

Functional Universals

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FUNCTIONAL UNIVERSALS

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The question addressed here is not whether the search for universals deserves a prominent role in linguistics, but what kind of universals we should look for. Our point of departure is Postal's statement of principle at the beginning of his study of antipassives; that study

...is to be understood as embedded in a framework which takes it as a major goal of grammatical theory to make available a restricted set of universal rules which, in different combinations and with inevitable variations in environmental detail, play a role in the grammars of individual languages. This is the opposite of the position represented by the slogan 'describe each language in its own terms'. The latter is generally associated with an apparently now largely vanished structural linguistics but it flourishes as well in a surprising amount of (even the most prestigious) transformational work. (1977:273)

Relational grammar thus attempts to probe beneath the level of overt grammatical operations in search of an inner dynamic, conceived here as a set of inner relational operations (promotion, etc.) based on a universal ranking of elementary relations. Proponents of this theory believe that it permits the formulation of universals and other general laws which cannot be captured in the standard transformational format, which focuses on overt formal operations (deletion, reordering, etc.).

As is characteristic of the various heretical movements which have been formed by erstwhile transformationalists who have split off from orthodox transformational theory, there has been a tendency for relational grammar to overemphasize its revolutionary features and thus to overlook the many basic conceptual and methodological features which it continues to share with the orthodox theory. The conception of "universal grammar" as a catalogue of required or optional formal units (including transformational rules or the equivalent) is common to relational and transformational grammar and many related approaches, and distinguishes them as a class from many "functionalist" approaches such as that sketched in this paper. Moreover, whereas relational grammar appears to shift its focus from overt transformational operations (relegated to the status of "side effects") to more abstract, inner relational operations (promotion, demotion), there is still a rather close connection between the two. Although "passive" may be realized by different "side effects" in different languages, there is only a restricted set of side effects (or combinations thereof) which can qualify as manifestations of this universal rule, and many of these show a simple iconic relationship between function (promotion or demotion) and form (shift in case-marking and/or word order to a higher or lower category).

Relational and transformational grammarians customarily use the following theoretical and heuristic concepts:

1a. Universal grammar consists of a large set of isolated potential formal units (e.g., the passive rule). Each such unit may be formulated (like an archiphoneme) in an incomplete form allowing for some language-specific variation. Each human language is constructed by "selecting" a subset of these potential formal units; some of the universal units can occur more than once (in slightly distinct forms) in the same language.

1b. Emphasis is placed on discovering constraints on individual units, for example constraints on transformations. To the extent that broader generalizations about systems (combinations) of units are looked for, they are often restricted to the following:

- i. Observations about the gross formal structure of the grammar and the interrelationship among formal components (e.g., the distinction between PS rules and transformations, or the equivalent).
- ii. Observations about rule ordering.
- iii. Observations on implicational relations among elements within a well-defined formal component or subcomponent. For example, the claims by relational grammar that certain types of promotion rules imply the coexistence of certain other types of promotion rules.

1c. The essential task in cross-linguistic research is to identify comparable units (e.g., the passive rule) in their different specific manifestations in different languages; once these are identified, we look for interesting generalizations which may emerge for each such formal unit. The most important question is whether the unit in question occurs in all languages, whether it can occur twice in the same language etc. Language-specific idiosyncracies are attributed to "environmental detail" or the like and are not considered theoretically central.

1d. In the interpretation of the empirically validated universals arrived at by these techniques, functional reductionism is generally downplayed. Rather, the basic universal laws about human language are typically attributed in some fashion to the genetically transmitted structure of the brain, of which "universal grammar" is an aspect. A measure of functional reductionism often occurs in discussions of broad constraints on transformations (outer limits which may not be exceeded), especially where it is clear that these constraints can be closely correlated with potential recoverability/ambiguity problems. However, the basic grammatical operations themselves are typically not interpreted as deriving from causal factors of a functional nature; the functional considerations are generally restricted to observations about limiting conditions on grammars rather than those about the basic structure of the grammars.

I will not dispute that linguists working within this framework have achieved a great deal over the years. However, I wish to outline an alternative functionally oriented heuristics which not only can produce important generalizations which the approach in (1a-d) cannot capture, but which is also capable of motivating its empirical results

in an intellectually more satisfying fashion. At the very least, this research program can serve as a useful supplement to that of (la-d); basically it goes like this:

2a. In principle, the analysis concentrates on the set of surface formal oppositions at the utterance level, and the relationship of these oppositions to differences in semantic/pragmatic meaning. The formal mechanics by which one level is "converted" into the other (i.e., the set of transformations and other paraphernalia in relational and transformational grammar) is downplayed. Of course, utterance-level oppositions can usually be broken down into more local oppositions each involving choice of morpheme in a morphemic slot (e.g., present vs. past tense), or choice among one of a few possible syntactic arrangements (e.g., active vs. passive clause form); however, it is not assumed a priori that utterance-level oppositions always reduce to combinations of such atomic oppositions, and we are always on the lookout for systemic interactions among such local oppositions.

2b. The notion of "human language" is approached by looking for positive (as well as negative) generalizations at the systemic level. Atomistic constraints within one formal (sub)component (for example, universals about pronominal oppositions) are considered to derive from broader systemic constraints; if a certain type of pronominal system never occurs, this is because no larger grammatical system containing this subsystem would be viable. Many systemic constraints involve interactions (such as implicational relations) cutting across formal components and are thus not reducible to atomistic constraints limited to individual formal components.

2c. The study of systemic generalizations is based on careful analysis of the function(s) of each formal unit, in the context of its functional interaction with other units (including those in different formal components). We refrain from hasty, oversimplified functional interpretations for given units, recognizing that a given unit i) may simultaneously have more than one function (i.e., may be multifunctional), and/or ii) may have a different function or functions from one syntactic or semantic context to another. It goes without saying that we must recognize the possibility that similar or identical formal units from one language to another may differ sharply in their function. Having studied the various functions carried out by the formal units of a language, we can then regroup the units into functional components which frequently do not coincide with the familiar formal components. In many cases a given formal unit will thus belong simultaneously or contextually to two or more distinct functional components. Cross-linguistic comparison involves generalizations about these functional components, and about the formal realizations of various universal functions. Ideally, formal universals can be logically derived from functional considerations, provided our theory is suitably sophisticated.

2d. Wherever possible we attempt to motivate empirical generalizations rather than shoving them under the carpet as innate features.

As a play on Postal's statement of principle, we may formulate our own as follows: our framework takes it as a major goal of grammatical theory to describe a set of functions which, by means of different combinations of formal units and with inevitable variations in (sociocultural) environmental detail, play fundamental roles in shaping the formal grammars of individual languages. This approach presupposes painstaking synchronic formal/functional analysis of particular languages (whereby each formal unit is analysed in the light of its functional interaction with other units in the same system) and is thus the opposite of the position represented by the slogan, 'describe each language in universal terms'. The latter is generally associated with an apparently now largely vanished transformational linguistics but it flourishes as well in a surprising amount of (even the most prestigious) neo-transformational work.

This proposal is not new; it is essentially the framework which has been eloquently advocated for many years by Hymes, Halliday, and others. Moreover, many slightly rebellious neotransformationalists actually occupy theoretical positions midway between (1a-d) and (2a-d), in particular inasmuch as much attention is now being devoted to the importance of surface utterance-level oppositions (e.g., in much "interpretivist" work), and we have already noted the emergence of functional considerations in some work on constraints on transformations. However, the research done in the context of principles (2a-d) has tended to be concentrated in sociolinguistics and linguistic anthropology and has been slow in penetrating into the mainstream of linguistic theory (which is oriented more toward logic than toward anthropology or sociology). This has led to a kind of tacit division of labor between (sociolinguistic) functionalists and mainstream linguistic universalists which has, in my view, impeded the development of a sophisticated functional syntax. Much of the "functional syntax" which has appeared so far is oriented toward low-level processing matters, and hence toward word-order problems. This is certainly a useful ingredient in a more complete functionalism, but there are many other ingredients which are equally necessary if our functionalism is to be flexible and productive, rather than narrow and parochial. In the remainder of this article I consider the problem of referential ambiguity (especially across clause sequences) and show that the concept of functional components leads to important cross-linguistic generalizations; I also comment on the relationship between this problem and the rules of passive and antipassive (which, of course, are central to relational grammar).

In a sense, both functionalism and relational grammar are similar, in that they try to probe beneath the surface stuff of language, looking for inner essences which provide both synchronic insight and a viable comparative framework. However, relational grammar focuses on a small set of grammatical operations (promotions and demotions) within a single formal subcomponent, and interprets all of them in terms of a rigid analytical framework. In the Postal/Perlmutter version all passive rules reflect an identical inner operation (represented by

the formula $2 \rightarrow 1$), and likewise all antipassives reflect a single inner shift ($1 \rightarrow 2$). Even though passives characteristically involve two overt changes ($2 \rightarrow 1$, with original 1 becoming *chômeur* 1), the relational grammarians insist that a choice must be made between these as the basic, inner operation (here $2 \rightarrow 1$), with the other then treated as a secondary readjustment. (See Perlmutter and Postal 1977:410.) Kirsner (1976) takes Dutch passive-type rules to be basically demotional; despite an enlightening description he succumbs to the temptation of adopting a rigid, unitary basic analysis. In Comrie's version (1977) a slight degree of functional relativism is introduced inasmuch as passives are interpreted as sometimes promotional, sometimes demotional (and perhaps sometimes a little of both). Although this variability is still restricted to the promotion/demotion axis which relational grammar itself operates in terms of, it has been hotly contested by orthodox relational grammarians who seem unable to accept even the faintest hint of functional variability. To the extent that the inner relational operations can be interpreted functionally at all, there can only be a one-to-one iconic relationship between form and function.

From a functional viewpoint, of course Comrie is correct in asserting that passives can function either to demote the agent or to promote the patient in some sense, and it is not necessary to hunt for exotic languages which show formal demotion without simultaneous formal promotion. However, even Comrie's notion of the functional relativity of passives is too narrowly confined to help us much with antipassives. These rules have an astounding range of distinct functions, many of which are unrelated to the simple intracause promotion/demotion axis, which admittedly works pretty well for passives. In my view, the antipassive is going to be the Achilles' heel for relational grammar, even in Comrie's reformulation, since by no stretch of the imagination can we assert a universal iconic relationship between its form and its function(s). Postal's contribution to the analysis of this problem (1977) was to guess that the basic inner operation is $1 \rightarrow 2$ (subject demoted to direct object), whereupon the original 2 is bumped out to *chômeur* status as 2, and then the original 1 (the new 2) reverts to 1 status in order to fill the void created by the original $1 \rightarrow 2$ shift! It must be apparent even to those sympathetic to relational grammar in general that this proposal is highly gratuitous and that even within this general framework other possible interpretations are available (but without any nonarbitrary criterion for selecting among them). Even if relational grammarians agree on how to "handle" the antipassive in their notation, they are unlikely to contribute much to the understanding of this rule unless and until they accept a more relativistic form-function relationship even than Comrie does for passives. Just to take the most famous antipassive language, Dyirbal (Dixon 1972), we have to face the fact that there are two formally distinct antipassive constructions (the *-ŋay* form, and the "false reflexive"), each of which has several distinct functions (i.e., is triggered by any of several quite distinct structural descriptions) and which differ from each other systematically. Basically, the false reflexive is the clause-internal object-demotion rule (and in this use does not permit a surface *chômeur*), while the *-ŋay* rule is usually triggered by cross-clause coreferential relationships and usually retains the underlying object as surface *chômeur*, though there are many

additional complexities which we cannot go into here (see Heath 1976-ms for an exegesis of Dyrbal syntax on functional lines, based on analysis of Dixon's texts).

Since a preliminary inventory of distinct functional types of antipassives was published (Heath 1976), a number of others have come to light, particularly in a number of studies (some not yet published, to my knowledge) on Mayan languages. For example, a Jacaltec antipassive rule which Craig (1977:214ff.) accords an explicitly functional label ("the disambiguating mechanism") instead of the formal label "antipassive," does not fit neatly into the original taxonomy and thus constitutes (along with parallels in other Mayan languages) another type or subtype. Whereas passive rules tend to show a rather monotonous functional uniformity across languages, antipassives show a remarkable functional diversity.

Now if all grammatical operations were like passives, and thus showed a more or less simple cross-linguistic correlation between form and function, there would be no vast practical difference between the research strategy (1a-d) followed by relational and transformational grammar and the strategy (2a-d) followed by fanatical functionalists. However, there are some processes like antipassive which, true to Saussure's semiotics, have a relatively arbitrary and thus variable relationship to inner functions. In this light, functional analysis proceeds not merely by assigning functional interpretations to already established formal units (and components of such units), but by breaking the formal components into bits and then regrouping them into functional components (I use this term in a somewhat more general sense than Halliday 1973:35, who applies it to social functions of language such as requests; I wish to apply it also to instrumental or coding functions such as disambiguation of references). In some instances a functional component may coincide with a formal one, but more often it will cut across the formal divisions of grammar. For example, as Hymes and other sociolinguists have never ceased to point out, social-status indexing (of speaker and/or hearer) involves selected phonological, morphological, lexical, and syntactic variables. But even sticking within the reassuring confines of mainstream linguistics (which may be thought of as "straight linguistics" or "crooked linguistics," depending on your political party) it is easy to see that the functional component concerned with keeping nominal reference straight in clause sequences involves certain lexical pronominal oppositions (but not all of them), certain deletion rules (e.g., English Equi, but only marginally English Gapping), and so forth. In Basque, for example, the masculine/feminine opposition in certain 2sg pronominal affixes has no referential value (except in the rather *recherché* case where two potential interlocutors are present, one male and the other female, and it is not otherwise clear which is the addressee); this is an almost pure sociolinguistic index. On the other hand, such gender oppositions in third person pronominals in various languages regularly function to disambiguate reference. The relationship between formal and functional components is highly problematic.

Concentrating on this disambiguating functional component, let us

see what kinds of universal generalizations we might look for; our concern here is illustrating the heuristics of cross-linguistic functional analysis rather than documenting specific assertions. The obvious universal hypothesis would be this: Every language must have some mechanism (other than constant repetition of full NPs) to keep references clear in lengthy clause sequences. That is, we take as starting point the observation that all languages need to use sequences of elementary clauses (each typically consisting of a nucleus such as a verb along with one or more referential arguments), and we guess that all languages must have mechanisms for connecting specific referents to specific argument-roles (and ultimately semantic role functions) in each clause.

This is hardly a startling suggestion. However, one searches the literature on transformational and relational grammar in vain for concrete instances of such functionally oriented positive universal hypotheses; by contrast, sociolinguists like Hymes have been trying for years to determine cross-cultural parallels in the much more demanding area of the social uses of language.

Although in this framework we take function as prior to form, we must nevertheless patiently analyse the range of formal implementation of each obligatory function. For certain functions there may be a tremendous range of such devices, but for others there may be only a small set of possibilities, and in the latter case we can extend our initial hypothesis ("There must be some device which carries out function F_n ") as a corollary (if X and Y are the two possibilities, then "Each language must have formal unit X and/or Y").

In the case of cross-clause referential disambiguation, the two basic formal strategies which seem to be available are these: a) an elaborate set of lexical oppositions (e.g., masculine/feminine, singular/plural) in obligatory third person pronominals; and b) use of transformations (i.e., of systematic formal oppositions) which are triggered by (and thus signal) particular cross-clause coreferential and/or noncoreferential relationships. Note that, in traditional transformational terms, (b) is based more closely on the nature of the structural description (i.e., the triggering factors) than on the type of overt operation found in the structural change (deletion, raising, etc.). Pronominal forms based on anaphoric or anti-anaphoric qualities (e.g., "the same one" or "as for him") belong to strategy (b) rather than (a). The kind of universal hypothesis we might look for now would be of this form: each language must make use of an elaborate set of lexical oppositions in the obligatory third person pronominal system, or must make extensive use of cross-clause disambiguating transformations, or must have at least moderate elaboration in both areas.

More detailed investigation shows that all languages have at least a rudimentary transformational apparatus of the type (b), though sometimes reduced to the occasional use of anaphoric and anti-anaphoric pronouns. This is expectable since strategy (a), relying on inherent pronominal discriminations, works fine when each contextually possible referent belongs to a distinct pronominal category, but results in ambiguities when two or more referents have the same category (so that "He went" is contextually clear when we have been talking about a man and a woman,

but not if we have been talking about two men). Hence no matter how elaborate the lexical discriminations in the third person pronominal system, there is always going to be a need for cross-clause anaphoric or anti-anaphoric operations for ambiguous cases. On the other hand, there are languages (like Choctaw) whose third person pronominals show no gender opposition, and only a sporadic and indirect number opposition (not in the pronominals, but in the form of number suppletion for some verb stems, and occasional use of number-marked preverbs and postverbs).

However these details work out, the point is that our research strategy has pointed us toward a kind of universal hypothesis which seems hardly ever to have even occurred to linguists working within the framework (la-d). Here we have an implicational claim involving bits and pieces which in the usual formal description are scattered all over the formal components of morphology and syntax; neither relational grammar nor standard transformational grammar point us toward suspecting a close relationship between certain pronominal categories and certain kinds of transformations.

As an additional type of corollary to the functionally oriented hypotheses we have been making, let us consider the implications of the proverbial "principle of least effort" on the disambiguating component we are concerned with here. We mentioned two strategies, (a) and (b), and suggested that each language either emphasizes (a), emphasizes (b), or puts equal emphasis on both (with various intermediate values on a continuous scale). It occurs to us that there may be an inverse relationship between the use of the two strategies, since it is unnecessary (and hence wasteful) to fully develop both strategies. The suggestion would be that although both strategies seem to be present in all languages at least in rudimentary form, there is an inverse relationship between their degree of elaboration (productivity). This is somewhat different from the first corollary discussed above, which in essence specified the minimal (rather than maximal) implementation of the obligatory functional component; here the principle of least effort leads us to suspect a limitation on the maximal development of the formal units in question. As it turns out, at least in the languages I am familiar with there is a basically inverse relationship between the elaboration of obligatory lexical third-person pronominal discriminations and the productivity of disambiguating transformations (Heath 1975).

So we can, in favorable cases, propose series of universal hypotheses of the following types:

3. an elementary functional universal: Every language must have some formal unit, or set of units, which carry out function F_n .

4. corollary I, a universal of minimal implementation: Every language must have at least one of the following units, or sets of units: A, B, C and D, E, or F. (Sometimes only two possibilities occur; in the limiting case there is only one possibility and we thus end up with an obligatory formal universal.)

5. corollary II, a universal of maximal implementation (in this case, specifically a universal of inverse implication): If a language has A (or an elaborate development of A), it will lack B (or will have an inversely elaborate development of B). This presupposes that A and B are the only two possible implementations of some function.

I wish to stress that this is offered as a heuristic approach and not as an analytical straightjacket. The most important problem with taking (3-5) as the general form of functional hypotheses is that they tend to artificially segregate the functional components from each other. In some cases, it may be that modified (implicational) versions of the type (3) are needed; for example, if the language has some nonuniversal functional component F_p or some formal unit A, it may be that some additional functional component F_q is required by some implicational rule. Moreover, corollaries of type (4) may have to take into consideration the corresponding choices for implementation of some other functional component; instead of five possibilities as suggested in (4) there may only be one or two viable possibilities in the broader context of the organization of a particular language. It is essential to stress that not only are there a great many functions (many universal, others variable) which languages fulfil, but also that some of the functions are hierarchically prior to others. In order to keep most of this paper within the confines of more-or-less mainstream linguistics, we have here concentrated on simple coding (instrumental) functions of morphosyntax, assuming the prior existence of basic clause structure and discourse organization. Of course, in a fully functional theory we have to begin by showing how universals of social interaction (beginning in infancy) are ultimately responsible for shaping basic clause and (eventually) discourse structure (see, for example, Halliday 1973 and elsewhere). So the very notion of "function" must be recognized as covering a vast range of concepts, involving complex lines of causal implication (sometimes unidirectional, sometimes mutually implicating). Anyone who thinks that a functional theory of language can be legitimately based on one or two simple functional notions is in for a rude awakening.

A particular problem with hypotheses of the form (5) is entailed by the fact that formal units (in this case, A and B) may be capable of occurring in any of two or more distinct functional components. What (5) really says is that the particular functional component in question will not produce both A and B, since only one of these is necessary for its own purposes. However, if this component is implemented by formal unit A, it could be that some other component is implemented by B. So unless the formal units in question are inherently limited to the same functional component, claims of the type (5) must be advanced with great humility and caution.

Despite these caveats, I feel that the research strategy outlined here has great promise both in terms of the discovery of previously unnoticed universals, and in terms of explanation of these regularities. I must confess that I do not see how even the most solidly established empirical claims which have come out of transformational or relational

grammar can be said to have been motivated by those theories. What we get, in general, are empirical regularities and a notational framework for representing them. In the main, the theories provide little insight into the regularities, except to the extent that a set of apparently diverse phenomena are often shown to be reducible to a single principle (which, however, is itself not explained). In practice, linguists working within the framework (la-d) feel that the discovery of regularities is the final stage in analysis; universals are thought to derive directly from innate mental structures.

Obviously, functionalists are not satisfied with such arbitrary and untestable explanatory devices; we look for insight into the regularities which have been established, and even into language-specific oddities. It must be conceded that languages are not perfectly efficient and that many of these reveal unnecessary morphological regularities and the like; the lines of function-form causality are in some cases attenuated. And there is the recurrent functionalist dilemma of evaluating "explanations" which have been adduced retroactively to account for previously determined regularities; if our functionalism is insufficiently disciplined we can generate an "explanation" for almost any conceivable linguistic feature. But while admitting that there are important difficulties in the logic of functional analysis, it is certainly an improvement over theories which attempt no explanations at all.

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