Persuasion and grammaticalization.
An evolutionary pragmatic framework for the origin of language

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Abstract: In this article, I argue that the origins of syntax must be approached from the theoretical framework of evolutionary pragmatics. More specifically, I argue that the selective pressures for syntactic evolution must be identified in the conversational contexts in which linguistic expressions take shape. Conversation is the hallmark of human communication because humans always enter the communicative context with a particular point of view. It is this perspective view of conversation that enhances the persuasive nature of human communication. However, the persuasive nature of communication is also the factor that places human communication in a relationship of continuity with animal communication. Indeed, nonhuman animals also use the manipulative power of signals not to convey information, but to persuade others to act in a certain way. From this point of view, the persuasion model of communication is well suited to explain the origin and evolution of language, both in terms of what distinguishes and what unites human communication with that of other animals.

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1. Introduction

One of the core tenets of evolutionary theory, as postulated by Darwin in his earliest formulations, is the necessity to reconcile continuity and difference. The study of language origins exemplifies this necessity. The fundamental premise guiding such a study is to harmonize the observation that language cannot emerge from nothing (and thus must have precursors that ensure continuity with animal communication and with hominin species predating *Homo sapiens*) with the recognition that language possesses distinctive features that represent the fundamental building blocks of communication among individuals of our species. In order to comprehend the evolutionary process that resulted in the emergence of fully developed language, it is necessary to inquire as to the underlying reasons behind the specific characteristics of language as it currently exists. A significant portion of the answer to this question can be derived from an understanding of the distinctive function of language. The identification of the characteristic function of language is closely related to the question of the selective pressures that led to the invention of language as an adaptive response on the part of humans. This article posits that the fundamental function of language is its capacity to persuade. The persuasive function of language represents an adaptive response that can account for both the elements of continuity and the differences specific to language. Accordingly, the investigation of the selective pressures that gave rise to language represents the fundamental premise of this article.

2. Why do we communicate?

Usually, communication (both animal and human) is seen as essentially a tool for transmitting information. In such a perspective, the question of the selective pressures underlying the origin and evolution of language is usually considered in terms of the enhancement of informational capabilities: what distinguishes humans from other animals is a more flexible and accurate system for conveying information. Although highly intuitive, the informational model of communication is a source of controversy and debate. Studies of animal communication have been an important point of such criticism.

To address the difficulties of the information model (mainly because of the difficulty of dealing effectively with the issue of content expressed in communication), Dawkins and Krebs (1978; Krebs and Dawkins, 1984) proposed an influence model ("manipulative model" in the original formulation) of animal communication (for a review of the debate see Ferretti, 2022; Adornetti, 2024). The proposal puts forth the notion that communication should be based on the advantages of the sender (the actor) to the detriment of the receiver (the reactor); in their view, in fact, «communication is said to occur when an animal, the actor, does something which appears to be the result of selection to influence the sense organs of another animal, the reactor, so that the reactor's behavior changes to the advantage of the actor» (Dawkins and Krebs, 1978 p. 283). The two authors' proposal is based on the premise that communication is not merely a means of providing information, but rather a tool for influencing and shaping the behavior of another individual. The persuasive model offers an adaptive advantage over the informative model, particularly in regard to the reduction of reactive aggression, which is a fundamental tenet of the self-domestication perspective (Thomas and Kirby, 2018; Progovac and Benitez-Burraco, 2019; Benitez-Burraco and Progovac, 2020; Del Savio and Mameli, 2020).

Given that physical confrontation requires a great deal of energy on the part of both the aggressor and the victim, Parrish's (2014) thesis is that, from an adaptive perspective «the act of persuading others is an adaptive behavior that allows one to avoid the cost of conflict» (ibid., p. 3). Along the same lines,

Kennedy argues that «nature has encouraged the evolution of rhetorical communication as a substitute for physical confrontations» (Kennedy, 1998, p. 14). According to Kennedy, rhetoric is a natural phenomenon since «its potential exists in all life forms capable of emitting signals, is practiced in limited forms by nonhuman animals, and has contributed to the evolution of human language from animal communication» (Kennedy, 1998, p. 4). Moreover, the argument that persuasion strategies were the selective pressures that led to the evolution of language is of paramount importance to the thesis advanced in this article. Inspired by the Darwinian tradition, Kennedy argues that «speech would not have evolved among humans if rhetoric had not already existed» (Kennedy, 1992, p. 4).

These considerations demonstrate that human communication has its roots in a fundamental need shared by all forms of communication, whether animal or human: to influence the actions of others through the communicative act. This is a defining feature of communication that serves to establish a clear line of continuity between humans and other animals. The objective of this paper is to present the persuasive grounding thesis of communication as the most fruitful perspective for explaining the continuities and differences between language and animal communication. The argument that adherence to the persuasion model has important implications for signaling the characteristic features of human communication raises the central question of this paper: what distinguishes human communication from that of other animals? The answer to this question inevitably requires an investigation into the origins of language.

3. From grammar to pragmatics

The code model, as put forth by Shannon and Weaver (1949), provides the most classic illustration of the informational model of communication when we consider the shift from non-human to human animals. Two points can be identified as favoring this way of understanding communication. Firstly, there is a strong intuitive appeal, with the exchange of information being the

primary concept evoked when considering communication. Secondly, there is a conceptual apparatus firmly rooted in the contemporary debate, which has made the evolution of grammar the main tool of studies on the origin of language. Indeed, from an evolutionary standpoint, Pinker (1994) posits that the genesis and evolution of language represent an adaptive response, driven by the necessity to construct syntactically complex utterances with the objective of encoding thoughts (mental contents) with remarkable precision. In fact, as Pinker and Bloom (1990, p. 712) point out, language is «a design for the communication of propositional structures over a serial channel». Viewed in this way, the adaptive result of the selective drives that guided the evolution of language is an expressive system constructed for the purpose of conveying information (Pinker and Bloom, 1990; Pinker, 1994).

Although intuitively and conceptually justified in contemporary debate, the code model has been subject to numerous criticisms (Reddy, 1979; Sperber and Wilson, 1986/1995; Scott-Phillips, 2015). These critiques are primarily concerned with the question of "what" is coded, which raises significant questions about the underlying theory of meaning that such a model presupposes. The information model of communication is predicated on the assumption that literal meaning plays a dominant role in the communication process. The perspectives of communication based on Grice's (1957) and Sperber and Wilson's (1986; Scott-Phillips, 2015) Relevance Theory have undermined the code model by challenging the assumption that literal meaning (the meaning of the utterance) is the defining feature of human communication. As postulated by Sperber and Wilson (1986/1995; 2002), each communicative utterance is merely a clue to what the speaker intends to communicate. The listener then employs an inferential process to reconstruct the speaker's communicative intentions based on this clue. The ostensive-inferential model developed by the two authors is based on the Gricean distinction between what the speaker says (sentence meaning) and what the speaker intends to say (speaker's meaning). As Scott-Phillips (2015) points out, one of the immediate consequences of the distinction between the two types of meaning is that a communicative utterance can be interpreted differently in different contexts. This is the phenomenon known as underdetermination - a key aspect of language's extreme expressive

flexibility (e.g., Carston, 2002). Attributing a key role to underdetermination in language processing means recognizing that «linguistic communication is never just literal. Literal meaning is a useful tool for understanding the speaker's meaning but not vice versa» (Scott-Phillips, 2015, p. 20). These considerations have prompted a significant revision of the information model of communication. Those who espouse the ostensive-inferential theory seek to shift the focus from the syntactic structure of the sentence (which they regard as a *clue* to the speaker's intended meaning) to the thesis of the pragmatic origin of language. This shift in perspective paves the way for the study of language origins within the theoretical framework of evolutionary pragmatics (Adornetti and Ferretti, 2024). This interpretive paradigm considers the origin of language features from a perspective of continuity with the animal world (e.g., Moore, 2017; Sperber and Wilson, 2024).

While there are numerous perspectives from which the pragmatic origin of language can be considered, the hypothesis that is most consistent with the propositions advanced in this paper is the neo-Gricean perspective (for a discussion, see Moore 2018; Scott-Phillips 2015; Bar-On 2021), particularly the revisiting of Relevance Theory offered by Sperber and Wilson (2024). This perspective has significant implications for the nature of selective pressures and the specific function of language in the evolutionary process posited in this paper. In particular, two aspects of the neo-Gricean perspective, though not immediately apparent, can be regarded as important steps in the direction of the persuasive character of communication proposed here. The first is a general feature shared by numerous authors who draw on Gricean pragmatics. This feature can be described as the idea that communication is a means of modifying the mental states of others, and thus indirectly modifying their behavior.

Regarding this matter, the viewpoint put forth by Scott-Phillips and Kirby (2013) in the ongoing discourse concerning the informational or persuasive nature of communication offers valuable insight. Their hypothesis is that the correlation between certain properties of the signal and certain properties of the world is a significant factor in identifying the signal as «something we may wish to term information» (ibid., p. 433). Recognizing the informational character of a signal, however, does not call into question the thesis of

communication *in terms of effects*. Contrary to those who argue for the primacy of the informational function, according to the two authors, the primary selective drive of communication is related to the behavioral effects of manipulative signals (the informational character of signals is both temporally and logically successive to these effects). Scott-Phillips and Kirby's view is very clear in this regard:

> Functional effects are what lie at the heart of communication, by which we mean: it may be possible to observe and/or quantify information transfer, but we can only do this in a post-hoc way, after we have specified what the effects of a signal are (Scott-Phillips, 2008). Indeed, this is a general point about communication, be it animal communication or human language. First and foremost, signals *do* things. Only once we know what they do can we identify information, conventional meaning, and other associated phenomena - since these things simply do not exist until there is functional symbiosis between signals and responses. Effects are methodologically prior (Scott-Phillips and Kirby 2013, p. 433).

Although proponents of the ostensive-inferential model do not typically consider their theoretical model in terms of persuasion, examining communication *in terms of effects* is an essential initial step for the purposes of the thesis presented in this article. This is a step that has its roots in Grice, particularly in his definition of N(on)N(atural) meaning: «A meant$_{NN}$ something by x' is (roughly) equivalent to 'A intended the utterance of x to produce some effect in an audience» (Grice, 1957, p. 385). Nevertheless, in order to consider persuasion as the evolutionary driver behind the origin and evolution of language, several further steps must be taken.

4. From communication to conversation

In contrast with the prevailing view that the origin of language was driven by selective pressures to enhance the transmission of information, my hypothesis posits that humans invented language to *improve their persuasive abilities*.

Given our shared capacity for persuasive communication with other animals, the focus of inquiry shifts to understanding the evolutionary forces that drove the emergence of human language as a means of enhancing our persuasive capabilities. The answer to this question offers a means of distinguishing human communication from that of other animals, as it provides a framework for characterizing human communication in conversational terms.

The initial step in this direction is to acknowledge that, in contrast to other animals, humans engage in communication by consistently adopting a particular point of view. It is this point of view that defines human communication in terms of conversation. Indeed, conversation can be regarded as a form of communication in which interlocutors collaborate within a competitive context, offering critiques of one another's perspectives while simultaneously presenting their own arguments. Furthermore, it is important to acknowledge that human communication is not solely based on comprehension but also on the listener's willingness to *accept* what the speaker is conveying. Indeed, as Sperber and colleagues (2010: 364) argue

> Human communication is characterized, among other things, by the fact that communicators have two distinct goals: to be understood, and to make their audience think or act according to what is to be understood. Correspondingly, addressees can understand a message without accepting it (whether or not there is a bias or tendency toward acceptance) (Sperber et al., 2010, p. 364).

The argument that conversational exchanges are characterized by the speaker's expectations of the listener's acceptance of what is said can be seen as a tangible sign that human communication is driven by persuasive intent. More precisely, given that in conversational turn-taking the roles of speaker and listener are constantly being exchanged, it can be argued that the driving force behind human communication is a form of "persuasive reciprocity" (Benitez-Burraco et al., 2021; Ferretti, 2022; 2024; Ferretti and Adornetti, 2021). From this perspective, human communication is inherently competitive, as well as cooperative.

The evidence for the agonistic hypothesis of conversation is drawn from

studies of epistemic vigilance (Sperber et al., 2010; Mercier, 2020). Those who advocate this hypothesis maintain that the cooperation that underlies conversation can be described as vigilant cooperation. While the speaker is focused on persuasion, the listener employs strategies of epistemic vigilance to defend against the speaker's persuasive attempts. The defensive stance of the listener does not negate the cooperative essence of communication; rather, it underscores the fact that this essence is contingent upon and cannot be taken for granted. Indeed, in effort-driven relevance cooperation, «vigilance (unlike distrust) is not the opposite of trust; it is the opposite of blind trust» (Sperber et al., 2010, p. 363). The defensive strategies employed by the listener are informed by a form of epistemic vigilance. In particular, epistemic vigilance is beneficial for the purpose of defending against vulnerability to misinformation, which may be perpetrated by unscrupulous senders with the intention of manipulating receivers, since «the task of epistemic vigilance is to evaluate communicator and the content of their messages in order to filter communicated information» (Mercier and Sperber, 2017, p. 9).

The reference to epistemic vigilance represents a significant initial step in favor of an agonistic conceptualization of conversation predicated on persuasive reciprocity. However, in the context of cooperative communication, Mercier and Sperber only emphasize the *defensive* nature of epistemic vigilance strategies. To comprehend the function of selective thrust in the evolution of language, it is essential to transcend the defensive aspect and conceptualize epistemic vigilance as a strategic maneuver designed to *offend*: The state of vigilance exhibited by the listener in a conversation serves the primary function of preparing a counter-argument, offering a response to the speaker's perspective, and advancing a distinctly different point of view (Ferretti, 2022; 2024; Benitez-Burraco et al., 2021). The agonistic nature of conversation is ensured by the argumentation/counter-argumentation dialectic, which distinguishes human conversation from any other form of communication. In the context of evolutionary pressures that favor persuasive communication, the emergence of language is an adaptation to the agonistic logic of human communication.

That being said, how is such an improvement actually achieved? The

thesis put forth here establishes a connection between persuasion and grammaticalization. Given that the competitive dialectic of conversational exchanges necessitates a syntactically organized expressive system, it can be argued that the enhancement of persuasive abilities is contingent upon the refinement of syntax. The question thus arises as to how such improvement is actually achieved. To answer this question, we must consider the evolution of an expressive system designed for persuasive purposes. In this context, as a result of a lengthy evolutionary process shaped by pragmatics, grammar once again assumes a central role.

5.   From pragmatics to grammar

As previously indicated, the selective pressures that facilitated the advent of a specific mode of communication also contributed to the evolution of persuasive abilities. Building upon the tradition established by Aristotle, Sperber and colleagues (2010; Mercier and Sperber, 2017) propose that the speaker employs argumentative persuasive strategies. The "argumentative theory of reasoning" (Mercier and Sperber, 2017) posits that the capacity to reason for communication emerges prior to the ability to solve problems. This is because its primary function is «to enable communicators to produce arguments designed to convince others and addresses to evaluate arguments so as to be convinced only when appropriate» (Sperber et al., 2010, p. 378).

In the context of conversation governed by persuasive reciprocity, the argumentative strategy is of primary importance. In light of the fact that argumentation is the product of reasoning, and that reasoning is a form of inference applicable to propositional structures, the development of syntactically complex structures constitutes a significant element in a communicative model based on persuasive reciprocity (Benitez-Burraco et al., 2021). The issue at hand is to elucidate the manner in which the expressive code was capable of attaining the requisite degree of articulation to facilitate communicative exchanges based on argumentative strategies of persuasion. This leads us to inquire once more about the genesis of grammar and, in particular, the evolution of syntax within

a communicative framework that is guided by pragmatics (Benitez-Burraco et al., 2021; Benitez-Burraco and Progovac, 2024).

My hypothesis regarding the genesis of syntax aligns with the grammaticalization model (e.g., Arbib, 2012; Benítez-Burraco, 2017; Heine and Kuteva, 2007) and, in particular, draws upon the arguments put forth by proponents of interactional linguistics in favor of "syntax in conversation" (Thompson, Fox, Couper-Kuhlen, 2015). In this regard, it can be argued that an understanding of syntax cannot be fully achieved without an explanation of its role in conversational interactions (Lindström, 2009, p. 99). In accordance with the aforementioned principle that «grammar is constantly being shaped, reshaped, and continually undergoing revision and redesign in actual situations of use» (Thompson and Couper-Kuhlen 2005, p. 482), a particularly intriguing avenue of inquiry is the examination of how conversational context serves as the driving force behind the advancement of sophisticated grammatical structures. From this perspective, the grammar that facilitates persuasive discourse is shaped by the context of the exchange between interlocutors, wherein the presentation of arguments and the drawing of inferences exert a significant influence on the ongoing evolution of linguistic structures.

In support of conversational competition, proponents of 'strategic pragmatics' have highlighted the difficulties of explaining conversation solely by reference to Grice's principle of cooperation (Asher and Lascarides, 2013; Reboul, 2017). In line with these critiques, Pinker, Nowak, and Lee (2008) argue that explaining human communication by reference to cooperation alone risks underestimating the fact that «most social relationships involve combinations of cooperation and conflict» (ivi, p. 833).

From a general evolutionary standpoint, the acknowledgment of competition's role in human communication aligns with the hypothesis that attributes the genesis of grammar to the process of self-domestication (Thomas and Kirby, 2018; Progovac and Benitez-Burraco, 2019; Benitez-Burraco and Progovac, 2020). From this perspective, which is typified by a reduction in reactive aggression, competitive conversation serves as an illustrative example of the transition from physical aggression to verbal argumentation. It is this competitive logic that initiates the feedback loop between conversational

pragmatics and the evolution of grammar (Benitez-Burraco et al., 2021; Benitez-Burraco and Progovac, 2024; Ferretti, 2024).

An illustrative example of the potential evolution of grammatical structures is presented by Progovac (2016). Her thesis is that the evolution of forms of insult expressed in rude compounds was driven by a strong adaptive value in a context of social relations that were characterized by both competition and cooperation. Progovac writes:

> While it is true that human beings today are highly cooperative, this need not have been the case at the point when language just emerging. It is also true that even today humans can be highly competitive, and to me the two are just two facets of the same coin. (…). Language today does seem to depend on trust, as pointed out by a reviewer, but we still also use it for the purpose of insult and deception, (…), as well as to compete by displaying one's eloquence with language (…) and by putting down people who are not as eloquent as those who have a language disorder (…). This process of competition and selection must have been even more pronounced and overt in the early linguistic stages. It is also worth pointing out that competing by verbal means is more adaptive than resorting to physical violence. Even if only a fraction of physical fighting in a community was replaced by verbal dueling, this would have ultimately contributed to a better survival of the whole community, but also to the more verbal individuals at the express of the more violent one (Progovac, 2016, pp. 8-9).

The insult expressed in rude compounds serves as the foundation for the construction of forms of proto-syntax that are driven by selective drives in favor of reducing physical aggression. (Progovac and Locke, 2009; Progovac and Benitez-Burraco, 2019; Benitez-Burraco and Progovac, 2020). In opposition to the all-or-nothing logic applied to syntax by Chomsky, Progovac (2016) proposes a form of gradualism in which the small clauses created by the two-slot grammar half a million years ago (in the context of *Homo heidelbergensis*) represent the evolutionary platform of a proto-syntax through which «all the complex hierarchical phenomena, including transitivity and subordination, have alternative routes, as well as precursors, in parataxis (…). This is thereby a

deep, conservative property of (human) language, the foundation upon which all else rests» (Progovac, 2016, p. 7).

Although the logic of insulting appears to be rooted in speaker bias, it can be validly regarded as a foundation for forms of verbal dispute in which the insultee responds with an insult (from the perspective of sexual selection, it appears to be an adaptive mechanism by which the insulter gains the upper hand). It is the agonistic logic of the exchange of insults that initiates the grammatical complexification process that underlies human conversation. The communicative exchanges that humans achieve through a syntactically organized expressive code represent the culmination of an evolutionary process driven by selective forces that have favored the enhancement of the agonistic logic of conversation. The ability to engage in argumentation and counter-argumentation necessitates the use of grammatically sophisticated structures. Insult compounds serve as an excellent foundation for the development of grammatical forms that facilitate subsequent advances. In such developments, once more, it is the logic of conversation that drives the processes of grammaticalization. The evolution of grammar from initial compounds to structures that allow the construction of hierarchically structured sentences is driven by selective pressures in favor of persuasive reciprocity.

6. Conclusions

In this article, I have put forth the proposal that the question of the origins of syntax must be approached from the theoretical framework of evolutionary pragmatics. In particular, I have posited that the selective pressures that shaped the evolution of syntax can be identified in the specific contexts of use (i.e., the actual conversational contexts) in which linguistic expressions emerge. The capacity for human conversation is a defining feature of human communication, as humans are the only animals that enter into communicative interactions with a perspective that is distinct from that of the other participants. This perspective view of conversation enhances the persuasive character of human communication and serves as the backdrop for

the competitive as well as cooperative dynamics that characterize the specific way in which individuals of our species communicate. It can be argued that the persuasive nature of communication is also the factor that places human communication in a continuum relationship with animal communication. Indeed, nonhuman animals also utilize the manipulative power of signals, not for the purpose of conveying information, but rather to induce others to act in a specific manner. From this perspective, the persuasion model of communication provides a comprehensive framework for understanding the emergence and evolution of language. It offers a nuanced account of both the unique characteristics that differentiate human communication from that of animals and the shared evolutionary roots that unite human language with other forms of animal communication. The concept of a continuity between human language and the communication of other species is a central tenet of the evolutionary perspective first proposed by Darwin and remains a cornerstone of contemporary linguistic and evolutionary research.

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