

CONTEMPORARY LINGUISTIC THEORIES: A SURVEY
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**LINGUISTICS AND PSYCHOLOGY DURING THE 20TH CENTURY: VICISSITUDES OF A
RELATIONSHIP**

**PART 1: THE AGE OF STRUCTURALISM: LINGUISTICS AS AN AUTONOMOUS
DISCIPLINE**

1. The crisis of 19th century psychologism

- “Psychologism” characterized several approaches to syntax, and also the Neo-grammarian paradigm of historical linguistics.
- When psychologism reached its peak (around 1900), its crisis began.
- It was shown that historical-comparative linguistics could achieve its results without commitment to any specific system of psychology.
- Psychologism had not been able to conciliate the notions of ‘language’ as individual ability vs. language as a means of social communication.
- The analyses of language worked out on the basis of general psychological laws proved unsatisfactory.

2. Saussure’s notions of *langue* and system

- Saussure’s position is still psychologicistic (see, e.g., the concept of ‘associative’ relations), but it paves the way to the idea of an “autonomous” linguistics.
- Saussure’s notion of *langue*: the common code shared by all the speakers belonging to a given linguistic community. It is “a storehouse filled by the members of a given community through their active use of speaking” (Saussure 1922 [English translation, 1959], p. 13).
- Every linguistic unit can be defined only by virtue of the system of relations it has with the other units.
- “In language there are only differences. [...] differences *without positive terms*” (Saussure 1922 [English translation, 1959], p. 121; original emphasis).
- One example:
“Modern French *mouton* can have the same signification as English *sheep* but not the same value, and this for several reasons, particularly because in speaking of a piece of meat ready to be served on the table, English uses *mutton* and not *sheep*. The difference in value between *sheep* and *mouton* is due to the fact that sheep has beside it a second term while the French word does not” (ibid., pp. 116-7).

3. Prague school (Mathesius, Trubetzkoy, Jakobson, etc.)

a) Language as a functional system and the rejection of psychology

- “*From the functional point of view, language is a system of goal-oriented means of expression*” (“1929 Theses”, Thesis n. 1, original emphasis, in Havránek et al. 1929[1982]).

b) The rejection of psychologism

- Jan Baudouin de Courtenay’s (1845-1929) definition of ‘phoneme’: “the psychic equivalent of the speech sound”.
- Trubetzkoy (1939 [English translation: 38]): “Reference to psychology must be avoided in defining the phoneme since the latter is a linguistic and not a psychological concept”.
- Id., p. 41: “The phoneme can be defined satisfactorily neither on the basis of its psychological nature neither on the basis of its relation to the phonetic variants, but purely and solely on the basis of its function in the system of language”.

c) Early Prague school syntax: Mathesius “Functional Sentence Perspective”

- Mathesius: ‘actual’ vs. ‘formal’ analysis of the sentence. The latter one opposes ‘subject’ vs. ‘predicate’; the former ‘theme’ vs. ‘enunciation. Cf. e.g. Mathesius (1964).
- Modern English tends to identify grammatical subject and theme. Note the development of psychological verb constructions from Middle English to Modern English: *me liketh* became *I like*. Other Indo-European languages, such as Czech (or Italian), do not follow this

tendency: *at home I am helped by my father* would be, in Italian, something like *at home me helps my father*.

d) Post-war Prague school: the “Functional Sentence Perspective”

- Daneš (1964). Three levels of syntax: 1) Mathesius’ actual partition of the sentence 2) the ‘grammatical level’; 3) the ‘semantic structure’.
- Firbas’ (1964) replaces Mathesius’ ‘actual analysis of the sentence’ with ‘Functional Sentence Perspective’. The two labels are not wholly synonymous.
- Mathesius’ ‘actual partition’ is essentially dichotomic: ‘theme’ is opposed to ‘enunciation’ (called ‘rheme’ by Firbas). By contrast, Firbas orders the sentence elements along a scale of ‘communicative dynamism’ which contains more than two degrees.
- Mathesius: theme always precedes rheme in the ‘objective’ order. Firbas: an element which has been already mentioned is thematic even if it occurs at the end of the sentence.

4. **Hjelmslev: “immanent” linguistics**

- Former linguistic theories (with the partial exception of Saussure’s one) have based themselves on some other discipline from outside linguistics, such as psychology, sociology, etc. They are therefore defined by Hjelmslev as ‘transcendent’ while his own theory, on the contrary, is ‘immanent’ (cf. Hjelmslev 1943[1961]: 4-5).
- The goal of linguistic theory, is the analysis of the system of dependences which form the structure of a given language (cf. Hjelmslev 1943[1961]: 21-8).

5. **Tesnière’s model of syntax: ‘connection’ and ‘valency’**

- Connection is an intrinsically hierarchic fact: a relationship of dependency holds between the connected elements. In the simplest case, when the elements are only two, one of them is the ‘governing’ element, the other one the ‘subordinate’. So the connective hierarchy of a sentence like *Alfred parle* will have the following representation (cf. Tesnière 1966: 14):



- The first basic distinction is between ‘participant-roles’ (*actants*) and ‘circumstantial roles’. The former are obligatory; the latter are optional (cf. Tesnière 1966: 128). Verbs with no participant roles are called ‘0-valency verbs’; verbs with only one role ‘1-valency verbs’; verbs with two roles ‘2-valency verbs’; verbs with three roles ‘3-valency verbs’.
- Subject and object are participant-roles on the same plane. The analysis of the sentence into subject and predicate derives, according to Tesnière, from an unwarranted transferring of logical categories to grammar.

6. **Bloomfield and the behaviorist approach**

- Bloomfield (1933: 24, original emphasis): “*Language enables one person to make a reaction (R) when another person has a stimulus (S)*”.
- Id: 26 (original emphasis): “*The gap between the bodies of the speaker and of the hearer – the discontinuity of the two nervous systems – is bridged by the sound waves*”.
- “In 1914 I based this phase of the exposition on the psychologic system of Wilhelm Wundt, which was then widely accepted. Since that time there has been much upheaval in psychology; we have learned, at any rate, what one of our masters suspected thirty years ago, namely, that we can pursue the study of language without reference to any one psychological doctrine, and that to do so safeguards our results and makes them more significant to workers in related fields” (Bloomfield 1933: xv).

7. **Some aspects of Post-Bloomfieldian linguistics**

a) Immediate Constituents analysis

- “If we analyze our sentence as ‘The || king ||| of |||| England | open ||| ed || Parliament’ so that the main break comes after ‘England’, we can explain the constituents as expansions down to the following point: ‘the king of England’ is an expansion of ‘the king’ (which in turn is

an expansion of a proper name, say ‘John’) because ‘king of England’ is an expansion of ‘king’; ‘opened Parliament’ is an expansion of a past-tense intransitive verb like ‘worked’. The whole sentence, therefore, is an expansion of ‘John worked’, which is of a fundamental sentence-type because it is not an expansion [...] of anything shorter” (Wells 1947: 86).

b) Harris’ notion of ‘transformation’

- Transformations state an ‘equivalence’ between sentences: “We will say that sentences of the form *A* are equivalent to sentences of the form *B*, if for each sentence *A* we can find a sentence *B* containing the same morphemes except for differences due to the difference in form between *A* and *B*” (Harris 1952: 19).
- “In constructions like ‘I know whom you by-passed’ or ‘Whom did you by-pass?’ the V ‘by-pass’ is never followed by an object *N*, though elsewhere it is. We can then say that ‘whom’ – or, for other reasons, only the ‘()om’ – is itself the object *N*₂ of ‘by-pass’, so that ‘()om you by-passed’ becomes the well-known construction *N*₁ v V *N*₂ with the *N*₂ moved up. We avoid having unique constructions like ‘you by-passed’ without object *N* (Harris 1957: 295).

PART 2: FROM THE 1950’S TO THE 1960’S: THE TURNING POINT

1. Chomsky’s intellectual formation

a) The different sources of Chomsky’s intellectual formation

- a. American structural linguistics (especially, via Harris).
- b. Logic and philosophy of science (especially, via Bar-Hillel, a former student of Carnap).
- c. European structural linguistics (especially, via Morris Halle, a former student of Jakobson).
- d. The view of language as a biological entity (especially, via Lenneberg).

b) Abstract concepts and observable entities in scientific (and in linguistic) description

- “Guided by his knowledge of observational data, the scientist has to invent a set of concepts-theoretical constructs, which lack immediate experiential significance, and a system of hypotheses couched in terms of them, and an interpretation for the resulting theoretical network; and all this in a manner which will establish explanatory and predictive connections between the data of direct observation” (Hempel 1952: 37).
- “Any interesting scientific theory will seek to relate observable events by formulating general laws in terms of hypothetical constructs, and providing a demonstration that certain observable events follow as consequences of these laws. [...] The grammar thus gives a theory of these utterances in terms of such hypothetical constructs as the particular phonemes, words, phrases, etc. of the language in question” (Chomsky 1975a [1955-56]: 77-78).
- “In 1951, Bar-Hillel suggested to me that I [...] postulate something very much like the reconstructed historical forms on the abstract morphophonemic level” (Chomsky 1975b: 29).

c) Abstract underlying forms: the heritage of historical phonology

- | ■ Pre-English> | Old English> | Modern English |
|----------------|--------------|----------------|
| ■ *[mu:s] | mus [mu:s] | mouse |
| ■ *[mu:si] | mys [my:s] | mice |
| ■ *[fo:t] | fot [fo:t] | foot |
| ■ *[fo:ti] | fet [fe:t] | feet |

d) Language as a biological entity

- “(...) Eric Lenneberg (...) wanted to see the study of language assimilated to the natural sciences, and he devoted his subsequent efforts to placing language in its biological matrix. (...) What many linguists call “universal grammar” may be regarded as a theory of innate mechanisms, an underlying biological matrix that provides a framework within which the growth of language proceeds” (Chomsky 1980: 187).

2. Generative grammar from its beginnings until the “standard theory”.

a) The notion of ‘linguistic level’

- “The central notion in linguistic theory is that of ‘linguistic level’. A linguistic level, such as phonemics, morphology, phrase structure, is essentially a set of descriptive devices that are made available for the construction of grammars; it constitutes a certain method for representing utterances” (Chomsky 1957: 11).

b) “Three models for the description of language” (Chomsky 1956; 1957)

1. Finite state grammar.
2. Phrase-structure grammar.
3. Transformational grammar.

Only the third model is adequate for describing natural language.

Main features of Finite State Grammar:

- “This conception of language is an extremely powerful and general one. If we can adopt it, we can view the speaker as being essentially a machine of the type considered. In producing a sentence, the speaker begins in the initial state, produces the first word of the sentence, thereby switching into a second state which limits the choice of a second word, etc.” (Chomsky 1957: 11).

Why is Finite State Grammar inadequate?

- According to Finite State grammar, each word in a sentence is chosen only on the basis of the immediately preceding one. But any natural language (e.g., English) shows what can be called “long-distance dependencies”. Cf. the following examples (Chomsky 1957: 22):

1. *If S1, then S2.*
2. *Either S3, or S4.*
3. *The man who said that S5 is arriving today.*

Phrase-structure grammar and phrase-structure rules

- A given category is represented by the concatenation of two or more categories. These relations are symbolized by means of a ‘rewriting rule’ which puts on the left of an arrow the ‘represented’ symbol and on the right of the arrow the concatenation of the ‘representing’ ones.

$S \rightarrow NP + VP$

Why is phrase-structure grammar inadequate?

- PS-rules are subject to several restrictions, namely: (i) PS-rules cannot rewrite more than one symbol at once; (ii) PS-rules cannot delete elements; (iii) the elements on the right of the arrow must be different from those on the left. Such restrictions does not allow PS-rules to account for several kinds of natural language phenomena. Therefore, more powerful rules are needed.
- PS-rules cannot explain why ‘lions’ is understood as the subject in ‘the growling of lions’, while ‘good literature’ is understood as the object in ‘the reading of good literature’; nor can they explain the ambiguity between a subject and an object interpretation of ‘the hunters’ in ‘the shooting of the hunters’ (pp.296-297). Furthermore, they are unable to account for the relatedness between the different sentence types (declarative, interrogative, imperative).

‘Affix hopping’ rule: the case for transformations

- $Af + v \rightarrow v + Af\#$

By means of this rule, it is possible to generate 2. from 1. (in its turn, generated by the PS-rules); the end result is 3.:

1. the + man + s + have + en + be + ing + read + the + book
2. #the # man # have +s # be +en # read +ing # the # book
3. the man has been reading the book

‘Affix hopping’ violates the restriction (i) on PS-rules. It is a more powerful rule: a ‘transformational’ one.

- Transformations can account for relations between sentences of different kinds, as well as for ‘long distance’ relations. E.g.:
- *John has beaten Bill => Bill has been beaten by John*
- *John said that Mary saw Bill => Who did John say that Mary saw?*

c) ‘Transformation’ in Harris and in Chomsky

- “A grammatical transformation is defined, from this point of view [i.e., Harris’] as a (symmetrical) relation holding between two sentence forms if corresponding positions in the two forms are filled by the same n-tuples of expressions. (...) The notions of ‘co-occurrence relation’ and ‘generative transformation’ are rather different in formal properties as well as in their role in actual syntactic description (...). (...) co-occurrence is a relation defined on actual sentences, while generative transformations apply to abstract structures that often bear no close relation to actual sentences” (Chomsky 1964: 62, fn. 2).

d) Restrictions on transformations

- ‘wh’-question transformation “requires knowledge of the constituent structure”, in order to derive from the string underlying 1. the grammatical sentence 2. and not the ungrammatical one 3. (cf. Chomsky 1964: 130):

 1. The man who was here was old
 2. Was the man who was here old?
 3. *Was the man who here was old?

e) The success of early generative grammar: some external reasons

- Lees’ (1957) review.
- Chomsky’s intervention to 1958 Third Texas Conference on Problems of Linguistic Analysis of English (Chomsky 1962).
- Chomsky’s intervention to the 9th International Congress of Linguists, Cambridge, Mass., 1962 (Chomsky 1964).

f) The success of early generative grammar: some conceptual reasons

- The better formalization of immediate constituent analysis with respect to that of American structural linguistics.
- The analysis of English verb complex by means of the ‘Affix Hopping rule’.
- The formalizing of a lot of linguistic intuitions by means of the notion of ‘transformation’.

g) What about language and cognition?

- “In LSLT the “psychological analogue” to the methodological problem of constructing linguistic theory is not discussed, but it lay in the immediate background of my own thinking. To raise this issue seemed to me, at the time, too audacious. It was, however, raised explicitly in the review article by Lees published in 1957 [...] In LSLT, the “realist” position is taken for granted”. (Chomsky 1975b: 35-36).
- “The fact that all normal children acquire essentially comparable grammars of great complexity with remarkable rapidity suggests that human beings are somehow specially designed to do this, with data-handling or ‘hypothesis-formulating’ ability of unknown character and complexity” (Chomsky 1959: 57).

h) The “standard theory”: overall assumptions

- “Linguistic theory is mentalistic, since it is concerned with discovering a mental reality underlying actual behavior” (Chomsky 1965: 4).
- A linguistic theory is ‘explanatorily adequate’ if it “succeeds in selecting a descriptively adequate grammar on the basis of primary linguistic data” (Chomsky 1965: 25).
- In a nutshell: to do linguistics (or, more exactly, to do *generative* linguistics) is to do psychology.

3. Greenberg’s linguistic typology.

a) ‘Implicational’ universals

- Roots of implicational typology: “typology discloses laws of implication which underlie the phonological and apparently the morphological structure of languages” (Jakobson 1958: 20).

- The features shown by all languages are called by Greenberg et al. (1963) ‘unrestricted’ universals. The other universals “which concern existence” are ‘universal implications’ (“if a language has a certain characteristic, (ϕ), it also has some other particular characteristic (ψ), but not vice versa”; p. xix) and ‘restricted equivalence’ (“mutual implication between characteristics which are not universal”; p. xx).

b) ‘Harmonic’ orders

Preposition – Noun
Noun-Genitive
Verb-Subject
Verb-Object
Noun-Adjective

Noun-Postposition
Genitive-Noun
Subject-Verb
Object-Verb
Adjective-Noun

c) Greenberg’s explanation for ‘harmonic’ orders

- The notions of ‘harmonic’ and ‘disharmonic’ are “very obviously connected with the psychological concept of generalization” (Greenberg 1966a[1963]: 97). For example, the harmonic relations NG/Preposition vs. GN/Postposition are accounted for by assuming that “the relation of possession is assimilated to other relational notions, for example, spatial relations” (id.: 99). Analogously, the harmonic correlation NG/NA is assumed to be due to the fact that “both the genitive and qualifying adjectives limit the meaning of a noun” (ibid.). The harmonic correlation between NG vs. GN order, and VO vs. OV, is explained by speaking of a ‘transformation’ which connects the clausal elements to the elements of the noun phrase (id.: 99).

PART 3: LINGUISTICS AND PSYCHOLOGY: SOME DIFFERENT VIEWS

1. The fragmentation of linguistic schools

a) Overview

b) Some shared points

1. the ‘productivity of human language’
2. the necessity of accounting for the relations between sentences of different kinds
3. the search for linguistic universals

2. Some issues of debate

a) The ‘autonomy of syntax’

- This is one of the tenets of ‘Chomskian’ generative grammar. According to it, the principles which govern syntactic structures are by no means conditioned by semantic and/or pragmatic factors.
- The opposite position was especially held by the several ‘functionalist’ schools: the nature of language as a means for communicating essentially conditions its syntactic structures.
- Also ‘Generative Semantics’ departed from Chomsky on just this question of the autonomy of syntax. For GS, syntactic deep structure and semantic representation are one and the same thing, hence syntax is inseparable from semantics.

b) The question whether two or more distinct ‘levels of representation’ have to be assumed

- According to Chomsky (1965), ‘deep structure’ is a hierarchic and linearly ordered constituent structure.
- This assumption was rejected by several scholars, the most influential one was C. J. Fillmore. According to Fillmore’s ‘Case Grammar’, the ‘basic structure’ of the sentence, “consists of a verb and one or more noun phrases, each associated with the verb in a particular case relationship” (Fillmore 1968: 21). The elements of the basic sentence structure are unordered (cf. ibid.: 24, fn.30).

- Chomsky always assumed the need for several levels of representations, differently labeled throughout the phases of the theory: in the standard theory, ‘deep’ is opposed to ‘surface’ structure (cf. n. 42).
- Generative Semantics identified deep structure with semantic representation. LFG, HPSG and other theories they gave up the distinction between deep and surface structure and assumed a single level of syntactic representation.

c) The ‘psychological reality’ of linguistics

- The DTC: the process of the perception of a sentence is more difficult depending on the number of transformations needed to generate its surface structure from its deep structure. DTC was however proven false, in the most cases, and was finally abandoned.
- “The proper conclusion to draw about the familiar model of transformational grammar presented in Chomsky’s *Aspects of the Theory of Syntax* may simply be that it is psychologically unrealistic” Bresnan (1978: 2).
- “What is commonly said is that theories of grammar or universal grammar, whatever their merits, have not been shown to have a mysterious property called ‘psychological reality’. (...) The question is: what is ‘psychological reality’, as distinct from ‘truth, in a certain domain?’ (Chomsky 1980: 107).

3. The “linguistic wars”

a) “G(enerative) S(emantics)” vs. “E(xtended) S(tandard) T(theory)”: the explicit issues of debate

- Basic tenets of GS: (a) ‘deep structure’ is a useless concept and therefore must be abandoned; and (b) linguistic description must be ‘semantically based’.
- EST answer: (a) is false, (b) is senseless. (a) is false since a separate level of deep structure is motivated by reasons of simplicity and generality of linguistic descriptions. Assumption (b) has no sense since it is senseless to assume that there is any “direction” in the generation of the several levels of linguistic representation.

b) “GS” vs. “EST”: the real (?) issues of debate

- Antinucci (1976: 168): “two deeply different views of language and of the tasks of linguistic theory coexist within T[ransformational] G[rammar] (...) both such views originate and coexist since the beginnings of TG in the work of Chomsky himself”. The splitting of the generative school into GS on the one hand and EST on the other has its origin in this ambiguity of Chomsky’s view of language. The cognitive view of linguistics was pursued by GS to its extreme consequences. Chomsky, instead of accepting this development of his cognitive view of language, reacted against GS by recovering the formalistic point of view, not explicitly but *de facto*.

c) GS “lost” and EST “won”. Why?

- According to G. Lakoff (in Huck & Goldsmith 1995: 116), because of Chomsky’s academic strength: “In 1967, when Chomsky started attacking us, I was 26, Haj [i.e., Ross] and Jim [i.e., Mc Cawley] were 29, and Paul [i.e., Postal] was 30. We were kids, with no position at all, and we got sucked into a fight with the most powerful linguist in history – a fight on his terms” (id.: 116).
- According to Newmeyer (1986; 1996), GS was abandoned because it was falsified.
- “If the Interpretivists had given up and declared Generative Semantics to have ‘won’, I would still have given up on formal logic and transformational derivations and moved on to work on Cognitive Linguistics, and so would be at odds with both Generative Semanticists and Interpretive Semanticists” (G. Lakoff, in Huck & Goldsmith 1995: 117).
- An alternative explanation: Chomsky recovered from the crisis he undoubtedly suffered between the end of the 1960s and the early 1970s by asserting an explicit reconciliation of his “two souls”, namely the formalistic soul and the cognitive one.

4. The “Chomskian program”

a) Conditions on transformations: from the “methodological” to the “psychological” point of view

- Chomsky's strategy changed with his 1973 article. Instead of presenting a whole system of phrase structure and transformational *rules*, as he had done in works such as Chomsky (1957) or Chomsky (1965), he focused his attention on the *conditions* on rules. In so doing, he developed some ideas that he had presented in some of his earlier papers, like Chomsky (1964), but he especially capitalized on Ross's (1967) detailed work on "syntactic islands" (cf. also above, n. 37).

- (1) You expect [S PRO to hear [NP stories about who]]
- (2) Who do you expect to hear stories about?
- (3) He believes [NP the claim [S John saw who]]
- (4) *Who does he believe the claim that John saw?

- 'Complex NP Constraint' (CNPC): "No element contained in a sentence dominated by a noun phrase with a lexical head noun may be moved out of that noun phrase by a transformation" (Ross 1986:76).

- 'Subjacency Condition':

I will understand the subjacency condition as holding that a cyclic rule cannot move a phrase from position *Y* to position *X* (or conversely) in:

...X...[α ...[β ...Y...]...]...X..., where α and β are cyclic nodes (Chomsky 1977: 73).

- "[...] it is crucial to restrict the class of transformational grammars. [...] This is true if we approach the matter from a methodological standpoint, seeking to construct the most restrictive theory with the strongest claims, hence the theory that is most subject to empirical disconfirmation and that makes the most significant contribution to the justification of the linguist's grammar. It is also true if we adopt the alternative psychological perspective, attempting to characterize the "initial state" of the organism capable of acquiring human language, the innate schematism and mechanisms that are applied in the analysis of the data of sense" (Chomsky 1975b: 23-24).

b) 'Universal Grammar' and 'Principles and Parameters' model

- "The theory of UG must be sufficiently rich and highly structured to provide descriptively adequate grammars. At the same time, it must be sufficiently open to allow for the variety of languages. Consideration of the nature of the problem at a qualitative level leads to the expectation that UG consists of a highly structured and restrictive system of principles with certain open parameters, to be fixed by experience" (Chomsky 1981: 38).
- PS rules can be entirely disposed of by means of: (i) a general schema of constituent structure (the so-called "X-bar schema"); (ii) the lexical properties of the head of the constituent; (iii) a parameter fixing the respective order of the head and its complement (the so-called head-complement parameter).
- "(...) the differences between Move-*wh*, Move-NP, Move-P, and so forth can be in large part (perhaps completely) explained in other terms, so that we are left with the rule Move- α , α being an arbitrary category" (Chomsky 1986: 75).

c) Some examples of principles: the 'Binding Principles'

- An anaphor is bound in its governing category.
- B. A pronominal is free in its governing category.
- C. An R-expression is free.

1. *The men expected [S' that each other would win]
2. *The men want [S' John to like each other]
3. The men want [S' John to like them]
4. The men expected [S' that they would win]
5. He expected that John would win

d) Examples of parameters (1): the 'pro-drop' parameter

1. *pro* parlo
2. *pro* hablo
3. **pro* speak vs. I speak
4. **pro* parle vs. je parle
5. **pro* spreche vs. ich spreche

e) Examples of parameters (2): the ‘head-complement’ parameter

- Languages basically vary in putting the head (N, V, A, P) before the complement (e.g., English, Italian, Swahili, etc.) or after it (e.g., Japanese, Quechua, Turkish, etc.). Cross-linguistic differences would be accounted for by the head-complement parameter; the identity across constituents within the same language type, by X-bar theory.

f) Examples of parameters (3): the ‘overt-covert movement’ parameter

English:

Who_i do you think [NP e]_i I saw John

Chinese or Japanese:

You think [NP who] saw John

“We might assume (...) that the general principle Move- α has associated with it a parameter determining the choice of α ; its value must be fixed by experience to the extent that it is not determined by other features of the language” (Chomsky 1986: 75).

g) The Minimalist Program: “how perfect is language”?

- “(...) the language faculty is nonredundant, in that particular phenomena are not ‘overdetermined’ by principles of language” (Chomsky 1995a[1993]: 168).
- “(...) we seek to determine just how far the evidence really carries us toward attributing specific structure to the language faculty, requiring that every departure from “perfection” be closely analyzed and well motivated” (id.: 9).
- Which are the levels of representation both necessary and sufficient?
- Which are the operations that put such levels in relation with each other and what is their motivation?
- Which are the relationships of human language with other cognitive systems?
- The only levels of representation preserved with the MP are the “interface levels”, namely “a Phonetic Representation that is legible to the sensorimotor systems, and a semantic representation that is legible to conceptual and other systems of thought and action” (Chomsky 2000: 10).
- “One question is whether there are levels other than the interface levels. Are there levels “internal” to language, in particular the levels of deep and surface structure that have been postulated in modern work? (...) The minimalist program seeks to show that everything that has been accounted for in terms of these levels has been misdescribed, and is as well or better understood in terms of legibility conditions at the interface” (ibid.).

h) The Minimalist Program: the two “imperfections” of natural language

1. “In a perfectly designed language, each feature would be semantic or phonetic (...) If so, there are no uninterpretable formal features. (...) Such prototypical formal features as structural case – Latin nominative and accusative, for example – have no interpretation at the semantic interface, and need not be expressed at the phonetic level” (Chomsky 2000: 12).
2. “In the syntactic computation, there seems to be a second and more dramatic imperfection in language design, at least an apparent one: the “displacement property” that is a pervasive aspect of language: phrases are interpreted as if they were in a different position in the expression, where similar items sometimes do appear and interpreted in terms of natural local relations” (ibid.).
3. “The basic intuitive idea is that uninterpretable features have to be erased to satisfy the interface condition, and erasure requires a local relation between the offending feature and a matching feature that can erase it. (...) For example, in the sentence “Clinton seems to have

been elected”, semantic interpretation requires that “elect” and Clinton be locally related in the phrase “elect Clinton” for the construction to be properly interpreted, as if the sentence were actually “seems to have been elected Clinton”. The main verb of the sentence, ‘seems’, has inflectional features that are uninterpretable (...) These offending feature of ‘seems’ therefore have to be erased in a local relation (...). To achieve this result, the matching features of the agreeing phrase ‘Clinton’ are attracted by the offending features of the main verb ‘seems’, which are then erased under local matching. But now the phrase ‘Clinton’ is displaced” (ibid.).

5. Various kinds of “functionalism”

a) Functionalist schools: an overview

- Basic tenet of functionalism : the nature of language as a means for communicating essentially conditions its syntactic structures.
- “Theory-driven” and “Descriptively oriented” functionalism (Bolkestein 1993: 339).
- Functionalist typological linguistics.

b) “Theory-driven” functionalist schools

- Theory-driven functionalism: Prague ‘Functional Generative Description’ (Sgall and his colleagues; see Sgall et al.: 1986) , Simon C. Dik’s ‘Functional Grammar’ (FG; see, e.g., Dik 1978; 1997a[1989]), M.A.K. Halliday’s ‘Systemic Functional Grammar’ (SFG; see, e.g., Halliday 1966, 1967/1968, 1970 for its first formulations; Halliday 1994[1985] for a systematic treatment).
- Shared goals: to explain the relationship between the system of Tesnière’s roles (or Fillmore’s ‘deep cases’) and the grammatical and communicative organization of the sentence.
- This implies the assumption of several levels of representation.
- Underlying structure: ‘tectogrammatical representation’ (Prague FGD); ‘ideational’ (or ‘representational’) function (Halliday’s SFG); ‘underlying clause structure’ (Dik’s FG). They are presented by means of a Tesnière-like model of grammar.
- The treatment of ‘textual’ (SFG), ‘pragmatic’ (FG) or ‘communicative’ (FGD) notions differs in part from theory to theory.

c) Functional typological linguistics: ‘hierarchy’ and ‘prototypes’

- Keenan & Comrie (1977: 26) ‘accessibility hierarchy’ “expresses the relative accessibility to relativization of NP positions in simple main clauses”: subject > direct object > indirect object > oblique > genitive > object of comparison.
- Prototype and *continua*: e.g., the subject cannot be defined in terms of a single property, but as a cluster of different properties. If all such properties cooccur, the subject is ‘prototypical’; deviations from the prototype lie on a *continuum* (the notion of ‘continuum’ was independently developed within psychology by Rosch 1978).

d) Descriptively oriented functionalism

- Several approaches “mainly of American origin”, like those of Givón or Haiman.
- Givón (1995): contrary to generative grammars, categories are not defined in absolute terms, but in terms of *continua* and prototypes.
- Hierarchy and constituents are ‘key notions’ of the syntax of human languages, but they are chosen on the basis of cognitive categories.
- E.g., the topic constituent is normally a nominal one because such elements are (1) salient from the perceptual-cognitive point of view; (2) early acquired from the ontogenetic point of view; (3) evolutionary earlier from the evolutionary point of view; (4) denote culturally central entities (cf. Givón 1995 : 125 ff.).

e) Cognitive Grammar

- “Cognitive grammar takes seriously the goal of psychological reality of linguistic descriptions” (Langacker 1987: 56).

- Language and its acquisition are not the outcome of specific capacities, but of cognitive abilities of a more general kind. The alleged specificity of the language faculty is the result of a wrong approach (cf. Langacker 1987: 13).
- “The grammar of a language is defined as those aspects of cognitive organization in which resides a speaker’s grasp of established linguistic convention. It can be characterized as a structured inventory of conventional linguistic units” (Langacker 1987: 57). “As conceived in the present framework, the grammar of a language is simply an inventory of linguistic units. A grammar is not a «generative» description, providing a formal enumeration of all and only the well-formed sentences of a language” (ibid.: 63). “Putting together novel expressions is something that speakers do, not grammars” (ibid.: 65).

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