ROBERT DE BEAUGRANDE: SPECIAL PURPOSE LANGUAGE AND LINGUISTIC THEORY

Special versus general purpose language

To a considerable extent, linguistic theory has proceeded on the assumption that a given language such as English or Danish should be described in the most general terms. Indeed, the task of linguistics has often been stated as the formulation of a theory general enough to cover all existing languages (e.g. Saussure 1916; Sapir 1921) or even all conceivable languages (Hjelmslev 1943). This approach naturally predisposed linguistic research to seek the most abstract unities and units, and to disregard differences among discourse domains.

For this reason, linguistic theory has traditionally not provided any explicit and well-developed means for defining the status of a special purpose language (LSP). Still, we can consider what implicit means might be inferred and what they could contribute toward a useable theory. In the process, as we shall see, the problematics of LSP shed some light on significant dilemmas in the definition and description of general purpose language (LGP) (cf. Beaugrande 1987c).

One approach would be to regard a given LSP as a language or domain in its own right. We might obtain a taxonomy of varieties like "scientific English" (Porter 1976), "engineering English" (Varantola 1984), "legal English" (Hiltunen 1984), and so on. However, an LSP does not meet the requirements for a language in
the usual sense. Despite the notion of an LSP being "a complete set of linguistic phenomena" (Hoffmann 1979:16), I know of no LSP composed entirely of its own resources. Instead, every LSP overlaps heavily with at least one LGP and is free to use any parts of the latter without express justification. One could not, for example, state the "rules" which determine what parts of the grammar or lexicon of English may or may not appear in scientific English; even the old stylistic restrictions forbidding "sentence fragments" or "slang" have been relaxed in recent years, especially within the discourse of computer technology. Hence, we have more a continuum than a division between LSP and LGP (Varantola 1986).

In addition, any taxonomy would soon show that no clear borders exist between different LSPs in any sense comparable to those between, say, English and Danish. LSPs tend to share much of their resources not merely with LGPs, but also with each other. Even LSPs based on different LGPs often have common cognate resources. LSP thus tends to be more "international", or indeed "universal", than does LGP (Ulijn 1979; Draskau 1983; Varantola 1986), the more so when English terms are being widely borrowed.

Another approach might be to define LSP in terms of "style" or "register" (see Draskau 1983 for discussion). However, investigations indicate that few stylistic factors are consistently found to demarcate the LSP of just one domain, let alone all domains with an LSP (cf. Corbluth 1975; Porter 1976). Some traits, such as a high frequency of passives and impersonal constructions, are characteristic, though not obligatory, at least for English LSPs; but many other traits are freely selected by individual speakers or writers.

Or again, we might view the LSP as "artificial" and the LGP as "natural" (cf. Galinski and Nedobity 1986). However, the term "natural language" is poorly defined in linguistics except by contrast to formal languages, none of which constitutes a full LSP. As Saussure (1916) already stressed, language is not a "natural" phenomenon like the production of noises and cries. Moreover, we know too little about the origin of language and the causes which can change its development, to decide what sort of intervention might count as "artificial". Even where the change of language is treated in great detail, theorists are very cautious about attributing causes (e.g., Saussure 1916; Sapir 1921; Bloomfield 1933).

Yet another approach, one which has gained much currency in recent times, is to emphasize not the language, but the purpose. Typically, the LSP appears in a specific social framework among a limited group of users who have voluntarily learned it (Picht and Draskau 1985). Despite its obvious advantages for fieldwork, this approach does not mesh well with general linguistic theory, in which language is seldom defined in terms of its purpose. More often, purpose is either taken for granted (Bloomfield 1933) or expressly excluded (Chomsky 1965). This trend is to be expected when linguists propose to develop theories independently of so-
ciology or psychology (e.g. Hjelmslev 1943). Even the work on "speech acts" and "conversational maxims" addresses only a limited set of rather abstract purposes like "making promises" or "being relevant".

For the reasons reviewed above, it is far from clear how the standard concepts of linguistic theory could be adequate for defining LSP. One can of course select a domain and run through its linguistic resources in terms of some familiar scheme like phonology, morphology, lexicon, and the like (Praninskas 1968). But surely the major aspect of LSP is its communicative potential, and the latter can be described only in a roundabout and incomplete fashion within such schemes.

Models based on the purpose-centered approach would be simpler to formulate if the acquisition and use of LSP were explicitly regulated. But usually, trainees are not given specific language instruction when entering a specialized domain. Instead, they are expected to spontaneously absorb a specialized vocabulary, along with some standard rhetorical gestures, during the practical initiation into the domain. In some domains, this tactic is handled quite haphazardly, leaving the trainee to infer the meaning of terms from contexts, many of which may not be helpful or representative. At intermediate and advanced levels, trainees are under pressure to use the LSP as a sign of qualification in the domain, and asking experts for explanations may be regarded as embarrassing - the more so as experts are not always skilled at expounding specialized terms in everyday language.

A further problem is that purposes can be quite variable. Only a few seem to apply to LSP at large. The purpose of knowledge transfer is certainly prominent (Picht 1986); but the opposite purpose may also be at stake, namely to hinder outsiders from getting access to specialized knowledge (cf. Sager et al. 1980; Beaugrande 1984a). "Plain language" legislation reveals the growing realization of how this tactic can be deployed to the detriment of citizens and consumers, for instance, by using overspecialized language in contracts. I once had to deliver an opinion on the interpretability of this passage from an insurance policy:

"Residence employee" means an employee of an insured person while performing duties arising out of in the course of employment in connection with the maintenance or use of the residence premises, including similar duties elsewhere, not in connection with the business of an insured person.

How can a person be an "employee" on the "premises", and yet "elsewhere, not in connection with the business"? Fortunately, Florida law requires only a demonstration that a text is ambiguous, not that it was in fact misunderstood by the plaintiff.

Evidently, the status and stability of a specialized domain affect that of its LSP in multifarious and unpredictable ways. To clarify this aspect, we will need dynamic models of communicative
processes, not just the static descriptions of language structure propounded by general linguistic theory. Eventually, the latter may be restated in terms of the former, especially if "linguistic discussion" can be analysed as a special communicative domain (Beaugrande 1984b, 1987a, b). But at present, we should not be unduly constrained by trying to keep our models within the frameworks of established linguistics.

2. Special and general control

A top-level distinction could be drawn between communication among specialists only (SSC) and communication between the specialist and the general audience (SGC). Authorities agree that SSC and SGC are - or should be - kept clearly distinct in both theory and practice. Considerable confusion results when the needs of SGC are abridged for the convenience of specialists. The most serious result is a widespread uncertainty about how far the specialized meaning of a text may differ from more general meanings.

Picht (1986:21, my trans.) emphasizes the high slope of "information density and complexity of specialized discourse". This rise is normally traversed by the trainee and thereafter treated as a presupposition by the expert. The acquisition of the LSP is achieved when the trainee can deploy it to effectively manage the specialized contexts of the domain.

However, the degree of density and complexity can vary considerably from one context to another. In a "normal science", the background of presuppositions is rather stable, and uncertainties are constrained within the structure of the accredited "puzzles" (cf. Kuhn 1970). But in a scientific "crisis", the meaning of even the most fundamental terms is likely to be destabilized, such that adherents of one "paradigm" can hardly communicate with those of another. This impasse impedes negotiation between alternative interpretations and thus relegates the conflict between paradigms to the sphere of personal and academic power politics.

The status of any LSP thus depends on that of its domain. No LSP can be permanently adequate for its domain, though it may survive a "scientific revolution" with relatively minor changes. In linguistics, for example, the shift from "descriptive" to "generative" paradigms retained much of the terminology, though considerable additions were made (cf. Bugarski 1983; Beaugrande 1987b).

One powerful measure of the "complexity" of a domain is its control structure (Yates and Beaugrande 1987). In essence, "control" is a process for manoeuvring the ratio between determinacy and indeterminacy (Beaugrande 1987a,b). In the most abstract terms, control is a hypothesis of limited indeterminacy. To control something is to make it less indeterminate, or at least to proceed as if doing so. The more familiar concept of "control" - as the capacity to intervene in the world such that the relation between the current state and some set of related states is neither pure chance nor pure necessity, but affected in some way(s) spe-
cified by the controller - is a special case of this. Success does not actually prove that control was exerted, since the same outcome might conceivably have happened anyway. Hence, control remains a hypothesis that can be strengthened, though not verified in any absolute sense.

In a "complex" domain, control is not uniform, but distributed (Beaugrande 1987). The domain is organized into "levels" where it strongly seeks to maintain control over itself or its "world", and levels where it does not, or does so only weakly. This distribution can radically affect how something is perceived and treated. A control level is more prone to objectify the world and to impose stability, identity, and causality, because these aspects help to maintain control and limit indeterminacy. A control level also favors "dimensionality", i.e., parameters susceptible to measurement and alteration, such as time and space, or force and mass (Yates and Beaugrande 1987).

This conception emphasizes the dynamic nature of complexity. To judge whether and how far a given domain is complex, we need to monitor its interactions in particular contexts and observe the degree of integration: the imposition of organizational frameworks on groups of events. Both the domain's own combinatorics and the mutations of its environment lead to rises in complexity. Observing such rises opens up an evolutionary perspective, so that we can explore not just the current complexity of a domain, but also the processes whereby a domain can become complex by integrating further contingencies. The evolution of a domain can be modeled as the process of shifting control among levels, i.e., of redistributing ratios of determinacy and indeterminacy. The domain's resources are economized by directing energy away from the level(s) transposed from more determinate over to less determinate status. This approach may be more tractable in cases where, as in natural language, the current degree of complexity is so advanced as to constitute a powerful obstacle to the design of theoretical models.

The relation between a special and a general domain is not the same as that between a simple and a complex one. Both the special and the general can be quite complex, as is in fact the case with LSP and LGP. However, the distribution of control is likely to be distinctive. The more specialized the domain, the more focused its control levels are likely to be - the more precisely its users know what they want to control. Consequently, the special domain will typically appear more determinate or deterministic.

The philosophy of science draws a familiar distinction between "models on theory", which both satisfy a theory and specify it under given conditions; and "models of data" arising from observations and measurements made on forms or processes (cf. Yates 1987). The intersection of the two model-types can best be described not in terms of a static set-theory as proposed by Suppes (1969), but in terms of a structure of complementarity wherein each side "controls" the other by limiting its indeterminacy. On the one hand, the theory "controls" its data by assigning the
latter some set of constraints, among which dimensionality is the best-known kind. On the other hand, the evidence or data "control" the theory by manifesting from case to case a more bounded determinism than the theory strictly requires. In a well-functioning "normal science", this complementarity chiefly demarcates a falling curve of indeterminacy over time, despite occasional fluctuations. In a "scientific crisis", however, the curve is predominantly a rising one: models of both kinds proliferate, yet theories and data insistently remain open to multiple and irreconcilable interpretations.

The LSP developed by a science is intended to assist control by codifying relevant definitions, descriptions, classifications, explanations, and so on. The LSP supports the integration of complexity by designating the focal points of the conceptual framework wherein theories and data complement each other. But as materials accrue, the terms of the LSP may be extended and expanded without due consideration of implicit indeterminacies. Eventually, the terms begin to have disintegrative effects by designating fuzzy classes of diverse, even incompatible entities. A case in point would be the term "sentence" in the LSP of linguistics: it has been variously used to designate a structural unity of subject plus predicate, a segment of speech spoken alone, a conceptual structure of "proposition" or "predication", a "speech act", and so on. In each case, the term plainly "means" something different, and much confusion has arisen by not appreciating the differences.

No LSP can ever be made definitively determinate. Efforts to do so encounter an ineluctable trade-off: to make an LSP highly determinate, we must make its relation to its domain correspondingly indeterminate. The more precisely and specifically the terms of the LSP are defined, the harder it becomes to decide just when an instance of data fits the definition. In linguistics, for example, early attempts to define the "word" in a rigorous and formal way showed rather that (apart from its written form) the "word" has neither an internal structure nor a contextual function that definitively sets it apart from the morpheme and the phrase in all languages (Sapir 1921; Bloomfield 1933).

For these reasons, the status of an LSP is a sensitive indicator for the status of a domain, especially of a science, as it moves through rhythms wherein control is expanded and retracted, raised and lowered, and periodically redistributed. Any specialized terminology eventually outlives its usefulness, having been proposed for a partial set of data and incorporating presuppositions that necessarily background some factors we may later find to be important. Thus, the LSP of a "normal science" may create a misleading impression of clarity and unity merely because its terms are familiar, even when they have in fact become vague and diffuse. Then, major progress can be made only by focusing on the LSP and gauging its patterns of indeterminacy with respect to the domain they stake out.
Linguistics might be the proper "metascience" for this task, but only if its own LSP is accordingly designed. So far, however, linguistics has by no means resolved the problems of indeterminacy in its LSP. The problem is particularly acute because the discourse of the LSP shares so much with the discourse in the designated object domain, namely LGP. Linguistics cycles around inside language as it moves between its object and the description of that object. This movement would ideally be regulated through a carefully controlled mode of translating between LGP and LSP. But to date, no such regulation has been widely practiced. And the major reason is, I believe, that linguistics has customarily searched for deterministic models, as symbolized by the Saussurian motto stating (in my reading of it) that in language, everything holds everything else in place ("dans la langue tout se tient").

In consequence, the description of a language is widely expected to be statable in deterministic terms; and the analysis of linguistic examples is expected to be exhaustive and to arrive at the ultimate constituents of the language (Hjelmslev 1943). This demand stretches the ingenuity of the investigator. On the one hand, the linguist never knows enough - never knowing the entire LGP nor the entire range of its specialized discourses. On the other hand, the linguist always knows too much - always being a skilled observer, understander, and interpreter of LGP, with considerable training beyond that of the language community in general. The question remains: for whom does the linguist "speak"?

This question is extremely urgent because any description produced in the LSP of linguistics purports to represent the typical speaker’s knowledge of the LGP. Yet the linguist’s own knowledge is that of the specialist equipped with a peculiar metalanguage. The very act of understanding is itself a control process that limits the indeterminacy of what is being understood. Hence, the linguist’s own understanding of the data strongly controls how the description will proceed. Traditionally, this factor was left implicit, and the analysis of data by segmentation and classification was presented as a fully objective act. This tactic befits a concept of scientific "empiricism" that "suppresses the constructive role of operations" by the perceiving "subject" (Piaget 1976:132).

My argument so far indicates that linguistics cannot provide the means for developing theoretical models of LSP until it has greatly clarified the relation between its own LSP and any given LGP. And this task in turn requires an account of how the LSP of linguistics does or should work as a control structure (Beaugrande, in preparation). Thus, linguistics must address the issues of LSP as an essential prerequisite to establishing its own status in respect to LGP.

Meanwhile, linguistics seems to be undergoing a recalcitrant "scientific crisis". Models are continually proliferating, and the modes they offer for controlling and interpreting data are
frequently inconsistent or even irreconcilable. Integration is largely mimicked by fragmentation, with each specialized model gaining its unity and formality by isolating itself so strongly that the total domain appears disintegrative. Terminology is fuzzy and idiosyncratic, even in regard to the most basic conceptions like "sentence" and "word". Only a thorough analysis of the evolution of linguistics into a complex LSP can be expected to attenuate this crisis.

The relation between this LSP and LGP may be pictured in at least five possible scenarios (Fig. 1). 1) The LGP includes the LSP (Fig. 1a): the activity of "doing linguistics" is just one more instance of language use, not different in kind from other forms. 2) The LSP includes the LGP (Fig. 1b): the activity of "doing linguistics" has language use as one domain within its larger, more abstract study of the general formal, combinatorial, and organizational properties of languages. 3) The LSP is separate from the LGP (Fig. 1c): the activity of "doing linguistics" is an independent one from that of performing language use, perhaps in the way that "doing chemistry" is separate from the process of iron rusting. 4) The LSP disturbs the LGP (Fig. 1d): the activity of "doing linguistics" suspends the processes of language use in order to scrutinize, generalize, objectify, formalize, and so on, perhaps in the way that "doing biology" entails starving, injuring, or killing living organisms. 5) LSP and LGP overlap, but neither contains the other (Fig. 1e): the two activities share some properties, but neither can be fully subsumed by the other. Linguistics studies other aspects of language besides those apparent in language use; and never gets the entirety of language use into its scope of vision.

The state of linguistics so far does not indicate any wide consensus about which of these five scenarios is the most appropriate. Each may have a certain valence in particular contexts. But I find an increasing consensus among LSP researchers that a thorough clarification of the relation between LSP and LGP should be an urgent priority for linguistic theory. I would add that this task is also the most strategic way to estimate what linguistics can tell us about any language, whether special or general. Hence, any amount of strenuous effort needed to rethink linguistic principles and categories would be well worth it. Indeed, the outcome would have paradigmatic force not merely for the science of language, but also for the language of science.

Fig. 1. Five scenarios for the relation between LSP and LGP
References

Editor’s Note:

Professor Dr. Robert de Beaugrande’s Introduction to Text Linguistics is to be revised. In this connection, the author would appreciate any LSP-related bibliographical material and information about research on LSP translation and terminology, using the techniques and strategies of text linguistics. This information should be sent to:

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