THE ELEMENTS:
A PARASESSION ON
LINGUISTIC UNITS AND LEVELS

April 20-21, 1979

Including
Papers from the Conference on
NON-SLAVIC LANGUAGES OF THE USSR

April 18, 1979

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In its simplest form, pretransformational structural linguistics was concerned with the segmentation of words and utterances on several hierarchically related levels, as seen most clearly in stratification and tectonic notation. The focus was on the identification and classification of morphemes, phonemes, and features, based primarily on tangible invariant properties. In a
way, this approach was functional, insofar as it dealt with surface-structure oppositions—i.e., relationships among alternative signifiers. The present paper is intended to explore some issues which might be raised by a hewed-up version of this theory.

The argument against pretransformational structuralism as
by Chomsky and Halle has been that many grammatical phenomena can be described in the simplest and hence most elegant way by positing
abstract underlying forms (often very abstract), to which a small
set of rewrite rules apply, producing the surface forms, as in
Halle's reformulation of Whitney's Rules for Sandikri morphophonology
(1955). Although the number of phonologists who support the use of
very abstract underlying forms has declined, the notion of underlying
form is still deeply ingrained among most phonologists (at least
in my part of the country).

If one steps back briefly from current debates and regards today's
linguistic theory as a point in a continuous historical unfolding,
it is possible to consider the notion of 'underlying' form as a
disputed residue from theories developed and/or popularized in
the fifties and sixties, when the human mind in general and
the language faculty in particular were explicitly compared to the
structure and operation of computers (and their predecessor, the
conceptual 'machines' of applied mathematics). Generative grammar
facts (presumably) on the crucial notion of a 'linear' metric
(of the continuing use of such expressions as 'cost', 'storage',
etc., in linguistic argumentation), more than faintly reminiscent of
the notion of cost-efficiency in computer manufacture.

Of course, the fact that a linguistic theory is deeply affected by
concepts from computer science (or popular) nature does not
vitiating it, but we should make strenuous attempts to probe into
these relationships. We should likewise make periodic efforts to
reevaluate our models, analytical units, and above all criteria
for 'good' analyses, lest we be stumped into taking an emancipate
approach which becomes popular in specific intellectual milieu
which have since disappeared.

2. Surface-Structure

It is not difficult to observe a gradual shift from classical
generative grammar to an incipient modified version thereof, rather
closer to surface structure. We can see this in phonological theory
with its current emphasis on restricting the abandoners of base

forms, and we can see it in morphosyntax with its increased
recognition of the lexicalized status of such morphemes and syntax,
since a lexicalized base is less abstract and closer to surface
structure than a largely nonlexicalized base. The shift from very
abstract to less abstract formal models is perhaps the major current
preoccuption of mainstream linguistic theory. I will suggest,
however, that the most interesting and important issues which
linguistics must eventually face are of a different order.

Let us suppose that mainstream formal theory continues to
afford a support between deep and surface structure, in
the point where it becomes possible to give up-or rather reconstitute-
the notion of 'underlying' form in both phonology and syntax.
That is, instead of base forms and deep-to-surface rewrite rules,
we end up with rules which describe the formal oppositions among
surface structures, perhaps even taking some such structures as
privileged or basic and in some sense 'deriving' others from them,
using rules roughly of an analogical nature. Such a development,
though it would require a dismantling of generative notation,
would not necessarily result in a radical overthrow of the major
corpus of generative theory, especially in the modified forms
in which it is often practiced at the present time. In particular,
the rules would have to be sufficiently abstract and productive
to permitting the production and decoding of novel utterances,
in that sense a surface-oriented formal theory might be closer to classical
transformational grammar than to pretransformational structuralism.

Let us suppose that in a given language there is an alternation
between /v/ and /v/ on the surface. In current generative theory,
we would probably make a decision as to which of the two surface
allophones reflects the base form in the context of the distribution
of the allophones and the broader context of the phonological
structure of the language, let us say that we choose /v/ as the
base form; we then develop a context-sensitive rule converting /v/
to /v/ in a given environment. In a surface phonological theory,
we would be required only to specify the distribution of the
to variants allophones, but we would also need some general conventions
of a complicated sort which are capable of bringing out asymmetries
which may exist between the /v/ and /v/ outputs (distribution within
networks of paradigmatic forms involving markedness relations,
phonological distribution, phonetic marklessness, etc.) in such a
way that we can make predictions about the likely direction of future
changes in the language and so forth.

Similarly, let us suppose that our language has a passive
correction in addition to a normal active clause construction.
Instead of choosing the active clause (or something like it) as
'deriving' and 'deriving' the passive by a transformation, we
would simply describe the structure of the two surface clause types
and specify their respective semantic values and syntactic
structures. That is, instead of building the syntax between the two
into a formal generative model, we could account for asymmetry (to
the extent that it exists) in concrete terms by considering the
relative formal markedness, semantic specialisation, and syntactic
distribution of the two constructions. Significantly, in a theory
focusing on surface-structure relations, we can come to view the
passive/active alternation as just another binary surface
opposition and hence as functionally on a par with a binary morphological
opposition. On the other hand, some deep-to-surface transformations
in generative theory do not create surface oppositions and would
have a different status in a surface-oriented theory.

The basic point that I want to make is that the conversion
of a deep-to-surface generative model into a surface-structure model
would not solve the major questions which linguistics faces. What
the conversion may well do, however, is permit us to formulate these
deep, and questions in a clearer way. In the rest of the paper I wish
to anticipate some issues which are currently fairly low on the
priority list in theoretical debates may become central once a
surface-oriented theory has been achieved.

3. Formality and Functionalism.

I will use the terms ‘formalist’ and ‘functionalist’ to describe
two general approaches to explaining linguistic phenomena. I should
cautions that my use of the terms does not coincide with their use by
other linguists: there are some formal-theory linguists whom I would
regard as functionally oriented, and some ‘functionalists’ whom I
would regard as largely formally oriented.

The primary difference between formalism and functionalism is
that the formalist is primarily concerned with isolating the individual
units of grammar (e.g., morphemes), and believes that larger
structures such as sentences can be generated in some fashion by
the application of a series of individualised ‘rules’ working in a
rigorous, automatic fashion. In the ideal language which the formalist
dreams of, each morpheme has a consistent semantic basis (i.e.,
a simply stable necessary-and-sufficient condition for its use).
Each rule, moreover, is automatically triggered by a relatively simple
necessary-and-sufficient condition. That is, the formalist is
happy when he can find a simple and elegant ‘uniary analysis’
for each component unit (morpheme, rule, etc.). The more simple
the net of basic units he can posit, the happier he is. He is unhappy
when he finds it necessary to posit a complicated and skewed set of
rules for the usage of a given unit, or when he has to recognise a
large number of units and cannot find a way to reduce them to a
smaller set. If a large number of units, such as syntactic rules,
must be posited, he will be inclined if it turns out that many of
them are formally similar or homologous, but it is best of all if
some of them can be formally reduced to other, more basic units.

This approach is characteristic of Chomsky and Haile’s work,
and is in one sense or another dominant in mainstream linguistics.
However, this approach is quite compatible with a surface-oriented
theory. There is no reason why a surface-oriented theory cannot look
for simple statements of the semantics of morphemes,
or why it cannot attempt to simplify the syntax by using a small set

of analogical rules which produce new surface structures by analogy
to a small set of more basic structures. In other words, what I am
noting is not closely bound to a particular type of
passive/active alternation as just another binary surface
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As I use the term, ‘functionalism’ puts more emphasis on the
nature of extended surface structures such as sentences or—better
yet—complete discourse. The functionalist is usually happy to
recognize the identifiability of smaller units such as morphemes and
syntactic rules, but he looks at them in their role as surface
oppositions which combine with other oppositions to constitute
semantically and syntactically well-named utterances. He feels no
complacency in finding strictly ‘unitary’ analyses at the level of
individual units; rather, he is likely to stress the flexibility
by which individual surface oppositions are skewed in different
motivated, since in some contexts the primary meaning is given
opposition may be irrelevant or redundant, so that it makes
sense to skew the meaning of the opposition in those contexts in
such a way that a valuable semantic contribution is made. For
example, the functionalist is quite pleased to find that an
antipassive rule (i.e., an opposition of a single verb and an antipassive
switch-reference mechanism for keeping mental reference straight)
is used in a different sense in imperative sentences (which do
not commonly occur in chains of linked clauses). He is also happy
that an object and an object morpheme opposition punctual/continuous
is specialized in a distinct sense in conjunction with the present
verb form, which he would expect otherwise to occur only with
the continuous aspect marker (which would then be redundant).

In fact, in the ideal language which the functionalist dreams of
there are a large number of individual oppositions (e.g., morphemes,
classes, etc.) whose semantic value cannot be identified when
they are extracted from actual contexts, but which do have precise
values in particular combinations. The language contains a
stock of transformational oppositions which are employed opportunistically
in a way that overall surface-structure clarity and readability is
maximized, even at the expense of the semantic unity or ‘integrity’
of the constituent units.

If the functionalist encountered the formalist’s ideal language,
he would be shocked at its rigidity, inflexibility, and inefficiency.
He would be disgusted by the necessity of building skewed
and perhaps disjunctive definitions into the morphemic
entries and by the chaotic and undisciplined operation of the
syntactic rules; he would be astounded that anyone could learn
such a hideously complex language, or would want to. Each would

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regard the other's ideal language as inefficient, though in different senses of this word—one stressing the communication efficiency of a rigid formal structure, the other stressing the complexity of the individual units and hence the large portion of human memory capacity which must be allocated to the grammar of the language. Beyond this, both would be disgusted aesthetically by the other's ideal language, since both approaches are based at bottom on ideologies with substantial aesthetic components.

I suggest that a productive dialectic between formalism and functionalism can develop, one that might go a long way toward revealing the true conditions under which languages develop and evolve. Unfortunately, such current theory is not focused on such fundamental issues as these, because of its preoccupation with notional statistics, often of a petty and pedantic nature. I am hopeful that in the near future things will change. I will now proceed to sketch some areas in which a functionalist theory has the potential of making significant discoveries about linguistic structure.

4. Verbal Categories.

Overlooking some details, the English system of verbal categories can be roughly described as a past/present/future tense system with a marginal system of aspectual oppositions attached to it. On the other hand, many languages appear to have a well-developed aspectual system along with a rudimentary tense system or the like. Let us suppose, for the sake of the argument, that some tense categories tend to cluster with certain aspectual categories in some cognitive sense; for example, 'passive' implies continuous aspect and 'past' implies non-present tense. These implications may be probabilistic and need not be rigorous. In view of this semantic clustering, we might conclude that it is unnecessary for a language to have a full set of aspectual and temporal categories since it can get along rather well with, say, a fairly elaborate tense system supplemented by one or two judiciously chosen aspectual oppositions, or vice versa.

Actually, since tense and aspect together interest in the same way with other grammatical categories, we have to deal with some complex implicational networks involving both as well as tense-aspect categories. For example, as Michael Silverstein has pointed out (1976), the Hopi verb-argument structure... (1956:105)

The duties of our three tense system and its tripartite linear objectified 'tense' are distributed among various verb categories, all different from our tense...

In a functional framework, we can now see that the system of paradigmatic opposed within a given group such as 'tense' is not always a one-to-one correspondence, in terms of an internal categorial logic of the sort attempted by Jakobson and other structuralists. Instead, we need to look at overall systems of morphological opposites, stressing implicational relations across domain boundaries as well as the more obvious paradigmatic relations within domain. It may well turn out that this approach will lead to important comparative and typological observations which are missed in formal approaches which focus on the internal structure of domains.

5. Morphology and Syntax.

In generative grammar there is a sharp distinction between the phrase-structure component, which includes morphology, and the transformations which convert deep into surface structures. It is true that, in the course of converting classical generative grammar into a new surface-oriented theory, the extent of transformational apparatus is being progressively reduced. However, even if generative grammar is reconstituted within a completely surface-oriented framework, dispelling with underlying structures in the traditional sense, it will still be quite possible to make a sharp formal distinction between morphological oppositions and syntactic processes such as the active/passive alternation. These syntactic processes might now be reconceptualized as rules for the usage of two distinct surface structures, rather than as deep-to-surface rewrite rules, but they can still be regarded as of a distinct order formally from that of morphemic oppositions.

A functional theory, on the other hand, will insist on regarding at least some such syntactic processes as arising from certain common denominators with morphemic oppositions. For example, the rule for the use of active and passive clauses, however it might be stated formally, deals with a meaningful binary opposition and must be analyzed in a broader context involving other meaningful oppositions, most of them morphemic in character.

Specifically, interesting typological results can be obtained by identifying those morphological and syntactic oppositions which serve to maintain referential clarity in sequences of clauses. For example, many linguists have been puzzled by the occurrence of complicated gender and noun-class morphological systems, say in Sanskrit languages or in some Australian languages. The instinctive reaction of formally-oriented linguists is to discover the semantics of the noun-class differences between Hopi and English verbal categories. But let us consider this concept by White about Hopi verb-category semantics... (1976:105)

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In a functional framework, we can now see that the system of paradigmatic oppositions within a given group such as 'tense' is not always a one-to-one correspondence, in terms of an internal categorial logic of the sort attempted by Jakobson and other structuralists. Instead, we need to look at overall systems of morphological
a passive rule, and languages with antipassives are said to be just like languages with passives except that subjects and objects get mixed up somewhere along the line. Such analyses rarely reveal an understanding of the highly variable functions which passive and antipassive rules fulfill in real languages and often overlook telltale nuances of form and usage.

In a functional analysis, such notions as 'antipassive rule' or even the broader 'antipassive or passive rule' are confined to one level of analysis and are cross-cut by functional categories like 'cross-clause coreference-indicating rule' which indicate how the syntactic oppositions in question signify meaningful semantic and pragmatic differences in the context of the larger linguistic code. The functional and formal groupings of rules usually do not coincide, since for example some antipassive rules but not others are cross-clause coreference-indicating rules; on the other hand, such formally distinct devices as noun-class morphemic oppositions can be functionally similar to the coreference-indicating antipassive rules, and so forth. Such observations can lead to analyses of puzzling problems in the description of particular languages, and can lead to interesting typological results, since languages tend to avoid piling up functionally redundant structures.


The primary difference between formalist and functionalist approaches, as I see these terms here, is that the formalist looks at grammatical structures as collections of atomic units, while the functionalist looks at larger syntactic complexes as the basic reference point and looks at the atomic units as either indeterminate or derivative. The universal grammar of the formalist focuses on constraints (usually negative) on individual units such as 'transformational', or at most on implicational relationships among units of the same formal type. The universal grammar of the functionalist starts with the communicative requirement such as referential clarity which all languages must somehow satisfy, and then specifies the possible combinations of formal units which can accomplish them. Ideally, the functionalist deals with complete structures such as sentences and utterances, though in practice functional analysis focuses on intermediate clusters of three or four closely related oppositions (morphemic or syntactic).

Although formal theory currently tends to be of the deep-to-surface generative type, while functionalism is surface-oriented, this correlation is not necessary and even within a completely surface-oriented framework formalism and functionalism can interact in a productive academic dialogue.

References

Additional Readings
On ideologies in linguistics see Silverstein and Lakoff in this volume, and especially Michel Foucault's brilliant work Les mots et les choses (Editions Gallimard, Paris, 1966), translated as The Order of Things (Tavistock 1970, Pantheon 1971).

For additional remarks on 'functionalism' as this term is used here see Heath, 'Functional Universals', SRP 4:58-93, 1978, and refs. there. The most extensive data-oriented papers by Heath exemplifying this approach are 'Aspectual 'Gluing' in Two Australian Languages (Murra, Nunggubuyu)', to appear in a volume on tense/aspect ed. A. Zanner, forthcoming in Academic Press (the paper deals with severe skewing of morphemic oppositions in various contexts) and 'Is Dyirbal Negativa?' (in manuscript), a long functionalist reinterpretation of a badly misunderstood language.