



Pennisi & Falzone's *Darwinian Biolinguistics. Theory and History of a Naturalistic Philosophy of Language and Pragmatics*

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Antonini Pennisi & Alessandra Falzone:
*Darwinian Biolinguistics. Theory and History of a Naturalistic
Philosophy of Language and Pragmatics.*
Cham: Springer 2016, 301 pp., ISBN 978-3-319-47688-9.

Movement and senses are our windows on the world [...]. Our first masters of philosophy are our feet, our hands and our eyes. (Rousseau 2003: 125).

The purpose of this innovative contribution to contemporary linguistics is to promote the development of a new research perspective, which can rightfully be called 'Biolinguistics'. It aims to offer an alternative approach to linguistic issues based on the biological and morphological aspects of the body which permit the growth of this exclusively human skill. The new perspective can move the contemporary debate beyond the theoretical and epistemological limits imposed by the functionalism and cerebrocentrism of the Chomskyan and Platonic-Cartesian moulds. By defending the idea of "human language as a biological form of embodied species-specificity intelligence based on the evolution of the overall body structures of Homo Sapiens" (Pennisi & Falzone 2016: 1), it is now possible to define the path of this important scientific and philosophical achievement. The fundamental principle of the perspective supported by Pennisi and Falzone is based on the biophysiological, bodily dimension of Homo Sapiens; most authors do not connect this dimension with the different explanations offered by theories based on the concept of embodiment, but instead, refer to Darwinian evolutionary theories and to the so called 'Evo-Devo' approach (for 'Evolutionary Developmental Biology'). By contrast, the two current researchers' work supports the view that it is possible to move linguistics and the philosophy of language on to a new phase, that of the complete biological (re-)building of the discipline, through the adoption of theoretical assumptions of evolutionism, beginning with the analysis of the bodily structures which allow the development of different cognitive functions. In Pennisi and Falzone's opinion, this theoretical and experimental approach is the future of research in biolinguistics, because it finally enables us to construct a biological model for the philosophy of language.

The book is divided into three parts: ‘History and State of the Art’, ‘Towards a Darwinian Biolinguistics’, and ‘Extended Performativity: From Brain Plasticity to Linguistic Pragmatics’. In the first part, we find an historical account of the last fifty years in the field of linguistics, where a substantial evolutionary revision is offered, starting from the theory proposed by the American linguist Noam Chomsky. Although historically, his thinking has had a major impact on the study of linguistics in general, nowadays it is necessary to reconsider many of Chomsky’s assumptions in a more critical and accurate way. In fact, despite his acknowledged scientific and biological competence, Chomsky underestimates the theoretical assumption of Darwinian evolutionism by promoting a poor interpretation of evolutionary biology (Pennisi & Falzone 2016: §3). Though many authors seem to overlook this, the functionalism of the Platonic-Cartesian model, which is indirectly supported by Chomsky, can be improved upon by first reflecting on its past, as it can provide us with a new philosophical basis, making it possible to construct a biolinguistics by offering us clear research directions and powerful antidotes against common interpretative mistakes. Reading Aristotle allows us to reflect on the importance of bodily structures in the development and the articulation of language (Pennisi & Falzone 2016: 40-47). Aristotle’s work is essential because it has its origins in the acknowledgement and the description of the importance of an organism’s morphology, by focusing on its functional specificity.

In the second part, having dispelled the theoretical clouds obscuring the gradually disintegrating Chomskyan perspective, and disclosing a valid philosophical alternative to the Darwinian biolinguistic approach, the book delineates an accurate comparison between Chomskyan and Darwinian linguistics (from here on, the two perspectives will be referred to by the acronyms used by the authors: CBM (Chomskyan Biolinguistics Model) and DBM (Darwinian Biolinguistics model; Pennisi & Falzone 2016: 81)). The authors extend the epistemological range of biolinguistics by starting from a common point: the species-specificity of language. To analyze this ethological characteristic, it is necessary to take into consideration the genetic basis of language, and the bodily and cerebral structures which support our linguistic capacity. These arguments are analyzed by the authors: when considering the DBM theoretical model, they point out that the human species-specificity for language is not the abstract result of a cerebral function, but rather a gradually evolving function starting from the bodily species-specific structures which allow this capacity (Pennisi & Falzone 2010: 274-282). If we want to propose a biologically constructed account, it is necessary to understand how language has developed from the bodily species-specific technologies of *Homo Sapiens* rather than just starting from an analysis of his brain or his cognitive functions, we should look at the bodily structures which support language: the supralaryngeal vocal tract and the consequential development of the auditive cortex for communicative aims in *Homo Sapiens*. The authors affirm the need to examine these structural components because they provided the necessary biological basis for linguistic development; indeed, “you cannot use organs that you have not got and you cannot allow new structures that do not yet exist to perform certain functions” (Pennisi & Falzone 2016: 127).

The book’s final part addresses the key question of the biolinguistic debate: what is the relationship between structures and functions? How did structural evolution produce several cognitive functions? Obviously, the answer to this central issue deeply divides the Chomskyan

and Darwinian approaches. For CBM, a constitutive relationship exists between structures and functions; the structures always remain in the background with respect to the functions' central importance which establishes the speaker's competence. Chomsky proposes a substantial division between competence, or the knowledge of grammar required to be linguistically competent, and performance, or the speaker's linguistic activity. By contrast, the DBM model suggests that "the specificity of the human cognitive form is mainly due to biological structures that make a human capable of communicating and thinking through language" (Pennisi & Falzone 2016: 171). In this way, the idea of performativity, viz., that the action itself involves the entire organism in the speaking act, is the glue holding together structures and functions, or their co-evolutive trigger. In accordance with contemporary debate, and despite the downgrading of the term performance by Chomskyan linguistics, the authors are determined to re-evaluate the concept. The Darwinian perspective does not aim to rebuild a theoretical framework for the concept of performance; rather, it goes *beyond* theory and produces an interpretative model of performativity at a biological level.

The book's final two chapters are dedicated to exploring the boundaries of biolinguistics and their possible extensions. Among the latter, pragmatics is notable and, thanks to the input of Darwinian biolinguistics, it has a key role: in fact, an *evolutionary* pragmatics should, in the authors' opinion, go beyond the constraints of both American linguistically-oriented pragmatics and European societal pragmatics (Pennisi & Falzone 2016: § 16.1.1) by suggesting and exploring an alternative model with the purpose of

learning from the mistakes of the first theories of computationalism and to enter into the new naturalistic stage of cognitive science; pragmatics should work, [...] not only to prove the existence of a universal computing implicational device (UID) but also to clarify its biological nature, procedural functioning and social necessity. (Pennisi & Falzone 2016: 259)

Pennisi and Falzone's book represents a reference volume for all scholars, philosophers of language or biologists, who wish to explore the possibilities offered by a biologically established perspective on the faculty of language. The work is particularly innovative in three main ways. Firstly, the book highlights an appreciation of the bodily dimension; this appreciation does not stray from the path of embodied cognition theories but, on the contrary, incorporates the theoretical roots of Darwinian evolutionism, by advocating, as pointed out above, a well-structured biophysiological-evolutionary analysis of species-specific bodily structures for language in *Homo Sapiens* (Pennisi & Falzone 2016: § 9-14). Secondly, the critical constructive structure, adopted by the authors to emphasize the rising profile of Darwinian biolinguistics, seems persuasive. The authors wish to highlight areas of significant incompatibility between the Chomskyan and Darwinian perspectives, by including the opportunity for a constructive dialectic that allows common ground, and thereby increase the theoretical and epistemological range of these topics from an evolutionary viewpoint. Finally, the proposal to move the evolutionary perspective into the field of performative and pragmatic theories is convincingly argued. The

morphological-evolutionary anchoring endorsed by Pennisi and Falzone avoids the dangers of a boundless theoretical perspective which often veers (maybe subconsciously) into drastic culturalism or anthropocentrism. By contrast, the two scholars have outlined a theoretical frame constituting the basis of a true performative theory of language which accounts for the situated nature of this biological, human capacity.

The book under review occupies also a unique place in the international debate, for two reasons. Not only is it the first attempt to summarize different evolutionary contributions in the field of linguistics; this allows the authors to create a theoretical *manifesto* in the growing field of Darwinian biolinguistics. But also, the work provides direct proof of a cultural adaptation which is slowly developing within Italian universities: in fact, both authors are employed in the strongly interdisciplinary Cognitive Science Department of Messina University. In a Darwinian perspective, it is even possible to see this as the first signs of an evolutionary turn in the Italian academic environment.

It will be difficult, upon reading the book under review, to still support a pre-evolutionary approach to linguistics, without at the same time scuttling the recent insights into language's original, biological nature that Pennisi and Falzone's work so amply documents. Their book is thus highly recommended to workers in the field of language and cognition, as well as to anybody interested in recent developments in the human sciences.

References

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