structure, and Semantic Interpretation," circulated from 1968, published in 1972 (1972a).
8. Chomsky's use of *determine* in such contexts earned him some rebukes from Generative Semanticists about his finesse with terminology. See Lakoff (1971b:236–37) and McCawley (1982b [1973]:66).
9. The title under which Chomsky's paper was read is in some ways just as value-laden as Postal's, but also, after the comma, refreshingly temporal for a guy who regularly talks and writes as if his own intellectual history is the simple, inevitable progress from clear early insights, "Credo, 1969."
10. The pagination for the quotations from "Some Empirical Issues" (1972b [1969]) is: "uninteresting" (137), "vacuous" (133), "totally obscure" (148n22), "no substance" (146), "permitting any rule imaginable" (141), "at best dubious rules" (152), "a terminological proposal of an extremely unclear sort" (137), "not only unmotivated but in fact unacceptable" (150), "is probably correct, in essence," (151) "more natural" (187), "somewhat more careful" (188), "well-supported" (165), "to be preferred" (196), "again to be preferred" (197), "more restrictive, hence preferable" (197).
11. Nor would there be any argument from Postal on this front. Whenever citing key proposals or documents in Generative Semantics, he always gave McCawley's work priority. For instance, in his "Best Theory," he describes Generative Semantics as developing from proposals "by Bach, Gruber, and most extensively, McCawley" (1972a

[1969]:134); in his *remind* paper, he gives a catalog of publications containing “the significant proposals” of Generative Semantics: one is by Bach, one by Gruber, two by Lakoff, and nine are by McCawley (1971b [1969]:248).

12. I apologize to readers who find McCawley’s pseudonyms offensive because of their obvious measure of anti-Asian racism, however unintended by McCawley, or by me in my recirculation of them. Likewise, for readers who find them offensive because of the crudity of their phonological evocations of English terms, I also apologize (there’s more crudity of that kind coming as well). On both counts, it simply would not be reflective of the ethos, with its melange of political allusion, scatology, and counter-culture nose-thumbing, not to mention systemic racism, to leave these references out, and McCawley, an inveterate free-speech advocate, would curse me from the beyond if I omitted them on the basis of any discomfort they might cause.
13. Chomsky & Halle (1965); see, especially, 106, 108, 119, 126, 127, 128n25, 129n26 133n27, 136 for the more obvious Householder insults.
14. The relevant reviews and discussions include Miel (1969), Salmon (1969), Aarsleff (1970, 1971), Percival (1972), and Behme (2009).
15. In a decades-later attempt at mitigation, the introduction to the third edition (by James McGilvray) says, somewhat startlingly about a book subtitled *A Chapter in the History of Rationalist Thought*, that the book “does not pretend to be a work in intellectual history” (in Chomsky 2009b [1966]:2), and quotes Chomsky as saying “one might say that I’m looking at history . . . from the point of view of . . . an art lover who wants to look at the 17th century to find in it things that are of particular value and that obtain part of their value . . . because of the perspective with which he approaches them” (in Chomsky 2008 [1966]:109n2). But Chomsky has only addressed critics of the book in casual circumstances (e.g., Parret 1974 [1972–1973]:32; Chomsky [and Ronat] 1979 [1976]:77–79; Barsky 1997a:105), and has done so in rather scurrilous ways. For instance, in Barsky 1997a, Chomsky dismisses the criticism as the “absurdity and falsification” typical of his critics, proudly declaiming that he has “never bothered to respond, because [warning: the following analogic directions may induce vertigo] my contempt for the intellectual world reaches such heights that I have no interest in pursuing them in their gutters” (1997a:105, quoting a letter dated March 31, 1995), though he builds an elaborate and viciously distorted attack on one critic, Hans Aarsleff (see R. A. Harris 1998 for documentation of the bilious mischaracterizations, and of Barsky’s credulity in repeating them). Chomsky did, however, feel the need to inoculate his book against the charge that it is historically inaccurate, since he gives Barsky a defense, which Barsky quotes and paraphrases as:

The term “Cartesian” is not used [by Chomsky] according to its generally accepted definition. Chomsky extends that definition to encompass, as he puts it, “a certain collection of ideas which were not expressed by Descartes, [were] rejected by followers of Descartes, and many first expressed by anti-Cartesians” 1997a:106, quoting the same March 31, 1995 letter)

This defense actually brings us back to Robin Lakoff’s question, why would one use the term *Cartesian* for a collection of non-Cartesian, anti-Cartesian, and rejected-by-Cartesians ideas?

16. The paper has been republished with a brief but illuminating postscript (in Schiller et al., 1988:25–45).
17. See Postal's account of this event, including a clinical itemization of Chomsky's brutal incivility (Huck & Goldsmith 1995:134, 161–62n6). Ross reports that Chomsky later made him a quasi-apology, saying that he “just couldn't take” what the Generative Semanticists as a group were saying (Huck & Goldsmith 1995:125).

Chapter 5

1. At a theory-comparison conference in Milwaukee (Moravcsik & Wirth, 1980), for instance, a mimeograph paper made the rounds, concerning specious evaluation arguments such as “the claim that ‘Your theory is a notational variant of mine, and it's wrong’” (Lawler 1980:59n14, quoting or paraphrasing K. Whistler et al.).
2. See Huck & Goldsmith's fascinating account of the correspondence, publications, and overall argumentation (1995:60–70), an episode they characterize as “comical” except for the fact that “it bore serious scientific consequences” (158n4).
3. Dougherty, by the way, does get closer to the real problems of McCawley's original argument—as, in fact, McCawley does, both in his correspondence with Chomsky and in a review article of the book in which Chomsky published his straw reconstruction (1982b [1973]:39–41). See McCawley (1976b [1967]:121–32; 1972:535–38; 1982b [1973]:39–41; 1988.2:536–41). Lakoff gives a fairly clear presentation of McCawley's argument (1971b:273–77), but ends up only with a lukewarm endorsement. Lakoff also offers some Halleian-type arguments with other constructions somewhat later (1972b:547–59). See also Green (1974 [1971]:7, 27–28), who indicates that even if Generative Semanticists were not willing to acknowledge the full force of McCawley's argument, they felt it at least indicated something was wrong with Deep Structure.
4. Chomsky's remark was in a letter to McCawley (December 20, 1967) over Deep Structure; he makes a similar observation in *Logical Structure* (1975a [1955]:93), though obviously not about Deep Structure.
5. See Postal 1971b [1969]—which Ross still calls “the best articulation of what Generative Semantics is about . . . a beautiful argument;” G. Lakoff 1971b:246–52; Postal 1988a [1969]:85–86; Binnick 1971.
6. See also Chomsky 1972b [1969]:143, 150.
7. McCawley also had an elegant way around this violation in terms of logical form (1976b [1967]:108–9).
8. *Shallow Structure* was apparently Postal's term for the level after the application of all cyclic transformations and before any post-cyclic transformations (Perlmutter 1968:239n17).
9. The fleshing-out comes especially in two important books. *Semantic Interpretation in Generative Grammar* (1972), and $\bar{X}$ *Syntax* (1977), and an important paper, “Morphological and Semantic Regularities in the Lexicon” (1975).

10. The only possible contender in Chomsky's oeuvre as an articulation of the Extended Standard Theory is his *Studies on Semantics in Generative Grammar* (1972b), but it just collects his anti-Generative Semantics trilogy.
11. His first major work, for instance, adopts $\bar{x}$ -notation for some Phrase Structure rules, but seems embarrassed to extend the conventions to other rules (e.g., 1972:6ff). In particular, he uses $\bar{x}$ -syntax only for noun phrases, as had Chomsky—a move that must have reinforced the impression that the notation was an ad hoc convenience Chomsky had drafted to get himself out of the explanatory pickle he was in for having abandoned a transformational account of derived nominals.
12. Or, maybe Jackendoff had one semantic representation with four parts, which amounts to the same thing. See Jackendoff (1972:3) for the clearest account of his architecture.
13. I have snipped out Lakoff's citations to the relevant texts.
14. The term "wild cards" in connection with Chomsky's shell-and-pea data game comes from Lakoff's (1967) response to "Remarks on Nominalization." Postal's comments here have been edited slightly. A longer passage containing these remarks is quoted in my dissertation (Harris 1990:381–82).
15. Chomsky's old high school chum, Hilary Putnam, had anticipated this result very early in the ascendancy of Transformational Grammar, noting at a symposium on the mathematics of language that featured Chomsky's proposals, "It is easy to show that any recursively enumerable set of sentences could be generated by a transformational grammar in Chomsky's sense" (1975 [1961]:105), but linguists were not yet ready to listen.
16. The applicability of the Peters-Ritchie results needs some qualification. The results concern what is known as weak generative capacity, the ability of a rule system to specify strings of symbols. Chomsky argues in *Aspects* (1965 [1964]:60–62) and elsewhere that this is not the goal of linguistic theory, which should concern itself with strong generative capacity—the assignment of structural descriptions to strings of symbols (for instance, assigning Phrase Structure trees to English sentences). Additionally, he argues in *Aspects* that "the real problem [of grammatical theory] is almost always to restrict the range of possible hypotheses by adding additional structure to the notion 'generative grammar'" (1965 [1964]:35), where he is also talking of (among other criteria) strong generative capacity. That is, restrictiveness for Chomsky does not dovetail with Peters and Ritchie's work in any direct way. Nonetheless, the results and Chomsky's call for restrictiveness (which was far more urgent in "Some Empirical Issues" than in *Aspects*, or anywhere else) were almost always mentioned in the same breath. Newmeyer, for instance, the most astute and thorough historian of Chomskyan linguistics, says that

The Peters-Ritchie findings served as silent witness to almost all of the significant work in syntax in the 1970s [where *significant* means *significant in the Interpretivist framework*]. There was hardly a paper written that did not appeal to the increased restrictiveness of the theory that followed as a consequence of the adoption of the proposals in its pages. Constraint after constraint was put forward to limit the power of the grammar. (Newmeyer 1980a:176)

Newmeyer tempers these remarks somewhat in the second edition (cf. 1986a:189), written when he was a little further from the action, but still ascribes a great deal of influence to the proofs. It is the kairoitic *influence* of the Peters-Ritchie results I am interested in here, their sway over the direction of research and argumentation, not their direct applicability: they substantially abetted the Interpretivist case for restrictiveness.

17. See Bach (1977:135ff), Postal and Pullum (1978), and Lightfoot (1980:155ff) for some discussion on the globality of the trace convention.
18. Trace theory can quite safely be called Chomsky's; it bears his indelible stamp. But it has roots in work by Postal (1970), by Baker and Brame (1972), and by Selkirk (1972). See also Lightfoot (1980), Chomsky and Lasnik (1977, 1978), Postal and Pullum (1978), Pullum and Postal (1979), McCawley (1982b [1973]:126n87) for some ups and downs and sidesteps in the *want to/wanna* debate.
19. The *want to/wanna* data was actually first noticed by Larry Horn, whom Lakoff cites in his global rules paper, along with related data suggested by Sadock and Fillmore (1970b:632).
20. McCawley (1982b [1973]:29), however, observes that Chomsky had no compunction about appealing to transderivational constraints as needed—in particular, that his “rules of analogy” ploy in “Remarks” was an appeal to a transderivational rule—but that he avoided the *term* like poison. McCawley makes a similar point with respect to the use of global rules in Chomsky & Halle (1968); see McCawley (1974c:73).
21. Actually, the term in Chomsky is usually *grammaticalness* (e.g., 1965 [1964]:3, for acceptability, see, e.g., 1965 [1964]:11).
22. See especially Sadock, 1969, 1970, 1971, 1972, 1974a, 1985a; Davison, 1970, 1972, 1973; Gordon and Lakoff, 1988 [1971]; Robin Lakoff, 1972a, 1972b, 1973a, 1973b, 1973c, 1977; George Lakoff, 1972a, 1972b, 1972c, 1977b.
23. The archeology necessary to trace these all out is beyond me, but the double asterisk seems to have begun with Lakoff's dissertation (1970a [1965]:62), and the double shriek seems to be from Janet Dean Fodor, not a Generative Semanticist (1976 [1970]:143).
24. See, as you might have guessed, Jackendoff (1972:120ff) for a quite detailed argument supporting this syntactic- to-semantic reanalysis.
25. For a fascinating history of empiricism and rationalism in linguistics, see Chater et al. 2015.
26. See McCawley 1975, Kuiper 1975, and Dougherty 1975 for further discussion of the issues.
27. Both observations are true, of course—again I recommend Tomalin (2006) for following these threads of influence—but the *extraordinarily dependent* and the two *taken . . . directly* wilfully ignore the very original shapes those influences took in Chomsky's work.
28. This blend of *pragmatics*, *semantic*, and *syntax*, apparently coined by Fillmore, shows up in the literature with Ross's “Where to do things with words” (1975:252).

29. For similar discussions, see Lyons 1970c:137–38, Lehmann 1972:221–22, Elgin 1973:134–35, Wardaugh 1977:171–77, Hayes, Orenstein, & Gage 1977:102–105, and Simpson 1979:237–43. In several of these discussions, Case Grammar is side by side with Generative Semantics.

Chapter 6

1. There are several important caveats to make, however. First, there were many linguists who bought into Generative Semantics—who, for instance, published dyed-in-the-wool Generative Semantics papers like “On the Alleged Boundary between Syntax and Semantics” (Newmeyer 1970), and “On the Syntax and Semantics of the Atomic Predicate CAUSE” (Dowty 1972)—but whose work shows only faint traces of this style. Second, there are linguists who employed this style only in very restricted subsets of their writing. Postal, for instance, tended to write in a formal, almost Chomskyan style, but frequently juxtaposed offbeat sample sentences to this prose, and his publications carried a much more serious tone than his *samizdat* papers. Third, some Interpretive Semanticists, like Jackendoff and Akmajian, also used elements of this style—considerably more elements, for instance, than Newmeyer or Dowty. And, most importantly, a great deal of work which showcases this style is to be found in the various proceedings of the Chicago Linguistic Society (CLS); that is, one of its principal aims is to be effective when delivered orally. Indeed, this chapter might, not unreasonably, have been entitled “The CLS Ethos.” But the identification of Generative Semantics with the CLS in this period was an extremely close one. The society was the organizational center of Generative Semantics, publishing at least half the movement’s papers in its proceedings, serving as a swap meet for the latest ideas, and throwing the best parties.
2. For readers to whom this allusion is obscure: there was an elaborate and bizarre rumor, characteristic of the paranoia and mysticism of the period, that Beatle Paul McCartney was dead, that there had been a massive cover-up of this by evil-minded executives (aka “The Establishment”), but that the genuine remaining Beatles were trying to get the truth to the faithful in the form of cryptic lyrics, symbolic album covers, and, strangest of all, by encoding messages that could only be discerned by playing certain sections of their records backwards.
3. The *k*-spelling of *Amerika* was distinctive of counterculture orthography, overlapping with African-American dissident usage. The Oxford English dictionary, dating it to 1969, defines it as “Alteration of the name of *America* . . . after German *Amerika* and Russian *Amerika*, to express associations of fascism and authoritarianism.”
4. To keep this paragraph from getting too bogged down by parenthetical references, I’ve saved them all for here: *Flip*, Ross recalls, was coined by Postal in his early 1960s classes at MIT, showing up in print in Lakoff’s thesis: *Slifting* (Ross 1973a); *Sluicing* (Ross 1970a [1967]:252); *Stuffing* (Ross 1972a:162); *Irving* (Morgan, ms., cited in Horn 1970:325); *Ludwig* (Neubauer 1970:403); *Richard* (Rogers 1971); *Apparel Pronoun Deletion* (Grinder 1970:300); *Euphemistic Genital Deletion* (as above, cited in Borkin 1972:26; see also 1984 [1974]:105–106, McCawley 1973c:236).

5. There is actually some serious linguistic work going on in *Left Field* as well, but the work was deliberately linked to themes of scatolinguistics, pornolinguistics, whimsy, parody, burlesque, and so on (using some of the editors' selected labels for the content).
6. The politics/linguistics segregation in Chomsky's life and work has been widely noted. Paul Robinson calls this "The Chomsky Problem," and Chomsky himself "a disturbingly divided intellectual" (1979:3). Chris Knight has pursued this theme in great detail, seeing a "veritable firewall" Chomsky has built "to keep these two constituencies of his apart" (2016:134; see also 2018a, 2018b, 2020).
7. All quotations in this paragraph are from the preface to Borkin et al. 1968. The first quotation is a paraphrase of Burt's position, presumably by Borkin. The others are quotations directly from Burt.

Chapter 7

1. Newmeyer (1979), however, draws exactly the opposite conclusion about the book. He apparently admires it a great deal but finds the framework it articulates seriously wanting.
2. There are many discussions of Chomsky's Cartesianism and the issues surrounding it. The most thorough are Kretzmann 1975 and Behme 2014a; see R. A. Harris 1998 for a very unsympathetic account of Chomsky's accusations against Aarsleff.
3. The first appearance of the term, *natural logic*, invoking the idea that logic should be an empirical pursuit, appears to be in G. Lakoff (1971b:277), but tendencies in this direction date back at least to McCawley (1976b [1967]:106). So natural logic was not solely Lakoff's project, though he was on this front, as on most fronts, the most vociferous. At one conference, for instance, McCawley made some modest suggestions in the hope of stimulating logicians "to study the logical properties of items [they] generally ignore (e.g., is it valid to argue 'goddamn all imperialist butchers; Nixon is an imperialist butcher; therefore, goddamn Nixon?')" (1976b [1972]:319). At the same conference, Lakoff delivered a long, forceful sermon (1972c) to the effect that logicians had painted themselves into a corner by allowing their formalisms to shrink the subject matter of logic until it contained only the narrowest subset of facts about human reason and its vehicle, natural language; Generative Semantics, he told them, would be their salvation.
4. While such clues would be helpful to the rest of us, a later example of Chomsky catching it on the chin for failing to get a joke suggests that even hugely outrageous clues might have been missed by him. Pullum's satirical "Formal Linguistics Meets the Boojum" (1989; 1991:48–55) appears to have slipped passed Chomsky. It berates Chomsky for his abandonment of formal linguistics and ends with a doomsday scenario for "the few formal linguists who survive, slightly crazed as a result of isolation and inbreeding [who take] to the hills in places like Montana and northern Idaho . . . Perhaps sometimes a lonely old madman with stringy gray hair and wild eyes will be found seizing people by the arm at an LSA meeting and haranguing them about precise definitions

of formal underpinnings, until he is taken away by hotel security” (1989:43; 1991:55). In short, “it gets crazy at the end, as the reader of Topic . . . Comment [Pullum’s column at the time in *Natural Language and Linguistic Theory* (NLLT)] should expect. What the reader should *not* expect is that anyone would take the piece as stone-cold serious and write a serious response to it,” Pullum said a few years later. “But unfortunately, this has actually happened” (Pullum 1991:47). He is referring to Chomsky’s response to his satire, which begins “Dear Editor, In *NLLT* 7.1 (1989), Geoffrey Pullum laments the impending doom of formal linguistics in favor of the ‘gentle, vague, cuddly sort of linguistics’ that he feels I have been advocating since a shift of opinion that he traces to 1979” (Chomsky 1990:143).

5. Postal’s influence extends to the titles as well. His *Anarchy Notes* use titles like “Horrors of Identity,” “Temporal Monstrosities,” and “Coordinate Mind Snappers” (1976 [1967–70]:203–204).
6. Lakoff has been quite explicit about the commitments he and the others held, and how he perceived them to shift. See especially his discussion with John Goldsmith (Huck & Goldsmith 1995:107–19), as well as some remarks to Francisco José Ruiz De Mendoza Ibáñez (Lakoff [with Mendoza Ibáñez] 1997:41–42).
7. *Cognitive Grammar* comes from some papers he developed with Henry Thompson in the mid-1970s (G. Lakoff & Thompson 1975a; 1975b); *Experiential Linguistics*, from Lakoff (1977a). Newmeyer notes Lakoff’s fondness for new labels—“By coming out almost yearly with a newly named theory . . . Lakoff has not presented himself to the linguistic world as a consistent theoretician” (1980a:172)—though two of the labels Newmeyer cites (*Global Transderivational Well-Formedness Grammar* and *Dual-Hierarchy Grammar*) are from underground sources. The name *Cognitive Grammar* was later adopted by Ron Langacker for a different and much more fully specified theory (e.g., 1987, 1990, 1991), and, as we will see, Lakoff eventually settled under the umbrella of *Cognitive Linguistics*.
8. More precisely, the name was *Move- σ* , where σ was a variable that stood for any constituent, but the σ was dropped after a while by Chomsky and I have followed my selective-anachronism practice here in the hope of avoiding unnecessary complications.
9. The name change was half-hearted at best and slow to propagate, though eventually it took root, sort of. Chomsky himself still regularly used the term *Deep Structure* for a long while after his formal repudiation—rather perversely as a gloss for *D-Structure* (e.g., 1981a [1979]:5, 18, 362; 1982b:5, 2002:113), and his followers often adopted such locutions as “D(eep)-Structure” (May 1985:3).
10. The distinguishing feature between Chomsky and the other famous theory-name-changer, the 1970s George Lakoff (he subsequently settled down, sticking with *Cognitive Linguistics* since the late-1980s), the one that allows him to come off as a much more consistent theoretician, is simply Chomsky’s own insistence on the continuity of his program. Lakoff presented new developments in the 1970s as breakthroughs which dramatically change the way we now have to look at language. Over the same period, in contrast, Chomsky’s framework had a string of names that emphasized continuity (*Standard Theory*, *Extended Standard Theory*, *Revised*

Extended Standard Theory). Subsequently, he has had a remarkable parade of distinct names: *Government-Binding Theory*, *Principles and Parameters*, the *Minimalist Program*, and *Biolinguistics*. But these labels are all brought into a narrative of inexorable, internal progress. He may call one particular transition (to *Government-Binding*) a “conceptual shift” that leads to work “quite different in character from what had previously been possible as well as considerably broader in empirical scope, and it may be that results of a rather new kind are within reach” (1986:6), but he still emphasizes continuity, with all changes as inevitable stages in his march on truth. His 2015 preface to a new edition of *The Minimalist Program*, for instance, describes it as “in central respects . . . a seamless continuation of pursuits that trace back to the origins of generative grammar” (vii).

11. This elevation of frankness was another counterculture trail. See, for instance, Rubin’s (1971:124–26) discussion of the hypocrisy of the Chicago police testifying in court, who insisted they could not repeat some of the defendants’ words in front of women jury members, but who boasted to one another in the back room about how they busted the heads of “the fucking little fagots”; Yuppies, on the other hand, don’t hide anything.
12. Chomsky’s close ally, Robert Freidin (2010 [1997]:262–265) gives a version of the dispute much in line with Chomsky’s. Feargal Murphy (1997) endorses and slightly extends Barsky’s representation of Chomsky’s account. D. Terence Langendoen (1995:586n10) endorses at least some points of Chomsky’s version. But detailed studies of the clash (Huck & Goldsmith 1995, 1998; Koerner 2003b:105–130; R. Lakoff 1989; Newmeyer 1980a, 1986a, 1996; Seuren 1998) offer accounts that do not fit at all well with Chomsky’s. Pullum (1997a) specifically contests Chomsky’s account in Barsky; Pullum & Postal (1997) respond to Murphy (1997); Barsky (1997b) responds to Pullum & Postal, and back to Pullum (1997b).

For my money, the most damning evidence against Chomsky’s version is in the account he gives to Grewendorf (Chomsky 1994), since he offers this self-representation immediately after another one, the familiarly ludicrous account that, despite having a PhD from one of the most distinguished institutions in the United States, under one of the most acclaimed and respected linguists in the world, he was “largely self-taught (including linguistics),” he had “no serious professional qualifications in any field,” and he got his job at MIT because “no one cared much about credentials” (not because, for instance, on top of his obvious documented credentials, and his prestigious fellowship at Harvard, and his publications, and the active support of Roman Jakobson, and the pipeline his supervisor had to the RLE, that his good friend Morris Halle was making the decision). See also Barsky (1998:86). Even without the counterevidence of so much testimony and literature standing against Chomsky’s account, why on earth would one believe a story that sits exactly next to another one so blatantly untruthful?

13. It was becoming fairly common in the 1970s to call Chomsky the “Einstein of linguistics”—the first attested example I have found is in the introduction to an interview with Chomsky in 1972, which says the phrase is common, and both Leiber (1975) and Dougherty (1976b) had just developed the analogy extensively—so

Brame's epigraph was clearly meant to cut both ways. The phrase has gained in purchase. A March 2021 Google search on <"Einstein" "linguistics" "Chomsky"> produced "About 490,000" hits.

14. Everyone in the period would have recognized, for instance, that a comment like "the appeal to meaning within the theory of linguistic form has all too often served simply as a way of side-stepping serious inquiry" (1976:21–22) was directed at Generative Semantics; we hear that G. Lakoff has advanced one argument that is "hopelessly in error" (49n28), Postal another that is "not . . . at all convincing . . . [and] surely incorrect" (50n40). Ross, it should be noted, is singled out for his "very important study" (i.e., his thesis, 1986 [1967]).
15. Chomsky insists that he never tries to persuade anyone, and that no one else should either: "I don't have any theory of rhetoric, but what I have in the back of my mind is that one should not try to persuade. . . . To the extent that I can monitor my own rhetorical activities, which is probably not a lot, I try to refrain from efforts to bring people to reach my conclusions. . . . So I think the best rhetoric is the least rhetoric" (2003 [1991]:376).

Chapter 8

1. See also Jackendoff's confession in *Foundations of Language*: "The reaction in the wider community was one of disillusionment, above all at the bad behavior displayed by both sides in the dispute (including the present author)" (Jackendoff 2002:74).
2. The quotations here are, in order, from Seuren 2005:521, 2005:521, 2004:71, and 2005:525. Seuren's bitterness is so unrestrained that he could not even forbear from a rather personal attack on McCawley in a review of the tribute volume after his death (!), *Polymorphous Linguistics: Jim McCawley's Legacy* (Mufwene et al., 2005). Seuren acknowledges McCawley's creativity during the early Generative Semantics period, but condemns him thereafter for "picking his earnings, so to speak, from whatever sources were available, while trying, as far as possible, to keep up his flamboyant academic and personal style (which, one must say, did grow a little tired in the end);" for "intellectual weakness;" for "political views [that] were as monorail and dogmatic as they were quixotic and unrealistic;" and for a "Freudian twist of mind" that led him to embrace "a philosophy of science . . . that justif[ied] the destruction of the school of thought he had played such a central role in founding" (2005:525).
3. Heny briefly entertains such an alternate history, suggesting that if *LSLT* had been published prior to 1965, "we could have avoided the entire Generative Semantics period, and the subsequent, bewildering, piecemeal abandonment of one transformation after another, which has characterized much of the work in the Extended Standard Theory" (1979:318).
4. Speas is reviewing Huck & Goldsmith (1995) here. In this connection, let me note that there is important research to be done from feminist angles on the history of linguistics in this period—a period not just important for all the reasons I explore in

this book, but specifically important for the low-but-noteworthy number of women entering the profession during one of its more “technical” phases—and also because of the emergence of second-wave feminism at the time. Now would be a very good time to do it, while there is still an opportunity to talk to many of the principals. In my own research, I talked and corresponded with a number of the female participants and observers of the dispute, some of whom spoke about the “sexist culture” of academics at the time, and of the MIT community especially, but there were so many other questions I was trying to answer that I never pursued any feminist issues; nor, frankly, despite my attempts to somewhat remediate that gaping oversight in the present edition, am I the best person to do so.

5. This is not to say, however, that no promises were addressed and none fulfilled. McCawley’s work from the early 1970s right up to his death was largely an attempt to make good on promises he made in the late 1960s. For instance, his abstract analyses of the 1970s addressed the simplicity promises of early Generative Semantics; *Everything That Linguists Have Always Wanted to Know about Logic* (1981, 1993) is the most detailed exercise in natural logic, by far, and *The Syntactic Phenomena of English* (1988, 1998) is the most comprehensive application of Generative Semantics principles to linguistic description. Levi’s *The Syntax and Semantics of Complex Nominals* (1978) satisfies much of the promise of a transformational analysis of nominalization that Generative Semanticists kept alleging was possible in response to Chomsky’s “Remarks.” G. Lakoff’s *Women, Fire, and Dangerous Things* (1987) addresses many of his late Generative Semantics promises, and all of his work has remained spiritually in sync with the later Generative Semantics framework’s commitment to fuzziness, general cognition, and the “Gestaltist” nature of language use. But, where these projects were not too little, they were certainly too late, and explicitly disengaged from the Generative Semantics brand in most cases.
6. From a handwritten note in the UCLA Montague archives (Partee 2011:26).
7. “We prefer the term ‘Montague Semantics,’” Dowty, Wall, and Peters say, “inasmuch as a grammar, as conceived of in current linguistics, would contain at least a phonological component, a morphological component, and other subsystems which are either lacking entirely or present only in a very rudimentary state in [Montague’s] system” (1981:ix).
8. On Chomsky’s disinterest, see his remarks in 1982a [1979–1980]:70, though Partee’s (2005:18n45) observations suggest that this disinterest was not accompanied by hostility. See Janssen 2006 and 2011 for concise accounts of Montague’s heritage.
9. See especially Rogers et al. 1977 and Cole’s two collections (1978, 1981). Of the ten articles in Rogers et al., only three were not by card-carrying Generative Semanticists, all of them philosophers (Harman, Searle, Stalnaker); of the twelve articles in *Pragmatics* (Cole 1978), seven are Generative Semanticists (four are by philosophers, including Grice and Kaplan, with the remaining one by Givón, who had an early affiliation with Generative Semantics, but, by 1969 had turned his back on the dispute); *Radical Pragmatics* (Cole 1981), includes work by Sadock, Davison, Prince, Green, and Morgan, as well as Grice, Bach, and Fillmore. There is no presence in any of them by linguists of the Interpretivist camp.

10. By the time *Form and Function* was published, a lightly edited version of Borkin's dissertation (Borkin 1984 [1974])—"a very typical example of the kind of work that was being produced within the framework of generative semantics . . . right down to the naughty examples and political references to Nixon" (Hudson 1985:263)—G. Lakoff and Ross were aware that her work involves figurative language in some way, saying in their preface that "the examples [Borkin] discusses . . . are known in the tradition of classical rhetoric as 'metonymy'" (viii). Lakoff and Johnson use the term *metonymy* for these sorts of examples as well, regarding that trope unfortunately to include synecdoche as a special case (1980:40), and R. Lakoff (2006) offers an interesting reason for treating at least some examples of metonymy in Generative terms: "In construing the process not as a rhetorical trope but a grammatical process, the generative semanticists were making an important statement about the nature and scope of syntax, suggesting that the process of beheading (or metonymy) was predictable and rule-governed, that there were environments in which it was applicable and those in which it was not, that its scope of applicability could be rigorously stated"—adding, however, "that was never actually done." I can find nothing from the period that discusses these phenomena in figurative terms. She also offers a curious argument that the phenomenon is *not* metonymy at all (rather than, say, a metonymical process governed by rules). One particular case of the Generative Semantics rule called *Casteration*, she says, "has been treated by some scholars as metonymy: *reginam in eo* standing for *lectus/cubiculum reginae in eo* 'I go into the queen[*'s* bed (chamber)]'. But in . . . its sexual sense, *in eo* is most commonly used of animals: *Taurus vaccam init* 'The bull enters the cow. It is hard to imagine this as metonymy: cows do not wait for bulls in bedchambers.' No, but this is a clear example of synecdoche (whole = bull, part = penis) with metaphorical (zoomorphism) overtones (I = bull/animal). Two scholars who *did* recognize the intersection of rhetoric and pragmatics fairly early in the emergence of pragmatics out of the anomalies this sort of work posed to Chomskyan linguistics, Dan Sperber and Deirdre Wilson, have an important paper in Cole (1981), "Irony and the use-mention distinction," in which they make one of the earliest claims that "rhetoric, like linguistics, is a branch of cognitive psychology" (1981:297; see also Sperber 1975, translated as Sperber 2007).
11. For her politeness article, see R. Lakoff 1973a; also 1977. Her *Language and Woman's Place* is R. Lakoff 1975; see also 1973c, 2004; as well as the work of her most influential student, Deborah Tannen (e.g., 1996).
12. You probably don't need a key, but I'm nothing if not redundant: Transformational Grammar, Transformational Generative Grammar, Standard Theory, Generative Semantics, Relational Grammar, and Extended Standard Theory.
13. For "English as a Formal Language," Montague 1970a; "Universal Grammar," Montague 1970b; and "The Proper Treatment of Quantification in Ordinary English," Montague 1973.
14. We'll only see a few of these below, and far too briefly for all of them, but here's the key: Lexical-Functional Grammar, Daughter-Dependency Grammar, Word Grammar, Arc-Pair Grammar, Government-Binding Theory, Principles and Parameters, Minimalist Program, and Generalized Phrase Structure Grammar; all the offshoots

- of GPSG can be found in Pullum (1991:9), except for *ETCPSG*, which I am hoping you caught as my joke, for *ETCetera* Phrase Structure Grammar; if you didn't catch the joke, and possibly even if you did, forgive me.
15. Chomsky never seems to have used *REST*—maybe that's one joke he did get—continuing to prefer *EST* through the 1970s. But it was routinely used by others, even by initiates, and historically usually has the rough life-dates of 1973–1979, from “Conditions on transformations” (Chomsky 1973a [1971]) to *Lectures on Government and Binding* (Chomsky 1981a [1979]), with perhaps Chomsky & Lasnik 1977 as the signal document.
 16. Part of the problem, too, was not with the *type* of rules, so much as with Chomsky's specific *construal* of Phrase Structure Rules, particularly with respect to English syntax. As Harman put it, even before *Aspects*: “[Chomsky's] critique of phrase structure consists in the construction of a formal model of phrase-structure theory and the demonstration that this is inadequate as a complete theory of grammar. The defense of phrase structure consists in repudiating the formal model. There are good reasons for repudiating the model of constituent structure, as Chomsky defines it, and for replacing it with a model which obviates the original criticisms” (Harman 1963:610–11).
 17. Johnson & Postal (1980:15–19) sketch out some of the currents leading to Relational Grammar, including Ross's argument that rule application was controlled by a hierarchy of grammatical relations (1974b: 106–10); some of Lakoff's unpublished work from the period (partially reaching publication in 1977a) argued for eliminating derivations in a way that put more freight on grammatical relations (albeit not as primitives, but as syntactic products of semantic and pragmatic factors, rather than as Phrase Structure configurations); G. Lakoff & Thompson endorse RG, see 1975a. Edward Keenan and Bernard Comrie's arguments for an Accessibility (or Case) Hierarchy, which circulated from 1972 but weren't published in a formal version until 1977, were extraordinarily influential. Ross, for instance, leveraged his observations on them (Ross 1974b:106), and they shaped Lakoff's work in the period (G. Lakoff 1977a:262). Socio-rhetorically, Relational Grammar gained considerable momentum after a very well attended Linguistic Institute session that Postal and Perlmutter team-taught in Amherst, 1974 (see especially Perlmutter 1980; Perlmutter and Rosen 1984; Blake 1990). Generative Semantics refugees who found their way to Relational Grammar (other than Postal), include Matthew Dryer, Peter Cole, Donald Frantz, and Jerry Morgan.
 18. The Lexicalist developments building from “Remarks” were substantial—effectively, shifting the transformational burden entirely, or almost entirely, to “the lexicon”; that is, to base-component rules that increased lexical inventories in systematic ways. The most notable Superlexicalist outside LFG was Michael Brame, whose BGS (1978, 1979), Base-Generated Syntax, shared a number of central features with LFG but never achieved the same level of articulation, nor attracted significant numbers of adherents.
 19. Missing from this sketch is Harman 1963, an article that argues for eliminating transformations by enriching phrase structure and was an early harbinger, if not a

direct influence, on this trend of downloading transformational duties onto Phrase Structure, and that became something of a touchstone for GPSG (Gazdar & Pullum 1982:2; Gazdar et al. 1985:18). As always, of course, there is a Chomskyan crystal ball in the story: he projects an extension of the phrase structure component in *Syntactic Structures*, concomitantly diminishing the role of transformations (1957a:41–42n6; see also Chomsky 1955a:VI–229, 1975a [1955, 1956]:190). He calls such a move “ill-advised,” remarking “that it can only lead to the development of ad hoc and fruitless elaborations” (1957a:41–42n6), resulting in “very inelegant characterization[s]” (1955a:VI–230, 1975a [1955, 1956]:190), and his reaction to Harman 1963 was a characteristically withering dismissal, test-marketing an early version of his notational-variants charge (1966b [1964]:41–45), adding irrelevance, obscurity, and baselessness into the bargain, even implicating baboons; all the same, the Phrase-Structure-/Transformational-Rule tradeoff shows up in Chomsky’s earliest work.

20. Jan Koster, a scholar who was visiting MIT at the time and who soon became an important force in the development and propagation of Chomsky’s work—someone very sympathetic to his technical work and on “his side” with respect to Bresnan’s position—recalls how disagreement “gradually poisoned the atmosphere between Chomsky and Bresnan in [the] fall of 1976. At first, she was still coming to his weekly lecture on Thursdays, but Chomsky was so aggressive about her position (never let her finish a sentence) that she eventually didn’t come anymore, in the longer run inspiring her to go her own way.” That’s only one view—maybe Bresnan was asking long questions irrelevant to the course, so Chomsky needed to cut her short to do the job he was paid for; who knows?—but Bresnan left MIT in 1979. It is notable that neither Chomsky’s nor Bresnan’s published criticisms of each other’s linguistics had anything like the acid tones of the Generative Semantics dispute. In Chomsky (1977), for instance, he examines in considerable detail and rejects one of her arguments with no harsher pronouncement than “I am not at all convinced” (1977:118). It is also notable, with respect to her famous supervisor, that Bresnan says “Chomsky was my doctoral advisor, [but] my mentor was Morris Halle,” whom she credits as well for fostering the relationship with Kaplan that led to LFG (Bresnan 2011).
21. These three—Role and Reference Grammar, Co-Representational Grammar, and Equation Grammar—were picked pretty much at random. Okay, not at random at all; for their alphabetic colligations, to help you in your games of Linguistic Scrabble. The other frameworks at the Milwaukee conference also included some that predated *Aspects* (such as Tagmemics and Stratificational Grammar), some quite orthogonal to formal modeling (Functional Grammar and Functional Syntax), “Trace Theory” (a version of REST featuring its most prominent device), and perhaps the most traditionally rooted generative approach, despite its label, McCawley’s Unsyntax.
22. Haspelmath’s (2008:83) Table 1 lists these and other parameters with citations for their initial proposals and some related discussion and/or modification.
23. I don’t mean that it was *incapable* of providing more insights, just that it *didn’t* provide many more insights with the kind of influence earlier research had. Postal’s work, which remains in the RG mold, has certainly continued to provide new insights, particularly the picture of grammatical objects he presents in *Edge-based Clausal Syntax*

- (Postal 2011), but they are not perceived as coming from an RG paradigm, just from an individual RG linguist in a post-RG ecosystem. Indeed, the book's foreword, by Chris Collins, goes out of its way to argue that Postal's work could (maybe should) be largely absorbed into Chomsky's program.
24. Given Lakoff's propensities, his paper probably showed up somewhere, or parts of it, in some form, but it was not published anywhere in connection with the conference, and can only be glimpsed through Lawler's 1980 critique, which seems more a commentary on Lakoff's approach to linguistics than on the properties of some specific model. *Cognitive Grammar*, as a label, came to be associated with Ronald Langacker, and Lakoff is widely seen as one of the leading theorists who ushered the broader framework called *Cognitive Linguistics* onto the scene.
 25. When their book came out, the next year, Lakoff and Johnson arrayed such data as this, some of it identical to the textbook, as their newly discovered 'conceptual metaphor,' IDEAS ARE FOOD.
 26. See Ricoeur's historically detailed *Rule of Metaphor: The Creation of Meaning in Language* (whose title might easily have been Lakoff and Johnson's), where one finds such observations as "The functioning of metaphor is to be detected in ordinary usage" (1975:92) and such representative historical quotations as Dumasais's (1730) "There are more tropes used in the marketplace in a single day than in the entire *Aeneid*" (1975:72) and, most tellingly, I. A. Richards' remark that metaphor is "the omnipresent principle of language" (1975:92).
 27. See Jakobson's important paper on metaphor and metonymy as the realizations of cognitive poles organizing language and thought, which he called respectively *Similarity* and *Contiguity* (1990b [1956]).
 28. These examples are just called "metonymy" in *Metaphors We Live By* (1980:35), and sometimes (in a slight improvement) "metonymic concepts." In fact, Lakoff and Johnson's phrasing is weirdly proprietary: "This is a case of what we will call *metonymy*," they say, as if no one else had thought to use that term of such data (see also Lakoff 1987:19). The locution *conceptual metonymy* has now become common in Cognitive Linguistics, but it does not appear, so far as I could find, until Lakoff (1987:511), where he also says "Metonymy is one of the basic characteristics of cognition" (77), again confusing cause for effect. What I am calling *correlation* here, by the way (see also Dancygier and Sweetser 2014:5), has a long history in association psychology, where it is usually called *contiguity* (to signal a relationship of proximity in space or time between the relevant notions); see, for instance, Hume (1993 [1748]:14), where *analogy similitude*, etc., show up as *resemblance*.

Chapter 9

1. The word *Chomskyan*, of course, has by this point accrued so many layers of meaning that sometimes adherence to Chomskyan linguistics frequently involves opposition to Chomsky, the clearest cases being GPSG and its progeny, which turn Chomsky's

- early commitment to precise modeling against him, and LFG, which turns his Lexicalist hypothesis against the residual Transformationalism of his later work.
2. A synchronic slice of the Flea Circus, from the early 1990s, is available as McCawley 1991; see Meyer 1993.
 3. See, in particular, McCawley 1985. At his death, he was working on a book to be entitled, *A Linguist's Guide to the Philosophy of Science* (McCawley c.1996). There was some talk that it might be completed by colleagues and released posthumously, but nothing has come of that idea.
 4. As a small sample of his personal reach (where *personal* is deeply permeated with the *intellectual*), see Mufwene et al. 1999, a thirty-thousand-word wall of tributes. As for his publications, the incomplete CV on his website (the last dated items are from 1996) lists well over two hundred items; see also Mufwene, Francis, & Wheeler (2005:xvii–xxx), a bibliography assembled for a tribute volume to McCawley.
 5. His three collections of articles (1976b [1964–1971], 1979 [1965–1967], 1982b [1973–1979]), as well as his *Eater's Guide* (1984), are all available in the ubiquitous second-hand book market, and well worth the effort to track down.
 6. George Lakoff has a very important book in literary studies, influential in the development of Cognitive Poetics (Lakoff & Turner 1989), but not the same kind of deep literary interests as Ross.
 7. See Ross (2000), George Lakoff (1987:582–85, 1989, 1997, 1999), Robin Lakoff (1989, 2014), and McCawley (1980a, 2009 [1994]). Postal has talked and corresponded about it with me, and with Huck and Goldsmith (1995:126–42), but mostly as a courtesy to others, as well as to illustrate early manifestations of something he continues to care about, Chomsky's perfidy.
 8. As advocates, in 2009, Postal could only cite works by Katz and himself, one of them written with another scholar, and one book by another scholar (Katz 1981, 1984, 1998; Katz & Postal 1991; Langendoen & Postal 1984; Carr 1990), for a position over thirty years old. There are few vocal opponents—Linguistic Platonism is treated mostly by silence in linguistics—but Jackendoff articulates some objections, chiefly that it “disconnects generative linguistics from all sources of evidence based on processing, acquisition, genetics, and brain damage” (Jackendoff 2002:297; see also Chomsky 1986:33–4; more neutrally, Stainton 2014).
 9. After leaving IBM, Postal joined the linguistics faculty at New York University for about fifteen years, but in a semi-retired capacity, with one or two small-enrollment classes per year; the official designation was “Research Professor.” He took on only one doctoral student there.
 10. These three quotations are from, respectively, Swain 1984:205, Bigand, Lalitte & Dowling 2009:185, and Pearce & Rohrmeier 2012:469. Not all the initial reviews were welcoming (see especially Longuet-Higgins 1983, as well as Peel & Slawson 1984, to which Ler Dahl & Jackendoff 1985 respond), but subsequent scholarship has been almost universally appreciative (see, in particular, the special issue of *Music Perception*, 26.3).

11. Goldsmith's Autosegmental Phonology program (1976, 1990), which elevated phonological representations to the rich tree-structure expressiveness that characterized syntactic and semantic representations of the period, grew out of an increased attention to suprasegmental phonology (sound patterns larger than a segment or two—like, say, the upturned question intonation in English), and such phenomena as vowel harmony and tone. Influential earlier work includes Williams 1976 [1971] and Leben 1973. While it soon came to replace the flat representations of the Chomsky-Halle program, it is important to note that Autosegmental Phonology was not intended as a replacement for generative phonology at all. Rather, it was a proposed enrichment sparked by the need to handle phenomena which gave generative phonology trouble; Halle was Goldsmith's supervisor, Chomsky was on the committee, and as one would expect from their reputations as kind and committed mentors, both come in for hearty praise and gratitude in Goldsmith's acknowledgments.
12. Sadock developed a grammatical model with parallel architecture, also influenced by Autosegmental Phonology (in fact, which partially arose from conversations with Goldsmith), called *Autolexical Syntax* (Sadock 1991; see the preface for the Goldsmith anecdote, p. x).
13. Though not everything, apparently, can be let go. In one paper, he is careful to remove some alleged priority assigned to Lakoff (2007b:367n19).
14. There's more. Pinker responds to Lakoff, Lakoff to Pinker, reproduced variously across the internet; the exchange, oddly reworked (and imperfectly edited) as a set of letters, was then published again, in *Public Policy Research* (Pinker and Lakoff 2007). Among the weirdest moments is when Pinker, whose two entries in the exchange heap insults on Lakoff, accuses him of "a number of ad hominem speculations about what is wrong with me." For an overview of the exchange, the first two decidedly tilted against Lakoff, see "Chris" 2006, Lehrer 2006, and Harryman 2006; the aggregate comments on all of them batter both Pinker and Lakoff, laud both Lakoff and Pinker. A much more measured account by a linguist of Lakoff's approach to political marketing is Nunberg (2006).
15. Newmeyer replies to this frequent charge, specifically citing Huck & Goldsmith's version, not so much by refuting the hypocritical-appropriation charge as by mitigating it: "The fact that a core hypothesis of generative semantics [i.e., Quantifier Lowering] . . . turned up in a rather different form as an auxiliary hypothesis of GB [is just a function of the fact that] generative semantics and its rivals share parentage and a host of common assumptions" (Newmeyer 1996:132). A common heritage would seem to make the citational oversights (which Newmeyer does denounce) all the more flagrantly discourteous, however, and this charge is largely about discourtesy. On a more general note, salvaging is a widely established practice in science. When two programs clash, the victorious one frequently, and often covertly, incorporates solutions, data, and methods from the defeated one. Even in relatively uncontentious circumstances, proposals are up for grabs in science. See Pullum 1991 [1983]:14, for instance, on the rapid coöpting of material from Relational Grammar in the 1970s.
16. Aside from the marked ellipsis, I have made some small alterations to the quotation—eliminating two footnotes and changing the Postal citation to match my bibliography.

17. See also Bach (1977:140–41), Ruwet (1991:xxi–xxii), Huck & Goldsmith (1995, 1998), and Gazdar’s wonderfully snide “As has often been remarked, the ‘Aspects’ view of language leads inexorably to Generative Semantics. What is surprising about REST [the Revised Extended Standard Theory] is that it has taken Chomsky so long to get there” (1982:472).
18. G. Lakoff had expressed these principles a year earlier as characteristic of Generative Semantics (G. Lakoff 1989:55, 59).
19. See Langacker 1987:217–18, from which the quotation comes. Despite the motional implications of the word, a trajector can be part of a static relation, as well as a dynamic relation.
20. This one is slightly trickier than I am making out, and if you are attentive, you’ve noticed that the TR and LM have changed places from the ICM for Sentence 7. That’s because Sentence 16 is a passive. It is about the song; *was overlooked* serves as the ground that situates the song.
21. My treatment of these examples diverges from Brugman’s and Lakoff’s in some respects, most significantly in the analogic data. The ICMs of Figure 9.4, as well, take some poetic license for cohesiveness. There is no reason that the lunch of 18, for instance, or the song in 15 or 16, should resemble a hill. In 15 and 18, a plane would be more neutral, so long as passage over topography is indicated. In 16 a simple geometric form, like a box, would be a more reasonable representation, since the song is reified as some encapsulated entity, not as part of some continuous topography.
22. Tyler and Evans tally them as “at least 24 distinct senses” (2001:97)
23. Fillmore’s work, from Case Grammar on, had been influential computationally, so when Fillmore officially retired from Berkeley in 1995, he moved to the International Computer Science Institute (ICSI), to develop lexicons that are both reflective of human usage and machine readable, the FrameNet project. If you want to see representations of Semantic Frames, that’s where to go (framenet.icsi.berkeley.edu).

Chapter 10

1. Newmeyer (1980a:206–7) catalogs this debris somewhat for the first shifts, and Wasow (1985) makes some similar remarks. Today such a catalog would be very much longer.
2. The “Biolinguistics Manifesto,” which inaugurates the journal *Biolinguistics*, for instance, begins “Exactly fifty years ago Noam Chomsky published *Syntactic Structures* (Chomsky 1957), a slim volume that conveyed some essential results of his then-unpublished *Logical Structure of Linguistic Theory* (Chomsky 1955/1975)”; anchoring all things biolinguistic in the originary generative texts. See also Di Sciullo and Jenkins (2016) for a particularly exemplary representation of trademarking, which starts with the statement “Biolinguistics is the study of the biology of language,” in tones that suggest it will chart a new field for its readers, but then becomes all Chomsky all the time (over fifty invocations or citations, to nearly twenty articles). Derek Bickerton, who has written far more of direct concern to the evolution of language, over a far longer period, is introduced just to be set aside. James Hurford, who has several important books on

the evolution of language, is mentioned just to be set aside. Pinker and Bloom (1990), widely regarded as having initiated the recent boom in evolutionary linguistics, is unmentioned. Talmy Givón, who wrote a book entitled *Bio-Linguistics*, is unmentioned. Jackendoff, who has some cogent counterarguments to Chomsky's evolutionary theory, is introduced to be refuted. The article ends with a quotation from Chomsky. I don't want to suggest that the 800-pound gorilla should not get a prominent place in almost any article in linguistics, but it is indisputable that the article is almost exclusively about his work, not about some general field studying the biology of language.

3. The few-Harvard-graduate-students origin story is a common topos in the Biolinguistics literature (e.g., Jenkins 2000:1; Sperlich 2006:35; Di Sciullo & Boeckx 2011:1; Berwick & Chomsky 2016:94). Descartes usually comes in as well, as the great ancestor of that small Harvard collective. McGilvray's introduction to the third edition of *Cartesian Linguistics*, for instance, is obsessed with biology, though biology is barely noticed in the text he is introducing (see especially Chomsky 2009b:4–5); see also Chomsky 2005:5, Berwick & Chomsky 2016:88; and especially Boeckx 2011a, which coins the oxymoronic phrase, *Cartesian biolinguistics*. As Chomsky himself notes elsewhere, for “Descartes the mind is not part of the biological world” (Chomsky 1980b [1978]: 30).
4. Most of my characterization of Gopnik's work comes from her more formal paper a year after the *Nature* letter, with her colleague, Martha Crago (Gopnik & Crago 1991).
5. See Harpaz 2002 for a brief discussion with a nice collection of citations and links to some of the primary materials for the first decade of the exchange. Harpaz strongly favors the broad-pattern interpretation.
6. See Barsky 2007:14–28, a section entitled “Rockin Chomsky.”
7. I don't mean that the claim Chomsky has long been interested in the biology of language is baseless. There are currents in many of his books that engage biology in various ways, such as his thematic analogy that grammar/I-language is a mental organ on parallel with digestion, the recurrent argument that humans *grow* languages, not learn them, the strong intimations in the Principles and Parameters program of genetic correlates, and so on. The entire language-instinct position is inherently biological. Nor has Chomsky shied away from biological/evolutionary issues when they have crossed his bow (see especially Piattelli-Palmarini 1980); he has rarely shied away from *any* issues. But it is only in the 2000s, with papers like the Hauser, Chomsky, & Fitch (2002) article that Chomsky offers specific and concerted claims about biology, in parallel to the way, say, Chomsky & Miller (1957, 1958, 1963), and Miller & Chomsky (1963) made specific and concerted claims about the cognitive implications of Transformational Grammar. The *Biolinguistics* label must largely be retrofitted on Chomsky's career before 2000. Or, to use Hauser, Chomsky, & Fitch's conjugal imagery, while the generative/biolinguistic program began “more than 50 years ago,” it is only in the 2000s that it was “consummated” (2003:1570). Berwick and Chomsky explain the dearth of reference to evolution in twentieth century Chomskyan linguistics by saying that, although “the topic was much discussed from the early 1950s . . . there could be few substantive conclusions, and hence there are few references” (2016:97). In other words, there was a research program but it had nothing to say for forty years.

8. My explication may not have done this diagram full justice, since there are some elements I don't understand. In particular, I'm unsure why the pen-holding hands and the alphabetic characters are in the Conceptual-Intentional segment of the graphic, rather than in the Sensory-Motor segment, and I don't know why memory is not more proximal to the Conceptual-Intentional segment.
9. Chomsky (2015b:xiii–ix; 2016a:40–42), Berwick & Chomsky (2016:2–8), Hauser et al. 2014.
10. Chomsky seems to be using *copy* in a loosely generic way here, to indicate all instances of a given word or phrase, since it is not the copy generated by Merge that is deleted. It is the original.
11. Tree 10-1 is familiarly abbreviated, though less so than many of the earlier trees and diagrams, because Merge trees are pretty sparse, minimalist, when the labeling projections are bypassed. Most notable, perhaps, is the lack of depiction for morphological Merge beyond *cable-knit*: technically the Tree should include subtrees for WEAR+S, ARGUE+S, and SWEATER+S.
12. There are scattered exceptions to this in the literature of Construction Grammar which features the most ecumenical research affiliated with Cognitive Linguistics.
13. Chomsky apparently believes there can be no such thing as a protolanguage, despite its wide acceptance among other theorists. Derek Bickerton is the scholar most closely associated with this proposal, and he reports on an exchange with Chomsky after the publication of Hauser, Chomsky, & Fitch (2003) in which Chomsky asserts that it is “a logical truism” that protolanguage must either include Merge or be finite. Bickerton wrote back that there were contemporary systems, namely pidgin languages, that have a concatenation operation (word1 + word2 + word3, etc., with no bound but also no hierarchical structure), not a set-theoretic operation, which Chomsky (promptly, as always) labeled an error (Bickerton 2009:187–88).
14. James Hurford makes just this connection: “Our combinatorial ability is as impressive as it is because we have massive stores of constructions to combine” (2012:537).
15. In *Foundations*, Jackendoff notes that his project “begins to converge with the Minimalist Program” over the similarities between Merge and his UNIFY PIECES—also “the only rule of grammar” and also a procedure that puts words and “treelets” together. Indeed, the “major difference” between his syntactic model and the MP is the latter's inclusion of Move, which the MP has since abandoned (Jackendoff 2002:180, 180n11).
16. This anecdote is from the web essay collection assembled for Chomsky's 90th birthday, but it seems to have almost disappeared from the web. As we go to press Newmeyer's essay is only available in a pdf version at boskovic.linguistics.uconn.edu/wp-content/uploads/sites/2801/2020/11/Schiffmann-ed.-2018-Revolutionary-New-Ideas-Appear-Infrequently-18-12-07.pdf (accessed March 5 2021).
17. Specific analyses of Chomsky's rhetoric in linguistics and related disciplines include Derwing 1973, Botha 1989, R. A. Harris 1989 & 1998, Postal 2004, and Barsky 2007.
18. Just so “his first wife” doesn't convey an erroneous sense of his home life, or suggest that this remark is from a bitter, sniping, ex-wife: Carol Chomsky was a gifted and accomplished Harvard psycholinguist who passed away at seventy-eight, in 2008,

after a marriage of nearly sixty years with Noam, which Hughes (2006 [2001]:94–98) characterizes as an affectionate, intellectual partnership; the remark is in keeping with that portrait. See Marquard (2008) for another tribute to Carol Chomsky. Noam Chomsky remarried in 2014, to Valeria Wasserman.

19. Everett is often called “the sole authority on Pirahã” (or some similar phrase), though his ex-wife Keren Everett, who continues to work with them, is also an expert, and Barkham (2008) mentions “two aging missionaries” who speak the language.
20. References to this article are based on a translation kindly provided by Gloria Arze-Bravo.
21. This is not the case in the political arena, where Chomsky’s supporters frequently address accusations of dishonesty and malice, usually by undermining the accuser in some way. But in academics (linguistics, but also philosophy, psychology, English studies, and so on), the response from Chomsky’s supporters is overwhelmingly just silence. Even a book entitled *Chomsky and His Critics* (Antony & Hornstein 2003) does not broach the subject of his honesty. Neil Smith, who is among Chomsky’s strongest proponents, is the only one whom I know to have given the accusations any airtime at all (Smith 2004:4), for which he is to be commended.
22. The two interpolations are mine. I have invisibly elided Boden’s internal references, which make no sense in isolation, but she documents both Chomsky’s accusations and the relevant points in her own texts where she either does something Chomsky accuses her of not doing or does something very different from what Chomsky accuses her of doing.
23. I remain flabbergasted at the energy Chomsky could pour into correspondence with someone so marginal (sixty-four pages of single-spaced typing, and I mean *typing*, with a *typewriter*, before he got a computer; no cutting and pasting for him)—one letter clocking in at nearly fifty pages on its own—to a recent graduate in a field for which he has very little regard). At Chomsky’s very reasonable request, I agreed not to quote from those letters. They are personal letters in which he is extraordinarily candid, and it was very helpful for me to get such a frank, carefully itemized account of his views. But I can at least offer a reflected view of his comments by quoting from my replies. With respect to one passage that he objected to, I wrote, “The most negative responses I have received [from others about this passage] concern me playing advocate for you here. *You* apparently take it as an attack; most strangely, you then defend yourself against my charges largely by making precisely the points I have already made in the text, but somehow you have completely missed there. . . . [Contrary to what you state, I] don’t say that you aren’t allowed to incorporate Ross’s work because it is part of GS. I don’t say that Lexicalism was crackpot revisionism. I don’t say that you should never have changed your mind about anything. I don’t say that you wrestled with Lakoff for a microphone. I don’t say that Peters and Ritchie influenced the way you do grammar. I don’t say that you said ‘See how dumb McCawley is.’ I don’t say that ‘Remarks’ never had any impact. I suppose it’s best [to] take these up in turn, below, but I must say that the frequency of such misreadings gives me some sympathy for the people who accuse you of deliberately distorting their arguments. I can’t believe it is deliberate, but it is certainly distortion” (Harris to Chomsky, c. August 10, 1991).

24. It's a good and interesting book, *Decoding Chomsky* (Knight 2016), which everyone who is interested in Chomsky's impact on contemporary culture should read, but I don't think very much of its deliberate unusability theory. See the exchange in *OpenDemocracy* (Knight 2018a, Newmeyer 2018, R. A. Harris 2018a, Knight 2018b, Golumbia 2018, with other related articles and sundry commentary).
25. The exchange then, is Searle 2002a, Bromberger 2002, and Chomsky 2000b, with Searle replying to each of them (2000b, 2000c, respectively).
26. These remarks come in an interview with James McGilvray, who says, "Chomsky is not claiming in this discussion, and never has claimed, that there is a homunculus" (Chomsky 2012b:258), but does not offer a satisfactory account of what, then, Chomsky is claiming, saying only that people use this kind of folk psychology all the time. McGilvray may be right. He was there, after all, and I wasn't. Nor has Chomsky made similar claims elsewhere of which I know. But, really, would *anyone* be surprised if Chomsky meant this literally? Is there *anything* he might say that would seem outlandish after the career of astonishing assertions and arguments he has advanced?
27. The works to which Chomsky refers us in this quotation as exemplifying early work in which grammaticality and well-formedness were uncharacterized and played no role, *Logical Structure* and *Aspects*, appear to support precisely the opposite conclusion; nor does Chomsky give any pages where his claims might be tested. *Logical Structure*, for instance, includes the following, rather precise, characterization:

Def. 6.

A well-formed statement (WFS) in G is any statement of the form:
 $a \rightarrow b$ in the env[ironment] c--d,
 where a, b, c, and d are WFEs of orders k_1, k_2, k_3, k_4 , respectively
 (Chomsky 1955a:III-94).

And *Aspects* opens with:

This study . . . will be concerned with the syntactic component of a generative grammar, that is, with the rules that specify the well-formed strings of minimal syntactically functioning units (formatives) and assign structural information of various kinds both to these strings and to strings that deviate from well-formedness in certain respects (1965 [1964]:1).

We might note, too, that neither of these books qualify as informal expositions; *Logical Structure*, in particular, is the High Formal Tome that stands behind all other early-theory texts; should any relaxation of expression creep into the discussion, one always knew one could turn to it for the rigorous gospel. The words *well-formed* and *grammatical* suffuse the literature of Transformational Generative Grammar, where they are effectively synonymous, and the precise characterization of *grammaticality* was one of Chomsky's most prominent calling cards, resonating with everybody to whom the appeal of science and precision was compelling, but especially to the computer scientists and mathematical psychologists who propelled the cognitive revolution.

28. Technically, the answer is prolepsis, the rhetorical move one makes in anticipating a counterargument and addressing it before it is voiced. He wouldn't have to look very far for someone who might offer such a counterargument, however. As Pullum points out, someone with the name *Chomsky* in 1966 berated another linguist (R. M. W. Dixon) for his rejection of grammaticality (Pullum 1996:139; see Chomsky 1966b [1964]:32n7).
29. He comes close in a footnote, saying that *Aspects* may have been hasty in "implicitly reject[ing]" a quasi-lexicalist account of nominalizations, but the "transformationalist position" is identified in varying degrees with Lees, Lakoff, and Chapin, rather than with *Aspects*. Chapin may be notable here with respect to private meanings. One of Chomsky's objections to my account of "Remarks" is that I deliberately ignored how much more he associated Chapin with transformationalism than Lakoff. There is always a chance he did so in the lectures, I suppose, but the paper barely mentions Chapin. Its argument is with Lakoff.
30. Chomsky's remarks are on video, as part of panel entitled *The Golden Age: A Look at the Original Roots of Artificial Intelligence, Cognitive Science, and Neuroscience* (<http://mit150.mit.edu/symposia/brains-minds-machines.html>). The video is worth watching, if for no other reason than to see Marvin Minsky's contemptuous disinterest as Chomsky speaks (fidgeting, looking away, examining his own fingernails in an exaggerated display of boredom; the question was also asked of him, but Chomsky's reply consumes all the time and he never gets to answer). But there is also a transcript of the relevant portion (<http://languageolog.ldc.upenn.edu/myl/PinkerChomskyMIT.html>). Norvig's blog (<http://norvig.com/chomsky.html>) is clearly articulated and includes a nice exchange with Barbara Partee about reducing divisions and supporting collaborative research. It is probably worth noting, too, that Norvig comes out of the Berkeley Cognitive Science community (thanking George Lakoff, Paul Kay, and Charles Fillmore in his dissertation; Fillmore was on his committee; he co-published with Lakoff; see Norvig 1987; Norvig & Lakoff 1987).
31. It is curious that twenty-five years remains the metric, as the claim appears at least as early as 2008, with the duration unchanged a decade later. The original source of this topos may be Newmeyer, who says of Chomsky's program, much earlier yet, that "more has been learned about language in the last twenty years than in the preceding 2,000 years" (1980:250). For Robert De Beaugrande, this claim calls "to mind Firth's words: 'to dismiss two thousand years of linguistic study in Asia and Europe' 'is just plain stupid'" (De Beaugrande 1991:369n2).
32. The same trend is apparent in his political writings—new editions of *Manufacturing Consent*, 9–11, *Turning the Tide*, *Rogue States*, even "The Responsibility of Intellectuals, Redux" (respectively, Herman & Chomsky 2002, Chomsky 2011a, 2015d, 2015e, & 2011b [reprinted in 2016b])—though the impulse here seems to be less about legacy, more about Chomsky's relentless drive to keep the political topics he values on the radar. The perspective is presentist in these volumes, not historical. His prefaces, afterwords, and new chapters don't look back for retrospective precedents; rather, they are updates.

33. I have somewhat arbitrarily changed *Basic Principle* to *Basic Property* in this quotation, and used *Basic Property* throughout my discussions of the minimalist program and Biolinguistics. Chomsky—sigh—uses both terms in different writings but the latter is somewhat more recent (used exclusively in Chomsky 2016a and Berwick & Chomsky 2016).
34. McEnery & Hardie 2013, “The history of corpus linguistics,” as one clear example, has more citations to Chomsky for his opposition to corpora than to Firth (an intellectual source) or John Sinclair (the most influential practitioner), with an entire section dedicated to “The Chomskyan rejection of corpus data” (McEnery & Hardie 2013:732–34).
35. There are many good accounts of the Copernican revolution. This version is an epitome of Kuhn 1957. Danielson and Graney 2014 have a particularly nice account of Brahe’s role.
36. See Whitaker & Jarema 2017 for some speculation about the cause of the rift and some charting of the bitterness.
37. This account of Gall is taken from Finger 2000, Marshall & Gurd 1994, Whitaker & Jarema 2017, and Van Wyhe 2002.

Works Cited

A note on personal communication sources.

In addition to the published sources in the bibliography below, I was very fortunate that so many linguists, as well as a few philosophers and psychologists, spoke to me about the events in this book, in interviews ranging between 30 and 90 minutes, and that even more took the time to correspond with me, mostly in the 1980s and 1990s, but a few over the intervening years and during my preparations of the second edition; others have also generously corresponded with me, prominently including John Goldsmith, Geoffrey Huck, Robin Lakoff, Frederick J. Newmeyer, and Geoffrey Pullum. I have quoted liberally from these sources in the book, and my descriptions and analyses were greatly improved by their insights. The interviews took place between April and December of 1987, as follows:

Noam Chomsky, in his office, Building 20, MIT, November 17 and December 10, 1987.

Jerry Fodor, in his office, CUNY Graduate Center, October 22, 1987

Ray Jackendoff, in his home, Waltham, MA, October 29, 1987

Jerry Katz, in his office, CUNY Graduate Center, October 22, 1987

Jay Keyser, in his office, Building 20, MIT, December 10, 1987

Susumo Kuno, in his office, Harvard University, November 19, 1987

George Lakoff, the Commander Hotel, Cambridge, MA, April 16, 1987

Howard Lasnik, Building 20, MIT, October 29, 1987

Bob Lees, at his brother's home, Kinderhook, NY, July 8, 1987

Jim McCawley, Godspeed Hall, University of Chicago, April 23, 1987

Fritz Newmeyer, University of Chicago grounds, April 25, 1987

Paul Postal, CUNY Graduate Center, October 22, 1987

Haj Ross, LEX America, Cambridge, MA, April 2, 1987

Jerry Sadock, in his office, University of Chicago, April 1, 1987

Arnold Zwicky, University of Chicago grounds, April 24, 1987

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