Introduction: Language evolution as a cross-theoretical enterprise

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Introduction

Language evolution as a cross-theoretical enterprise

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The collection of papers contained in this volume is programmatically heterogeneous. This is because of the particular object of investigation given by language, especially taken from an evolutionary perspective. This can be done in several ways (see McMahon & McMahon 2013: Chapter 1 for a survey). A first approach might be considered obvious because it refers to research programs which aim at investigating the rise of language in the general context of the evolution of human beings, and specifically of the sapiens, as this can be concretely observed on the basis of the concrete paleoanthropological evidence. Probably, it is not a case that this is the most ancient and robust tradition of studies in the field as it goes back already to Charles Darwin himself. A second line of research has come to the fore only recently, also because of the long-lasting ban against pursuing the issue of language origin and evolution set by the *Société Linguistique de Paris* one and a half century ago, which relies – as a theoretical watchdog – on the Uniformitarian Principle (cf. Morpurgo Davis 1998: 190–195 and Graffi 2005 for survey and discussion). This new line of research aims at investigating language evolution by exploiting the diachronic perspective opened by language change. This does not intend to violate the traditional ban by assuming a qualitative difference or a catastrophic leap from a pre-linguistic or proto-linguistic stage in which the Uniformitarian Principle is bypassed de facto. Recall that the latter imposed the comparative method as inescapable methodological and theoretical basis for any attempt of reconstructing past linguistic stages. In fact, the recent line of research assumes in its background methods and tools commonly used in synchronic and diachronic linguistics for developing hypotheses on how language could concretely evolve. In other words, the Uniformitarian Principle is not violated even if a pre-linguistic or proto-linguistic stage is assumed from which natural languages have evolved: "the processes of language change were the same in the past as they are in the present – hence, … it is possible to use generalizations on documented cases of language change to reconstruct earlier lan-

guage states" (Heine & Kuteva 2007:30). The contradiction is only apparent: in fact, it can be argued that early or proto-language was structurally different and simpler than modern language insofar as processes of grammaticalization – which are commonly observed in modern languages – "took place for the first time, that is, when there were, for example, verbs but no auxiliaries – hence, when human language was less complex than it is today" (Heine & Kuteva 2007:32). Thus, it is with regard to language structure that early language was different from modern language, while Uniformitarianism holds for the way how the transition from early or proto-language to modern language took place.

The papers collected in this issue follow this second line of research and illustrate how rich methods and findings drawn from different approaches and fields can be for grasping language from an evolutionary perspective. Again, this can be spelled out in different ways. A more general view – which unfortunately goes often forgotten in linguistic studies – contends that languages are natural complex systems of a type and size comparable to other complex systems. One important character of complex systems is their dynamic nature, and transitions from one stage to the other can be observed and accounted for in terms of more general laws governing them. From this, inferences can be extracted for explaining how the crucial passage from a pre- or proto-linguistic stage to the rise of language took place. In this perspective, Francesca Colaiori and Francesca Tria try to apply methods developed in statistical physics to the evolution of linguistic systems insofar as they attempt to identify a small set of variables that control emerging macroscopic patterns. This approach proves particularly useful if applied to the spontaneous emergence of statistical regularities as well as to its complementary effect, namely the persistence of exceptions to these regularities. They focus especially on this latter aspect and are able to show in details how a three-state agent-based transitional model can account for the tendency of replacing strong with weak verbs in English. One important factor guiding (child) agents' behavior in the adoption of this innovation is frequency, while at the same time this only works if the possibility of having synchronic variation between the conservative strong and the innovative weak inflection is allowed by the three-state system.

Freek Van de Velde and Alek Keersmaekers's contribution is inspired by a similar view but pursues the opposite perspective, aiming at understanding which dynamics of innovation and conservation can be effectively observed and measured in a linguistic system. Accordingly, the authors conducted an analysis of the survival of the Ancient Greek lexicon through the centuries. This is meant to verify what are the developmental patterns concretely followed in the lexical transmission. The ultimate goal of such an investigation from an evolutionary perspective is to help us widen our understanding of the passage from pre- and proto-linguistic stages to the actual linguistic systems.

Nikolaus Ritt, Andreas Baumann, Eva Zehentner and Alexandra Zöpfl's paper investigates from an evolutionary perspective the role of subjectivity in the speaker-listener interaction asking whether language change is guided by the decisive role of the speaker – as often assumed – who has to be made responsible for the semantic shifts and extensions which manifest her intention to manipulate the listener's response and reaction. Or whether it's rather the listener who is felicitous in decoding the speaker's intention. Then, if the listener decides to react as expected, the speaker can accordingly infer that her intention is routinely associated with the particular linguistic expression used in the specific context which is subsequently fixed or grammaticalized with the shifted meaning. In this way, the authors account for the development of meaning extensions directed towards the expression of subjectivity like for instance the semantic change observed in the English adjective *silly* which originally meant 'blessed, innocent' to the actual 'stupid', or in the adverb *probably* from 'provably' to 'in all likelihood', etc. From an evolutionary perspective, the mechanism underlying such an interaction which is crucially based on the speakers' communicative intentions can be credited to be more generally at the heart of grammaticalization as core process which ideally depicts the leap from a pre- or proto-grammatical stage to a full-fledged grammatical development as suggested by Heine & Kuteva (2007). In support of their view, the authors also illustrate briefly the result of an experiment conducted within the frame of evolutionary game theory in which speakers were asked to simulate their interactions conveniently adopting a cooperative or non-cooperative attitude. In this way, they also try to assess from a methodological point of view whether game theory could in principle be applied to the issue of language evolution and produce interpretable results.

In Michael Pleyer and Stefan Hartmann's contribution, the attempt is made to combine the two lines of research hinted at above insofar as modern linguistic theorizing is employed to look for similarities and differences between human language and animal communication systems given that much of current research on language evolution has suggested that most, if not all, of the differences are gradual rather than qualitative. Accordingly, they try to understand in what terms a rather flexible theoretical model such as Construction Grammar can be applied to animal communication.

Finally, in Haruka Fujita's contribution the attempt is made to combine different theoretical models taking advantage of their specific qualities in coping with the multi-faceted nature of language. In particular, two radically distinct theoretical models are confronted with regard to their ability of capturing salient aspects of language relevant for the evolutionary perspective. Given their modular view, Chomskyan approaches like the Minimalist Program are claimed to fare well with issues relating to the inner development of single aspects of language while holis-

tic approaches like Cognitive Linguistics are expected to be able to place language and its development within the global picture of cognitive abilities of a more general nature like spatial orientation, concrete concept formation, etc. In this light, the two perspectives are thought in terms of a parallel co-evolution which takes advantage of the positive aspects of both frameworks with regard to the inter- and externalization of language as a cognitive ability. One important aspect of Fujita's contribution is the attempt to come up with an explicit model which is able to make clear predictions on how the single evolutionary steps have to be conceived. Independently of the empirical soundness of the model, this emphasizes an important methodological principle which should never be forgotten, especially when investigating such an elusive entity like language.

In sum, in this issue several different theoretical tools and methods are discussed which range from system theory and statistical physics to Construction Grammar, Minimalism and Cognitive Linguistics passing through corpus linguistics and lexical statistics, game theory and inferential thinking, etc. Far from being chaotic, the apparent theoretical anarchy emerging from the contributions collected in this issue qualifies as an important way of approaching what Christiansen & Kirby (2003) term "the hardest problem in science". It is my firm conviction that we will come close to the solution of the mystery of language origin and evolution only thanks to the help of a general effort coming from apparently disparate but ultimately converging theories and methods. In this light, the papers contained in this issue gather together theoretical suggestions and empirical procedures to track this exciting enterprise.

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