

THE ORIGIN AND DEVELOPMENT OF GENERATIVE SEMANTICS

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0. *Introduction*

Generative semantics, an internal movement within transformational-generative grammar that resulted in several years of fierce, schismatic battling, is, as one would guess, not without its share of controversy.* The movement began with an obliteration of the syntax-semantics boundary at the deepest level of the *Aspects* model — arguing in effect that the true deep structure was the semantic representation, not a syntactic input to the semantic component. Everyone agrees on this point, but not on very much else.

There are two main accounts of the movement, firmly polarized. Both accounts are rich and multilayered, in ways that makes them difficult to reduce to simple evaluative sentences like “Generative semantics was good” or “Generative semantics was bad”. But, largely because of the final verdicts they offer, both accounts tend to leave sharp tastes in the mouths of their readers which *are* strongly evaluative. The first account, by Frederick Newmeyer (1980a:93-174), after a good deal of discussion and chronicle, comes down to the following scenario: generative semantics abandoned its scientific responsibilities, and was consequently driven from the scene by more responsible approaches; in particular, by Chomsky’s updated model. “Generative semantics DESTROYED ITSELF” Newmeyer says (p.167); “it simply gave up on attempting to EXPLAIN grammatical phenomena” (*ibid.*); it degenerated into a

* I would like to acknowledge, very gratefully, the contributions to this paper by a number of people, some for their direct discussion of its issues, others for comments on earlier versions of my arguments and interpretations of those issues: Victoria Bergval, Thomas Bever, Dwight Bolinger, Herbert E. Brekle, Guy Carden, Wallace Chafe, Noam Chomsky, Matthew Dryer, Charles Fillmore, Susan Fischer, Bruce Fraser, Gerald Gazdar, John Goldsmith, Morris Halle, Michael Halloran, Lou Hammer, Geoffrey Huck, Ray Jackendoff, John E. Joseph, Jerrold Katz, Jay Keyser, E. F. Konrad Koerner, Susumu Kuno, George Lakoff, Robin Tolmach Lakoff, Judith Levi, Howard Lasnik, Robert Lees, James D. McCawley, Stephen O. Murray, Greg Myers, Frederick Newmeyer, Paul Postal, Geoffrey Pullum, Gary D. Prideaux, Háj Ross, Jerrold Sadock, Jim Zappen, and Arnold Zwicky. Jane Forgay, also hereby gratefully acknowledged, helped with the research.

“data fetishism” (p.168), becoming “THEORETICALLY bankrupt” (p.173; Newmeyer’s emphasis in all quotations). The second account, by Robin Tolmach Lakoff, was issued largely as a corrective to the first. Tolmach Lakoff was “moved to take computer in hand” in horror at this picture, hoping to set the record straight and “discourage future distortions of the Newmeyer type” (1989:939).¹ In her version, generative semantics was highly responsible — if anything, *too* responsible, particularly in its confrontation of problematic data — but the timidity of most linguists prevented them from embracing the approach; the meek inherited the field, especially those attracted to Chomsky’s updated model.

Personal history is important here. Newmeyer (b.1944) was an early and eager generative semanticist who watched the evolution of that approach with growing distaste. As generative semantics moved further and further away from the questions and issues Newmeyer found compelling — mostly the ones represented by the defining adjective, *generative* — he found another movement that embraced those concerns. He abandoned generative semantics. Perhaps more relevantly, he signed on with MIT-centred approach that flew several nominal flags at the time (among them, *lexicalism*, *extended standard theory*, and *interpretive semantics*), but soon became known as *government-binding theory*. The name of this approach isn’t nearly so important, however, as the fact that it drew a great deal of motivation from the fear and loathing of generative semantics (see especially Brame 1976).

Tolmach Lakoff (b.1942) was a charter member of generative semantics, predating Newmeyer’s involvement by several years; more importantly, she was also a late member of generative semantics, postdating Newmeyer’s involvement by several years. She not only saw its evolution through loving eyes, but helped to direct its course — deeper into the territories represented by the defining noun, *semantics*. Tolmach Lakoff was one of the leaders of the charge away from generativity. Not coincidentally, this charge drew a great deal of motivation from fear and loathing of MIT linguistics, which Tolmach Lakoff (she was not alone) came to see as the apogee of futile scientism. The towering figure on whose shifting shoulders that approach rested, Noam Chomsky (b.1928), she came to regard as “satanic, the Enemy” (1989:970).

As terms like *destroyed* and *bankrupt* and *satanic* suggest — to say nothing of *lexicalism* and *generative* and *semantics* — the story of generative semantics and of its reciprocated warfare with Chomsky’s forces is far too big and tenta-

¹ My use of *Tolmach Lakoff* is slightly awkward, but it is useful for keeping clear the distinction with George Lakoff (who is usually just *Lakoff* herein). My hope is that the referent, who has published under both *Robin Lakoff* and *Robin Tolmach Lakoff*, will not find this convention offensive.

clled to examine in any detail here.² My goals in this paper are therefore quite modest, and relatively unfettered by ideologies like those of Newmeyer and Tolmach Lakoff. I want to look dispassionately at only one constellation of factors in the movement: the people, the events and the innovations that gave birth to generative semantics. Newmeyer describes that birth in terms of rapid, incremental rebellion, an underground movement which gained confidence and moved quickly into deliberate confrontation:

In the [...] spring [of 1966], John Robert Ross, a graduate student and instructor at MIT, and George Lakoff, a part-time instructor at Harvard and associate in its computation laboratory, organized a series of Friday afternoon seminars in Harvard's William James Building, devoted to challenging analyses then favored by Chomsky. In the fall of 1966, with Chomsky on leave in Berkeley, Ross and Lakoff brought their opposition into the open in the classes which they were teaching that semester. (1980a: 93-94)

Tolmach Lakoff describes Ross's and Lakoff's work more in terms of natural growth, developing in particular from research that was "an act of homage to the Master [Chomsky]" (1989:943). "It is true", she adds, that "there were proposals made [...] that would have extended [Chomsky's] model. [...] But these were not seen as expressions of opposition, much less as theoretical heresies" (p.944). The two accounts are quite full: Newmeyer discusses aspects of natural development to the birth of generative semantics; Tolmach Lakoff admits to some confrontation. But the weight of Newmeyer's discussion is firmly behind rebellion, the weight of Tolmach Lakoff's behind steady and natural growth.

Both tendencies, revolution and evolution, were present. They were, in fact, inevitable. Transformational-generative grammar in the mid-sixties was practiced by a very tight community, but one which coursed with contention. The Post-Bloomfieldians had just been hounded into forced retreat, and there was a cadre of feisty, clever, dedicated linguists and philosophers working eagerly on the expansion of the program, especially into the relatively uncharted territory of semantics. The doctoral program was up and running at MIT, generating an impressive string of in-demand, soon-to-be-influential graduates. Cambridge, Mass., was a stronghold of truth and wisdom in language studies, though important outposts were sprouting up in the rest of the country. Chom-

² But, in addition to Newmeyer (1980a:93-173) and Tolmach Lakoff (1989), see Newmeyer (1980b, 1986:81-138, 1991), McCawley (1980a, 1980b, in press), Lakoff (1987:582-585, 1988, 1989), Huck & Goldsmith (forthcoming), R. Harris (1990, in press), for various post-mortem analyses of the movement and the dispute.

sky was the uniformly acknowledged intellectual leader. *Aspects of the Theory of Syntax* was the new scripture. The universe was unfolding as it should.

The central, defining concern of the work codified, extended, and enriched in the scripture of *Aspects* was to get beneath the literal surface of language and explore its subterranean logical and semantic regularities. “In general”, Chomsky had 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”. (1964b[1963]: 51).

Two strong and related themes ran through this syntactic imperialism: first, that it was a psychological pursuit, that the exploration of generative syntactic principles was an exploration of human cognition; second, that it was a biological pursuit, that the exploration of generative syntactic principles was an exploration of genetically endowed mechanisms. Both of these themes had proven very effective in the campaign against Post-Bloomfieldian linguistics.

The most immediate goal, as the quotation from Chomsky suggests, was for syntax to swallow up traditionally semantic concerns. Jerrold J. Katz (b.1927) was the chief architect of this expansion. With Jerry Fodor (b.1935), he worked out an interpretive model subordinating semantics to the syntactic base. With Paul Postal (b.1936), he developed the famous Katz-Postal principle which localized meaning almost entirely to one syntactic level. Chomsky endorsed this principle in *Aspects*, along with all of its attendant innovations, like semantic interpretation rules and trigger morphemes and Δ -nodes and re-evaluations of problematic data. More importantly, Chomsky strengthened the principle, by adding base-recursion to the model, getting rid of generalized transformations, and discarding type 2 projection rules — that is, by formulating deep structure.

The roots of generative semantics are in this formulation, but the movement begins officially with the rejection of deep structure.

1. *The progenitors*

Paul Postal, studying under Floyd G. Lounsbury (b.1914) at Yale in the late fifties, met Chomsky at a presentation he gave there and ‘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 (Postal, 22 Oct. 87).³

Eager to escape the Post-Bloomfieldian confines of New Haven, Postal finished his dissertation in Cambridge, Mass., as part of MIT Research Laboratory of Electronics, and joined MIT staff. After preparing the way for deep structure through his work with Katz, Postal continued to push syntax deeper and deeper, in a program of increasing abstraction and semantic perspicacity that excited a number of other young linguists; most notably, George Lakoff.

Lakoff (b.1941) first encountered generative grammar as an MIT undergraduate in 1961, taking classes from Chomsky and Morris Halle (b.1923). He found 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. He returned to Cambridge, Mass., in the summer of 1963 to marry Robin Tolmach (then studying at Harvard), when he met Ross and McCawley, and found a job on Victor Yngve's (b.1920) machine translation project. Katz and Postal were down the hall, working on their soon-to-be-influential *Integrated Theory of Linguistic Descriptions* (1964), and he spoke with them frequently. Through this regular participation in MIT community, he became more directly interested in language and returned to Indiana to work on a doctorate in linguistics, under Fred W. Householder (b.1913). The following summer he attended the Linguistics Institute, held in Bloomington, Indiana. Postal was teaching there, and Lakoff renewed his friendship with him. So, when Householder left for a sabbatical during Lakoff's dissertation year, he naturally headed back to Cambridge, Mass., where Postal in effect directed his dissertation, and Háj (John Robert) Ross became his very close associate.

Ross (b.1938), son of a nuclear physicist, grandson of a Nobel Peace Prize laureate, did his undergraduate work at Yale, and upon graduation went off to MIT to enroll in its increasingly important linguistics program. He didn't get in. Morris Halle found his record singularly unimpressive and suggested he

³ Here and elsewhere I quote from correspondence or discussions with some of the people listed in my acknowledgement note. Interview or correspondence dates follow the quotations or paraphrases — for interviews, the citation is "source, date"; for correspondence, the citation is "sender: recipient, date" (using the initials RAH for myself, to avoid possible confusion with the famous Harris on the periphery of many of these events, Zellig Harris). Since none of this material is publicly available, however, there are no entries for it in the bibliography at the end of the paper. This oral-history material, of course, has to be interpreted somewhat more loosely than the published material. For instance, a report of a twenty-year old conversation, like Carden's recollection of an exchange with Lakoff later in the paper, reflects the reporter's impressions of that conversation, not a verbatim account.

go off somewhere and “prove himself” (Ross, 2 April 87). He did. In fact, he went off to Chomsky’s old stomping grounds and completed a master’s thesis (in 1964) under Zellig S. Harris (1909–1992) at the University of Pennsylvania. He returned to MIT and, this time, was admitted. One of the shining stars in a early stellar class, he went on to produce a hugely influential dissertation. He also began collaborating closely with Lakoff, particularly on Postal’s abstractionist genre of analyses, and made the friendship of James D. McCawley.

McCawley (b.1938), in the estimation of his teacher, colleague, friend, and opponent, Noam Chomsky, is “one of the smartest people to have gone through the field” (10 Dec. 87); Robert B. Lees (b.1922) places him among “the sanest and most astute linguists of our time” (8 July 87); Ross and Lakoff go on at great length about his intelligence, sensitivity, humor, warmth, inventiveness, pedagogical gifts, musicianship, culinary talents, [...]. McCawley is, according to another in a very long line of deep admirers, “the generative grammarians’ Shiva, the many-handed one of transformational theory” (Zwicky 1971:vii) — an important, diverse, challenging linguist. With a background in mathematics, a thick Glasgow accent, and a stutter (though only in English), he entered MIT 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 (1968[1965]), earning the second doctorate awarded by the new linguistics department. But he soon found himself at the University of Chicago having to teach courses in syntax, and quickly educated himself in the area by spending a great deal of time on the phone with two friends in Cambridge, Mass., who were directing a syntactic study group at Harvard, Ross and Lakoff.

These four relatively abrupt, interpenetrating paragraphs — one per progenitor — mirror the parentage of generative semantics.⁴ Each of these men

⁴ I should point out that this paper completely 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 (1971[1969]) “Best Theory” argument; which included ‘rhetorical predicates’ that paralleled Ross’ 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 10th International Congress), at which Ross (and, perhaps, a few others of 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 1969: 84-85, who mistakenly calls Sgall the earliest to make such a proposal, indicating just how obscure

has been credited with engendering the theory (though Ross only, in his words, "as George's sidekick" — Ross: RAH, 18 March 91). Susumu Kuno (b.1933), who worked closely with Lakoff, says "I have no doubt that George was the original proponent and founder of the idea" (19 Nov. 87). Arnold Zwicky (b.1940) says that the theory was the joint issue of Lakoff and Ross (24 April 87). 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" (2 April 87). But Postal says that "McCawley first started talking about generative semantics", and that it was McCawley's arguments which

Lakoff 1976 [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 generativ-semantische ways in the mid-sixties (Vater 1971:13; of that group, Brekle, at least, was influenced by Sgall). Several linguists at Warsaw University — most notably, Andrzej Boguslawski and Anna Wierzbicka — began exploring semantic primitives in the mid-sixties, and Wierzbicka visited MIT in the 1966-67 academic year, when she urged the emerging generative semanticists to go more deeply, more quickly, into meaning than they were prepared at the time to go. A few of her papers also made some impression on the underground circuit (Wierzbicka 1972: 166-190, 203-220, 1976[1967]), 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 rather tame and semantically half-hearted. Wallace Chafe proposed obliterating the syntax-semantics distinction in generative grammar and dispensing with deep structure, in a 1967 *Language* paper and in a review of Katz (1966) the same year (Chafe 1967a, 1967b; see also Chafe 1970a, 1970b). He was an outsider at the time, though he became a brief sympathizer of the general program, while rejecting many of its specific proposals ("[Generative semantics] hardly ever seemed to offer me much help, and in fact when I did incorporate some of it into my work I always subsequently lived to regret it" — Chafe: RAH, 17 March 91).

Zellig Harris has a quite indirect influence on generative semantics, primarily through his influence on Ross. Specifically, Harris proposed a performative deletion transformation which prefigures Ross' 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, Plötz' 1972 preface, for an unconvincing argument that Harris' model is generative semantics.) Uriel Weinreich (1926-1967) 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", and McCawley 1976b[1968]: 192-919, especially, 198-199), and by his public entertainment of the "advantages of including semantic features in the base" (Weinreich 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.

I also make no attempt here to follow the developments of generative-semantic-like models subsequent to the work of Lakoff, Ross, McCawley, and Postal, since the lines of influence are obscure. Liefink (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 partially influenced by their proposals, but largely through his commerce with German linguists working in generative semantics (see, especially, Sgall et al. 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 (only tangentially related) approach.

first got him interested in the movement (22 Oct. 87). McCawley says that Lakoff and Ross “turned me [...] into a generative semanticist” (23 April 87). Lakoff 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 (16 April 87).⁵

The developmental lines are tangled, and Chomsky, who is decidedly uninterested in generative semantics’ parentage says, simply, “it was in the air” (19 Nov. 87). There is much to recommend this account. Dwight L. Bolinger (1907–1992), an interested observer at the time, remembered the situation in very similar terms, saying that “GS was in the air”. “How could meaning have been as thoroughly excluded as it was [in early transformational grammar]”, he added, “without clamoring irresistably to be let back in?” (Bolinger: RAH, 22 Feb. 87).

As transformational analyses of syntax grew more probing and more comprehensive in the sixties, they increasingly involved semantics. At least as early as Z. Harris (1954), there was a promise that structural syntactic work could make inroads into the jungle of meaning. *Syntactic Structures* did some important preliminary surveying, and by 1962 Chomsky was arguing explicitly that the deeper syntax went, the closer it got to meaning. At some indistinct point, however — or, rather, at several different indistinct points, for several different people — this program began to seem exactly wrong. It began to appear that syntax should not be co-opting semantics so much as exploring its own semantic roots; that syntax should not be determining semantics, semantics should be determining syntax; that semantics should be generative rather than interpretive. At some indistinct point, there was a generative semantics community. But ‘in the air’ does not give the whole picture, and, while Chomsky stops at this level of analysis, Bolinger’s comments go further. Lakoff and Ross’s Harvard seminars, he said, where they developed Postal’s ideas, “provided a lightning rod” for generative semantics (Bolinger: RAH, 22 February 1987).

There are no truly homogeneous communities, no communities without an echelon of leaders. As Chomsky, quite suddenly, began to show less inclination for the type of deep syntactic work suggested in *Aspects* and *Cartesian*

⁵ In addition to their comments to me, McCawley’s views are also in print (1976a:159), and Ross gives the lion’s share of credit for generative semantics to Postal in the acknowledgements to one paper (1974:122). Lakoff’s published comments (Paret 1974 [1972]:167) fail to mention either Postal or McCawley. Newmeyer (25 April 87; 1980a:93-94, 1986:82-83) says that generative semantics was born out of work by Lakoff and Ross, under Postal’s influence; Tolmach Lakoff (1989:942ff) says that it stems, in particular, from a Postal paper (1964), which initiated a trend picked up especially by Lakoff, Ross, McCawley.

Linguistics, and as generative semantics began to take shape against the backdrop of that work, it was obvious who these leaders were — Postal, Lakoff, Ross, and McCawley.

Others had influence, but the differences are striking. For instance, Edward Klima's (b.1931) work clearly licensed the move toward a semantic base, and he was an influential teacher at MIT when generative semantics developed. Emmon Bach's (b.1929) work, too, was important. But neither Klima nor Bach showed any inclination to redefine the *Aspects* model's basic architecture. Charles Fillmore (b.1929) did show such an inclination, but drew his redefinition in less sweeping terms, principally adding a new stock of thematic primitives to the base.⁶ Paul Kiparsky (b.1941) also had a significant influence, through his teaching at MIT and through "Fact", a very well-circulated paper he co-authored with his wife, Carol (née Acker, b.1943), which investigated semantico-syntactic interactions in a way that forms a virtual template for generative semantic work,⁷ and he was also an important sympathizer once the movement took off. But his principal interests lay elsewhere, in phonology.

Robin Tolmach Lakoff wrote her Harvard dissertation in the mid-sixties, *Abstract Syntax and Latin Complementation* (1968), which is poised at the brink of generative semantics — in fact, which goes further toward generative semantics than husband George's more famous 1966 dissertation — and she became both a forceful champion of generative semantics and one of its most influential teachers. But she was not responsible for any of the early move-

⁶ Fillmore is perhaps the most interesting case of the generative linguists then on the scene. Nobody seems quite sure how to categorize him with respect to generative semantics. He pioneered the imaginative and appealing 'case grammar', which is contemporary with generative semantics and has a number of important parallels to it, and he certainly looked favorably on much of the work embraced by generative semanticists. Lakoff, in fact, calls him a generative semanticist in a few places (Lakoff 1971:232n, Parrett 1974[1972]:167), and Frantz' *Generative Semantics: An introduction* explicitly incorporates Fillmore's case roles (1974:9). Chomsky seems to treat Fillmore's work of a piece with generative semantics, attacking them in tandem in one paper (1972b[1969]), linking their interests elsewhere (Chomsky [1979(1976):148-149]. Newmeyer is more ambivalent, separating case grammar from generative semantics fairly sharply in one place (1980a:131, 1986:105), calling it a "variant" of generative semantics in another (1990: 393). For his part, Fillmore calls himself "an ally and a sympathizer [...] [who took] for granted that all of the assumptions they made (most especially, McCawley and Lakoff) were true", adding "but I was not myself a prime mover" (Fillmore: RAH, 18 March 87). In any event, while the story of his participation is a little involved, while his work has always been especially attractive to Lakoff, and while his case grammar had some influence on the beginnings of generative semantics, he was not among its progenitors.

⁷ The paper was revised and reworked with the input of Ross and the Lakoffs, along with some others (1970[1967]:143). Kiparsky was in a parallel dispute at this time, revolving around the titular question posed by his "How Abstract is Phonology?" (1973[1970]) paper; see Anderson (1985:135-139).

ment's distinctive theoretical proposals.⁸ Jeffrey Gruber's (b.1940) dissertation (1976[1965]), written under Klima's supervision, at a desk adjacent to George Lakoff's at MIT, went even further toward generative semantics than either of the Lakoffs' theses, and had a strong influence on some subsequent developments in the model (most notably, those by McCawley and Postal), but Gruber also stopped somewhat short, and he was never active in the movement.⁹ Guy Carden (b.1944), who was very active in the movement, and who did very important early work on the model in the mid-sixties (see, in particular, Carden 1968a, 1968b), was Lakoff's student at the time, exploring his ideas.

Chomsky has perhaps the most interesting paternity claim for generative semantics ("I sort of believed it myself back in the early sixties", he has said, "and in fact more or less proposed it" — 19 Nov. 87), especially by way of the popular arguments in *Cartesian Linguistics* (1966) and *Language and Mind* (1968, 1972a). Indeed, Chomsky's influence suffused the generative semantics literature so deeply from the beginning that it is almost tautologous to speak of his contribution. The work flowed very directly out of his *Aspects of the Theory of Syntax*, and out of the model it delineated. But, for very good reason, Chomsky's name is only very rarely brought up in connection with the paternity of the movement. He rejected it from the moment it could be called a movement, and everywhere that he came near in his early work to endorsing something that looks like generative semantics, he attached a characteristic rider. In *Cartesian Linguistics*, he comes as close as he ever did to generative semantics, suggesting in several places that deep structure and semantic repre-

⁸ No doubt systemic sexism played some indeterminate role in her second-tier status early on. Several women who studied linguistics in Cambridge, Mass., during the period have commented to me on the endemic sexism, but they haven't directly implicated any of the generative semanticists (indeed, Ross and McCawley have been singled out for their sensitivity, and George Lakoff unflaggingly promoted Tolmach Lakoff's contributions in print). For her part, Tolmach Lakoff seems to hold that formalism is inherently masculine (1974:XIV-23, 1989:974); I am not prepared to share that position, but since early generative semantics was quite interested in formalisms, the remark suggests she might explain her comparatively lesser role at the outset of the movement in these terms. Her imprint on the theory becomes much more noticeable a few years later. As George Lakoff notes (Parret 1974[1972]:167), she was an important force leading a prominent strain of generative semantics in the early seventies toward pragmatics and context and the bag of notions Lakoff captures under the term *fuzziness*. It is exactly this sort of work, of course, that alienated Newmeyer and others from the movement. Incidentally, sexism is an issue over which Newmeyer (1980a:169) and Tolmach Lakoff (1989:974) crossed keyboards, though their positions are complex enough that I leave it to the reader to decide who is saying what.

⁹ Vroman (1976) captures Gruber's relevance by noting that his dissertation "provides the foundation for McCawley's pre-lexical syntax and the wider and more general theory of generative semantics" (p.38). Gruber's work was also very influential on government and binding's theta-roles, particularly through the research of Ray Jackendoff (esp., 1972).

sentation are one and the same. But, in a note, he backs off from complete identification, saying that he is only expressing what the Port-Royalists held; the real connections are a “further and open question” (Chomsky 1966:100 n.8). Lakoff, Ross, McCawley, and Postal expressed no such reservations. They believed generative semantics, and don’t use locutions like the inevitable “sort of” with which Chomsky hedges his comments.

Thomas Bever (b.1939) and Peter Rosenbaum (b.1940) also swam in the generative-semantics gene pool, and Chomsky sometimes credits them for starting the movement.¹⁰ They worked out a blueprint for incorporating semantics into the base (heavily under Klima’s influence, as was Ross, and to a lesser extent, Lakoff), which Chomsky cites in *Aspects*’ closest brush with generative semantics (1965[1964]:159). Bever too, has sometimes remarked, with considerable chagrin, that he bears some of the original sin for generative semantics (Bever: RAH, 4 Nov. 87; Katz, 22 Oct. 87). But his and Rosenbaum’s study came several years after a similar proposal by Lakoff, only briefly entertains a structural reorganization to make deep structure and semantic representation identical, and rejects it summarily. It also (like Lakoff’s earlier proposal, in a mimeographed paper) had very little impact.

Behind and below these elements of chronicity, conviction, and scope, the issue of communal leadership here has to do with how broadly or narrowly *generative semantics* is construed. Like all movements, it was complex. It embraced a wide range of interrelated proposals, methodologies, and objectives; membership in the community is best charted with a notion like Wittgenstein’s ‘family resemblances’, rather than a picture of wholehearted, uniform subscription to a given platform by all concerned. The kernel of generative semantics was an obliteration 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 — and everyone in the

¹⁰ Chomsky’s most direct claims for the patrimony of Bever and Rosenbaum are in *Language and Responsibility*, citing “some work by Thomas Bever and Peter Rosenbaum, in which a virtual obliteration of the distinction between syntactic and semantic rules was proposed, an idea that led finally to generative semantics” (Chomsky 1979[1976]:151). This claim, however, is far too strong, substantially distorting the genesis of the theory. As below, Lakoff, Ross, Bever, and Rosenbaum all discussed early versions of generative semantics and *Aspects*-type semantics in 1963, but Lakoff had already written “Toward Generative Semantics”, and all the participants continued to work under interpretive assumptions until Lakoff and Ross broke away formally from the *Aspects* model in 1967 by rejecting deep structure. The relevant Bever and Rosenbaum paper (“Two Studies on Syntax and Semantics”, cited as “forthcoming” in Chomsky 1965 [1964]:237)) has proven extremely difficult to find; my characterization of it comes from Bever’s recollections. At least one publication came out of Bever and Rosenbaum’s MITRE collaborations, “Some Lexical Structures and their Empirical Validity” (Jacobs & Rosenbaum 1970:3-19), but it has no obvious connection to the development of generative semantics.

community held this tenet. But several positions led to this obliteration, and several positions followed from it, and probably no two members ever subscribed to precisely the same configuration of positions. The obliteration, in real terms, began with Postal, though Lakoff was the first to propose it.

2. *Lakoff's proposal*

The first unequivocal step toward generative semantics was a paper by George Lakoff, early in his graduate career, which, after some preliminary hole-poking in Katz-Fodor interpretive semantics, says "there are several motivations for proposing a generative semantic theory" (1976[1963:50]), then goes ahead and proposes one. He took the paper, "Toward Generative Semantics", to Chomsky, who was, Lakoff recalls, "completely opposed" (16 April 87) to his ideas and sent him off to Bever and Rosenbaum, older students working at MITRE Corporation that summer, for semantic tutelage. Chomsky remembers nothing about the paper except that "everybody was writing papers like that" in 1963 (10 Dec. 87) — a remark that is, at best, difficult to substantiate. Bever and Rosenbaum didn't like the paper 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 some copies off 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 success. No one held much hope for his proposals. Lakoff does not give up easily, but he respected Postal immensely and took his advice, abandoning generative semantics (or, perhaps more accurately, repressing it), and going back to work in the interpretive framework of the emerging *Aspects* theory.

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" (2 April 87). Chomsky saw little in it, Bever and Rosenbaum ditto, Ross and McCawley quickly forgot about it, and Postal suggested Lakoff curb his speculations and try to help revise the nascent *Aspects* model, rather than discard it altogether. He did just that, shortly setting to work on his dissertation, "On the Nature of Syntactic Irregularity", which not only revises the *Aspects* model, but stretches it about as far as it could go without breaking.

3. *Abstract syntax*

Lakoff's dissertation was written under Postal — indeed, was "an exploration into Postal's conception of grammar" (Lakoff 1970[1965]:xii) — and the published title (*Irregularity in Syntax*) reads like a diagnosis of the prob-

lems Postal saw in mid-sixties transformational grammar. There was too much irregularity. This diagnosis led Postal to embark on a line of research which soon became known, rather loosely, as *abstract syntax*. The fact that it had its own label, and that Lakoff talks of "Postal's conception of grammar", indicates, in some measure, that it was perceived as a separate stream; but no one really felt the work to be at odds with all the other roiling transformational research surrounding *Aspects*. No one, that is, except Chomsky. The principal thrust of Postal's work at the time was to reduce complexity in the base down to an axiomatic minimum of primitive categories, which, although it followed arguments and tendencies which went back to the very beginnings of transformational theory, entailed some moves Chomsky evidently found uncongenial (Newmeyer 1980a:93, 1986:82).

Ross and Lakoff, on the other hand, found the work extremely congenial and began to augment and elaborate Postal's proposals, particularly in and around the syntax courses they were teaching in 1966-67 (Ross at MIT, Lakoff at Harvard, each attending the other's class, with many cross-registered students), and in a series of afternoon seminars they organized at Harvard. Dwight Bolinger, who sat in on Lakoff's English Syntax course, remembered it this way:

It was 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 with everyone participating to some extent. 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 1991[1974]: 29)

Others remember the Lakoff/Ross courses in similarly creative and constructive terms, though Jackendoff (29 Oct. 87) recalls some overt opposition to Chomsky's position, echoing Newmeyer's (1980a:93, 1986:82) picture of rebellion. Lakoff and Ross, for their part, take exception to Newmeyer's picture. Lakoff calls Newmeyer's version "utter craziness. There was no opposition. We were good little Chomskyans" (16 April 87). Ross agrees: "The [seminars] weren't reactive. We weren't saying 'Well, Chomsky says this, so lets all laugh at it'" (2 April 87).

When Chomsky returned from Berkeley, however, it rapidly became clear that he had negative feelings about abstract syntax, especially through the course he taught in the fall of 1967 organized around the paper published eventually as "Remarks on Nominalization" (Chomsky 1972b[1967]:9-61), and the start of this course is probably the best date from which to mark the beginnings of the generative-interpretive semantics hostilities. Discussing

Chomsky's reaction to abstract syntax and generative semantics in any detail would make this paper far too unwieldy (Chomsky denies there was any reaction until 1969, at a conference after he was repeatedly urged to respond by the conference organizer, Paul Stanley Peters (b.1941); that this response was provoked by several years of unpleasant and intemperate attacks; and that he has never otherwise taken much notice of generative semantics, before or since — Chomsky: RAH, 30 July 91). But the apparent vehemence of Chomsky's reaction drove the generative semanticists away from the Chomskyan fold.

Returning to Ross and Lakoff's work, whatever they remember about the general temper of their research, certainly not all was homage. Newmeyer might be overstating the case somewhat, but several of their specific analyses challenged Chomsky's proposals, and there was unquestionably a spirit of revision in the air. Transformational-generative grammar was still a rapidly evolving framework, and one trend in Chomskyan work from the outset was toward increasing abstraction, a trend that gathered considerable momentum in the early 60s with the introduction of trigger morphemes and Δ -nodes (abstract concepts which, Tolmach Lakoff says [1989:948] "functioned as an Open Sesame" to generative semantics).¹¹ But Lakoff and Ross were driving the entire framework in that direction — and, by the fall of 1967, at the latest, against the known wishes of Chomsky.

The beginnings of abstract syntax are straightforward enough. Postal's work attacked a growing problem in the developing theory. Transformational

¹¹ Too, *abstract* has always been largely approbatory in the Chomskyan vocabulary, closely associated with transformational grammar. Consider this passage from *Logical Structure of Linguistic Theory*:

... A grammar is justified by showing that it follows from a given *abstract* theory of linguistic structure. This *abstract* theory must provide a practical and mechanical evaluation procedure for grammars. The *abstract* theory must have the property that for each language, the highest-valued grammar for that language meets the external criteria of adequacy set up for the given language [...]

We are far from having an *abstract* theory which is not hopelessly *ad hoc*, and that leads to an adequate grammar of even one language. Our goal is to construct an *abstract* theory that is not *ad hoc*. (1975[1955]:65; underscoring added)
The word recurs frequently in his early work, and Chomsky regularly employs degree of abstraction as an evaluation metric for comparing theories. In particular, increased abstraction was one of the dominant themes of his address to the Ninth International Congress of Linguists, an important metric separating transformational work from the "far simpler, more 'concrete'" taxonomic model of the Post-Bloomfieldians (1964a[1962]:916-917).

Interestingly, Yehoshua Bar-Hillel (1915-1975) was partially responsible for the trend toward abstraction in transformational grammar, especially with respect to underlying representations (particularly diachronically influenced phonological representations, but also deep structure — see Chomsky's comments, 1979[1976]:130; also Chomsky 1991[1989]: 6, 21); interestingly, given Bar-Hillel's early ideas about meaning (Bar-Hillel 1954), because the later developments of abstract syntax and generative semantics adopted some of his goals and concerns, seemingly unawares.

grammar, operating under an impoverished notion of what became known as *deep regularities*, witnessed an unconstrained mushrooming of categories in the early-to-mid sixties; much work in the theory simply projected the wide variety of surface categories onto underlying representations, and even the research that winnowed off some of those categories still had an alarming number of them. Lees' exemplary *Grammar of English Nominalizations*, 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, leading Schachter (1962:137) to complain, representatively, that the trend “was staggering to contemplate; it seems likely in fact, that each word would ultimately occupy a subcategory of its own”.

Starting in early 1964, Postal became committed to the radical reduction of these categories, and advanced a series of strong arguments to that end. For instance, he argued in classes, papers, colloquia, and at the 1964 Linguistic Institute, that adjectives are really deep structure verbs (Lakoff 1970[1965]: 115ff); that noun phrases and prepositional phrases derive from the same underlying category (Ross 1986[1967]:124n.9); and that pronouns weren't 'real', that they were a figment of superficial grammatical processes (Postal 1966). Again, this is good Chomskyan practice, and the titular Chomskyan was happy to use such arguments to sell his model. Just before his asyntactic-description-becomes-deeper remark at the 1962 International Congress of Linguists, in fact, he offered this illustrative argument for adjectives like *astonishing* and *intriguing* which arose from underlying verbs:

The structural description of the sentence “it was an intriguing plan”, as provided by a transformational grammar, will contain the terminal string underlying “the plan intrigued one (i.e., unspecified human)” just exactly as it contains the past tense morpheme; and this fact might be suggested as the explanation for the cited semantic feature [that they are connected with a specific human reaction]” (Chomsky 1964b[1963]:51).

As Postal began to pursue this course, though, and as Ross and Lakoff joined him so thoroughly and enthusiastically that it became something of a program, Chomsky apparently lost his affection for it.¹² He says he barely noticed ab-

¹² Other work which furthered the same reductionist ends but really wasn't 'part of the program' includes Lees & Klima's (1963) arguments that pronouns came from fully specified noun phrases (*he* at the surface might be *Hubert* or *the man with the crooked teeth* at the deepest syntactic level, with a transformation inserting the pronoun under the appropriate conditions); and Fillmore's (1966b, 1968) arguments that prepositions arose in the course of a derivation.

stract syntax, and that his "Remarks" lectures were in fact a delayed reaction to Lees's *Grammar*, which he thought "was way overdoing the use of transformations" (19 Nov. 87). It is impossible to tell what set Chomsky off in the direction which came to be known as 'lexicalism', a direction undeniably at sharp odds with the abstract-syntax work of Postal and his colleagues, and it isn't unreasonable to grant that doubts about Lees's approach were percolating in Chomsky's unpublished thoughts for six or seven years. But his recollection that he had only a partial awareness of abstract syntax, and that he was almost completely indifferent to it, are markedly in conflict with the collective memory of virtually everyone else from the mid-sixties Cambridge, Mass., linguistic community; all recall his fluency with the material and his hostility toward it. Chomsky's recollection is in similar conflict with his late-sixties publication record: "Remarks" contains several attacks on abstract syntactic proposals, especially those of Lakoff, and two following papers, "Deep Structure" [1968] and "Some Empirical Issues" [1969], are long, sustained attacks on generative semantics (all three papers are published in Chomsky's *Studies on Semantics*).

Ross' most effective contribution to abstract syntax was one that may have been the cause of some specific friction with Chomsky. He explored arguments supporting an unpublished suggestion by Postal to eliminate the categorical distinction between auxiliaries and main verbs (more accurately, to soften the distinction by translating it into feature notation — Ross 1976[1969]). Auxiliaries, Ross argued, were just another species of verb, as traditional grammar usually held them to be, and therefore didn't need their own deep structure category, à la *Syntactic Structures*. In retrospect, at least, Ross (2 April 87) worries that this proposal may have been the starting point of some animosity, since it not only departs rather sharply from Chomsky's celebrated (1957a:38-42) analysis, but the supporting arguments contain some explicit ridicule of that analysis.

Ross' work also illustrates how clearly abstract syntax prefigured generative semantics. His proposal made both the base and the transformational component simpler and more regular — the defining drive of abstract syntax — but a very welcome by-product was to make deep structure (and thereby the entire grammar) more transparently semantic. Ross' argument, for instance, included subroutines of the following sort. Consider 1a and 1b:

- 1 a The farmer doesn't need to kill the duckling.
- b The farmer needn't kill the duckling.

In the *Aspect*s model, 1a and 1b have distinct deep structures (in 1a, *need* is a main verb; in 1b it is an auxiliary verb; in each case, it arises through different

phrase structure and lexical rules). If the category distinction is erased, as it is for Ross, then the two (in the terms of the day, semantically equivalent) sentences have the same deep structure.

In short, the Katz-Postal hypothesis ('transformations don't change meaning') ruled virtually all of the work in abstract syntax. Katz and Postal, in fact, pair the hypothesis with this heuristic, which is effectively a blueprint for abstract syntax:

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 P-markers. (Katz & Postal 1964:157)¹³

Nobody mined this heuristic more thoroughly, or more astutely, than George Lakoff, and his Postal-sponsored thesis is an abstract-syntax treasure trove.¹⁴ For instance, he noticed lexical gaps in English of the following sort:

¹³ The phrasing "The same sequence of underlying P-markers" seems to imply that the relevant sentences must have exactly the same derivational history, which was not Katz & Postal's (1964) intention, nor how the community construed their heuristic. Since the *Integrated-Theory* model still had generalized transformations, this phrase refers to the set of each kernel's deepest underlying representation. With the advent of the term *deep structure*, phrasing the heuristic became much easier: (relevant) paraphrases should be analyzed such that they share the same deep structure. Though his point is somewhat different, Sampson's (1975: 160) remarks identify this heuristic as a step onto a slippery slope toward generative semantics:

If we allow semantic facts, such as synonymy, to count as evidence for syntactic transformations and hence for the deep structures of sentences, we can hardly be surprised if the deep structures we posit turn out to reflect the semantic properties of the sentences! The only necessary qualification here is that Katz & Postal were not advocating the use of semantic evidence so much as the use of semantic facts as a signpost for syntactic transformations (roughly, a symptom of them, rather than a cause), but the distinction was an easy one to lose sight of.

¹⁴ Lakoff's 1970 comments on the development of his thesis are virtually a précis of the way abstract syntax developed into generative semantics (though Postal plays a strangely negligible role in Lakoff's observations):

[My thesis] began as a minor revision and extension of the conception of grammar presented in Noam Chomsky's *Aspects of the Theory of Syntax*. Before the work was completed, it had become apparent that the revision was anything but minor. I began by trying to define the notion "exception to a transformational rule", which was a fairly tame enterprise. I noticed along the way that the proposed exception mechanism, which this work attempts to motivate on independent grounds, would (1) allow certain sentences to be derived from underlying structures that more closely reflected their semantic representations; (2) permit one to reformulate transformational rules by removing idiosyncratic restrictions, thus permitting transformations in one language to resemble more closely transformations in other languages; and (3) permit the base rules to be simplified, seemingly in the direction of providing universal base rules. Rather than being a trifling technical revision, the book turned out, almost surprisingly, to raise some rather deep questions. (1970:ix)

- 2 a Bart's transgression of community standards is appalling.
- b That Bart is a transgressor against community standards is appalling.
- c T at Bart transgressed community standards is appalling.
- 3 a Bart's aggression towards Lisa is appalling.
- b That Bart is an aggressor towards Lisa is appalling.
- c *That Bart aggressed Lisa is appalling.

Now, 2a-c constitute the sort of data that early transformational grammar thrived on: there is a clear pattern, and taking 2c as basic made it easy to explain the syntactic and semantic parallels in all three sentences transformationally (the verb *transgress* would be nominalized, turned into either of the nouns *transgression* or *transgressor* depending on the structural context). But 3a and 3b were out in the cold, since the *Aspects* model couldn't generate a common deep structure for them. Lakoff proposed an abstract verb, AGGRESS, which then served as the missing link for 3a and 3b (and he prevented 3c from 'surfacing' by marking AGGRESS in the lexicon to obligatorily trigger nominalization, filtering off the bad sentence in the best *Aspects* tradition — Lakoff 1970[1965]:58-61).

His most celebrated abstract analysis in the thesis is related to t is solution — again employing the notion of abstract verbs, a notion which came to be very productive in generative semantics — and goes by the general label, *lexical decomposition*. Lakoff (pp.98-100) noticed that sentences like those in 4 are effective paraphrases of each other.

- 4 a The farmer killed the duckling.
- b The farmer caused the duckling to die.
- c The farmer caused the duckling to become dead.
- d The farmer caused the duckling to become not alive.

Lakoff adduced a number of strong arguments for a transformational relation holding between the four — namely, that all derive from the same deep structure, 4d; or, more properly, that all derive from 4e (abstract verbs are semantic primitives, not English words; hence the upper case letters):¹⁵

- 4 e The farmer CAUSE PAST the duckling to BECOME NOT ALIVE

Most of the arguments for these abstract analyses were syntactic, at least in the expansive *Aspects* sense of *syntactic* — t at the object of *kill* and the subject of *die*, for instance, have exactly the same selectional restrictions (e.g., they both must be [+alive], so *duckling* is OK, *rock* is not) — but again the most per-

¹⁵ I have introduced 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, particularly in the influential work of McCawley, discussed below.

suasive component of the case clearly follows from its successful adherence to the Katz-Postal principle. Deriving *kill* and *cause to die* and *cause to become not alive* from the same underlying structure is an appealing move because, as McCawley points out in his foreword to the publication of Lakoff's thesis, it is "more semantically transparent" than treating *kill* as a lexical atom (Lakoff 1970:i).

4. Logic

As Postal's reductionist campaign gathered steam — adjectives were reanalyzed as deep verbs, adjective phrases disappeared at deep structure, some nouns were also deep verbs, prepositions and conjunctions were deep verbs, prepositional phrases dissolved at deep structure, tenses were deep verbs, quantifiers were deep verbs, articles arose transformationally, the verb phrase dissolved at deep structure — abstract syntax arrived at a convenient little core of deep categories: NPs, Vs, and Ss. There were noun phrases, verbs, and sentences at deep structure and every other category was introduced transformationally.¹⁶

This core was extremely attractive because, as McCawley and Lakoff began to argue, it was in very close alignment with the atomic categories of formal logic: arguments ($\approx \text{NP}$), predicates ($\approx \text{V}$), and propositions ($\approx \text{S}$).¹⁷ The reduction of the deep structure inventory also meant a corresponding reduction of the phrase structure rules, of course, which now fell into an equally close alignment with the formation rules of logic. And, most compellingly, the formalisms of symbolic logic and transformational grammar also fell nicely together. Take 5, a simple statement in symbolic logic.

5 KILL(x, y) & FARMER(x) & DUCKLING(y)

¹⁶ Actually, there was some disagreement about what the three ultimate categories were; in particular, if the primitive nominal category was N or NP; S and V were OK in everyone's books. Additionally, not every abstract syntactician was happy with only three base categories; Ross, for instance, retained the VP in much of his work. I have followed McCawley (1976b:119n.h), who explored these issues most thoroughly, and gone with NP (see also Dowty 1979:19). Brief histories of the proposals that brought linguists to this inventory and its relation to symbolic logic are given in McCawley (1976b[1968]:136-139), Newmeyer (1980a:148-150, 1986:100-101), and Tolmach Lakoff (1989:946-953).

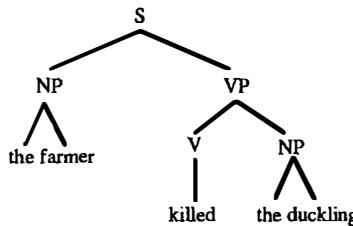
¹⁷ On the logic side of this development, of course, the privileging of these three elements goes back at least to Aristotle, but there is also a curious parallel in this work to Sapir which no one at the time seems to have noticed. In *Language*, Sapir says "It is well to remember that speech consists of a series of propositions", and that propositions have two essential ingredients, nouns and verbs. As much as he rejects a "logical scheme of the parts of speech", Sapir goes on to observe that "no language wholly fails to distinguish noun and verb" (1949 [1921]:119). That is, he finds a common core of language to be propositions, verbs, and nouns.

KILL is a two-place predicate that (therefore) takes two arguments, x and y; FARMER and DUCKLING are one-place predicates taking, respectively, the arguments x and y. The whole proposition means, pretty much (ignoring tense and other complications), what sentence 6 means.

6 The farmer killed the duckling.

These two entities, 5 and 6, are similar in many important respects, but they also look very different in others; Lakoff pointed out that those differences are actually pretty superficial. Sentences are represented in transformational-generative grammar as labelled trees, like PM-1.

PM-1

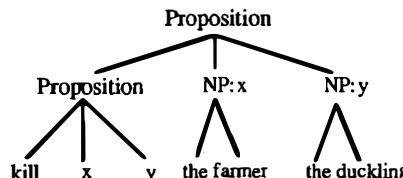


But, of course, there is an alternate and fully equivalent formalism for representing constituent structure, namely, labelled bracketing, like 7:

7 (((the)_{Det} (farmer)_N)_{NP}((kill)_V((the)_{Det} (duckling)_N)_{NP})_{VP})_S

Now, if bracketed strings and labelled trees are equivalent, there is another way of representing 5, as a phrase marker like PM-2.

PM-2



In the transformationally heady post-*Aspects* days, getting from PM-2 to PM-1 was a trivial matter; making PM-2 the deep structure, with its great advantage in semantic clarity, seemed not only attractive to McCawley and Lakoff, but inevitable. The realization that deep structure coincided with formal logic, the traditional mathematico-philosophical language of meaning, was exhilarating.

Once again, this work looked like it was just what Dr. Chomsky ordered. Right back to his M.A. thesis, which bears the unmistakable imprint of Carap's *Logical Syntax* (1937[1934]; see Newmeyer 1988), through his massive *Logical Structure of Linguistic Theory*, through *Aspects*, where the underlying

subject is “the logical subject”, up to *Cartesian Linguistics*, in which *deep structure* and *logical form* are synonyms — through his entire career, that is — Chomsky had been courting symbolic logic. Generative semantics thought it was time to consummate the courtship, and, fearing Chomsky lacked the courage to do it himself, proposed for him.

There was one more factor — beyond the increased semantic clarity of deep structure, the convergence with a formal program, the ability to solve tricky syntactic problems, and the natural fulfillment of the Chomskyan program — which contributed enormously to the appeal of formal logic for generative semantics. Exactly what logic is and what it says about the way humans acquire, manage, and perpetuate knowledge has never been entirely clear, 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 I, p.1), and, in the strongest views (Arnauld’s, for instance), logic is construed as the laws and workings of the mind. McCawley explicitly took this position, aligning himself with one of its strongest expressions, in Boole’s (1854) *The Laws of Thought* (McCawley 1976b[1968]: 136). In short, logic brought the abstract syntacticians much closer to the mentalist goals which they had swallowed with their early transformational milk.

5. *The universal base*

Along with Vitamin M, mentalism, their early transformational milk included another essential nutrient (especially after Chomsky’s early sixties linkage of his program to the goals of ‘traditional grammar’) — Vitamin U, universality, and in *Aspects* Chomsky joined universality to 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 générale et raisonnée*. (1965[1964]:117)¹⁸

Somewhat more strongly, in *Cartesian Linguistics*, he added “the deep structure that expresses the meaning is common to all languages, so it is claimed, being a simple reflection of the forms of thought” (1966:35), bringing deep structure and meaning into the mentalist universal-base suggestion. There is the tell-tale “so it is claimed”, of course, but the early transformationalists

¹⁸ Returning to the theme of the last section for a moment, Chomsky also said in *Aspects* that “it is interesting to note”, in connection with the Katz–Postal principle, “that the grammars of the ‘artificial languages’ of logic and theory of programming are, apparently without exception, simple phrase structure grammars” (1965[1964]:163; see also, Chomsky 1957b).

overlooked the hedge, and Chomsky's suggestion caught fire. It rapidly evolved into the upper-case Universal Base Hypothesis — the claim that at some deep level all languages had the same set of generative mechanisms — and became identified with abstract syntax. Lakoff endorsed it in his thesis (1970[1965]:108-109) as one possibility for getting at the universal dimensions of language, and by 1967, at a conference in La Jolla, his enthusiasm for it had increased markedly (Bach 1968[1967]:114n.12). Tolmach Lakoff also endorsed it in similarly hopeful terms in her thesis (1968:168), where she spells out its implications for the *Aspects* model clearly: it would radically alter Chomsky's proposed base component, reducing the phrase structure rules to only a very few. More importantly, since Chomsky's base rules in *Aspects* are almost exclusively for fragments of English grammar and her thesis is on Latin complementation, she points the way toward a common-denominator approach for finding base rules which can underlie both Latin and English. Emmon Bach's (1968[1967]) contribution — an influential argument that some nouns were better analyzed as deep verbs — spells out most fully that the best hope for a universal base depends on the abstract syntax program of finding the essential core of lexical and phrasal categories.

The two figures most closely associated with the Universal Base Hypothesis, however, 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 hypothesis.¹⁹ Ross is important because the explicit claim that “the base is biologically innate” appears to have been his (Lancelot of Benwick & others 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 — 1974:97); 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 1970[1968]:260)

Ross' definition makes it extremely 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

¹⁹ “Concerning the Base Component of a Transformational Grammar” (1976b[1967]:35-58); for its relevance, see Anderson (1976[1967]114ff), Lancelot of Benwick et al. (1976[1968]:258), and Bach (1968[1967]:114).

rules, with the trivial exception of within-constituent ordering differences (acknowledging, for instance, that adjectives precede nouns in English noun phrases, 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 the confidence was infectious. Not the least of the attractions for this claim was its antithetical relation to the (at the time) unequivocally Bad Guys of American linguistics, the Post-Bloomfieldians. Martin Joos (1907–1978) had said the basis of descriptivism was the hypothesis “that languages could differ from each other without limit and in unpredictable ways” (1957:96), and Chomsky had cited that remark as an example of the most profoundly unscientific, butterfly-collecting sort of linguistics.

Interestingly, though, the universal base hypothesis got much of its drive from the concern that ruled Joos’ comment — attending to a wide variety of languages. The overwhelming majority of transformational-generative research in its first decade or so was on English, and *Aspects* reflects this emphasis. The abstract syntacticians were certainly not in the Post-Bloomfieldians’ league in terms of experience with alien languages, but they began thinking more deliberately about taking generative principles beyond English. Postal’s thesis was on Mohawk, McCawley’s was on Japanese, Tolmach Lakoff’s on Latin, “Ross’s thesis was the first (and, at the time, mind-blowing) massively cross-linguistic study of an abstract grammatical property” (Goldsmith 1989:151), and most of them studied under G. H[ubert] Matthews (b.1930) at MIT, who taught portions of his influential generative grammar of Hidatsa (1965). Perhaps most importantly, though the full repercussions of his work were still several years off, Joseph H. Greenberg’s (b.1915) typology of linguistic universals (1963) had begun attracting attention, and had just gone into a second edition.²⁰

Now, since the base component sketched out in *Aspects* centered on English, it was inevitable that attempts to universalize that base would cross with some of its specific analyses. 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, leading 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 ac-

²⁰ Greenberg’s work only showed up sporadically in discussions of the universal base (as in Bach 1967, Lakoff 1968, and Ross (1970[1967])), but Tolmach Lakoff (1989:950) suggests he had a good deal to do with generative semantic’s notions about constituent order. Greenberg (1963), of course, is dismissed in Chomsky’s work of the period (1965[1964]:118), a position he has since revised: “I think that the Greenberg universals are ultimately going to be fairly rich” (Chomsky 1981:111).

commodate 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'. While following through on some of Chomsky's general comments, abstract syntax was forced to reject or modify many of his specific analyses.

6. *The opening salvo*

All three of these converging tributaries — category reduction, formal logic, and the universal base — flow out of the *Aspects* watershed, under the guidance of the twin concerns, mentalism and universality. All of the work determining them, even with the specific challenges to earlier proposals or analyses, naturally extends the accepted model of transformational generative grammar. All of it can be construed as the work of good little Chomskyans. But such a construal does not survive the next step Lakoff and Ross took (though *step* is not exactly the right word; these are all more or less overlapping developments, not sequential ones): the abandonment of Chomsky's deep structure.

The signal document, the birth announcement, the first important gauntlet, of generative semantics emerging from abstract syntax is a slight mimeographed paper — a letter, really — by Lakoff and Ross, entitled "Is Deep Structure Necessary?", which concludes "no".

In March of 1967, several months before Chomsky's "Remarks" lectures, Ross wrote a letter to Arnold Zwicky outlining the work he and Lakoff had been doing, in telephonic collaboration with McCawley, and the conclusions they had come to about the relations of syntax and semantics in transformational-generative grammar. Zwicky recalls (24 April 87) being "very impressed" by the letter, and Ross decided to circulate it more widely (under both his and Lakoff's names, since the work it outlined was collaborative). Where Lakoff's "Toward Generative Semantics" sputtered, the joint letter sparked, kindling a brush fire not so much because of the immediate force of Lakoff and Ross' arguments, but because of all the promising work done in the name of abstract syntax.

The letter — or the part of it that circulated in mimeograph — argues against deep structure on the basis of four criteria Lakoff and Ross abstracted from *Aspects* as the defining characteristics of deep structure:

- A. It is the immediate product of the phrase structure rules.
- B. It is the definitional locus of co-occurrence and selectional restrictions.
- C. It is the definitional locus of grammatical relations (subject, object, etc.).
- D. It is the immediate product of lexical insertion rules.

Lakoff and Ross grant condition A, but find no support for the other three. They abandon B on the informally sketched grounds that both co-occurrence and selectional restrictions are perforce semantic, yet deep structure is a syntactic level. They abandon C because grammatical relations are irrelevant at that level to both meaning and to surface configurations; that is, defining grammatical relations in terms of deep structure is arbitrary. And D they dismiss on the scantiest grounds of all (which, however, recall some of Chomsky's argumentative strategies): "we think we can show that D does not exist; lexical items are inserted at many points of a derivation" (1976[1967]:160), an assertion they follow with an extremely brief (one sentence) wave in the direction that such a proof might take.

The evidence presented in the letter is weak and sketchy, but it plugged directly into a feeling that had begun to pervade transformational-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 mere 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 'non-cancerous' requires a subject denoting a tumor, and the verb *devein* as used in cookery requires an object denoting a shrimp or a prawn. (McCawley 1976a[1967]:67)

Selectional restrictions in the *Aspects* model were considered syntactic, but, clearly, calling [\pm tumor] or [\pm prawn] syntactic features parallel to [\pm transitive] or [\pm plural] rebels against any traditional or common sense notion of syntax. Lakoff and Ross, in fact, cite this argument approvingly, as damning evidence against deep structure (specifically, against Condition B). Transformational derivations, in this new approach, in generative semantics, were said to origi-

nate not with a deep structure, an expressly syntactic level, but directly with a semantic representation, which could much more easily include features like [\pm turnor] and [\pm prawn].

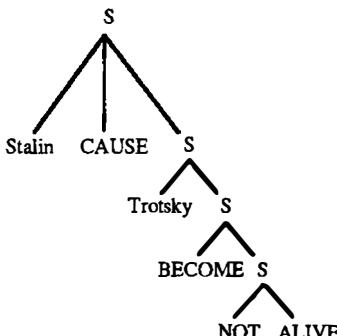
McCawley credits the Ross-Lakoff paper with pushing him over the abstract-syntax-to-generative-semantics brink, or nudging him over, and the paper where he argues that selectional restrictions are semantic illustrates his conversion very clearly. The main body of the paper proposes revisions to the interpretive semantics of *Aspects*. But between delivering that paper (at the April 1967 Texas Universals Conference) and submitting it for publication (in May 1967 for Bach & Harms 1968), McCawley rejected deep structure. The paper therefore includes an unusual postscript repudiating the interpretive assumptions underlying the paper, proclaiming McCawley's new faith in generative semantics, and offering the first substantive argument against deep structure. The argument, hinging on the transformational origins of the word *respectively*, became quite controversial (Dougherty 1970:531-550; McCawley 1976b[1972]:315-318; Chomsky 1972b[1968]:76ff., 1972b[1969]:147n.22; Lakoff 1971[1969]:273-277, McCawley 1982b[1973?]:39-41, Green 1974 [1972]: 7, 27-28; Wasow 1976:288). It signals McCawley's first committed moves as a generative semanticist, but it didn't change many minds, perhaps none at all. The following year, McCawley was much more successful, moving from a negative argument against deep structure, to a positive argument for getting along without it.

The argument, presented at the 1968 Chicago Linguistics Society meeting, built on some ideas in Lakoff's thesis, and on some of McCawley's own earlier work. Lakoff had proposed that there were hitherto uninvestigated ways to capture similarities between lexical items. As above, he argued that "*kill*, *die*, and *dead* could be represented as having the same lexical reading and lexical base, but different lexical extensions" (Lakoff 1970[1965]:100). That is, they would all involve the primitive definition for *dead* (something like NOT ALIVE), but *die* would additionally be marked to undergo his transformation, Inchoative, and *kill* would be further marked to undergo Causative. Among the attractive features of this suggestion was an increase in scope. The transformations were necessary for the grammar anyway, to account for the range of semantic and syntactic properties in words like *hard* (as in 8a-c); Lakoff just increased their workload.

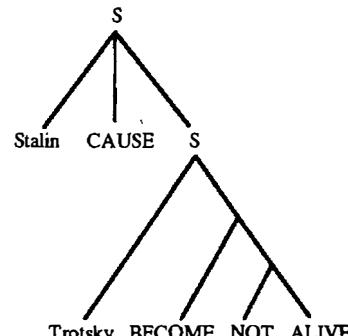
- 8 a The metal is hard.
- b The metal hardened. [i.e., became hard]
- c Avashinee hardened the metal. [i.e., caused it to become hard]

McCawley's 1968 CLS contribution expanded the scope further, proposing a new rule which "includes as special cases the inchoative and causative transformations of Lakoff" (McCawley 1976b[1968]:159), and collects atomic predicates into a subtree to provide for lexical insertion. His rule, Predicate-raising, simply moves a predicate up the tree and adjoins it to another predicate, as in the following three sequential phrase markers.²¹

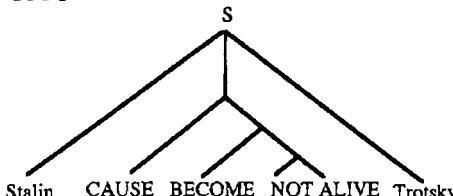
PM-3



PM-4



PM-5



Lexical insertion, in McCawley's proposal, could take place on any of these phrase markers, yielding any of the synonymous sentences in 9.

- 9 a Stalin caused Trotsky to become not alive.
- b Stalin caused Trotsky to become dead.
- c Stalin caused Trotsky to die.
- d Stalin killed Trotsky.

Moreover, the dictionary entry for *kill* no longer needs the markerese of the Aspects model; it could be expressed simply "as a transformation which replaces [a] subtree" (McCawley 1976b[1968]:158), like the conglomeration of

²¹Predicate raising is apparently a descendant of Lakoff's rule, Plugging-in (Ross 1974:71).

abstract verbs in PM-5. In a stroke of brilliant simplicity, McCawley proposed that the lexical entry for *kill* simply be the transformation in Figure 1.

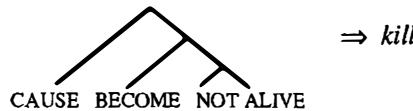


Fig.1: *McCawley's lexical insertion transformation for kill*
 (from McCawley 1976b[1968]:158)

The implications of this proposal are very sweeping, and many linguists found it extremely attractive. In particular, as the title of the paper in which McCawley proposed it promises — “Lexical Insertion in a Transformational Grammar without Deep Structure” — it showed them how to make due without *Aspects*' biggest drawing card.²² Lakoff and Ross' mimeographed assault on deep structure was important, but it was sketchy in the extreme, and, like McCawley's *respectively*-argument, almost exclusively negative. They chipped away at deep structure without a solid proposal for what to do once it had been reduced to rubble. That's the main reason their arguments had virtually no impact on Postal. Lakoff and Ross rejected Condition D (“[deep structure] is the immediate product of lexical insertion rules”), remember, with no evidence and no indication as to how grammatical theory would now go about lexical insertion. McCawley showed that not only could grammatical theory get along without lexical insertion at deep structure, but that it could do so much more elegantly.

Postal, remember, feels that “the fomenter of [generative semantics] was McCawley; I've always considered it to be his” (22 Oct. 87), and it is primarily the lexical insertion arguments he has in mind. Postal only became a gen-

²² In some ways, generative semantics dates more accurately from this paper than from Lakoff and Ross', since it is the first compelling *positive* proposal in the framework. Although it is a decade after the fact, the following paean from Vroman (1976:38) captures the reception that greeted McCawley's proposal:

McCawley's pre-lexical analysis fits in with prior work in syntax, is more constrained in that it reduces the number of assumptions (substa[n]tive universals like selectional features, semantic interpretation rules, and the like); i.e., criterion of simplicity, and automatically expands the set of data that can be accounted for: possible meanings of words, adverbial scope ambiguities, referential/non-referential ambiguities, etc., i.e., criterion of generality. His model 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.

erative semanticist (as opposed to an abstract syntactician) after McCawley's lexical insertion arguments. He had set transformational-generative grammar on the path to generative semantics, but he was the last one of the four major figures to climb aboard. He was also the first one to climb off.

7. *Waxing and waning*

The defining allegiances in the historical flow of science — call them *movements, paradigms, programs, schools*, call them by any of the handful of overlapping collective terms of the trade — are all to conglomerations, to knots of ideas, procedures, instruments, 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 some, irresistible. Precisely this teleological sense pervaded the abstract syntacticians in the mid-sixties, the sense that they were witnessing a conspiracy of ideas marching ineluctably toward the position that meaning and form were 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 formal logic; formal logic reflected the laws of thought; thought was the universal base underlying language.

Chomsky's claims to Cartesian ancestry, too, as everyone could see, only added to the appeal of generative semantics. Tolmach Lakoff hinted broadly in a timely review article (1969) that the *Aspects* model looked like a lame approximation to the Port-Royal work when placed cheek-by-jowl with generative semantics. 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 the use of highly abstract deep structures, even to the somewhat parallel discussion of inchoatives (Tolmach Lakoff 1969:347-350). But she needn't have bothered. The case is even more persuasively offered in *Cartesian Linguistics*, where Chomsky says, among many other equally generative-semantic like remarks, that "the deep structure underlying the actual utterance [in the Port-Royal work] [...] is purely mental [and] conveys the semantic content of the sentence. [It is] a simple reflection of the forms of thought" (Chomsky 1966:35) — as clear an articulation of generative semantics as ever issued from Ross, McCawley, Postal, or either of the Lakoffs.

But Chomsky — mysteriously, to some — opposed generative semantics, and began rallying his students against it as early as 1967. He changed his position on deep structure dramatically, saying that it could no longer be regarded as the sole point of entry for semantics in a generative grammar; he also

reversed himself on a cornerstone of transformational research right back to Harris, nominalizing transformations; and he reversed himself on several questions about data. In effect, he removed any chance for reconciliation. Since he had prepared the ground so well for generative semantics, it swept the field in very short order. Chomsky's battle for his new positions was all uphill. By the early seventies, as he recalls, it looked hopeless: "the overwhelming mass of linguists interested in transformational grammar were doing some kind of generative semantics" (1982[1979-80]:43). Not only was the first generation of MIT linguists enamored of it, so were their students. Influential generative semantics work was being done at a number of the major institutions — at the University of Chicago, where McCawley taught, at the University of Texas-Austin, at the University of Massachusetts-Amherst, at the University of California-Los Angeles, at the University of Illinois-Urbana, and at the University of Michigan (where the Lakoffs taught briefly). Chomsky really had only MIT, and even there Postal and Ross (and David M. Perlmutter, [b.1938]) had toeholds.

Transformational textbooks from the seventies virtually all include a section on cutting-edge notions that suggests generative semantics to be the linguistics of the future. The most dramatic illustration is John Kimball's *The Formal Theory of Grammar*. Kimball (1941–1977) 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 or deep structure. Generative semantics shows up as the natural successor to the 'Standard Theory', just as natural a successor to that theory as the 'Standard Theory' had been in its time to the model presented in *Syntactic Structures* (1973:116-126). It is almost as if Chomsky had retired after *Aspects*.²³

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, of course, was influential early on, and Wallace Chafe (b.1927) had proposed a semantically-based transformational grammar himself, independently (1967a,b, 1970a,b), soon aligning himself with generative semantics (especially, 1970b:56,68). Robert Lees was beside himself:

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

²³ For similar discussions, see Lyons (1970b:137-138), Lehmann (1972:221-222), Elgin (1973:134-135), Wardaugh (1977:171-177), Hayes et al. (1977:102-105), Simpson (1979: 237-243). In some of these discussions, case grammar is side-by-side with generative semantics.

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)²⁴

Even some Post-Bloomfieldians, from the linguistics boneyard, rattled in approval. Archibald Hill's (1902–1992) memoir, “The Linguistic Society of America and North American Linguistics, 1950–1968” (1991[1974–1976]), captures the general mood of the old guard in the seventies — he mentions receiving Ross' abstract syntax work fondly, delighting at a Tolmach Lakoff paper for blowing the lid off Chomsky's Cartesian claims, and even praises George Lakoff for his humorous sentences. Eugene Nida (b.1914) painted his mid-seventies work as having “a dependence on the generative semantics approach” (1975:8), and Householder commented 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). Dwight Bolinger went a step further, becoming an active ally to the movement, and he shows up widely in generative semantics acknowledgements 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” (1973:234). Even the asemantic transformational granddaddy, Zellig Harris, was being touted by his supporters as having developed a theory “similar to a generative semantics theory” (Muntz 1972:270).

The ripples went well beyond America. Europeans also signed on to generative semantics in large numbers. Pieter Seuren (b.1934), Rudolf de Rijk (b.1937), and Werner Abraham (b.1936) all became influential generative semanticists. The model had notable followings in Sweden, France, Germany. Herbert E. Brekle's (b.1935) *Generative Satzsemantik* went through two editions in the seventies (1970, 1978).²⁵ In Czechoslovakia, where Petr Sgall (b.1926) had independently proposed a semantically-based transformational grammar (see Sgall et al. 1973), the term gained rapid acceptance. In Australia, Frans Liefink (b.1940) proposed his *Semantico-Syntax* (1973).

The lines of influence in this expansion are often difficult to trace. Nida, for instance, claimed allegiance to Chafe's version of generative semantics, which was quite different from the one that sprung from the loins of MIT, and Brekle was strongly influenced by Sgall, whose conception was yet more dif-

²⁴ See also another Lees paper from the same period, where he offers evidence that “the deepest syntactic structure of expressions is itself a more or less direct picture of their semantic descriptions!” (1970b[1967]:185).

²⁵ The second edition, however, dropped “*und transformationelle Syntax*” from the title, signalling a change in the wind.

ferent. But generative semantics seemed to be the bright future of linguistics; Chomsky and his interpretive notions, the muddled past. Carden even remembers a paper of his that caused Lakoff some puzzlement by attempting to keep lines of communication open with the interpretivists: "Guy, why are you still talking to those people?" he asked. "Haven't you noticed the war is over? We've won" (Carden: RAH, 27 Feb. 87). Lakoff was so exuberant in the perceived victory that he rushed to get in the last words of the wars, remarking in a paper that "one of the joys" of debating is that "the winner gets to say 'Nyaah, nyaah!' to the loser": a few pages later, he ends the paper with "Nyaah, nyaah!" (1973: 286, 290). The comment tells us something about the dynamics of the dispute, a little more about the style of much generative semantics argumentation, and a lot more about Lakoff. But exultation was premature.

At just about exactly the time Lakoff was thumbing his nose at the interpretivists, generative semantics — partly under the force of Chomsky's counter-arguments, partly under the pull of increasingly pragmatic data, partly under the inherent tension of seriously incorporating meaning into the asemantic Chomskyan framework, among many other factors — lost focus and collapsed. Postal was the first to leave, to pursue relational models with Perlmutter and others. Lakoff and Ross followed paths that they associated with generative semantics, but which also wore other labels and incorporated other goals. Robin Tolmach Lakoff became her own unique blend of sociolinguist and ordinary language philosopher. Some of the second generation generative semanticists followed Postal into relational grammar, like Donald Frantz (b.1934) and Matthew Dryer (b.1950). Others, like David Dowty (b.1945) and Lauri Karttunen (b.1941), left for the emerging Montague Grammar. A very few, like Frederick Newmeyer and David Lightfoot (b.1945), (re)turned to Chomsky's immediate fold. Only McCawley remained — doing abstract syntax, voicing strong dissent over Chomsky's linguistics, building a research program around deep regularities, symbolic logic, and serious attention to semantics — but even he had given up the label by the late seventies. Indeed, he had given up all labels, calling his work only by the anti-label, "unsyntax" (McCawley 1980c). The party was over.

8. Conclusion

In the thick of the battles, using one of his most egregiously blended metaphors, Chomsky said that "at present the field is in considerable ferment, and it will probably be some time before the dust begins to settle" (1972a: 31n.6). The ferment in syntax has continued largely unabated over the past

twenty years, with some issues and people remaining quite constant, others changing regularly. But several layers of dust have settled. There is certainly still a lot of debris left in the air from the generative-interpretive semantics dispute, and questions remain which are too fundamental to ever be settled — by the end of the dispute, the schism was so complete that the argument locus had moved from ‘what is deep structure’ to ‘what is linguistics’ — but the impact of generative semantics is easier to see now than at any time in the past. It is much easier to see, in particular, than in 1980, when Newmeyer first took on the task. Indeed, it is easier largely because he did take on the task — thoroughly chronicling the debates, but with such evident favor for the interpretivist side that he provoked reactions from McCawley, Tolmach Lakoff, and a good many other generative semanticists who haven’t put their responses into print (George Lakoff calls the book “utter horseshit” [30 Jan. 87]).²⁶

It is also easier because the great distancer, time, has now allowed a somewhat fuller perspective. Much generative semantics dust, for instance, has settled in Chomsky’s framework. Government-binding has quietly adopted many generative semantics proposals over the years (cf. Bach 1977: 140-141, Brame 1979, Gazdar 1982, Ruwet 1991:xxi-xxii, Huck & Goldsmith, forthcoming, R. Harris, *in press*), making it clear that the objections to generative semantics issuing from that camp and its forerunners were not entirely based on the technical merit of the proposals. And cognitive linguistics has recently resuscitated many of the concerns that dominated the later stages of the movement, a resuscitation which would have been impossible in the negatively charged climate of fifteen or twenty years ago, when generative-semantics bashing was the order of the day (see, e.g., Dougherty 1974, Kuiper 1974, O’Donnell 1974, Katz & Bever 1976[1974], Brame 1976, Stockwell 1977:131; Sinha 1977), again making it clear that there was more value in those concerns than many commentators have allowed.

The “generative semantics was good” / “generative semantics was bad” poles that have dominated the discussion heretofore have been useful, because they bring out the strongest arguments, allowing observers of the debate to

²⁶ Others, of course, have been equally dismissive of Newmeyer’s book, but from somewhat different perspectives (for the most vehement, see Murray 1981, or Hall 1987 [1981/82]:103-112), as well as some very favorable reviews (Napoli 1981, Mallinson 1981). For my part, I agree most closely with reviewers like Fought (1982): the book is unquestionably guided by a strong ideology (therefore it offends people who reject the ideology and pleases those who share it), but is an extremely valuable guide through the very tangled issues of transformational-generative grammar. Its principal failing is that it is not as overt as it might be about its ideological underpinnings, leading the uninitiated to read it as gospel, and many of the initiated to read it as propaganda. Tolmach Lakoff (1989), for instance, is every bit as ideologically motivated as Newmeyer (1980a), but it is much more explicit about that ideology, much more clearly subjective.

weigh them against one other. When the scales are brought out, it becomes clear that generative semantics was very irresponsible in some ways, very responsible in others. It was good, and it was bad, not an uncommon blend, but careful attention must be paid to each side if historians are to sort out the good from the bad, chronicling both, for a maximally accurate account.

It is worth getting the history right. Generative semantics was the first big fermenting cloud of dust kicked up within the most influential linguistic program of the second half of the 20th century, Chomsky's transformational-generative grammar, and it came at a very pivotal time, when hegemony for that program seemed virtually guaranteed, at least in North America. The Post-Bloomfieldians had been driven toward the margins of the field, neighboring disciplines were recognizing only transformationalists as representatives of linguistics, and new departments were opening with exclusively Chomskyan orientations. Generative semantics and the turmoil which surrounded it have helped ensure a healthier and more diverse field.

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SUMMARY

Against the background of the controversial and polarized work of Frederick Newmeyer and Robin Tolmach Lakoff, this paper chronicles the early development of generative semantics, an internal movement within the transformational model of Chomsky's *Aspects of the Theory of Syntax*. The first suggestions toward the movement, whose cornerstone was the obliteration of the syntax-semantics boundary, were by George Lakoff in 1963. But it was the work conducted under the informal banner of "Abstract Syntax" by Paul Postal that began the serious investigations leading to such an obliteration. Lakoff was an active participant in that research, as were Robin Tolmach Lakoff, John

Robert ("Háj") Ross and James D. McCawley. Through their combined efforts, particularly those of McCawley on semantic primitives and lexical insertion, generative semantics took shape in 1967: positing a universal base, importing notions from predicate calculus, decomposing lexical structure, and, most contentiously, rejecting the central element of the *Aspects* model, deep structure.

RÉSUMÉ

Dans l'optique des ouvrages controversés et polarisés de Frederick Newmeyer et Robin Tolmach Lakoff, cet article retrace les débuts de la sémantique générative, un mouvement issu du modèle transformationnel de *Aspects of the Theory of Syntax*, de Noam Chomsky. Les premières impulsions vers ce mouvement, qui eut pour pierre angulaire l'abolition des frontières entre la syntaxe et la sémantique, furent données par George Lakoff en 1963. Ce fut, cependant, le travail de Paul Postal, dirigé sous l'emblème de 'syntax abstraite', qui engendra les recherches sérieuses menant à une telle abolition. Lakoff s'avéra un participant actif, ainsi que Robin Tolmach Lakoff, John Robert ("Háj") Ross et James D. McCawley. Par leurs efforts conjoints, particulièrement ceux de McCawley au sujet de 'semantic primitives' et 'lexical insertion', la sémantique générative prit forme en 1967: la supposition d'une base universelle, l'adoption de notions empruntées au calcul des prédictats, la décomposition de la structure lexicale et — objet de la plus grande controverse — le rejet de l'élément central du modèle de *Aspects*, la 'structure profonde'.

ZUSAMMENFASSUNG

Vor dem Hintergrund der kontroversen und polarisierten Arbeiten von Frederick Newmeyer (1980 u.ö) und Robin Tolmach Lakoff (insbes. 1989), unternimmt der vorliegende Beitrag den Versuch, die frühe Entwicklung der Generativen Semantik nachzuzeichnen, die zunächst nichts weiter als eine Bewegung innerhalb des transformationellen Modells von Chomskys *Aspects of the Theory of Syntax* war. Die ersten Anstöße hierzu, deren Eckpfeiler die Tilgung der Grenze zwischen Syntax und Semantik war, kamen von George Lakoff im Jahr 1963. Aber es waren Arbeiten von Paul Postal unter dem Zeichen 'abstrakte Syntax', die zu ernsthaften Untersuchungen und schließlich zur Sprengung der Syntax/Semantik-Grenze führten. Lakoff war ein aktiver Mitarbeiter, genauso wie Robin Tolmach Lakoff, John Robert ("Háj") Ross und James D. McCawley. Durch ihre vereinten Kräfte, nicht zuletzt aufgrund der Überlegungen von McCawley zu 'semantic primitives' und 'lexical insertion', nahm die Generative Semantik i.J. 1967 Gestalt an: Annahme einer universalen Basis, Hineinahme von Erkenntnissen aus der Prädikationsrechnung, Zergliederung der lexikalischen Struktur, und — wohl besonders kontrovers — Verwerfung des zentralen Angelpunkts des *Aspects*-Modells, der sog. 'Tiefenstruktur'.