

# Theory and application in linguistics: the issue of complexity

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*Robert de Beaugrande*

Crump Institute for Medical Engineering  
University of California, Los Angeles  
and

Institute for the Psychological Study of the Arts  
University of Florida, Gainesville

## 1. Theoretical versus applied linguistics

1.1 Science is conventionally believed to explore «things as they are». This approach works best for domains whose nature and existence appear to be fairly independent of human cognition. The best-secure domain is doubtless the physics derived from classical or Newtonian mechanics, such as a description of the motion of planets. The «new» physics derived from quantum mechanics complicates matters considerably by acknowledging that the acts of observation and measurement determine, and not merely record, the behavior of physical entities at the subatomic level. Hence, the universe can no longer be viewed as an independent physical reality (Bohr 1934).

1.2 The human sciences face a still more intractable dilemma in defining their domain, whose existence and essence constantly and irreducibly depend on human awareness. To gain access to the domain at all, the investigator becomes involved in constituting hypothetical relationships between manifest occurrences and underlying human processes. Although this relationship may be meaningful only in the immediate context of the occurrences, science strives to generalize and consolidate its results by abstracting away from individual contexts. Consequently, the human sciences remain profoundly perplexed about how far to include contexts when describing theoretical and empirical entities.

1.3 This dilemma is peculiarly acute in linguistics. The history of this discipline and of its attempts to establish itself as a science reveals a continuing perplexity about the treatment of contexts. The basic trend was set when Ferdinand de Saussure (1916) defined the «langue» «as a purely relational structure, a pattern, as opposed to the usage» («parole») in which «this pattern is accidentally manifested». The language as a «langue» was thus postulated to exist independently of all the contexts wherein it is used.

1.4 Yet the reality of language is always derived from actual occurrences (Hartmann 1963a, 1963b). The abstract system never steps forward in its absolute selfhood. The «manifestations» of «usage» are not at all «accidental», despite Saussure's claims, but essential to the very identity and nature of

language data. No linguists can make any statement about language without referring to their own experience in contexts. Without that experience, linguists could not know the language or know what language is, well enough to investigate, describe, or model it. Any artifact of language, such as a word, phrase, or sentence, is ultimately derived from some event of its use.

1.5 Consequently, linguistics did not really escape from contexts, but rather became one more context of language use. That is, linguistics became a special form of discourse that is both in language and about language (Beaugrande 1984b). To the extent that language is highly adaptable to contexts, then its status may be fundamentally affected by this new context. The forms and functions assumed by language are decided by the interests and procedures of the inquiry. Should linguists believe that a language is an abstract system of structures composed of «differences» or «oppositions» among its elements, as Saussure argued, then the language can indeed be perceived as such. «A structuralist is not one who discovers structures, but one who makes them» (Martinet 1962: 59). Yet linguistics emerged when «science» was dominated by an «empiricism» that «suppresses the constructive role of operations» performed by the «subject» who «elaborates structures» (Piaget 1976: 132).

1.6 Linguistics has thus been chiefly an enterprise that makes and elaborates structures but fails to consider how far this activity determines the nature of the language being «described». In the worst case, the «description» might purely be an artifact of the context of «doing linguistics» and not extend beyond that context. In the best case, the «description» might cover all the aspects of language that holds for all contexts. The actual situation lies, I think, in between these two extremes: the «description» applies to some features discoverable in many contexts, but does not show which ones they are not which are missing. So far, theoretical linguistics has been distressingly unconcerned about demonstrating just how its special «object» is related to the language used in real-life communication.

1.7 Among the most striking properties of language is the huge variety of uses it can serve. It might seem that no theory could possibly cover all these uses, at least not in any detail. At most, we could formulate some general principles that can be specified and completed for each type of use. If linguistics constitutes one such type, we need to consider what purposes linguistics is intended to serve. I would accordingly propose that theoretical linguistics cannot validly be situated except with regard to applied linguistics. Until we know what applications are required, we do not have adequate strategic criteria for deciding which of the many variegated aspects of language should receive the main emphasis (Beaugrande 1983).

1.8 In the domain of phonology, where those aspects are relatively compact and surveyable, the decision about applications might be postponed without undue risk. But the risk is much greater for the more complex and variable domains of syntax and semantics. There, theoretical linguistics has supplied an explosion of formalisms whose relation to the realities of language remains fundamentally indeterminate. This situation might have been

attenuated if more concerted attention had been given to applications.

1.9 In this perspective, the customary isolation of applied linguistics from theoretical linguistics appears particularly unfortunate. Many theoreticians have acted as if applications were unworthy of serious consideration. The motive behind this attitude may have been to evade the challenging responsibility of supplying theories that could effectively aid the improvement of language skills in society. That goal would set more rigorous criteria of success and failure than those bearing upon the abstract design of theories.

1.10 Traditionally, «applied linguistics» has been limited to the one-way attempt to convert already established linguistic theories into developmental and instructional tools (compare survey in Wienold 1973). This conversion is quite problematic when the theories themselves have been expressly abstracted away from the contexts of language use. Applications then tend to fall outside the original scope and intention of the theories and to rely on ad hoc extensions or extrapolations. The production of an utterance is not the same order of activity as its formal description, whether structural or generative. Production is necessarily subject to such conditions as motor control, attention, memory, and motivation. Formal description simply takes it for granted that the utterance is already produced, and selects certain categories to designate its formal arrangement. The same disparity holds between comprehension and formal description. The fact that the formalist has in some sense produced and comprehended the utterance is not considered a proper object of explicit investigation.

1.11 That the attempts to apply such theories as «transformational grammar» have been largely disappointing should therefore not surprise us. The set of facts such a «grammar» proposed to describe independently of «performance» has little direct relevance for the tasks of application, which always depends on the conditions of production and comprehension. I propose we should now turn the priorities around. Instead of asking how already formulated abstract theories can be applied to real language tasks, we should ask what sort of theories should be designed to provide the best support for those tasks. This project could be instrumental in specifying the cultural and linguistic contexts that deserve to be accounted for in scientific descriptions or explanations.

1.12 Whereas the conventional «synchronic» perspective assumes the language to be a complete, stable system shared by all users, any real language user's system is incomplete and evolving. Each user has internalized not the entire language, but rather a model of the language, with the limitations and approximations peculiar to that person's experiences and abilities. In this sense, acquiring a language means revising one's model of it through a succession of stages. What gets performed or learned on any one occasion depends on the user's current model. Therefore, instructional applications cannot be directly derived from a uniform theory about some idealized version of the entire language. Instead, we must strive to model the succession of stages whereby learners can expand and improve their

knowledge of the language.

1.13 To determine which aspects of a language an applicable theory could address, a crucial distinction should be made between those aspects of the language that are likely to be managed through induction from ordinary language experience, versus those aspects that are likely to create problems. This distinction was implicit in traditional grammars to the extent that they were selective and placed the greatest emphasis on common problems. But the prescriptive and proscriptive tendencies of those grammars were often misleading in representing the language not as it is, but as it should be in the grammarian's opinion. If the only admissible model is the grammarian's idealization, the actual basis for any acquisition -- the learner's current skills and knowledge -- is not recognized as a model in its own right, but as most a disorderly collection of gaps and «errors». Hence, users whose current model doesn't fit are encouraged to believe that they don't genuinely know the language at all. And users who consider themselves «incompetent», rather than merely «less competent», can hardly have confidence in becoming more competent, since they wrongly assume they have nothing to build upon.

1.14 To fundamentally change this state of affairs, linguistic research must embark on an urgent program. First, we will need an accurate description of current usage, a project already inaugurated in fieldwork (e.g. Kurath 1949; Labov 1972; Quirk, Greenbaum, Leech & Svartvik 1972, 1984). These already available studies indicate the nature and extent of variation determined by geographical, social, and cultural influences.

1.15 Second, we need research on the responses of particular social groups to language variation. This stage is considerably less well-explored than the variations themselves, but some groundwork has been laid (e.g. Leonard 1932; Dittmar 1976; Greenbaum [ed.] 1977; Greenbaum & Taylor 1977; Hairston 1981). Linguists who resolve to limit their work to description and formalization typically incorporate their own attitudes and disregard those of non-specialists who encounter variations in everyday communication. To a linguist, the latter kind of attitudes may seem irrational, intolerant, or misguided; but they are nonetheless a part of social reality and can have significant consequences for personal interaction.

1.16 Third, we need research on the force and relevance of motives for positive or negative judgments about language. This question has hardly been explored so far, but offers the only rational means for judging the status of public attitudes and values. We must probe the extent to which variations in usage and performance can genuinely support or hinder communication. A communicative intention may succeed or fail as a performed action for various reasons, some of which are related to the current skills of the participants and not merely to extraneous circumstances such as momentary distractions (Beaugrande 1984a).

1.17 Fourth, we need research on the factors that systematically mediate between intention and action and thereby determine the success or failure of a communicative event. This research would be the most directly instrumental in isolating the strategic controls upon the acquisition and use of language.

Obviously, there can be considerable divergence between the intention to communicate and the actually resulting text; normally, many other possible texts could have been produced whose consequences would be more or less analogous, depending on the prevailing context. Thus, values could be reintroduced not as unquestioned attitudes, but as implications of utilizing certain language options rather than others. The language teacher could then present the options and their consequences, rather than simply enforcing public attitudes as immutable and unaccountable «rules».

1.18 Once these various stages of research have been carried out, we can finally proceed to the design of new instructional methods and materials. With such foundations, these applications could greatly improve the chances of influencing real language skills. Otherwise, even a practical method with clearly positive effects remains mysterious because we can't say why it works. And so far, no method seems to work very reliably for the great majority of learners throughout English-speaking societies. Success appears to be largely a chance factor depending heavily on the prior conditioning and imaginative talent of specific learners; other learners succeed only in limited, sporadic ways, or not at all.

## 2. Language complexity in theory and application

2.1 Language complexity is one factor we can use to explore the disparate concerns dominating theoretical and applied linguistics and some ways in which these two domains might interact. To say that a given type or sample of language is «complex» is to presuppose some standard or measure; yet complexity is not a well-defined concept, even in physics or system theory (Yates & Beaugrande 1978). In general, a «complex» entity has a large number of parts, interactions, and degrees of freedom (i.e., unrestricted variables). But numerosness is neither a necessary nor a sufficient condition for complexity; a disorganized mixture like a sand pile has many parts, but is not complex. Evidently, complexity depends the degree and elaboration of relations and interactions among the parts of an entity.

2.2 In conventional linguistic theory, «complex» was defined in terms of constituency. Specifically, a «complex» structure is one containing at least one constituent that cannot stand by itself. In morphology, a «complex word» has at least one «bound form» as an immediate constituent, i.e., a form that must always occur with another form, such as the prefix «un-» or the suffix «-ly». In syntax, a «complex sentence» has at least one «dependent clause», i.e., a clause that cannot constitute a sentence by itself. A more recent measure derivable from «transformational grammar» would rate complexity by the number of rules for «nesting», «embedding», «recursion», and so on, required to describe the structure of a sentence. In all these uses, a «complex» item can be easily identified through a simple test. We merely look for constituents that could not appear alone according to the grammar of the language; or compare a structure to some simpler version of it and figure how many transformations are needed to go from the one to the other.

2.3 But these standards are not very helpful to the applied linguist. Naive language users do not possess a secure sense of the formal properties and boundaries of words, phrases, or sentences. For example, one problem unskilled writers have is punctuating a dependent clause as a sentence (Beaugrande 1985). What is stipulated by the abstract «grammar» is evidently not equally well-defined for all users of the language. Hence, we need some model of language knowledge at a less idealized stage than that usually presupposed in theoretical linguistics.

2.4 For the actions of producing and comprehending a text, complexity could be procedurally described as a measure of organizational work relative to obtained results. The act of composing a structure out of more elementary parts may be more or less effortful, according to the user's current skills. To be sure, this applied, procedural conception does not coincide very well with the theoretical, formal conceptions of 2.2. A «complex» word or sentence in the formal sense may or may not seem complex to its users. For example, «impenetrable» is morphologically complex, having two bound forms («im-», «-able»), whereas «phot» is not; but most people would find the first word simpler to use than the second. Looking at texts, we would probably agree that (1) is only syntactically complex, (2) is only procedurally complex, and (3) is both:

- (1) ¡Cuántos debe haber en el mundo que huyen de otros porque no se ven a sí mismos! (*Lazarillo de Tormes*)
- (2) Tu vientre es una lucha de raíces,  
tus labios son un alba sin contorno,  
bajo las rosas tibias de la cama  
los muertos gimen esperando turno.  
(García Lorca, *Casida de la Mujer Tendida*)
- (3) Voy volando  
que aquella sangre fría  
que con tímida voz me está llamando  
algo tiene de la mía;  
que sangre que no fuera  
propia, ni me llamara, ni la oyera.  
(Calderón, *La Devoción de la Cruz*).

Such differences suggest that the formal conception of complexity in traditional theoretical linguistics is too narrow for the needs of applied linguistics.

2.5 «Psycholinguistics» is a domain of research founded on the thesis that linguistic theories have some psychological reality in human processing. Numerous experiments were conducted under the assumption that syntactic complexity determines procedural complexity. The theoretical model was sometimes immediate constituent analysis (e.g. Johnson 1965, 1966), but more often transformational grammar (e.g. Miller 1962; Mehler 1963; Coleman 1964). In the latter, complexity was a function of the number of rules needed to

move from a «kernel sentence» or «deep structure» to the «surface structure» of a given sample (2.2). Passives should be harder to process than actives, negatives harder than affirmatives, and so on. The prediction that more complex syntax would be harder to process was sometimes confirmed, though not always (cf. Levelt 1978).

2.6 The reason why the findings were not consistent can readily be imagined: syntactic factors are certainly not the only ones that affect the effort of processing. Apparently, the impact of syntactic patterns depends on the relative complexity of the conceptual organization. Syntax is more crucial during short-term processing; the length, complexity, and type of a sentence soon loses their effects (Sachs 1967; Taylor 1969; Brandsford & Franks 1971). Though easier to read, syntactically simple sentences rapidly cease to yield advantages in speed or accuracy for answering questions about content (Kintsch & Monk 1972; King & Greeno 1974). Syntactic complexity is thus a transient factor, affecting the shallow, earlier stages of processing more than the deeper, later ones.

2.7 An equally important factor in communication is «focus», that is, the use of word patterns to draw more attention to some items than to others. Focus has a strong influence on the decision to create one sentence structure in preference to another, e.g. a passive instead of an active. Syntactic theories specify only the options, but not the decision-making procedures (Osgood 1963: 742). «The job of syntax is not central but rather peripheral in ordinary language -- merely accommodating lexical decisions made on the basis of the fleeting interests and motivations entertained by speakers» (Osgood 1971: 529).

2.8 Deciding between active and passive sentences is a good example. Syntax alone might predict that passives, being longer and having more constituents, are always harder to produce and understand than actives (cf. Coleman 1964). But from a procedural standpoint, the passive is preferred when the subject of the passive sentence surpasses the agent (that would be the subject of the corresponding active) in (a) animateness (Clark 1965); (b) size (Johnson-Laird 1968; Flores d'Arcais 1974); (c) earlier perception (Prentice 1967; Turner & Rommetveit 1967); (d) focus of attention (Tannenbaum & Williams 1968; Olson & Filby 1972); (e) imageability (James, Thompson, & Baldwin 1973); or (f) prior mention (Hupet & Le Boudec 1975). These findings show that in appropriate contexts, the syntactically more complex option is in fact simpler and more natural to use. Here too, the standard theoretical notion of complexity in linguistic analysis does not predict the complexity of human discourse.

2.9 The same problems found in psychological research also appear in a sociological perspective. The belief that the complexity of a person's language is a reliable indicator of his or her social and intellectual status pervades contemporary Anglo-American culture, yet has seldom been explicitly defended or critiqued. Middle-class educators tend to accept syntactic complexity without question as a desirable goal for learners. The underlying reason may be that middle-class dialects have been dominated for so long by

the model of writing, a mode in which syntactic and structural options were elaborated and differentiated to compensate for the absence of the intonational and non-verbal options available to spoken language. Since the more privileged classes of society had had literacy-based schooling much longer than other classes, the preference for syntactic complexity, through a historical accident, was readily interpreted as a social and intellectual advantage.

2.10 Research incorporated this interpretation. Middle-class dialects were indeed observed to manifest more syntactic complexity than working-class dialects (Bernstein 1962). Bernstein's (1964) dichotomy between an «elaborated code» with more options, and a «restricted» code with fewer options, is based entirely on syntactic complexity. From there, researchers drew the facile conclusion that syntactically simple language is proof of a deficit in cognition and experience. For example, Bereiter and Engelmann (1966: 36, 39) were misled by spoken samples of Black English to conclude:

Disadvantaged children (...) blend the words together with noises that take the place of words and inflections they do not know (...) this leaves no distinctive units that can be recombined to generate new sentences (...) many disadvantaged children of preschool age come very close to a total lack of ability to use language as a device for acquiring and processing information.

The idea of «complex» words and sentences having many constituents (2.2) seems to have been extended: if those constituents are not clearly demarcated, the functions of language are impaired. Yet only from the standpoint of an external system (Bereiter and Engelmann's own middle-class dialect) do such aspects appear as gross deficiencies. Black English has its own means of elaboration and differentiation (cf. Labov 1972; Scott 1979), using tones of voice and non-verbal actions for rich nuances that middle-class «standard» English reflects with syntactic variety. These means go undetected when the investigators can only identify the signals (e.g. inflections, conjunctions) that predominate in their own system. A difference in two systems is then misconstrued by users of the first as a cultural deprivation among users of the second.

2.11 Such attitudes have their correlates among the general population. Complex language is often deliberately deployed as a marker of authority, particularly by officials and bureaucrats. Usually, this complexity is both syntactic and procedural. The result is a brand of language that makes the content seem substantially more complicated and confusing, as in:

(4) Los extranjeros documentados por la Secretaría de Gobernación con visa de No Inmigrantes, Forma Migratoria FM9 (Estudiantes) que se internan al país con vehículo y FM 6 (Transmigrantes) en tránsito hacia otro país con dos o más unidades, deberán otorgar fianza de compañía autorizada que garantice los impuestos aduanales y multas



correspondientes. (*Permiso para Importación Temporal de Vehículos Terrestres*, México).

2.12 Applied linguistics faces a difficult situation. Are we to construe language complexity as (a) a *cause*, that is, a direct enablement of social and intellectual advancement; (b) a *symptom*, that is, a typical signal of social and intellectual capacities; or (c) a *coincidence*, that is, a chance factor that some people happen to possess in addition to other skills? So far, it remains unclear whether language complexity is a necessary, sufficient, or accidental condition for higher social and intellectual status.

2.13 We return to our original problem (1.2ff), namely, how far contexts should determine the relevant categories of investigation. The conventional linguistic theories offered a concept of complexity that seems relatively free of communicative contexts, except for the special context of doing morphological and syntactic analysis (2.2). For that purpose, it was taken for granted that the structures of various words or sentences can be compared in terms of their formal constituents ; and that simpler structures are more basic to language (and to knowledge of a language) than complex ones. But this viewpoint is a mere conjecture entailed in the design of the theories. Empirical research suggests that this kind of «linguistic complexity» is only one variable aspect of procedural complexity. So we still need a concept of complexity that would be more adequate for applied linguistics trying to find out how people deal with complexity, and how suitable training might be provided.

### 3. Educational consequences

3.1 For language education, the major question would be how suitable programs might be devised to improve the learners' ability to produce and understand complex discourse. From a psychological standpoint, the goal would be to alleviate the difficulties people have processing complex discourse in daily practice. From a social standpoint, the goal would be to balance out any social deficits related to lack of skills in managing language complexity. At present, the empirical support is more compelling for the psychological goal than for the social one; but many people do associate complexity with social status, whatever their justification.

3.2 Language educators who place great emphasis upon grammar are prone to encourage learners to manifest complexity of the conventional linguistic type discussed in section 2. Research indicates that a text composed in a complex style is often believed to convey better ideas or arguments than the same text composed in a simpler style (e.g. Williams 1979). Kinneavy (1979: 11) interprets such findings as evidence that «the ordinary English teacher, whatever he says he grades for, really seems to grade a theme by the quality of its sentence structure». The learners may conclude that complexity is a desirable goal in itself, regardless of context or situation. The bias thereby perpetuates itself to the detriment of fluent communication. As

Shaughnessy (1977: 87) remarks, «the inexperienced writer draws on the same circumlocutions as the bureaucrat, who uses these syntactic strategies deliberately, as a way of blurring and suppressing information.»

3.3 In a related fashion, educators tend to assume that learners should be taught to write steadily more complex sentences as age increases. Traditional composition textbooks «appear to assume that we think naturally in primer sentences, progress naturally to compound sentences, and must be taught to combine the primer sentences into complex sentences -- and that complex sentences are the mark of maturity» (Christensen 1963: 155). Though this equation of syntactic complexity with maturity is extremely problematic, it is widely accepted. When Hunt (1964: 50; 1965: 5) concluded by comparing samples from fourth, eighth, and twelfth graders that the length of main clauses is the most «valid index of maturity in writing -- at least in the early grades», he warned that «the word 'maturity'» meant merely «'the observed characteristics of writers in an older grade.' It has nothing to do with whether older students write 'better' in any general stylistic sense.» Similarly, Mellon (1969: 15f) «stipulatively defined» the «maturity of sentence structure» in «a strictly statistical sense, in terms of the range of sentence types observed in representative samples of student writing.»

3.4 «Maturity» properly designates an advance in the processes traversed between childhood and adulthood. In the research just cited, certain researchers have taken a common, but not necessary *symptom* of these processes and reinterpreted it to be a *cause* or a *defining feature*. The thesis is then: «if children in a lower grade level intensively practice that skill which enables older -- more 'mature' -- students to produce writing characteristic of *their* own level, then such practice will help accelerate the younger children's maturation as writers» (Kerek, Diaker, & Morenberg 1980:1068).

3.5 A dominant trend in theoretical linguistics was accordingly applied along these lines. The result was a technique known as «sentence combining»: applying transformational grammar informally to make longer, more elaborated sentences out of shorter, simpler ones (Bateman & Zidonis 1963; Hunt 1964, 1965; Mellon 1969; general survey in Kerek et al. 1980). Sentence-combining research became popular because investigators needed only to perform mechanical tabulations of linguistic items: numbers of words in a clause or sentence, number of clauses in a sentence, and so on.

3.6 However, these complexity shifts are not the only differences related to the age level, nor are they necessarily related. Loban's (1972) study covering twelve years observed a general rise in complexity with increasing age, but specific constructions proved to be unreliable signals. «Frequency count indicators of growth become equivocal when applied to specific usages, because linguistic devices are often substitutable for one another, so that the increase in the use of one may result in the decrease in the use of another» (Bereiter 1980: 76). A maturing writer might prefer many other constructions besides the dependent clauses counted both in sentence-combining research and in social investigations of language and status in England (Bernstein 1962)

and Germany (Oevermann 1970). Perhaps sentence-combining projects reflect an unacknowledged ambition to propagate features of middle-class dialect under the designation of «maturity».

3.7 A more promising approach would be to seek a more encompassing conception of complexity as an experience of multiple, elaborate relationships. Discourse that is «complex» in this sense is not necessarily obscure. We can classify the reactions to complexity into at least three types (Beaugrande 1987; Yates & Beaugrande 1987). First, the mind may *simplify* the materials down to some manageable level. Second, the mind may *integrate* the complexity by creating a suitable elaborate framework to organize the materials. Third, the result may be *disintegrative* when no such framework is established and processing breaks down or attains useless results. This third type is the most damaging reaction, making people feel confused, disoriented, or overstrained. If for some motive they cannot obtain assistance or clarification, they may also feel frustrated or inadequate.

3.8 Our task could accordingly be specified as providing explicit, workable means to simplify or integrate complexity as suits the occasion. We must correct the belief of many text producers that difficult content should be presented in equally difficult discourse. The result is that many domains of knowledge are kept inaccessible to everyone except specialists, who are themselves often misled by obscure discourse. Hence, educational programs need to work at both ends: helping people to speak and write more clearly, and to listen and read more comprehensively.

3.9 Within this broad perspective, syntactic complexity constitutes one factor interacting with others in particular contexts. The crucial skill would be not to increase syntactic complexity, but to recognize relative degrees of it and to decide how it should be increased, kept constant, or reduced. The main criterion would be whether the syntactic complexity is likely to have an integrative or a disintegrative function (3.7). As a general principle, complex syntax helps to integrate easy or familiar content, but hinders the integration of difficult or unfamiliar content.

3.10 Relative degrees of complexity can provisionally be recognized by comparing sample passages. For example we might find that complex syntax presents no difficulty to comprehension in (5), somewhat more in (6), and much more in (7):

(5) A los sujetos esos le llevaron un coche para que reparasen el techo corredizo que estaba atascado...y cuando ya lo habían abierto, se dieron cuenta de que el coche del techo corredizo era el de al lado. (Ibáñez 1985: 53).

(6) El sistema comunicativo que Lotman identifica con su noción de texto se puede dejar traducir en el ámbito cinematográfico como el proceso de producción signifiante que, por una parte, consiste en la división, estructuración y fijación de una visión del mundo - o parte de él - cuyo resultado es el film, y, por otra, la relación afectiva, sensorial y

conceptual del espectador con ese resultado. (Hernández-Esteve 1981:269).

(7) Como observación preliminar, quizá obvia, quiero señalar que aunque hablemos de símbolo léxico, es decir, de la representación de un objeto-acción a través de un término con el que mantiene una relación no-denotativa, la significación del símbolo desborda ampliamente el significado del término utilizado para la representación del símbolo. (Alonso-Hernández 1981: 169).

The difference is due to the relative unfamiliarity or abstractness of the content, and to the thematic arrangement. Whereas (5) is offered as an anecdote from everyday life, (6) and (7) are taken from a colloquium on semiotics (Alonso-Hernández [ed.] 1981), (6) dealing with cinematography, and (7) with the function of symbols. The narrative structure of (5), integrated in terms of time, place, agent, and so on, makes comprehension quite easy. (6) presents a comparison between the film as a vision of the world and the spectator's response; the two points of orientation, related somewhat weakly in time and causality, are at least clearly marked with «por una parte» and «por otra». (7) is much more abstruse, describing abstract symbolic relations rather than concrete items like «film» or «spectator». Therefore, the complex syntax adds to the difficulty of (7) considerably more than to that of (5) and (6).

3.11 We can conclude that the need for revision is more acute for the more difficult samples. Simplifying the syntax of (5) leads to a choppy, trivial style, as in (5a):

(5a) A los sujetos esos le llevaron un coche. Querían reparar el techo corredizo. El techo estaba atascado. Pronto lo habían abierto el techo. Luego se dieron cuenta de una cosa. El coche del techo corredizo era el de al lado.

On the other hand, a simpler version of (6) seems like a genuinely more readable text (6a):

(6a) La noción de texto de Lotman identifica un sistema comunicativo. Este sistema se puede dejar traducir en el ámbito cinematográfico como el proceso de producción significante con dos partes. Por una parte, consiste en la división, estructuración y fijación de una visión del mundo - o parte de él - cuyo resultado es el film. Por otra parte, consiste en la relación afectiva, sensorial y conceptual del espectador con ese resultado.

And (7) is improved still more by such a revision (7a):

(7a) Quiero comenzar con una observación preliminar, quizá obvia. El símbolo léxico es la representación de un objeto-acción a través de un término con el que mantiene una relación no-denotativa. Pero la signifi-

cación del símbolo desborda ampliamente el significado del término utilizado para la representación del símbolo.

The simpler syntax allows readers to work on smaller «chunks» one at a time. The harder the content, the more helpful this format is.

3.12 The developing writer needs to learn how to make estimations of relative difficulty among passages like this in order to decide when complex syntax is or is not appropriate. In the coursework I designed (Beaugrande 1985), the learner is given numerous sample passages to judge and revise. Some, like (5a), were constructed too simply; others, like (7), were obviously too complicated. Revisions of the former type raised syntactic complexity whereas revisions of the latter type lowered it. Thus, learners were encouraged to recognize that a passage may be complex in different ways, and that appropriate revisions can control the level of difficulty. This learning process is more productive than the one which merely has the learner raise syntactic complexity without regard for content, as if this procedure always improves the text.

3.13 Obviously, the approach I have sketched requires much more theoretical and empirical research to replace provisional criteria with more exact ones. We need to identify and measure the influential parameters that actually affect readability by supporting the integration of content, not just those that intuitively seem to do so. Plausible candidates include, in addition to syntactic complexity, informativity, focus, salience, familiarity, concreteness, thematic organization, imagery, and rhetorical figurality. Models and experiments should be designed to discover how each of these affects communication. Only then can applied methods developed to manipulate these parameters be confidently expected to support a reliable improvement in language use.

3.14 The formalist tradition of theoretical linguistics can contribute to this project little more than a limited set of categories for describing formal complexity. The application just proposed would clearly set new priorities and demand extensive rethinking of established conceptions. Still, the intensive effort is certain to prove worthwhile. We might escape the apparent stagnation of theoretical linguistics in its explosion of empty formalisms vaguely related to questions of everyday usage. And we would surely place applied linguistics on a much firmer foundation. Perhaps linguistics, with its two sides reunited, will be once again a leader, setting a paradigmatic example for other human sciences facing the same problems of coordinating theory and application.

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