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Introduction*

1. The topic of the origins of speech is central, today, to the agenda of both linguistics and cognitive science. Researchers with different expertise, representing a variety of scientific interests and fields of study, pertain to it: general linguists, of course, but also psychologists, archeologists, paleoethnoanthropologists, brain scientists, primatologists, and so on. In short, the origin of speech has become a *transdisciplinary* object of study that stimulates scholars to overcome their academic boundaries with the aim of comparing and integrating results, keeping in mind the focus on what has been, until now, often described as a "mystery", or (at least partially) an unsolved question of contemporary science. To confine ourselves to a single point, tracing back the origin of the first 'modern' languages (presumably between around 100.000 and 70–50.000 years ago), has been possible through a cross-check of data concerning the DNA structure of the available fossils, computerized simulations of the cranial structure in hominids (to assess

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the position and volume of brain areas responsible for speech in the Sapiens), and the remaining evidence of primitive *cultures* (toolmaking, gathering, cooperative hunting and the like). The elaboration of such data goes hand in hand with the formulation of hypotheses regarding the cognitive architecture operating at each step of the human evolution. At the same time, a theory of how human language works is needed to provide a consistent framework for this entire field of research. Alternative theories of language open very different pathways for this programme of study, and very different ways of interpreting the data as well (cf. Jackendoff 2010, Wacewicz, Żywiczyński 2014). If – as Chomsky and his colleagues have suggested (see, e.g. Hauser, Chomsky, Fitch 2002; Fitch, Hauser, Chomsky 2005) – generativity and recursion, grounded in innate grammatical instructions, form(ed) the core of human language, then it naturally follows that speech originated in relatively recent times, in an abrupt, 'saltationist' way. Accordingly, searching for its antecessors in previous hominid species, or even in the apes, would be of little (if any) theoretical interest. On the other hand, if – as scholars like Corballis (2002) and Tomasello (2008) have suggested – language was (and still is) mainly a communication device, and if, accordingly, early human communities shaped language to fulfil social functions (see, e.g., Dor, Knight, Lewis, eds., 2014), the cerebral and behavioral analogies between modern humans and apes play a strategic role for the study of speech, which results in a temporal extension, and a very different anthropological scenario of its origins. The history of communication, initially only gestural, later gestural-vocal, and in more recent times mainly vocal, would therefore correspond to a number of evolutionary pressures related to previous phases of *Homo*'s adventure: the transition from *habilis* to *erectus* (approximately 1,8 million years ago), perhaps even earlier, would be a reasonable time for "protolanguage" to appear, as Bickerton (1990) and many scholars after him have suggested.

The literature on the origins of language, particularly after the publication of Pinker and Bloom's (1990) seminal paper, has immensely expanded. As early as 2005, the Swedish scholar Sverker Johannson was in the position to dedicate a whole (and still very useful) book to its discussion. Today, a full review of the available scientific material would probably be impossible. Moreover, managing data and related arguments of a strictly technical kind remains often out of reach for linguists and philosophers of language from a humanistic background. Their contribution is necessary, however, for the clarification of the general concepts of language underpinning (not always in an overt way) the different strategies of the related areas of study. This entails a systematic control of the metalanguage in use (often depending on a

complex tradition of thought), as well as its theoretical consistency. As we have suggested above, the way we answer this or that scientific question is closely related to the way the latter is stated. The questions raised do not merely stem from empirical data, but rather from some elaboration of them in the light of what one thinks is the case when speaking of language, communication, and so on. In short, for each posited point on the empirical level, some philosophical-linguistic premise is at work; making this premise explicit is necessary for both the interpretation of data and the presentation of alternative hypotheses. For instance, while investigating the origins of speech, the adoption of a Chomskyan perspective entails the irrelevance of any semiotic framework; conversely, the adoption of a 'gestural' perspective (in Corballis' or, say, in Rizzolatti & Arbib's [1998] terms) entails that human speech should be considered in a poly-modalic, overtly semiotic framework.

For scholars who investigate the history of ideas (in the present case, the ideas on signs and languages), reconstructing and elucidating the theories that underlie this or that philosophical narrative is simply a necessity. Over the course of centuries, the topic of language has been often neglected or obscured by other philosophical perspectives, resulting in an undervaluation of its peculiarity. Let us remember that Plato (ca. 428–437 B.C.) concluded his *Cratylus* with the suggestion that philosophers striving to gain true knowledge must give up the field of language, which is inevitably corrupted by mere sensory impressions. Another classical case in point was Immanuel Kant (1724–1804): despite his roots in the Enlightenment milieu, where constant attention had been devoted to language, Kant's efforts were directed to building an epistemology in which language played no relevant role and human reason had to be grounded on its, supposedly autonomous, powers. In other, more favorable cases, the topic of language came to the foreground wrapped in such a complex tangle of theological, gnosiological, and ethical questions, that its peculiarity could hardly be seen. Typical examples are Aristotle of Stageira (384–322 B.C.), whose huge contribution to a biological consideration of language (both in humans and in other animals) has been hidden for centuries by the prevailing Scholastic tradition; and the Italian philosopher Giambattista Vico (1668–1744), whose linguistic doctrine has not been discovered and appreciated until the 1960s.

Naturally, not even the historian's stance is neutral; nor can it be. Historians of ideas on language and signs generally look for, and sometimes discover (or re-discover), authors or texts that are intriguing for our present theoretical concerns. To some extent, this is not only unavoidable, but useful as well. When it was published, Chomsky's *Cartesian Linguistics* (1966)

was sharply criticized by professional historians because of the author's poor mastery of historical matters, which allowed him to underpin his own ideas on generativism with the authority of philosophers which were distant in time and space. Even Chomsky's superficial knowledge of Latin was regretted. Today, the search for forerunners of recent (linguistic) theories no longer attracts scholars. It has become clear that this kind of study normally results in a misinterpretation of concepts that were elaborated within a philosophical framework (and formulated with a terminology) deeply rooted in a time and a cultural context very different from our own. The "arbitrariness of language", to confine our considerations to a classic example, is a concept that reappears many times over the centuries, from Hermogenes to Ferdinand De Saussure. Taking it at its face value while ignoring the conceptual combinations it was cast into at different times would lead to dramatic misunderstandings.

Nevertheless, *Cartesian Linguistics* played a positive role, insofar as it stimulated a dialogue between *theory* and *history* (of the ideas on language), thus paving the way for a riper approach to the historiographic work in its own right. However, the role played by the history of ideas in different areas of research is a controversial matter. Simone (1992) rightly suggested that such a kind of study plays only an ancillary role in disciplines that focus on merely *natural* objects, such as physics or astronomy. History is relevant to theoretical ends, instead, when the researcher has to deal with objects which are permanent and universal in their biological aspects, but highly unstable in their behavior and subject to incessant variances within the culture, such as speech. In the first case, old solutions of problems (e.g. the medical concept of "temperament" or Ptolemaic astronomy) have a merely historiographic interest; in the second, old and new solutions may share standpoints and even arguments. It is no coincidence that such topics of discussion as the origin of speech or of linguistic differences, or the influence of language on thinking, occur continuously in the history of ideas, and that we still read with interest what philosophers very distant from us had to say about them.

This may sound surprising to present-day scholars with a cognitive background, who normally ignore (or are not interested in) the early stages of language philosophies. Yet, today's debate on sound-symbolism, including the search for the iconic roots underlying all languages (see Blasi et. al. 2016), echoes in an impressive way the remarks that were firstly made in *Cratylus* quoted above, or, in more recent times, in John Wallis' (1616–1703) *Grammatica anglicana* (1653). Another case in point is the concept of "symbol" that Terrence Deacon – a neuroscientist – has rightly focused upon in his seminal book *The symbolic species* (1997); exactly the same concept, elaborated along a mathematical perspective which would be well-

received today, was claimed by Gottfried Wilhelm Leibniz (1646–1716) to play a decisive role in shaping the power of the human mind for abstraction. Curiously enough, Descartes' view of mind and language was the antagonistic stance that Leibniz wanted to defeat, just like Cartesian epistemology is antagonistic toward the "embodiment" theories of today. These and many other examples we could consider, apparently account for a theory-oriented historical study. If one tries to read, say, Epicurus's concept of the origin of languages, paying the due attention to its cultural milieu and the precise meanings or the terminology employed that do not necessarily coincide with ours (e.g. Epicurus' "naturalness" partially includes what we would today label as "cultural experience"), one finds that the *rationale* of his argument still has some theoretical relevance and curiously re-appears in brand-new contexts of study. Independently of having had *Epistula ad Herodotum* on the writing desk, several papers newly published in professional journals reveal an "Epicurean" flavor that would seemingly deserve a careful consideration.

2. The comeback of the issue of the origin of language is an achievement that has been reached after overcoming various difficulties. The scholars involved in the study of language origin faced several obstacles to regain a place in the theoretical debate. Such obstacles are interesting to analyze. Despite the progresses and successes made by the empirical sciences in recent years (genetics, cognitive archeology, neuroscience, in addition to the studies on non-human animal communication), the question of the origin of language continues to be a prevalently speculative problem; not only because of the fact that when investigating the origins, it is not possible to rewind the tape to the moment at which language began, but because of at least a couple of very interesting issues for our topic.

The first concerns the abovementioned fact that both the value to be attributed to the empirical results and the priority to be given to a specific scientific discipline are an integral part of what is the real issue at stake: the understanding of the nature of language. The way one understands the nature of language, indeed, implies very different ways to conceive of the origin of language. What emerges clearly from contemporary research is that the term "language" is not attributable to a single ability: talking about language implies the reference to a set of skills and processing devices that involve separate analyses at different levels of interpretation (social, biological, and neurological, just to name a few).

In this field of investigation, empirical science has contributed to entangle the tangle, rather than clarify the nature of language: if it is true that every single discipline plays an important role in building the general

model, it is also true that no discipline alone is able to guarantee a satisfactory solution to the problem. The multi-layered nature of language needs an overview of the contributions from the various areas of research. It is only by piecing together all the parts in the overall puzzle that the analysis of human communication skills can be useful to the problem of the origins of language (cf. Fitch 2010). This kind of overview represents the speculative (philosophical) part of the question of the origins of language: a trait that often – implicitly, if not entirely explicitly – is the conceptual basis for all the empirical research.

That said, the difficulties that scholars involved in the "origins problem" had to face are mainly related to the second reason: the age-old question of the place to assign to human beings in nature (cf. Ferretti and Adornetti 2014). The theme of the origins of language paves the way to the idea that individuals of our species can be considered as the product of an evolutionary process – the result of a natural history – shared with all other animals. A naturalized perspective on human nature, as it is easy to understand, is controversial and hotly debated. Not only because of metaphysical or religious biases (which obviously are important), but more generally for an aspect deeply rooted in the human mind: the idea that human beings are special animals in the animal kingdom. Such an idea is part of the way in which humans represent themselves, before becoming the product of a conscious reflection. The Cartesian standpoint, like Chomsky's perspective, takes advantage of the intuitive conception through which humans represent humanity. It is not a coincidence that most of the disputes related to the problem of the origins of language are closely tied to the question of "uniqueness" (e.g. Tattersall 2016). Following the Cartesian perspective, maintaining that language is unique to humans, is equivalent to maintaining that humans are unique in the animal kingdom. This conception, however, is founded on a theoretical mistake (a logical leap) we have to unravel. While it is fully legitimate to interpret the "specificity" of humans in reference to language (as it is legitimate to argue that the uniqueness of bats relies on their perceptual system), it is not correct to infer from the uniqueness of language the "specialty" of humans in the animal kingdom. The fact that a particular trait represents the hallmark of a particular species is not a sufficient criterion to justify the qualitative difference of this species with respect to another one. The idea that there is a qualitative leap, and not a difference in degree, between humans and non-human animals is a prejudice very difficult to combat. Even Deacon (1997), an author that embraces the evolutionary tradition, is inclined to think that the symbolic status of our communication system makes humans an "evolutionary anomaly".

The Cartesian tradition, whose influence on the study of language is still strong today, has relied on the uniqueness of language to criticize any attempt to establish parallels with animal communication. According to this tradition, considering the simplest forms of animal communication as precursors of language is totally unfounded. As Chomsky (e.g. 1988) has always suggested, language is *radically different* (not simply more complex) from non-human animals' communication. The influence of the Cartesian tradition is also evident in the way of considering the experimental research on ape communication (cf. Hauser et al. 2014; Pinker 1994). In spite of the positive results achieved in numerous investigations on the linguistic abilities of apes (cf. Savage-Rumbaugh, Shanker and Taylor 1998), Chomsky and the generativist scholars continue to express their skepticism. For example, Hauser and colleagues (2014) in support of their hypothesis continue to cite, as if it were the only case in the literature, the failure of the "Project Nim", carried out by H. Terrace in the seventies of the twentieth century (cf. Terrace 1979). According to Hauser et al (2014), the experiments conducted with Nim (a chimpanzee subjected to behavioral training in language learning) have shown in a "final way" the insurmountable difficulties that apes have to face to learn and use human language. Even though many years have passed since the closing of this project, scholars inspired by the Cartesian tradition have not gone beyond Terrace's experiments: in their studies there is no reference to investigations that have been carried out after the end of project Nim and that have produced data interpretable against that Cartesian perspective. No wonder that Chomsky continues to look at the studies on the origin of language maintaining that: "There is a long history of study of origin of language, asking how it arose from calls of apes and so forth. That investigation in my view is a complete waste of time, because language is based on an entirely different principle than any animal communication system" (Chomsky 1988, p. 183).

On closer inspection, the reasons of the ostracism that many authors (especially on the philosophical side) continue to direct today against the study of the origins of language are the same as always: a conception of humans as special entities in nature. The results of empirical research – the extraordinary progress made today on the way in which our brain processes human communication, or the comparative studies on communication and especially on knowledge in non-human animals (to cite just two examples) – do not represent for these authors sufficient reasons to question the thesis of the qualitative difference between us and the other animals. These considerations lead us to believe that the full legitimacy of the origins of language problem is strictly connected to the construction of an

interpretative model at the general conceptual level, as well as at the level of the particular empirical research.

One could argue that, regardless of the investigation at the conceptual level, the empirical research on the origins of language enjoys widespread appreciation in the theoretical debate: the number of publications dedicated to the theme is sufficient to witness the growing interest in the topic. However, as the issue of the origins of language is closely related to the way of understanding the nature of language, empirical research alone is not enough: the construction of a theoretical framework of the nature of our communicative skills is also needed. In a perspective of this kind, the achievements of the empirical research must go hand in hand with the construction of theoretical models of language. In this general project, in which the problems of today are largely similar to the problems of yesterday, looking at the past debate can be a useful conceptual tool to reflect on the nature and origins of language.

3. This issue of *Theoria et Historia Scientiarum* includes some attempts at a historical study according to the guidelines sketched in § 1. An exhaustive account of the research on the origins of language in the Western tradition is obviously far beyond their scope (to this end, reference to systematic works such as Borst [1957–63] and Gessinger-Rahden, eds. [1989] is still in order); the papers collected here address typical cases related to relevant topics of the ongoing debate.

The first paper (by S. Gensini and M. Tardella) concerns Girolamo Fabrici of Acquapendente (1533–1619), a famous anatomist and surgeon from the Padua Aristotelian School. His writings on language and animal communication, which won much renown in his time, have been neglected by historians of linguistics, probably due to being overshadowed by Descartes' conception of language. The interest of Fabrici's linguistic research is two-fold: on the one hand (and from a historical viewpoint), it shows that the rediscovery of Aristotle's bio-linguistic approach in the late 16th century resulted in an original medical-philosophical account of the phonatory apparatus, both in anatomical and functional terms; on the other hand (and from a theoretical viewpoint), it provides a unitary consideration of human and other animals' languages, the difference between them being gradual in nature, and not a qualitative one. Long before Darwin, Fabrici was able to support his hypothesis with evidence from the observations of some animal species (e.g. dogs and hens), paying systematic attention to their communicative behavior.

The second case-study is represented by the theories on the origins of language of the French Enlightenment. The topic has been widely

investigated, but P. Quintili reconsiders it in an original way, by means of a comparison of Condillac's, Rousseau's and De Brosses's perspectives. To Quintili, the three philosophers shared the conviction that traditional, theologically oriented solutions had to be overcome, in favor of – respectively – "gestural", "vocalist", and "verbalist" accounts. Referring to their classical writings, the typical subjects of the 18th century's thought (such as the role of gestures and body movement in the origin of language; the voice-music relationship; the primitive roots of language as sound-symbolic in nature) are newly discussed in relation to well-known cornerstones of contemporary debate on "protolanguage".

The third case-study concerns Victor, the widely known wild-boy of Aveyron, and the French physician J. M. G. Itard's (1775–1838) attempt to integrate him into the society, mainly through a complex language-learning program. A. Prato's paper illustrates, on the one hand, Itard's debt to Condillac's sensationalism, and, on the other hand, his adoption of Abbé de l'Epée's strategies for the linguistic rehabilitation of "deaf-mutes". The failure of Itard's attempt (which spanned many years) revealed that socialization, despite its necessity for normal speech ability to develop, has no relevant effect in the presence of a severely delayed language training. There was – to put it in familiar terms – a *critical threshold* for speech ability being activated; at the same time, a long period of learning and education was needed for it to become fully functional.

The fourth paper (by R. Mocerino) draws attention to the discussions on language origins in Darwin's times. The protagonist of the debate was the early anthropologist Edward Burnett Tylor (1832–1917), whose ideas on language have received relatively little attention from professional linguists. In his *Researches into the Early History of Mankind* (1865), while investigating the functioning of extant primitive societies, Tylor ventured to formulate the hypothesis that human communication was not verbal, but gestural at its beginnings. This not only confirmed Darwin's intuition, but entailed a "continuity paradigm" that was at odds with Max Müller's account of speech as the distinctive feature (the "Rubicon", as he used to say) of humans with respect to animals.

The fifth paper (by M. Piattelli) deals with the scientific work of George J. Romanes (1848–1894), a Darwin's follower and a friend who touched upon linguistic matters in his 1888 book *Mental Evolution in Man.* Starting from Darwin's remarks on language in *Descent of Man*, Romanes investigated human speech phylogenetically, by a systematic parallel of communicative behavior and the development of mental powers. According to Piattelli, Romanes was able to deepen Darwin's continuity hypothesis, insofar he

identified a "receptual" kind of ideation and a "denotative" kind of semiosis as the common core of language, both in humans and other primates. Despite Romanes's effort to avoid any reductionism, grounded in his careful characterization of higher human mental and linguistic processes, his attempt was considered scientifically weak because of its "anecdotal" evidence, until the outset of the behavioral paradigm (Lloyd Morgan) consigned it to oblivion.

Finally, J. D'Alonzo focuses on much nearer times introducing the reader to the ideas on the origin of language professed by the Vietnamese philosopher Trần Đức Thảo (1917–1993). Despite having written in French, and notwithstanding his relationships with important Western thinkers, Thảo has not yet won sufficient renown. He accounts for language origins partly in phenomenological terms and partly in genuinely Marxist terms. Drawing on Marx's and Engels's suggestion that language originated in the context of human work, the philosopher correlates the outburst of both language and consciousness with the early use of tools. Social cooperation must have been the cradle of communication that developed gradually by means of both gestural and verbal devices. By referring to the kinds of tools employed in different ages and their (presumably) corresponding cognitive/symbolic levels, Thảo distinguishes six different stages in human evolution.

This issue of THS is concluded by W. Skrzypczak's review of *Postcolonial English*, an ample book published by E. W. Schneider in 2007. Drawing the reader's attention to English-based pidginization and creolization processes in several countries, the author casts light on very different cases of linguistic and cultural contacts. Obviously, the book is first of all addressed to scholars (anthropologists, linguists, historians) in the postcolonial field, and most particularly of the English language. However, it deserves attention from researchers of the language origins, too. It was no accident that the case of pidgin and creole languages played so relevant a role in the early elaborations on the concept of "protolanguage".

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