LINGUISTICS AS A SYSTEM OF DISTINCT TYPES OF ONTOLOGY-*CUM*-METHODOLOGY

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1) General Remarks

So far, there is practically no genuine philosophy of linguistics, in spite of the fact that the corresponding term exists. Those who presumably practice philosophy of linguistics do not consider linguistics as it really is, i.e. a system consisting of several subdisciplines each of which has its own ontology-*cum*-methodology. Instead, they concentrate on a couple of questions (like 'What is language?' or 'Is language innate?') and ignore everything else.

Moreover, even these few questions are, for the most part, approached in a manner that is too 'philosophical'. It is much too seldom the case that one has a close look at what *really happens* when, for instance, a grammarian starts to describe one or another aspect of some language (which may or may not be his native language). Instead, this crucial stage is by-passed practically always. Instead of trying to find out what language description *is,* one immediately proceeds to expound what it *should* be, as dictated by one's overall philosophy.

The attitude I am criticizing here may be illustrated by means of the following quotation: "At the very core of my epistemological position is the view of language as an integral part of human social behavior. An epistemology for linguistics in keeping with such a broad view of language must therefore be derived from an epistemology applying to behavioral sciences at large" (Garvin 1978: 331).

What is remarkable about this quotation is the fact that its author represents the same general attitude as I do, in opposing the mindless imitation of the natural-science methodology by linguists. But he (like

practically everybody else) approaches the question from the wrong direction. One should start, not by asserting generalities, but by asking and answering the following concrete questions: What is really happening when a grammarian is analyzing a sentence like *John is easy to please*? And, even more importantly, what has already happened before he starts his analysis, i.e. what makes it possible in the first place? And then one should go on to ask the same questions about the descriptive practice of those linguists who, instead of doing grammatical analysis, are engaged to analyze psychological, social, or diachronic aspects of language.

In philosophical circles Chomskyan linguistics is generally identified with linguistics *tout court*. As a consequence, very little attention has been paid to develop the philosophies of such subdisciplines as (experimental) psycholinguistics, sociolinguistics, diachronic linguistics, and linguistic typology.

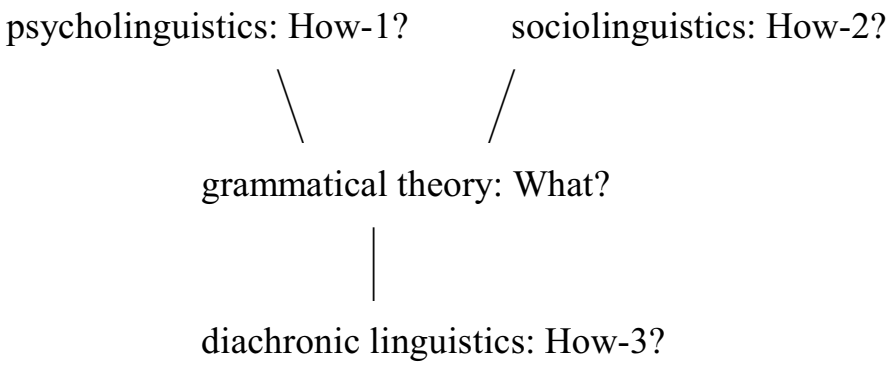
2) The Internal Structure of Linguistics

If one actually teaches courses on such subjects as 'grammatical theory', 'psycholinguistics', 'sociolinguistics', and 'diachronic linguistics', one soon realizes that there are clear-cut ontological-*cum*-methodological differences *between* these subdisciplines and, in addition, that there are such differences also *within* psycholinguistics and sociolinguistics. (Of course, if one lacks such teaching experience, one may remain ignorant of this *de facto* diversity.) Thus, 'linguistics' is a cover term with a heterogeneous referent.

Grammatical theory (also called 'autonomous linguistics') constitutes the core of linguistics. It tries to answer the question: '*What* is a grammatical (or correct) sentence of a language L?' Psycholinguistics, sociolinguistics, and diachronic linguistics, in turn, try to answer the following respective questions: '*How* are grammatical sentences of L produced and understood, and *how* is L acquired?'; '*How* are grammatical sentences of L used under different (social) circumstances?'; '*How* does L

change?' It is self-evident that answering *How*-questions presupposes answering the *What*-question (just like answering a *Why*-question presupposes answering the corresponding *How*-question); this establishes the logical primacy of grammatical theory vis-à-vis the other subdisciplines.

Thus, the internal structure of linguistics may be represented with the aid of the following starlike diagram:



The principal distinction is between the autonomous (= non-causal) linguistics and the non-autonomous (= causal) types of linguistics. Itkonen (1978) analyzes the philosophy of the former whereas Itkonen (1983) analyzes the philosophy of the latter. Together, the two books are meant to offer a survey comparable to Diesing (1972), albeit with more emphasis on philosophy.

In the above diagram there is no unique place for such research topics as text linguistics (or conversation analysis), speech act theory, and language universals, because they typically combine elements from more than one subdiscipline. Nor is there in this diagram any place for neurolinguistics because it is farther removed, as it were, from the core area of linguistics.

3) Grammatical Theory

The most effective way to demonstrate the nature of grammatical theory is to establish its similarity with formal logic (cf. Itkonen 1978: ch. 10). It is the common desideratum of formal grammars and of axiomatic logic to generate all and only *normative* entities of the required kind, i.e. grammatical sentences and valid formulae. Proposed (hypothetical) descriptions are refuted to the extent that they either overgenerate or undergenerate, i.e. either generate what is intuitively ungrammatical or invalid, or fail to generate what is intuitively grammatical or valid. Grammaticalness and validity are *inherent* properties of sentences or formulae, grasped by (linguistic or logical) intuition, whereas empirical truth, i.e. the characteristic of sentences generated e.g. by axiomatized mechanics, is not an inherent property of sentences, but a relation between the sentences and the extralinguistic reality, grasped (ultimately) by observation.

Katz (1981) also assumes an analogy between grammatical theory (mistakenly called 'linguistics') and logic, but he is unable to give any examples to support his thesis, apparently because he does not realize that such support cannot come from standard propositional or predicate logic, but only from the area of non-standard (and therefore hypothetical) logic. Itkonen (1978: ch. 10) uses as an example the development of *deontic* logic.

Grammatical theory is analogous not just to (non-standard) formal logic, but also to conceptual analysis as practiced within analytical philosophy. The common denominator is provided by the fact that analysis of concepts, of whatever kind, means (intuitional) analysis of the *norms* (or 'institutions') for their *correct* use (cf. Pap 1958; Itkonen 1978: ch. 11). This position has since then been elaborated on by Cohen (1986). The similarity with logic and philosophy, and the dissimilarity with e.g. physics, means that grammatical theory is a *non-empirical* undertaking, as argued already in Itkonen (1974). Nowadays the non-emprical or *a priori*

nature of everyday concepts is being emphasized within the doctrine of 'response-dependence' or 'response-authorization' (cf. Pettit 1996: 193-213; Haukioja 1998). It is the ontological peculiarity of norms or institutions that they exist if, and only if, they are (commonly) known to exist (cf. Itkonen 1978: ch. 6; Kusch 1999: 255-260). It follows, among other things, that - contrary to what is the general case in Tarskian semantics - in this area the truth condition and the truth value of (pre-theoretical) statements coincide (cf. Itkonen 1983: 129-135; 1997b).

The preceding account has always been disputed by representatives of Chomskyan theory who, taking linguistics to be a monolithic whole, regard it as just one natural or experimental science among others. For instance, this is how Jackendoff (1994: 46) describes the prototypical linguistic 'experiment': "I presented various strings of words such as 'Harry thinks that Beth is a genius' and 'Amy nine ate peanuts', and I judged whether they were or were not possible sentences of English." Of course, what Jackendoff overlooks is the fact that in just the same way as he is relying on his own linguistic intuition to make grammaticality judgments, a logician or philosopher is relying on his own logical intuition to make validity judgments (cf. above). If this is experimental method, then we still have to distinguish between observational-experimental (= physics) and intuitional-'experimental' (= grammatical theory, logic, philosophy); so the basic divide remains.

4) Psycholinguistics: postulational vs. 'synthetic' models

While grammatical theory investigate *conscious* (intuitive) knowledge about the norms of a language L, psycholinguistics investigates the *unconscious* mechanisms that underlie the production, understanding, and acquisition of language. It is perfectly natural that research of what is conscious may suggest hypotheses about what is unconscious. Such hypotheses must, however, be tested by using the standard methods of psychology. It is the perennial weakness of Chomskyan linguistics that it

refuses to do so or, what is even worse, does so only when psychological research produces (or seems to produce) corroborating evidence. In psychological terms, hypotheses about the competence of L are identical with hypotheses about how L is stored in the individual mind. Psycholinguistics has accumulated a considerable amount of (plausible) information about storage, but generativists simply ignore it. Similarly, instead of investigating how language acquisition actually happens, generativists investigate how language acquisition would happen if it were to conform to Chomsky's theoretical edifice which has been constructed purely within the confines of grammatical theory.
As a result, the distinction between grammatical theory and psycholinguistics has been obliterated in Chomskyan linguistics (cf. Sect. 5).

According to the received view, psycholinguistics makes use of the experimental method: on the basis of observable effects it postulates such an unobservable causal mechanism as would most plausibly have produced the effects. Thus, the postulational (causal) model proceeds from known effects to unknown or less well known causes. It is the great merit of Diesing (1972) to have pointed out that, contrary to what is generally believed to be the case, there is in both psychological and social research also another type of ('causal') model which is directly opposite to the postulational one. It is a standard practice to model *rational behavior* (including sentence parsing) by means of computer programs. Such models claim at least some degree of psychological reality. However, contrary to postulational models, they proceed from known causes (or 'causes') to less well known effects. That is, they start from what it is *rational* to do (which the researcher knows intuitively), or from what *ought* to be done, to what *is* done in fact (cf. also Sect. 6). These models, called 'synthetic' by Diesing (1972), can be enriched or constrained by adducing experimental or observational evidence, but this undertaking, which is difficult in itself, is made even more difficult by the lack of methodological self-understanding (for discussion, cf. Itkonen 1983: 6.3).

5) The Issue of Psychological Reality: Grammatical Theory vs. Psycholinguistics

Descriptions made within the domain of grammatical theory (or autonomous linguistics) may be loosely characterized as 'axiomatic' in character: apart from truthfulness, the criterion which distinguishes good descriptions from bad ones is *descriptive parsimony*. As exemplary achievements within this tradition, Panini's grammar and Montague grammar come first to mind. When one considers how difficult it is for ordinary humans to grasp the functioning of axiomatics, it is obvious at once that descriptions of this type *cannot* be psychologically real. They are based on the principle 'few axioms, long derivations', whereas the ordinary human mind follows the principle 'many axioms, short (or no) derivations' (cf. Itkonen 1976).

The fundamental difference between grammatical theory and psycholinguistics was discovered by Kac (1974), Itkonen (1974), and Ringen (1975), among others (cf. also Linell 1979, and Kac 1980, 1992). It was rediscovered by Soames (1984), albeit as a terminologically misleading opposition between 'linguistics' and 'psychology'. More recently it has been rerediscovered by Croft (1998). Hofstadter (1995: 52-53) has made the same (re)discovery in the field of artificial intelligence. Speaking about the "surprisingly large gulf between researchers' goals", he notes that solving a computing problem by the standard methods of mathematics and simulating how people solve it in fact are two entirely different undertakings: "Computer chess programs *have* taught us something about how human chessplayers play - namely, how they do *not* play. And much the same can be said for the vast majority of artificial-intelligence programs" (for more discussion, cf. Itkonen 1983: 303-313).

As noted above, Chomskyan linguistics has consistently denied the existence of this opposition. One reason for doing so has been Chomsky's claim that there cannot be two distinct types of linguistics because there

is only one type of (e.g.) physics. Now, apart from other considerations, it must be pointed out that Chomsky's claim is factually false. There *are* two distinct types of physics, namely the ordinary physics and then Paul Lorenzen's 'protophysics', which qua general theory of physical measurement constitutes the precondition of the former (cf. Böhme 1976). There is a broad analogy between linguistics and physics insofar as in both cases there is, on the one hand, an 'institution' (= the subject matter of grammatical theory or of protophysics) and, on the other, that which actually happens within it (= the subject matter of psycho- and sociolinguistics or of physics) (cf. Itkonen 1978: 45-46; 1983: 11).

6) Speech Act Theory and Text Linguistics

It is customary to identify speech act theory and 'pragmatics'. This is a mistake, however, for the following reason. Pragmatics is a 'concrete' or context-dependent theory of meaning; it investigates how e.g. a statement becomes a threat or a promise, depending on the (actual or imaginary) speech situation. Its counterpole is an 'abstract' theory of meaning, which investigates the statement as such. It is natural to call this theory of meaning 'semantics'. However, it is a Wittgenstein-type, actionist version of semantics, which contains the speech act theory as one of its components. For instance, it is undeniable that a declarative sentence encodes the *act* of stating (just like an interrogative sentence encodes the *act* of asking); and this act is part of the *meaning* of the corresponding sentence.

It is seldom noticed that speech act theory has an ambivalent, Janus-like character. On the one hand, it was developed by philosophers. On the other, it has been incorporated into psychological accounts of speech production. Philosophers examine *rational* behavior. Because rationality, just like grammaticalness (or correctness) is a normative concept to be investigated by means of intuition, there is an overlap between grammatical theory and speech act theory, noticed already by Searle

(1969: 17): "an adequate study of speech acts is a study of [Saussurean] *langue*". (As a study of rational behavior, moreover, an account of speech acts qualifies as an implicit type of synthetic model; cf. Sect. 4.) When investigating rational behavior, philosophers investigate what *ought* to be done. By contrast, psychologists investigate those (mostly unconscious) mechanisms which bring it about that something *is* done. This ambivalence can be resolved by noting that, after taking over the account provided by philosophers, psychologists just make the additional (and often unwarranted) assumption that people do what they ought to do (cf. Itkonen 1983: 177-181).

There is an analogy between grammatical theory and text linguistics insofar as their objects of study are such normative concepts as 'grammatical sentence' and 'coherent discourse', respectively. In both cases, moreover, it is possible to conduct the research by relying on linguistic intuition alone, i.e. by using self-invented examples. In the case of text linguistics, however, there is a greater need to take some corpus of actual utterances into account. - Notice that, contrary to a myth propagated by Chomskyan linguistics, American structuralism as represented by Zellig Harris was *not* confined to describing a closed corpus: "When a linguist offers his results as a system representing the *language as a whole*, he is predicting that the elements set up for his corpus will satisfy all other bits of talking in that language" (Harris 1951: 17, emphasis added; for discussion, cf. Itkonen 1978: 71-75; 1991: 304-306).

7) Sociolinguistics: 'Hard' vs. 'Soft'

Mainstream or Labov-type sociolinguistics seeks correlations between linguistic and social variables; and once correlations have been found, they need to be explained. This is the method of classical Durkheimian sociology. In his paradigmatic study on suicide, Durkheim's "notion of cause ... relies on reconstructing the world of the ill-integrated from

within, so as to make suicide a (semi-)rational act" (Hollis 1977: 130). In just the same way, it turns out, on closer inspection, that the explanation of sociolinguistic correlations must appeal to a sort of 'unconscious rationality'. There is the additional problem that the correlational models of sociolinguistics involve a notion of statistical causality: a certain proportion of events either occurs or fails to occur 'spontaneously', i.e. without any (apparent) cause (cf. Itkonen 1983: 24-31, 95-102, 194-196, 260-278).

The other main type of sociolinguistics, represented e.g. Hymes, Garfinkel, and Gumperz, relies on participant observation. The researcher becomes a member of a community, learns to participate in its institutions and describes his own normative knowledge in qualitative terms. There is a broad analogy to grammatical theory, on the one hand, and to text linguistics, on the other (cf. Itkonen 1983: 81-85).

8) Diachronic Linguistics

For more than 20 years, there has been a lively discussion going on concerning the justification (or otherwise) of 'teleological' or 'functional' explanations of linguistic change. One side in this discussion takes its inspiration from the philosophy of the natural sciences and thus either denies the legitimacy of teleology altogether (e.g. Lass 1980, 1997) or wishes to reduce it to the Darwinist model of variation-*cum*-selection (e.g. Haspelmath 1999). For my part, I have tried to show, as against Lass, that teleology is indispensable as a matter of fact (Itkonen 1981), and, as against Haspelmath, that the biological analogy is misconceived (Itkonen 1999b). The constructive proposal that emerges is based, not on aprioristic philosophical predilections but on observing the actual descriptive practice of diachronic linguists. All explanations that have ever been offered turn out, when spelled out, to involve a reference to unconscious rationality (cf. Itkonen 1982, 1983: 201-211, 1984).

This claim can be proved in concrete detail as follows. As noted already by Paul (1975 [1880]: 325), the most common type of linguistic change is a process in which units gradually lose their autonomy and coalesce to form new, higher-level units. Today this process is called 'grammaticalization'. There is a general consensus to the effect that grammaticalization is a two-stage process consisting of 'reanalysis' and 'extension'. Reanalysis is an instance of *abduction*, and extension is an instance of (analogical) *generalization*. Abductions and generalizations are processes, serving ultimately the task of problem-solving, that can only be performed by rational or intellegent beings, not by merely biological - let alone by inanimate - beings (cf. Itkonen 1999a).

9) Linguistic Typology and Language Universals

The starting point for research both on linguistic typology and on language universals is a set of grammatical descriptions of various languages. The next step is to make generalizations about such descriptions. The final step consists in offering (functionalist) explanations about the results of such generalizations (cf. Givón 1995; also Itkonen 1983: 211-219). Chomskyan linguistics refuses to make this step, and claims instead that whatever generalizations have been achieved reflect innate linguistic endowment. There is no rational justification for this position; rather, the reasons must be sought in Chomsky's personal history (cf. Itkonen 1996: 497-498). Universals are what is common to languages; typology reflects the differences. One natural way to account for the differences is to see them as distinct stages in the various 'paths' of grammaticalization (cf. Sect. 8).

Purported explanations of language universals are often circular: an observed regularity prompts the postulation of some mechanism which 'explains' this very same regularity. To break out of this circle, additional evidence (like sign languages and the preverbal thinking of infants) is needed (cf. Itkonen 1997a).

The question of universal grammar is tied up with the question as to whether, or to what extent, the human mind is modular or contains domain-specific information (cf. Cowie 1999: Part III). The most obvious candidate for a non-modular capacity is *analogy*, which also plays a central role in the explanation of language universals. The analogy (and overlap) between language and logic, language and music as well as language and vision shows that these domains are underlain by a common capacity (cf. Itkonen 1999c).

The preceding survey of the linguistic subdisciplines has several implications. Two of them deserve to be singled out in the present context. First, linguistics is the only science (= *Wissenschaft*) which employs every principal scientific method (= conceptual analysis, experimental method, computer simulation, statistical analysis, participant observation, historical method). Second, as argued in Itkonen (1983), the non-autonomous types of linguistics cannot help relying, ultimately, on one or another version of 'rational explanation'.

10) The relevance of history of linguistics to philosophy of linguistics

The preceding account of the nature of linguistics may be tested not only on the basis of its internal coherence but also on the basis of independent evidence, because it makes certain predictions about the *history* of linguistics. If what has been said above is true, the following should also be true. First, grammatical theory has everywhere preceded the emergence of the other subdiscplines (= 'logical primacy entails temporal primacy'). Second, the history of grammatical theory has everywhere been similar to the history of logic and philosophy, and different from the history of the natural sciences. Now, if these predictions are true, my overall account of linguistics is confirmed. If they are false, my account is falsified.

It is interesting to note that the 'world history of linguistics' bears out these predictions in the most dramatic way. Where there have been

genuine linguistic traditions (namely in Sanskrit-speaking India, Tamil-speaking India, Arabia, and the West), grammatical theory has indeed developed first. Where contrary attempts have been made, as in Plato's or Yaska's 'etymology' in Greece and in India, respectively, the result has been an obvious failure. Moreover, compared with the history of the natural sciences, the history of grammatical theory, as measured by the amount of *progress*, has been very short. This is true of every grammatical tradition, but it is especially true of the Sanskrit tradition. I fully accept Kiparsky's (1993) characterization of Panini's (c. 400 B.C.) grammar: "Modern linguistics acknowledges it as the most complete generative grammar of any language yet written, and continues to adopt technical ideas from it." Thus, grammatical theory is the only scientific discipline where the oldest extant description has remained the best (during some 2'400 years). I know from long personal experiencce that people with no previous knowledge of Panini find this fact simply incredible. It can be made more comprehensible, however, by pointing out that Panini's status in grammatical theory is similar to, but stronger than, Aristotle's or Chrysippus' status in logic, and Plato's or Aristotle's status in philosophy. Thus, as predicted by my account, the history of grammatical theory *is* similar to the history of logic and philosophy, and different from the history of the natural sciences. Just think how modern chemistry rates Aristotle qua chemist, as opposed to how modern philosophy rates him qua philosopher (for discussion, cf. Itkonen 1991).

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