STORIA DELLA LINGUISTICA 2014-15

Materiali 7

I. LA "TEORIA STANDARD"

1 Da *Syntactic Structures* a *Aspects of the Theory of Syntax*

a) Primi allievi o seguaci di Chomsky

Robert B. Lees (1922-1996), Charles J. Fillmore (n. 1929), Edward S. Klima (1931-2008), Jerrold J. Katz (1932-2002), Jerry A. Fodor (n. 1935), Paul M. Postal (n. 1936).

b) La recensione di Lees a *Syntactic Structures* e la recensione di Chomsky a Skinner (1957)

Perhaps the most baffling and certainly in the long run by far the most interesting implications of Chomsky's theories will be found in their cohesions with the field of human psychology. […] We cannot look into a human speaker's head to see just what kind of device he uses there with which to generate the sentences of his language, and so, in the manner of any physical scientist confronted with observations on the world, we can only construct a model which has all the desired properties, that is, which also generates those sentences in the same way as the human speaker. […] Granting that this so-called scientific method is valid, it is not too much to assume that human beings talk in the same way that our grammar 'talks', provided the grammar has been constructed as an adequate and maximally general model for that speech behavior (R. B. Lees, Review of Chomsky, *Syntactic Structures*, in "Language", 33, 1957, pp. 406-407).

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, Review of B. F. Skinner, *Verbal Behavior* (New York, 1957), in "Language", 35, pp. 26-58 1959).

2. *Aspects of the Theory of Syntax*: scopi e caratteristiche della teoria linguistica

a) "Mentalismo"

Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community (Chomsky, *Aspects of the Theory of Syntax*, The MIT Press, Cambridge (MA), 1965, p. 3)

We thus make a fundamental distinction between competence (the speaker-hearer's knowledge of his language) and performance (the actual use of language in concrete situations) […] The distinction I am noting here is related to the *langue-parole* distinction of Saussure; but it is necessary to reject his concept of *langue* as merely a systematic inventory of items and to return rather to the Humboldtian conception of underlying competence as a system of generative processes. (id., p. 4).

Linguistic theory is mentalistic, since it is concerned with discovering a mental reality underlying actual behavior (ibid.).

b) "Adeguatezza descrittiva" e "adeguatezza esplicativa"

A grammar can be regarded as a theory of a language; it is descriptively adequate to the extent that it correctly describes the intrinsic competence of the idealized native speaker. The structural descriptions assigned to sentences by the grammar, the distinctions that it makes between well-formed and deviant, and so on, must, for descriptive adequacy, correspond to the linguistic intuition of the native speaker (whether or not he may be immediately aware of this) in a substantial and significant class of crucial cases.

A linguistic theory must contain a definition of "grammar," that is, a specification of the class of potential grammars. We may, correspondingly, say that a linguistic theory is descriptively adequate if it makes a descriptively adequate grammar available for each natural language (id., p. 24).

Clearly, a child who has learned a language has developed an internal representation of a system of rules that determine how sentences are to be formed, used, and understood. Using the term "grammar" with a systematic ambiguity (to refer, first, to the native speaker's internally represented "theory of his language" and, second, to the linguist's account of this), we can say that the child has developed and internally represented a generative grammar, in the sense described. He has done this on the basis of observation of what we may call primary linguistic data. […]
To the extent that a linguistic theory succeeds in selecting a descriptively adequate grammar on the basis of primary linguistic data, we can say that it meets the condition of explanatory adequacy (id., p. 25).

To summarize briefly, there are two respects in which one can speak of "justifying a generative grammar." On one level (that of descriptive adequacy), the grammar is justified to the extent that it correctly describes its object, namely the linguistic intuition - the tacit competence - of the native speaker. In this sense, the grammar is justified on *external* grounds, on grounds of correspondence to linguistic fact. On a much deeper and hence much more rarely attainable level (that of explanatory adequacy), a grammar is justified to the extent that it is a *principled* descriptively adequate system, in that the linguistic theory with which it is associated selects this grammar over others, given primary linguistic data with which all are compatible. In this sense, the grammar is justified on *internal* grounds, on grounds of its relation to a linguistic theory that constitutes an explanatory hypothesis about the form of language as such. The problem of internal justification - of explanatory adequacy - is essentially the problem of constructing a theory of language acquisition, an account of the specific innate abilities that make this achievement possible (id., pp. 26-27).

c) Universali linguistici "formali" e "materiali" (*substantive*)

It is useful to classify linguistic universals as *formal* or *substantive*. […] For example, Jakobson's theory of distinctive features can be interpreted as making an assertion about substantive universals with respect to the phonological component of a generative grammar. […] Traditional universal grammar was also a theory of substantive universals, in this sense. It not only put forth interesting views as to the nature of universal phonetics, but also advanced the position that certain fixed syntactic categories (Noun, Verb, etc.) can be found in the syntactic representations of the sentences of any language, and that these provide the general underlying syntactic structure of each language. […]
The property of having a grammar meeting a certain abstract condition might be called a formal linguistic universal, if shown to be a general property of natural languages. […] For example, consider the proposal that the syntactic component of a grammar must contain transformational rules (these being operations of a highly special kind) mapping semantically interpreted deep structures into phonetically interpreted surface structures […] (id., pp. 28-29).

3. *Aspects of the Theory of Syntax*: organizzazione generale della grammatica

a) I tre componenti della grammatica

[…] a generative grammar must be a system of rules that can iterate to generate an indefinitely large number of structures. This system of rules can be analyzed into the three major components of a generative grammar: the syntactic, phonological, and semantic components.
The syntactic component specifies an infinite set of abstract formal objects, each of which incorporates all information relevant to a single interpretation of a particular sentence. […]
The phonological component of a grammar determines the phonetic form of a sentence generated by the syntactic rules. […] That is, it relates a structure generated by the syntactic component to a

phonetically represented signal. The semantic component determines the semantic interpretation of a sentence. That is, it relates a structure generated by the syntactic component to a certain semantic representation. Both the phonological and semantic components are therefore purely interpretive. […] the syntactic component of a grammar must specify, for each sentence, a deep structure that determines its semantic interpretation and a surface structure that determines its phonetic interpretation. The first of these is interpreted by the semantic component; the second, by the phonological component (id., pp. 15-16).

4. *Aspects of the Theory of Syntax*: organizzazione del componente sintattico

a) La "ipotesi di Katz e Postal"

> (1) S → (wh) (neg) (Adv(neg)) (Adv) Nominal-Predicate
> (E. S. Klima, *Negation in English*, in J. A. Fodor & J. J. Katz, *The Structure of Language. Readings in the Philosophy of Language*, Englewood Cliffs, N.J., Prentice-Hall, 1964, p. 250)

The meaning of every sentence is determined uniquely by the operation of projection rules on underlying P-markers. Transformations would be without semantic effects (J. J. Katz & Paul M. Postal, *An Integrated Theory of Linguistic Descriptions*, Cambridge, MA, The MIT Press, 1964, p. 46).

> (2) John is a doctor
> (3) Is John a doctor?
> (4) Either John is a doctor or not
> (id., pp. 118-119)

[…] it has been shown that many of the optional singulary transformations of Chomsky (1955. 1957, 1962) must be reformulated as obligatory transformations, whose applicability to a string is determined by presence or absence of a certain marker in the string. […] Katz and Postal (1964) have extended these observations and formulated them in terms of a general principle, namely that the only contribution of transformations to semantic interpretation is that they interrelate Phrase-markers (i.e., combine semantic interpretations of already interpreted Phrase-markers in a fixed way) (Chomsky, *Aspects*, cit., p. 132).

[…] in this view one major function of the transformational rules is to convert an abstract deep structure that expresses the content of a sentence into a fairly concrete surface structure that indicates its form (id., p. 136).

b) Abolizione della distinzione tra trasformazioni 'singolari' e 'generalizzate'

Suppose that we eliminate the notions "generalized transformation" and "Transformation marker" altogether. […]
We have thus revised the theory of the base by allowing #S# to appear on the right in certain branching rules […] A generalized Phrase-marker formed in this way contains all of the base Phrase-markers that constitute the basis of a sentence, but it contains more information than a basis in the old sense since it also indicates explicitly how these base Phrase-markers are embedded in one another (id., p. 134).

c) La nozione di 'ciclo' e l'ordinamento delle trasformazioni

> a. [₂Bill persuaded Mary [₁the police to interrogate Mary]] (*deep structure*)
> b. [₂Bill persuaded Mary [₁Mary to be interrogated by the police]]
>   (*ciclo 1; si applica la trasformazione passiva; la trasformazione EQUI è inapplicabile*)
> c. [₂Bill persuaded Mary [₁to be interrogated by the police]]
>   (*ciclo 2; si è applicata EQUI*)
> d. [₂ Mary was persuaded by Bill [₁to be interrogated by the police]
>   (*ciclo 2; si è applicata la trasformazione passiva*)

II. IL "PROGRAMMA CHOMSKIANO"

1. La nozione di Grammatica Universale (*Universal Grammar*, UG)

[…] a linguistic theory may be understood as a theory of the biological endowment that underlies the acquisition and use of language; in other terms, as a theory of universal grammar (UG), where we take the goal of UG to be the expression of those properties of human language that are biologically necessary. So understood, UG is the theory of the human faculty of language (Chomsky, *Essays on Form and Interpretation*. New York-Amsterdam-Oxford, North-Holland, 1977, p. 2)

2. Le "condizioni sulle trasformazioni", la "traccia" e la "Forma Logica"

a) *A-over-A Principle* vs. *Complex NP Constraint*

(1)a. I chased [NP the boy who threw [NP a snowball] at our teacher]
     b. *Here is the snowball which I chased the boy who threw at our teacher

(2)a. Tom mentioned [NP the fact that she has worn [NP a bikini]]
     b. *Where's the bikini which Tom mentioned the fact that she has worn?

(3) [NP What] would you approve of [NP my seeing]?
(4) [NP What] are you uncertain about [NP my giving to John]?

'A-over-A Principle': "(...) if the phrase X of category A is embedded within a larger phrase ZXW which is also of category A, then no rule applying to the category A applies to X (but only to ZXW)" (Chomsky, *The Logical Basis of Linguistic Theory*, in *Proceedings of the 9th International Congress of Linguists* (Cambridge, Mass., August 27-31, 1962), ed. by Horace G. Lunt, 1964, p. 931).

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" (J. R. Ross, *Infinite Syntax!*, Norwood, N.J., Ablex, 1986, p. 76 [= *Constraints on Variables in Syntax*. Ph. D. Diss.: MIT, 1967]).

b) La 'condizione di soggiacenza'

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...[$_\alpha$...[$_\beta$...Y...]...]...X..., where α and β are cyclic nodes (Chomsky, *Essays on Form and Interpretation* cit., p. 73).

c) Esempi della 'condizione di soggiacenza' e della nozione di 'traccia'

(1) Chi pensi che Maria affermi che Pietro vuole sposare
(2) Penso che Maria affermi che Pietro vuole sposare Anna
(3) *Chi pensi all'affermazione di Maria che Pietro vuole sposare?
(4) Penso all'affermazione di Maria che Pietro vuole sposare Anna

(1a) [$_{S'}$ Chi [$_S$ pensi [$_{S'}$ che [$_S$ Maria affermi [$_{S'}$ che [$_S$ Pietro vuole [$_S$ sposare t$_i$]]]]]]]

(3a) [$_{S'}$ Chi$_i$ [$_S$ pensi [**NP** all'affermazione di Maria [$_{S'}$ che [$_S$ Pietro vuole [$_S$ sposare t$_i$]]]]]]

d) 'Tracce' e 'Forma Logica' (*Logical Form*, LF)

We may think of the wh-word in a question (direct or indirect) as a kind of quantfier. Thus, the "logical form" of (1) can be taken to be (1a) [N.B: *il testo di C. è stato modificato per adattarlo agli esempi qui sopra*]:
(1a) per quale persona *x*, tu pensi che Maria affermi che Pietro vuole sposare *x*

In these logical forms, there is a variable *x* and a quantifier, "for which *x*", binding it. Suppose that we were to identify the variable *x* with the trace *t* left by the movement rule. (Chomsky, *Reflections on Language*, New York, Random House, 1975, pp. 93-94).

3. Il modello a 'principi e parametri'

a) Principi vs. parametri

The theory of U[niversal] G[rammar] 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, *Lectures on Government and Binding*, Dordrecht, Foris, 1981, p. 38).

b) I livelli di rappresentazione nel modello a principi e parametri

d-structures

|

s-structures

Phonetic Form   Logical Form
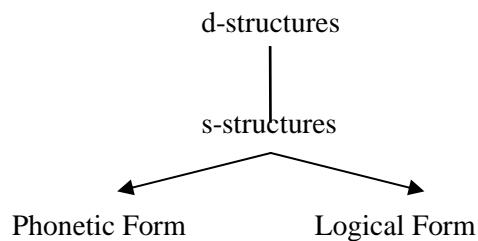
c) Qualche esempio di parametro

- il "parametro del soggetto nullo" (o "parametro *pro-drop*")

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

- il 'parametro della testa'

Italiano	*Giapponese*
$[_{VP}[_{V'}[_V$ scrisse] $[_{NP}$ una lettera]]]	$[_{VP}[_{V'}[_{NP}$ tegami-o] $[_V$ kaita]]] lettera-ACC scrisse
$[_{PP}[_{P'}[_P$ in] $[_{NP}$ Italia]]]	$[_{PP}[_{P'}[_{NP}$ Nikon] ni]]] Giappone in
$[_{NP}[_{Det}$il] $[_{N'}[_{NP}$padre] $[_{NP}$di Taroo]]]	$[_{NP}[_{N'}[_{NP}$Taroo-no] $[_N$otosan-ga]]] Taroo-di padre-NOM
$[_{AP}[_{A'}[_A$desideroso] $[_{NP}$di denaro]]]	$[_{AP}[_{A'}[$Aokane-ga] $[_{NP}$hosii]]] denaro-NOM desideroso

4. Il "programma minimalista"

a) Il linguaggio e gli altri sistemi biologici

Evidently, development of language in the individual must involve three factors: (1) genetic endowment, which sets limits on the attainable languages, thereby making language acquisition possible; (2) external data, converted to the experience that selects one or another language within a narrow range; (3) principles not specific to F[aculty of]L[anguage]. Some of the third factor principles have the flavor of the constraints that enter into all facets of growth and evolution, and that are now being explored intensively in the "evo-devo revolution." Among these are principles of efficient computation, which would be expected to be of particular significance for generative

systems such as I-language. Insofar as the third factor can be shown to be operative in the design of FL, explanation can proceed "beyond explanatory adequacy" in the technical sense, raising new questions: not only asking what mechanisms suffice to determine I-language from data available, but why these mechanisms should exist, and whether they are real or just dispensable descriptive technology. The task of accounting for the evolution of language would also be correspondingly eased, for the same reasons that hold for inquiry into evolution generally: the less attributed to genetic information (in our case, the topic of UG) for determining the development of an organism, the more feasible the study of its evolution (Chomsky, *Approaching UG from Below*, in *Interfaces + Recursion = Language?*, ed. by U. Sauerland & H.-M. Gärtner, Berlin-New York: Mouton de Gruyter 2007, pp. 3-4).

b) I livelli di rappresentazione secondo il programma minimalista

Gli unici livelli necessari sono "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, *New Horizons in the Study of Language and Mind*, Cambridge, C.U.P., 2000, p. 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.).

c) Il meccanismo generativo: l'operazione *Merge*; *External Merge* (EM) e *Internal Merge* (IM)

The simplest such operation takes a pair of syntactic objects (SO_i, SO_j) and replaces them by a new combined syntactic object SO_{ij}. Call this operation Merge (Chomsky, *The Minimalist Program*, Cambridge, MA, The MIT Press, 1995, p. 226).

Suppose that X and Y are merged (for expository purposes, think of Y as merged to X). Either Y is not part of X (*external Merge*, EM) or Y is part of X (*internal Merge*, IM). In both cases, Merge yields {X, Y}. IM yields two *copies* of Y in {X, Y}, one external to X, one within X. IM is the operation *Move* under the "copy theory of movement," which is the null hypothesis in this framework […]. Unless there is some stipulation to the contrary, which would require sufficient empirical evidence, both kinds of Merge are available for F[aculty of]L[anguage] and IM creates copies (Chomsky, *On Phases*, in *Foundational Issues in Linguistic Theory. Essays in Honor of Jean-Roger Vergnaud*, ed. by R. Freidin, C. P. Otero & M. L. Zubizarreta, Cambridge, MA, The MIT Press, 2008).