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## **Beyond protolanguage: Contemporary problems in the evolution of language\***

### **Introduction**

The emergence of the uniquely human ability to acquire and use language has invariably been perceived as a problem that is both exceptionally difficult and intriguing. Conjectures regarding the sources of language have never been in short supply, substantiating some of the mistrust in the purposefulness of this type of study. The earliest manifestations of this mistrust – such as the famous 1866 “ban” on the inquiry into language origins, found in the statute of *Société de Linguistique de Paris* – have acquired a legendary status; but it is interesting to observe that as recently as thirty years ago it was fair for linguists to claim that the phylogeny of language was irrelevant to linguistic research, constituting a proprietary area of mythological, religious or philosophical reflection (e.g. Fisiak 1985).

A symbolic “watershed” came in 1990, with the text “Natural language and natural selection” published in *Behavioral and Brain Sciences* by Pinker and Bloom (or, at least, that is what in retrospect has become the received view). Since that time, a qualitative transformation has been felt in the very nature of academic interest in the emergence of language. “Language origins” may still connote the grand questions of “when” and “how” developed by means of speculative scenarios, but the connotations of *the evolution of language* as a research field are now fundamentally different.

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Part of the success of contemporary evolution of language has consisted simply in sidestepping those grand questions to identify a fertile ground of more ordinary puzzles waiting to be solved through normal science.

A full twenty years after the symbolic turning point, the transformation may be almost complete. One testimony to the maturity of the evolution of language may be provided by the recent publication of comprehensive textbooks or overviews (e.g. Johansson 2005; Hurford 2007; Fitch 2010), indicating the wealth of content to be synthesised. The transformation is also visible in the profile of the biennial conference *EVOLANG*, which since 1996 has provided impetus to the evolution of language movement and has reflected the thematic scope of the field. The two latest proceedings volumes (Smith *et al.* 2008; Smith *et al.* 2010) reveal a heavy emphasis on empirical research (with a sizeable proportion of experimental research) as well as on computational modelling, and some of the well represented subject areas are animal communication, animal cognition, and gestural studies.

Nevertheless, the most important distinguishing feature of the evolution of language has undoubtedly been its interdisciplinary character. The role of interdisciplinarity in the evolution of language is at least twofold as, firstly, otherwise intractable problems may sometimes be resolved with the strength of converging evidence from a number of distinct fields, and secondly, insights from one discipline frequently act as a catalyst for solutions in another.

Facilitating the achievement of this latter goal, that is the discussion between researchers with different areas of expertise and the resulting transfer of ideas across the disciplinary borders, was the principal aim behind the conference *Protolang 1* (Ways to protolanguage – the initial stages of the evolution of the language faculty). The conference was organised by the Department of English, Nicolaus Copernicus University in Toruń and took place in September 2009. Many of the texts in this volume either result from the papers presented at that conference or have been in one respect or another influenced by the discussions held at that event.

## 1. Contents of the volume

The texts gathered in this volume reflect some of the breadth of the rapidly developing research area of the evolution of language. As is frequently the case with edited volumes, the thematic range of contributions to *Beyond Protolanguage* is, to an extent, arbitrary, which makes a division into sections problematic. The articles, however, reflect many of the focal threads of this research field and, taken *in toto*, they can be treated as a record of the current

controversies in language evolution studies. There is a growing interest among linguists to incorporate evolutionary concerns in their modes of language analysis – in the volume, the linguistic or linguistically oriented contributions focus on such areas of language description as articulatory phonetics (Bart de Boer), syntax and the origins of grammar (Eugenia Casielles and Ljiljana Progovac, Ljiljana Progovac, Junichi Toyota), and broadly understood pragmatics (Przemysław Żywicznyński). These are followed by papers primarily centring on evolutionary concerns, related to research in cognitive psychology and paleoanthropology (Rodrigo de Sá-Saraiva and Ana Isabel de Sá-Saraiva), sound symbolism (Juan Carlos Moreno Cabrera) and memetics (Luke McCrohon). The volume is complemented by more theoretical works, employing the methods of analytical philosophy to clarify fundamental conceptual issues in the evolution of language research (Szymon Wróbel, Sławomir Wacewicz). Together with Lluís Barceló-Coblijn's comprehensive study on the evolution of recursion, those three texts reflect on the problems posed by Hauser, Chomsky and Fitch (2002) in their seminal article "The faculty of language: What is it, who has it, and how did it evolve?".

**Bart de Boer** addresses the problem of air sacs in the context of the evolution of speech. Air sacs, large cavities connected to the vocal tract, exist in many primate species but have been lost in the course of human evolution. Through the use of computer modelling of the behaviour of the vocal tract, the author examines the influence of air sacs on the vocal fold vibration, illustrating a trade-off between the signal's loudness and distinctiveness. This leads him to conclude that the evolutionary disappearance of air sacs in hominids may have been related to the emergence of speech as communication relying on fine sound contrasts.

**Eugenia Casielles** and **Ljiljana Progovac** provide linguistic material relevant to understanding the initial stages of early syntax. They follow Jackendoff (1999) in assuming the existence of protosyntactic fossils preserved in modern languages. The focus of their work is on thetic statements, which are shown to represent a more primary construction than 'Agent First' (SV) structures. Accordingly, the authors propose that syntactic evolution progressed from thetic statements with either no arguments or one, typically unaccusative, argument to complex categorial assertions involving agents and intonational separation between the subject and the predicate. The argument is supported by comparative and developmental data.

**Ljiljana Progovac**, again appealing to Jackendoff's (1999) concept "syntactic fossils," argues that exocentric VN compounds may constitute a vestige of proto-syntax. Given their rudimentary and flat combinatoriality, VN compounds are hypothesised to have been coined in the ancient one-word stage of human language, characterised by the use of imperative verb forms. A discussion of comparative data is followed by semantic and pragmatic reflections on SV compounds, which points to their origin as ritual insult, specialising for derogatory reference in sexual selection contexts. Concluding her work, the author argues that at the proto-syntactic stage of evolution compounding could have both increased the expressive power of language and provided a foundation for future vocabulary and structure building.

**Przemysław Żywiczyński** reflects on different aspects of politeness theory viewed from the ethological and evolutionary perspective. The author offers an explanation of politeness phenomena along proxemic lines – accordingly, politeness is shown to be an essentially distancing mechanism, consisting of three major types of sociofugal (i.e. distance-increasing) strategies – discourse dislocation, cognitive distancing, and personal distancing. These findings are then related to the ethology of territorial behaviours – it is hypothesised that politeness constitutes a verbal means of aggression appeasement. Finally, the author attempts to explain the transfer of spatial behaviours to the domain of discursive interaction by appealing to Donald's conception of mimesis.

**Junichi Toyota** provides a controversial two-step account of the development of grammar in languages. Appealing to "kaleidoscopic grammar," the author posits two fundamental phases in the evolution of language – an initial non-binary stage and a later post-binary one. The work focuses on what Toyota considers, provocatively, as the decisive step in language evolution – the emergence of the first binary grammatical opposition with the separation of the category "verb" from the single category "noun." The author's reflections on the patterns of language development lead him to postulate that once a noun-verb opposition exists, the processes of grammaticalisation can facilitate the growth of complex grammatical categories.

**Juan Carlos Moreno Cabrera** considers the important role of sound symbolism in the later stages of the development of human symbolic communication. Sound-meaning correspondences, while limited to isolated

examples, appear to be a robust and universal trait of the languages of the world. Building on linguistic as well as archaeological evidence, Moreno Cabrera speculates about the transition from “simple” onomatopoeic, or *phono-mimic*, sound symbolism, to more advanced *pheno-mimic* associations across modalities, where sound is used to symbolise aspects non-auditory domains, such as size or shape. The paper points to controversial but interesting similarities between certain global etymologies and the shapes of the corresponding objects as represented in Upper-Palaeolithic art.

**Rodrigo de Sá-Saraiva** and **Ana Isabel de Sá-Saraiva** explore the possibilities of a closer union between cognitive psychology and archaeology. Several key mental prerequisites for the use of language are listed, most importantly symbolic reference, episodic memory and schematic representations in the form of prototypes. The authors briefly review the archaeological record of the late Acheulean industry identifying a number of features such as form imposition or complex behavioural sequences, which jointly suggest the existence of advanced mental representations. The article ends in a speculation that, given the discussed evidence, some form of language was likely to have emerged by the late Acheulean period.

**Luke McCrohon** deals with the issue of the replication and propagation of cultural contents. McCrohon builds on Dawkins’ seminal concept of memes and proposes a distinction into I-memes (existing in the brains of the “users” of culture) and E-memes (memes’ external representations). In its life cycle, each meme alternates between the I-meme and the E-meme stages; both of those forms constitute the meme’s germline, modifications to which are passed to their descendant forms. The two stage life cycle replicator model may find application in cultural and linguistic change, as it promises to overcome some of the difficulties present in the earlier exclusively brain-internal or brain-external definitions of memes.

**Lluís Barceló-Coblijn** discusses the problem of recursion – one of the key issues in contemporary research on language origin, language design and language features – which is related to the debates sparked by the papers co-authored by Hauser, Chomsky and Fitch (2002, 2005). The topic of the paper is set in a broad interdisciplinary context; in particular, the author invokes studies in animal communication, paleoanthropology, and archaeology. His central research point consists in investigating the possibility that recursion appeared not directly in the context of the faculty of language – as Hauser, Chomsky, and Fitch seem to claim – but in relation to other behaviours,

including more basic motor skills. In conclusion, Barceló-Coblijn suggests that it may be a complex system of subtle differences, rather than a single distinct trait that decides about the human linguistic-cognitive uniqueness.

**Szymon Wróbel**, whose contribution also offers insight into the influential 2002 paper by Hauser, Chomsky and Fitch, seeks to examine the theoretical utility of the notion of the “language faculty.” Wróbel reviews the position of those three authors as well as of their opponents in the ensuing debate, Pinker and Jackendoff (2005, Jackendoff & Pinker 2005), suggesting that the apparent disagreement may in large part be due to those two camps representing different and largely disparate research agendas. The central controversy, i.e. whether language has evolved as a result of language-related selection pressures, is shown to depend principally on the choice of the definition for the term “language.”

**Sławomir Wacewicz** provides yet another perspective on the two seminal texts by Hauser, Fitch, and Chomsky; however, his focus remains purely terminological. A meticulous analysis of the definitions of the Faculty of Language in the Narrow sense (FLN) presented by Hauser, Chomsky and Fitch in 2002 and then 2005 reveals a fundamental inconsistency that has failed to be addressed either by the proponents of the term FLN themselves or by later commentators. After demonstrating the already highly influential status of this term, Wacewicz goes on to discuss the problems resulting from its conflicting applications by different authors. The text ends in postulating a need for a “radical top-down examination and discussion of the terminological-conceptual inventory of the evolution of language.”

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