LANGUAGE FORM AND LANGUAGE FUNCTION

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Chapter 1

The Form-Function Problem in Linguistics

1.   Setting the stage with a (not totally) imaginary dialogue

Sandy Forman has just successfully defended an MIT dissertation entitled 'Gamma-Licensing Constraints on Dummy Agreement Phrases and the Theory of Q-Control: A Post-Minimalist Approach', and is at the Linguistic Society of America Annual Meeting hoping to find a job. Fortunately for Sandy, Minnesota State has advertised an entry-level syntax position, 'area of specialization open', and has asked for an interview. While waiting in the hallway, Sandy runs into an undergraduate classmate, Chris Funk, who is also killing time before a Minnesota State interview. Chris has just finished up at the University of California-Santa Barbara with a dissertation entitled 'Iconic Pathways and Image-Schematic Targets: Speaker-Empathy as a Motivating Force in the Grammaticalization of Landmark-Trajectory Metaphors'. After the two exchange pleasantries for a few minutes, Chris provokes Sandy with the following comment and the fur begins to fly:

Funk: It's just pure common sense that our starting point should be the idea that the structure of language is going to reflect what people *use* language for ...

Forman: That hardly seems like common sense to me! To begin with, language is used for all sorts of things — to communicate, to think, to play, to deceive, to dream ... What human activity *isn't* language a central part of?

Funk: Yes, language serves many functions. But any reasonable person would have to agree that communication — and in particular the communication of information — is paramount.

Forman: Well, I don't share those intuitions at all. It seems to me that a much more time-honored position, in fact, is that the primary function of language is to serve as a vehicle for rational thought. And you're not going to tell me that the 'perfect' vehicle for communication is going to look like the 'perfect' vehicle for rational thought!

Funk: I'm not going to tell you that language is the 'perfect' vehicle for anything. That's a caricature of the functionalist position. I am going to say, though, that the functions of language — including that of conveying meaning — have left their mark on language structure to the degree that it's hopeless to think that you can understand anything about this structure without working out how it's grounded functionally.

Forman: I'm skeptical about that for a whole lot of reasons. For one thing, all the people in the world have the same need to communicate. So if language structure were a response to meeting this need, we'd expect all languages to be virtually identical — right?

Funk: But that's assuming that there's only one way to respond to functional pressure. Why make that assumption? In the natural world, all organisms have the same need to ward off predators, but there are limitless ways to carry out this function. Humans who live in cold climates have to find ways to keep warm, but that doesn't mean that they're all going to do it the same way. It's the same thing with language. It's in everybody's communicative interest, say, to be able to modify a noun with a proposition that restricts the scope of that noun. If one language forms relative clauses one way and another a different way, that doesn't mean that there's been no response to communicative pressure.

Forman: Don't you see the trap that line of thinking gets you into? The more different ways that there are of carrying out the same function, the hazier the pairings of form and function turn out to be. That's why it makes sense to describe how the forms interrelate *independently* of their functions.

Funk: The fact that the coding by form of function is complex and, to a degree, indirect doesn't mean that the pairings are 'hazy'. In fact, the situation is just what we would expect. Since the functions of language place conflicting demands on form, we naturally expect to see those conflicts resolved in a variety of ways. And we also expect to see an 'arbitrary' residue of formal patterns where there's *no* obvious direct link to function.

Forman: What you're calling an 'arbitrary residue' is part-and-parcel of a structural system right at the center of language. Surely the fact that there are any number of structural generalizations that cut across functional lines shows that we generativists are on the right track when we say that it's right to characterize form without worrying about function.

Funk: Believe me, the discernible effects of function on form are more than robust enough to prevent me from giving up my commitment to *explaining* grammatical structure in favor of your mechanical 'autonomist' approach that attempts to explain nothing.

Forman: I'll let that remark about 'explanation' pass for a moment. What makes me doubt your point about 'robustness', though, is the huge number of structural properties of language that seem to be not only

useless, but downright dysfunctional! Are you going to tell me that effective communication 'needs' gender marking, agreement rules, irregular verbs, coindexing mechanisms that only Rube Goldberg could have dreamed up, and things like that? Yet they're all an integral part of the formal structural system in the particular language

Funk: A lot of what might seem dysfunctional at first glance is probably anything but. I don't doubt for a minute that gender and agreement, for example, play an important role in tracking referents in discourse.

Forman: But you've got to agree that most of the profound generalizations about language structure that we've arrived at in decades of research in generative grammar have little, if anything, to do with the functions of language. What's communicatively necessary, or even useful, about rules being structure-dependent? About their applying cyclically? About abstract principles like the ECP or Spec-Head Agreement?

Funk: A lot of your 'profound generalizations' are no more than artifacts of the narrow scope of the formalist enterprise. If all you're interested in doing is pushing symbols around, then you'll get generalizations about symbol pushing. Don't tell me, though, that they have anything to do with the way language works.

Forman: That strikes me as a totally head-in-the-sand attitude, not to mention an unscientific one. Generalizations are generalizations. We wouldn't expect to find deep formal patterns in language if language weren't 'designed' that way. What you're saying is that you won't accept any generalization that doesn't fit in with your preconceived ideas about how language is supposed to work.

Funk: I could say the same to you! *Your* head-in-the sand attitude has prevented you from even *asking* how much iconicity there is to syntax, much less discovering there there's an enormous amount. And that's only one example I could cite.

Forman: I've never been too impressed with what I've seen written about iconicity. But that would be a debate unto itself. In any event, I can't think of any functionalist principle that's stood the test of time. You guys can't even decide if old information is supposed to come before new information or if new information is supposed to come before old information!

Funk: You should talk! In one year and out the next is the rule for virtually every formal principle and constraint that I can think of.

Forman: But most of the time that's because the new principle has subsumed the old one and is more general. That's precisely how scientific progress is *supposed* to work.

Funk: What you don't seem to recognize is that, even on your own terms, a lot of generative principles have a pretty clear functional basis. To take the most obvious example of all, there's the 'Condition on Recoverability of Deletion'. And do you think that it's just a coincidence that many, if not most, Subjacency and ECP violations are difficult to process? Isn't it obvious that structure-dependence and the cycle are simply grammar-particular instantiations of how human cognition represents complex structured information in general?

Forman: I've heard those points made many times, but I'm not impressed. Yes, at some fuzzily speculative level we can make up 'functions' for generative principles or analogize them to poorly understood properties that seem to govern other cognitive faculties. But when you look at them deeply, their 'motivations' disappear. GB and Minimalist principles are too grammar-specific, too abstract, and too removed from any function to be a response — even indirectly — to those functions.

Funk: Well, why *do* we have them in our heads, then?

Forman: Who knows? All we know is that they could never have been learned inductively by the child — they're much too abstract and kids have too little exposure to the relevant evidence. So we can safely conclude that they must be innate.

Funk: And I've heard *that* point made many times too! The fact is that you've never demonstrated that a theory of inductive learning can't acquire the principles of your theory — even if they are correct.

Forman: And you've never come up with a theory of inductive learning that *can* acquire them. This whole debate over innateness hasn't gone much beyond two kids screaming at each other: 'Can so!' 'Cannot!' 'Can so!' 'Cannot'. Over and over again.

Funk: So let me ask you again: Why on earth would these principles of yours ever have ended up being incorporated into the human genome?

Forman: And again, we just don't know. Maybe some day we will, but not knowing shouldn't keep us from trying to come up with the most adequate theory possible.

Funk: Now let me turn your question to me back to you. If the principles of grammar are innate, then why aren't all languages the same?

Forman: As you know, they have to be parameterized in specific ways. Different languages choose different parameter settings.

Funk: So what determines what the possible parameter settings are and why one language would choose one over another?

Forman: I assume that the possible settings are also innately provided. There might well be some principles that determine why some settings tend to cluster and why changes of settings changes don't take place randomly, though the fact is that those issues aren't very high on our research agenda.

Funk: Maybe they should be! Why would anybody be interested in a theory of language that doesn't place very high on its research agenda the question of how and why variation exists?

Forman: We're a lot more interested, frankly, in what all languages have *in common*. That's why language is a key to the nature of the human mind — and why philosophers for thousands of years have thought that language is so important, by the way.

Funk: You can learn a lot more about the nature of the human mind by ...

At this point a Minnesota State professor opens the door to the hallway and beckons Sandy to enter the interview room.

2.   The goals of this book

The mini-debate between Sandy and Chris, multiplied by several hundred pages, forms the subject matter of this book. By a not terribly subtle onomastic device, I have identified Sandy as the archetypal 'formal' linguist and Chris as the archetypal 'functional' linguist. I've tried to put in their mouths, as succinctly as possible, all of the major issues that I plan to take up in detail. Each statement that Sandy and Chris makes encapsulates a view characteristic of mainstream practitioners of formal linguistics and functional linguistics respectively. If there is anything unrealistic about their exchange, it is the fact that it could have taken place at all! Few functionalists and fewer still formalists are aware enough of the positions taken by the other side (caricatures of those positions aside) to make possible the back-and-forth to which we have just been exposed.

I will argue that, to a surprising extent, Sandy and Chris are both right. That is, formalists are absolutely correct in their commitment to characterizing form independently of meaning and function. But at the same time functionalists are right that meaning and function can help to shape form. As we will see, there is no contradiction here, whatever Sandy and Chris might believe.

As many readers are no doubt aware, I have a reputation as an ardent defender of formal linguistics (see, for example, Newmeyer 1983, 1986b). In one sense, that ardor has not diminished one iota. My commitment to the 'generative enterprise' (Chomsky 1982b) is as firm as it ever has been. Indeed, these pages will add to my already substantial (in bulk, if not in persuasiveness) writings in defense of that enterprise. But I have also in recent years become convinced that there is an ultimately self-destructive narrowness of outlook on the part of many generative grammarians. Put simply, they refuse to consider the possibility that anything of interest might have been uncovered in the course of functionalist-oriented research. That is not my belief at all. On the contrary, I have found a wealth of interesting generalizations and suggestive avenues of research in the work carried out in that tradition. And significantly, I believe that what it will take to incorporate many of these generalizations into a comprehensive theory of language challenges important conceptions held by most mainstream formal linguists. While, crucially, this can be accomplished without abandoning the essential core of generativist theory, dealing with such generalizations involves, to say the least, broadening one's vision about what is going on in language and how best to deal with it.

I must stress that it is not the purpose of this book to unveil a new theory of language, or even to present a 'new synthesis' that ties together previously adumbrated theories. Quite the contrary, in fact. I will be arguing, in chapter after chapter, that the 'Chomskyan' approach to grammar, broadly defined, is fundamentally on the right track. I hope to accomplish this, however, not by demonstrating the superiority of one formal framework over its formalist or functionalist rivals. Rather, I will try to show that the basic principles of generative grammar, in interaction with principles from other domains at work in language, provide compelling accounts of phenomena that functionalists, in general, have taken to refute the generativist approach. These include phenomena such as prototype effects, grammaticalization, the grounding of formal structure in external pressure, and so on — phenomena that few generativists have, in the past, even thought worthy of consideration.

I've been using the terms 'formal linguistics' and 'functional linguistics' as if they have unique well-understood referents. Unfortunately, they do not. Before proceeding any further, it will be necessary to clarify the spectrum of positions identified with these terms.

3.   The two orientations in modern linguistics

James McCawley (1982) once calculated that if one took 40 issues of interest to grammarians, each of which admits to two or more possible positions, and weeded out those combinations of positions that are inconsistent, incoherent, or blatantly false, one would still be left with at least thirty million theories of grammar. The fact that only a little over one millionth of that total have actually surfaced as named theories is troublesome enough for anyone who, like this author, would wish to distill the fundamental controversies of the field to a couple clearly counterposed positions.

There are, however, two broad *orientations* in the field. Leaving aside some (not insignificant) subtleties for the next chapter, they are as follows. One orientation sees as a central task for linguists to characterize the formal relationships among grammatical elements independently of any characterization of the semantic and pragmatic properties of those elements. The other orientation rejects that task on the grounds that the function of conveying meaning (in its broadest sense) has so affected grammatical form that it is senseless to compartmentalize it. It is the former orientation, of course, that I have been referring to as 'formalist' and the latter as 'functionalist'.

3.1.   The formalist (structuralist, generativist) orientation

It should be obvious why the former orientation is called 'formalist' — it focuses centrally on linguistic form. Despite their apparent mnemonicity, however, the terms 'formalist', 'formal linguistics', and 'formal linguist' are ill-chosen and will not be used with reference to the first orientation in the subsequent pages of this work. The problem is the ambiguity of the word 'formal' and its derivatives. The term is ambiguous between the sense of 'pertaining to (grammatical) form', i.e. as opposed to meanings and uses on the one hand, and the sense of 'formal*ized*', i.e. stated in a mathematically precise vocabulary on the other hand. This ambiguity has the danger of leading to confusion. When Pullum (1989), Chomsky (1990), and Ludlow (1992), for example, debate whether the 'principles-and-parameters' approach is a species of 'formal linguistics', they have the latter sense of the term in mind; criticisms from functionalists of 'formal linguistics' invariably refer to the former. And while functionalists have not produced formalized theories, many agree that in principle there is nothing about their orientation that should prevent them (someday) from doing so (see, for example, Li 1976: x; Croft 1995a: 503; Bybee 1998).

The question, then, is what to replace the term 'formalist' with. An obvious candidate is 'structuralist' and, indeed, some functionalists have

used the term for that purpose (Noonan 1998). But 'structuralist' carries with it its own pernicious ambiguities. One problem is that many linguists in what (uncontroversially) is known as the 'structuralist tradition' in linguistics have taken what I have been calling a functionalist approach to syntax, even while focusing primarily on form at the phonological and morphological levels. This is the case, for example, for the linguists of the Prague School. As far as I am aware, however, they use the term 'structuralist' to refer to the entire body of their theorizing. Second, we find the nearly interchangeable use of the terms 'functionalist' and 'structuralist' by some European linguists, whose goal is to describe structural systems in terms of the 'functions' (in one sense of the term) of the elements of those systems.[1] Hence a Belgian historiographer of linguistics could write:

> It is in any case undeniable that since the 1940s structuralism (or functionalism) has more than any other movement captured the attention of linguists and so, willy nilly, has become the driving force behind contemporary linguistics. (Leroy 1963/1967: 84)

And third, through a strange terminological twist, very few generative grammarians recognize themselves as being 'structuralists'. In the early 1960s, Chomsky and his associates started using the word 'structuralist' to refer to those form-centered models that preceded generative grammar, in particular to those in the American Post-Bloomfieldian tradition. As a result, to many of us who were educated in generative-orientated departments in the first couple decades of that model's existence, the structuralists were the principal *opponents* of the generative grammarians. It hardly seems felicitous, then, to use the term 'structuralist' as a substitute for 'formalist'.

For better or worse, I have settled on the term 'generative' and its derivatives to refer to the first orientation. If what we mean by a generative grammar is a device that specifies the well-formed sentences of the language and their structures, then the first orientation, as I have characterized it, is for the most part a 'generative' one. And surely, by definition, no practitioners of the second orientation have such a commitment. There are, unfortunately, terminological wrinkles here as well, primarily owing to the locution 'device that specifies'. Post-Bloomfieldian syntax was formalist, in the sense that it characterized the formal properties of sentences independently of their meanings and functions. However, no generative device specified the set of sentences — indeed, throughout most of the period in which Post-Bloomfieldianism was ascendant in the United States, recursive function theory had not advanced to the point to which such a device was even imaginable. And current work in the principles-and-parameters tradition has progressively

downplayed the construction of generative grammars in favor of the identification of universal principles governing grammatical form. Indeed, Chomsky has recently asserted:[2]

> The class [of well-formed (grammatical) expressions of L] has no significance. The concepts 'well-formed' and 'grammatical' remain without characterization or known empirical justification; they played virtually no role in early work on generative grammar except in informal exposition, or since. (Chomsky 1993: 44-45)

But notice that in the very passage in which Chomsky dismisses any interest in specifying the grammatical sentences of a language, he refers to his approach as 'generative grammar'. I will follow him, therefore, and everyday usage in the field as well, by referring to the first orientation as a 'generative' one.

3.2.   The functionalist orientation

The term 'functionalist' is no less problem-free than 'formalist'. In one common usage, a 'functionalist' is simply a linguist who 'stud[ies], among other things perhaps, the discourse or syntactic processing of syntactic forms' (Prince 1991: 79). As Prince notes, a functionalist in this sense need not even reject generative grammar or the idea that syntax forms an autonomous system. In the words of Susumu Kuno, whom Prince places in this group,[3] 'in theory there is no conflict in principle between functional syntax and, say, the government and binding theory of generative grammar' (Kuno 1987: 1).

While I admit to extreme feelings of guilt at attempting to deprive Prince and her cohort of the right to call themselves 'functionalists', in this book I will not use that term to describe a linguist whose interests are (simply) to study the interaction of form and meaning, discourse, and processing. Rather, it will be reserved for those who believe that in some profound way form is so beholden to meaning, discourse, and processing that it is wrong-headed to specify the distribution of the formal elements of language by means of an independent set of rules or principles. In other words, to be considered a species of 'functionalism', it will have to be in line with the following statement by Johanna Nichols:

> [Functional grammar] analyzes grammatical structure, as do formal and structural grammar, but it also analyzes the entire communicative situation: the purposes of the speech event, its participants, its discourse context. Functionalists maintain that the communicative situation motivates, constrains, explains, or otherwise determines grammatical structure, and that a structural or

formal approach is not merely limited to an artificially restricted data base, but it is inadequate even as a structural account. (Nichols 1984: 97)

Functionalist work, then, is not addressed to formulating grammar-internal principles characterizing the well- or ill-formedness of a set of sentences. Instead, a generalization about grammatical patterning might be attributed to the most orderly or efficient means of conveying information, the desirability of foregrounding or backgrounding events in the discourse, the speaker's desire for economy, the hearer's demand for clarity, or cognitive propensities not specific to language, such as a general preference for iconic over arbitrary representations, and so on.

4. On the variety of generativist approaches

Most, if not all, generativist approaches trace their ancestry to the work pioneered by Noam Chomsky in the 1950s (Chomsky 1955, 1957) and further developed by him in the next decade (Chomsky 1965). Broadly speaking, two trends in generative grammar have developed more or less in parallel since the mid 1970s (for more comprehensive discussion of this topic, see Newmeyer 1986a, 1996). The first trend is associated with the work of Chomsky and his associates, and for the greater part of the past couple decades, has predominated over the second in terms of number of practitioners and (more intangibly) 'influence'. Since the early 1980s this trend has been known as the 'principles-and-parameters' (P&P) approach, and has been embodied by two successive models of grammatical theory, the Government-Binding theory (GB — Chomsky 1981) and the Minimalist Program (MP — Chomsky 1995).

Let me briefly outline the major differences between the P&P approach and its rivals. At the level of technical organization, the former postulates a multi-leveled theory, with transformational rules relating the levels. All of the latter models, in their various ways, generate surface structures directly.[4] Secondly, the former takes a 'deeply modular' approach to syntax in the sense that constructions are considered to be wholly epiphenomenal. Instead, parameterized principles of universal grammar (henceforth UG) interact to characterize the sentences of the language. The other approaches vary from being somewhat modular to rejecting grammar-internal modularity outright. And thirdly, most non-

P&P models posit a much closer linkage between form and meaning than does P&P. Most work in GB and MP has assumed that the only point of contact between form and meaning is at the abstract level of logical form, itself a product of transformational operations. But many non-P&P approaches assume that every syntactic rule (or statement) has an accompanying semantic rule (or statement), even while the basic mechanisms of these theories allow for an independent characterization of the formal elements of language.

Most of the approaches to meaning that fall under the rubric of 'formal semantics' presuppose, as might be expected, some version of generative syntax (for overviews, see Chierchia and McConnell-Ginet 1990; Cann 1993). Two important approaches to discourse phenomena do so as well. The first, already mentioned in §3.2, is that of Ellen Prince and her associates (Prince 1988; Green 1989; Ward, Sproat, and McKoon 1991). The other is known as 'Relevance Theory' (Sperber and Wilson 1986; Carston 1995).

For most of the issues that concern us in this book, the differences between P&P and its rivals are unimportant. Indeed, I have long taken the position that they tend to be exaggerated (see Newmeyer 1986a: 227; 1987). Nevertheless, it is worth pointing out that a leading functionalist (Croft 1998) has remarked that the non-P&P approaches are more congenial to the functionalist world view than P&P, given that they share with functionalism a 'surfacey' approach to characterizing grammatical form and that they posit very close linkages between form and meaning.

As I have stressed, it is not the purpose of this book to argue for new or improved principles of generative grammar. But still, I have to *present* the results of generative research by way of discussing the phenomena that divide generativists and functionalists. So the question I am faced with is: '*Which* generative research?', or, more concretely: 'The results of which framework?'. With few exceptions, I have chosen the principles that have been arrived at within GB. Of all currently practiced frameworks, GB has, by far, the largest body of published research and, I think, the largest number of practitioners. I also happen to find the bulk of GB principles eminently plausible, at least in their general thrust. It is certainly possible that if I were to write this book several years from now, I would opt for the MP. However, at the present time, I find the concrete claims of the MP so vague and total set of mechanisms that it requires (where I have been able to understand them) so *unminimalist*[5] that I see no reason to encumber the exposition with my interpretation of how the phenomenon in question might be dealt with within that approach. It is also worth pointing out that even leading developers of the MP typically appeal to strictly GB principles in presentations to general audiences of linguists (see, for example, Lasnik 1998).

5.   On the variety of functionalist approaches

Those who share the functionalist orientation differ in their basic
assumptions far more than do those who are committed to the generativist
approach. This is partly a consequence of there being a lot more possible
ways that one can be against some theoretical conception (the
compartmentalization of form) than one can be for it. Saying that the
formal properties of language are not characterized as a system unto
themselves leaves open a myriad of possibilities as to how they *should be*
characterized. Another reason that there is so little consensus among
functionalists is that the orientation is not dominated by one central figure
to the extent that generative linguistics is. This can hardly be considered a
bad thing, of course. For better or worse (and you will find partisans of
both alternatives), Chomsky is looked upon as the pied piper by the
majority of generative linguists. No functionalist has managed to play the
pipes nearly as enticingly to the graduate students of Hamlin. To mix
images, Elizabeth Bates has remarked that 'functionalism is like
Protestantism: it is a group of warring sects which agree only on the
rejection of the authority of the Pope' (cited in Van Valin 1990: 171).
        The remainder of this section will briefly outline three current trends
in functionalism: those that Croft (1995a) calls 'external functionalism'
(including cognitive linguistics), 'integrative functionalism', and 'extreme
functionalism'.

5.1.   External functionalism (including cognitive linguistics)

External functionalism, like functionalism in general, rejects the project of
characterizing the formal relationships among grammatical elements
independently of any characterization of the semantic and pragmatic
properties of those elements. That is, there are no purely syntactic rules of
any great generality. Nevertheless, external functionalism upholds the
idea of a synchronic *semiotic system*, in which formal elements are linked to
semantic and pragmatic ones. In most external functionalist approaches, it
is assumed that the links between form on the one hand and meaning and
use on the other are 'natural' ones, in that the properties of the latter have
helped to shape the former. Most of the named functionalist theories
appear to represent external functionalism: some examples are Role and
Reference Grammar (Foley and Van Valin 1984; Van Valin 1993a, b), the
Competition Model of Bates and MacWhinney (1989); Functional
Grammar (Dik 1981, 1989); and Systemic (Functional) Grammar (Halliday
1985).
        The wing of external functionalism that seems to have the greatest
support world-wide consists of several related approaches that are
generally referred to as 'cognitive linguistics'.[6] With the possible exception

of Role and Reference Grammar, no other functionalist school is as deeply rooted historically in the generative tradition. Its two leading practitioners, George Lakoff and Ronald Langacker, were prominent generative semanticists in the 1970s, and, as such, were already committed to a model of grammar that rejected 'boundaries' between syntax, semantics, and pragmatics. Cognitive linguistics represents (as is acknowledged in Lakoff 1987: 582) an 'updating' of generative semantics, purged of the generative-derived formalism characteristic of that model and sensitive to certain subsequent developments in cognitive psychology.

Indeed, not everybody thinks of cognitive linguistics as a species of 'functionalism' at all, though my impression is that the different sociological roots of cognitive linguistics from most other functionalist models have become increasingly unimportant. In any event, Langacker (1987a: 4) refers to the 'natural affinity' of cognitive linguistics to the 'especially significant' research in the functionalist tradition, while Lakoff (1991: 55), reversing the more usual picture of the relationship, describes 'functional linguistics [as] a branch of cognitive linguistics'.

As the following quotes make clear, cognitive linguistics maintains that a grammar is a semiotic system, and therefore, by our terms, is a model of external functionalism:

> Suppose we think of a language as a collection of form-meaning pairs, where the meanings are concepts in a given conceptual system. (Lakoff 1987: 539)

> More specifically, the grammar of a language is defined as those aspects of cognitive organization in which reside a speaker's grasp of established linguistic convention. It can be characterized as a structured inventory of conventional linguistic units. (Langacker 1987a: 57)

Goldberg (1996: 3-4) has conveniently summarized the 'foundational assumptions' of cognitive linguistics. They could well be the foundational assumptions of external functionalism in general, though some models would attach greater or lesser stress to certain points than to others:

> 1.   Semantics is based on speaker's construals of situations, not on objective truth conditions (Langacker 1985, 1987a, 1988; Fauconnier 1985; Lakoff 1987; Talmy 1978b, 1985).
> 2.   Semantics and pragmatics form a continuum, and both play a role in linguistic meaning. Linguistic meaning is part of our overall conceptual system and not a separate modular component (Talmy 1978b, 1985; Haiman 1980a; Lakoff 1987; Langacker 1987a).

3.   Categorization does not typically involve necessary and sufficient conditions, but rather central and extended senses (Rosch 1973; Rosch, et al. 1976; Lakoff 1977, 1987; Haiman 1978a; Fillmore 1982; Hopper and Thompson 1984; Givón 1986; Brugman 1988; Taylor 1989; Corrigan, Eckman, and Noonan 1989).

4.   The primary function of language is to convey meaning. Thus formal distinctions are useful to the extent that they convey semantic or pragmatic (including discourse) distinctions (Wierzbicka 1986a, 1988; Haiman 1985b; Lakoff 1987; Langacker 1987a; Croft 1991; Deane 1991).

5.   Grammar does not involve any transformational component. Semantics is associated directly with surface form.

6.   Grammatical constructions, like traditional lexical items, are pairings of form and meaning. They are taken to have a real cognitive status, and are not epiphenomena based on the operation of generative rules or universal principles (Lakoff 1987; Fillmore, Kay, and O'Connor 1988; Wierzbicka 1988; Goldberg 1995).

7.   Grammar consists of a structured inventory of form-meaning pairings: phrasal grammatical constructions and lexical items (Fillmore and Kay 1993; Lakoff 1987; Langacker 1987a; Wierzbicka 1988; Goldberg 1995).

The stress made by external functionalists on the systematic properties of language as a whole leave it with one foot in the structuralist door. Indeed, Van Valin (1993b: 1) has described Role and Reference grammar as a 'structuralist-functionalist theory of grammar' and one functionalist has condemned this theory, along with Dik's Functional Grammar, for 'the practice of conferring functional-sounding labels on grammatical structures' (Givón 1995: 309).

5.2.   Integrative functionalism

Integrative functionalists have a more 'immanent' view of grammatical structure than do external functionalists. As Croft (1995a: 516) characterizes integrative functionalism, 'linguistic phenomena [are considered] systematic, and may be (partly) arbitrary, but they would involve such a close interaction of cognitive and external social factors that one could not reasonably describe the internal cognitive system as self-contained ...' In other words, integrative functionalists do not deny the existence of systematicity in language, but they do deny the Saussurian dictum that it is meaningful to separate langue from parole and synchrony from diachrony.

Integrative functionalists are typically unwilling to distinguish between the functional role that a linguistic element might perform vis-à-

vis other linguistics elements with which it is associated and the external functional motivation for that element. In this respect they differ dramatically from external functionalists. For example, Langacker (1987a: 413), speaking for the latter, notes that 'though functional considerations are undeniably critical in the shaping of linguistic structure, it does not follow that they should be incorporated directly into the grammar as descriptive statements' and has offered the view that 'only a *comprehensive* linguistic description will encompass both the grammar of a language *as well as* extensive accounts of the varied functional considerations that have shaped it' (Langacker 1991: 513; emphasis added).

The only named model of integrative functionalism of which I am aware is Paul Hopper's Emergent Grammar (Hopper 1987, 1988). Emergent Grammar rejects the idea that '"grammar" [is] an object apart from the speaker and separated from the uses which the speaker might make of it' (Hopper 1987: 141). Instead, grammar is 'provisional and emergent, not isolable in principle from general strategies for constructing discourses' (Hopper 1988: 132). That is, Hopper opts for a 'hermeneutic' approach in which temporality and context are key. In particular, Hopper denies the reality of linguistic representations: 'There is no room — no need — for mediation by mental structures' (1988: 145).

One characteristic of integrative functionalism — and much external functionalism as well — is the idea that the explanatory forces at work in shaping languages reveal themselves only when a large number of diverse languages are investigated. The belief has resulted in functionalists taking the lead in typological research. Indeed, one often makes reference to the 'functional-typological approach' to language.

The great majority of functionalists who do not adhere to one of the 'named' functionalist frameworks are not explicit as to how they stand on the issues that divide external and integrative functionalism. I do not think that it is unfair to say that it is common to find, combined within the same work, an integrative theoretical stance and an external analytical practice. No doubt this is to a large extent a consequence of the fact that the implications for grammatical analysis of external functionalism have barely begun to be explored. Along these lines, Croft (1995a: 520) points out that integrative functionalists have rarely addressed the question of how dynamic processes may be represented cognitively, and goes on to list three 'gaps and problems with the integrative model':

1.   Integrative functionalism must provide a system of grammatical representation that can model a variable grammar and its acquisition and use.
2.   Integrative functionalism must account for stable as well as dynamic characteristics of the grammatical system.

3.   The role of functional (that is, cognitive and discourse) factors must be integrated with the role of social factors.
(Croft 1995a: 520-521)

5.3.   Extreme functionalism

Extreme functionalism is represented by work in the 'Columbia School' (García 1979; Diver 1995) and a proposal by Kalmár (1979) for predicate argument relations in Inukitut. Advocates of this approach believe that *all* of grammar can be derived from semantic and discourse factors — the only 'arbitrariness' in language exists in the lexicon. For reasons that will become clear as this work proceeds, very few linguists of any theoretical stripe consider such an approach to be tenable.[7]

5.4.   On what to call 'the functionalist approach'

The even greater variety of functionalist approaches than generativist approaches gives me a correspondingly greater problem in deciding how to use the term 'functionalist' (without additional modification) in the remainder of this work. I have decided — I hope not too arbitrarily — to characterize as 'functionalism' any approach that embodies the following three positions, all of which are common to both external and integrative functionalism. First, the links between the formal properties of grammar and their semantic and pragmatic functions are tight enough to preclude any significant methodological or analytical 'parceling out' of form. Second, to a significant degree, the formal properties of grammar are motivated by the functions that language carries out, in particular its function of conveying meaning in communication. And third, by means of integrating functional explanation with typological investigation, one can explain why certain grammatical features in the languages of the world are more common than others and why, for particular languages, the appearance of one feature often implies the appearance of another.

6.   A look ahead

Each chapter will focus on some aspect of the relationship between language form and language function, and hence on those issues that divide generativists and functionalists. Chapter 2, 'The Boundaries of Grammar', takes on the question of the 'compartmentalization of form', which is at the center of the debate. It lays out three different 'autonomy' theses, as follows:

(1)   *The autonomy of syntax (AUTOSYN).* Human cognition embodies a system whose primitive terms are nonsemantic and

nondiscourse-derived syntactic elements and whose principles of combination make no reference to system-external factors.

(2) *The autonomy of knowledge of language with respect to use of language (AUTOKNOW).* Knowledge of language ('competence') can and should be characterized independently of language use ('performance') and the social, cognitive, and communicative factors contributing to use.

(3) *The autonomy of grammar as a cognitive system (AUTOGRAM).* Human cognition embodies a system whose primitive terms are structural elements particular to language and whose principles of combination make no reference to system-external factors.

Current generative models adopt all three autonomy hypotheses, while integrative functionalists reject them. External functionalists reject AUTOSYN, but (for the most part) seem to accept AUTOKNOW and AUTOGRAM. I will argue that all three hypotheses are motivated. Chapter 2 also takes on the question of innate grammatical principles, suggesting that conclusions of innateness based on classic 'arguments from the poverty of the stimulus' are problematic in a variety of ways. Nevertheless, recent findings that specific grammatical impairments can be transmitted genetically do point to an innate component to grammar, and hence to the correctness of AUTOGRAM.

Chapter 3, 'Internal and External Explanation in Linguistics', probes what it means to say that we have 'explained' some grammatical phenomenon. It stresses that the popular idea that explanation in generative grammar is entirely 'internal' and that functionalists opt for 'external' explanation is vastly oversimplified. Rather, both orientations make use of both modes of explanation. I argue that not only are the three autonomy hypotheses compatible with external (functional) explanation, but that central aspects of grammars *have* been motivated functionally. I identify parsing pressure and pressure for structure and meaning to be in iconic alignment as two central functional influences on grammars. I question, though, whether discourse has played much of a role in shaping grammatical form. Much of the chapter is devoted to the problem of 'competing motivations' — the fact that outside forces place conflicting demands on grammars. I argue that the since structure results from a number of external factors in competition with each other, grammars cannot be linkings of structures and their external motivations. I go on to show that competing motivations have equally profound implications for the functionalist program for language typology.

The fourth chapter is entitled 'On Syntactic Categories'. The classical view of syntactic categories, and one taken for granted by all generative

models, is that they are discrete 'algebraic' entities, not admitting to a notional definition. The classical view has seen three challenges from the functionalist camp. In one, categories are embodied with a prototype structure, in which they have 'best case' members and members that systematically depart from the 'best case'. In this approach, the optimal grammatical description of morphosyntactic processes is held to involve reference to degree of categorial deviation from the 'best case'. The second challenge hypothesizes that the boundaries between categories are nondistinct, in the sense that one grades gradually into another. The third takes categories to be definable by necessary and sufficient semantic conditions.

Chapter 4 defends the classical view, arguing that many of the phenomena that seem to suggest its inadequacy are best analyzed in terms of the interaction of independently needed principles from syntax, semantics, and pragmatics. In an appendix to this chapter, I challenge the idea that grammatical constructions must be attributed a prototype structure. I try to show that when the facts are investigated in sufficiently thorough detail, no such conclusion is justified.

Chapter 5 is called 'Deconstructing Grammaticalization'. The phenomenon of 'grammaticalization' — roughly, the loss of independence of a grammatical structure or element — has been trumpeted by some functionalists as the key issue that shows the superiority of their approach over the generative. I agree that many of the mechanisms involved in grammaticalization — in particular certain types of natural semantic and phonetic changes — are not provided by generative theory. But neither are they incompatible with it. In fact, I conclude that grammaticalization is no more than a cover term for the intersection of certain common historical developments that any theory has to account for, and as such, has no special relevance to the generativist-functionalist dialogue.

Chapter 6 is called, and takes on, 'Language Typology and its Difficulties'. How can we be sure that the typological generalizations that have always formed the explananda for functionalist theory, and increasingly for generativist theory as well, are real facts in need of explanation? After reviewing all of the difficulties inherent in the typological work, I conclude on a note 'somewhere between cautious optimism and reluctant skepticism'. *Some* typological generalizations do seem robust enough that we can regard them as explananda in theory construction.

I go on to argue that functionalists underestimate the need for formal analysis as a prerequisite to typological analysis, while generativists, by a rhetorical emphasis on innate parameter settings, are drawn away from investigating possible functional explanations for typological patterns. Both of these circumstances are unfortunate. There is nothing in the program of functional explanation of typological facts that is incompatible

with the existence of an autonomous structural system. And there is nothing in the generative program that demands that all typological facts be attributed to the setting of innately-specified parameters.

The final chapter, Chapter 7 is a brief conclusion, stressing the main theme of the book: the three autonomy hypotheses are fully compatible with functional explanation of grammatical phenomena.

FOOTNOTES TO CHAPTER 1

[1] For representative recent work, see Dressler (1990) and the papers in

Dressler, et al. (1987). The basic idea of this approach to functionalism

(called 'systemic functionalism' in Croft 1996b) is that grammars are

shaped by forces driving them to become more efficient semiotic systems

internally. I will have little to say about systemic functionalism in this

book (but see the Croft paper and Labov 1994 for critiques).

[2] See Pullum (1996b) on how the last clause of the Chomsky quote could

not possibly be true.

[3] In addition to herself and Kuno, Prince identifies the following linguists

as functionalists in her sense: Jacqueline Guéron, Jeanette Gundel, Georgia

Green, Tony Kroch, Gary Milsark, Tanya Reinhart, Michael Rochemont,

Gregory Ward, Yael Ziv, Anne Zribi-Hertz, Nomi Erteschik-Shir, and

Laurence Horn. In their overviews of various functionalist approaches,

Nichols (1984) and Croft (1995a) refer to this approach as 'conservative

functionalism' and 'autonomist functionalism' respectively.

[4] Transformationless theories have been proposed both in GB (Koster

1986) and the MP (Brody 1995). However, their reliance on chains of

coindexed elements leads to their having much more in common with P&P models than with non-P&P ones.

[5] My one sentence critique of the MP is that it gains elegance in the derivational component of the grammar only at the expense of a vast overcomplication of other components, in particular the lexicon and the morphology.

[6] The version of cognitive linguistics developed by Ronald Langacker and his associates is called 'Cognitive Grammar'. A cluster of related approaches called 'Construction Grammar' contains models wholly within the cognitive linguistics orbit (Barlow and Kemmer 1994), or mostly so (Goldberg 1996), and others (e.g. Fillmore, Kay, and O'Connor 1988) with a strong resemblance to the generative model of Head-Driven Phrase Structure Grammar. Word Grammar began as a generative approach (Hudson 1984, 1990), but seems to be evolving in the direction of cognitive linguistics (see Hudson 1997).

[7] Extreme functionalism does, however, provide a convenient caricature of functionalism in general for generative linguists, as it did, to an unfortunate extent, in Newmeyer (1983).