

La ricorsività come proprietà delle lingue naturali
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(1) The process whereby operations can apply to the abstract (non-terminal) output of previous operations, in principle indefinitely, is called recursion. This mechanism gives mathematical substance to the (ultimately Cartesian) intuition that human language is endlessly creative, and to the Humboldtian (von Humboldt 1836) remark that it obtains unbounded expressiveness with finite means. [Piattelli Palmerini & Uriagereka , 2004: 343]

(2) La ricorsività sintattica significa che una determinata categoria compare come elemento all'interno di un sintagma appartenente a questa stessa categoria. L'esempio più tipico di questo fenomeno sono le frasi che compaiono all'interno di altre frasi. [...] La ricorsività sintattica significa che le stesse regole sintattiche possono venir riapplicate ciclicamente all'interno di una stessa frase. In questo modo si riesce a chiarire come la sintassi del linguaggio umano sia uno dei principali fattori che spiegano il carattere aperto di questo particolare sistema di comunicazione, cioè la sua capacità di generare frasi sempre nuove [Parisi, 1981:25-26]

(3) From the point of view of linguistic theory, the concept of recursion could be defined in both a narrow sense and a in a broader sense.

In the narrow sense, recursion implies subordination (c.f. Chomsky 1965:211)

- (i) I think/hope/promise that John will come tomorrow
S → [... V S]

In a broad sense, recursion as a computational system could be defined in logical terms as follows:

- (ii) X → [...X...].

In these terms, recursion implies that a grammatical symbol could be rewritten by using a symbol of the same category. In more technical terms a symbol can occur both on the left and on the right side of the rewriting rule. In this less restrictive perspective, recursion derives directly by the application of the simplest combinatorial operation of (morpho-) syntax, i.e. “merge” in the sense proposed by Chomsky 1995: if A and B combine and either A or B projects, we derive a category which contains itself as a part. [Tommaselli, 2005: 111- 112]

(4) « En latin *articulus* signifie ‘membre, partie, subdivision dans une suite de choses’. En matière de langage, l’articulation peut désigner ou bien la subdivision de la chaîne parlée en syllabes ou bien la subdivision de la chaîne des significations en unités significatives; » [F. de Saussure, *Cours*, édition critique par R. Engler, Harrassowitz, Wiesbaden, 1968 : 34-35, Intr.III § 1 al. 15 26(26)]

(5) « Human language is base on an elementary property that also seems to be biologically isolated : the property of discrete infinity, which is exhibited in its purest form by the system of natural numbers 1, 2, 3.....Children do not learn this property of the number system. Unless the mind already possesses the basic principles, no amount of evidence could provide them, and they are completely beyond the intellectual range of other organisms“ [Chomsky, 2004: 380]

(6) “Any utterance in a language consists of an arrangement of the phonemes of that language; at the same time, any utterance in a language consists of an arrangement of the morphemes of that language, each morpheme being variously represented by some small arrangement of phonemes.

This is what we mean by duality: a language has a phonological system and also a grammatical system.”[Hockett, 1958: 574] ¹

(7) [...] l’esperienza si articola in unità significative. A ciascuna unità significativa corrisponde un elemento d’esperienza, il che non vuol dire affatto che l’esperienza non potrebbe essere analizzata se non in elementi corrispondenti ad unità della lingua. Si può supporre però che il fatto di prevedere l’utilizzazione di una data lingua per comunicare una certa esperienza determinerà un’analisi di questa esperienza in elementi distinti. [Martinet, 1985-1988: 26]

- (8) (i) if F₁ then F₂
(ii) either F₃, or F₄
(iii) the man who said that F₅ is arriving today²

(9) Infinity is one of the fundamental properties of human languages, maybe the most fundamental one. People debate what the true linguistic universals are, but indisputably, infinity is central. We need to find a way of representing structure that allows for infinity- in other words, that allows for a sentence inside a sentence inside a sentence and so on. For example:

- i) John won the race
ii) Mary thinks that John won the race
iii) I regret that Mary thinks that John won the race etc.

[Lasnik (2000: 3)]

(10) John thinks that Mary understood the theory

(11) John thinks it

(12) Mary understood the theory

Riferimenti bibliografici

Chomsky, N. (1957), *Syntactic Structures*, The Hague, Mouton, Trad. it., Bari, Laterza 1970.

Chomsky, N. (1965), *Aspects of the theory of syntax*, Cambridge, Mass., The MIT Press

Chomsky, N. (1970), Remarks on nominalization. In Roderick et al.eds. *Readings in English transformational grammar*, Waltham, Mass., Ginn, pp.184-221.

Chomsky, N. (1986), *Barriers*. Cambridge, Mass., The MIT Press

Chomsky, N. (2004), Language and Mind: Current Thoughts on Ancient Problems,
In Jenkins (2004), pp.379- 405 .

Cinque, G. (1996), The ‘antysymmetric’ programme: theoretical and typological implications,
Journal of Linguistics, 32: 447- 464.

Fitch, T.- Hauser, M. (2004), Computational Constraints in Syntactic Processing in a Nonhuman

¹ Il termine morfema nella tradizione strutturalista sta ad indicare sia morfemi (morfemi legati) che parole (morfemi liberi)

² Esempi tratti da Chomsky (1957)

- Primate, *Science*, 303: 377-380.
- Hauser, M. – Chomsky, N. – Fitch, T. (2002), The Faculty of Language: What Is It, Who Has It and How Did It Evolve, *Science*, 298: 1569-1579.
- Hockett, Ch. F. (1955), *A manual of phonology*, Memoir 11, Batimore, Indiana University Publications in Anthropology and Linguistics.
- Hockett, Ch. F. (1958), *A Course in Modern Linguistics*, New York, The MacMillan Company.
- Jenkins, L., ed. (2004), *Variation and Universals in Biolinguistics*, Elsevier, North-Holland Linguistics Series Vol. 62.
- Kayne, R. (1994) *The antisymmetry of syntax*, Cambridge, Mass. , The MIT Press.
- Lasnik, H. (2000), *Syntactic Structures revisited: contemporary lectures on classic transformational theory*, Cambridge, Mass. The MIT Press.
- Martinet, A. (1985), *Syntaxe générale*, Paris, Armand Colin. Trad. it. Bari, Laterza, 1988.
- Parisi, D. (1981), *Introduzione a.... la psicolinguistica*, Firenze, Le Monnier.
- Piattelli – Palmerini, M. – Uriagereka, J. (2004), The Immune Syntax: The Evolution of The Language Virus, In Jenkins (2004), pp. 342-378.
- Saussure, F. de (1968), *Cours*, édition critique par R. Engler, Harrassowitz, Wiesbaden.
- Tomaselli, A. (2005), Protolanguage, recursion and linguistic variation, *Lingue e Linguaggio*, IV/1: 111-120.