Cognitive and social aspects of language origins

Alan Barnard
University of Edinburgh

I shall begin my lecture with a mention of some of the many theories of language origins, including, by way of introduction, the theories presented later in the day. For centuries, music and gesture have been invoked as points of origin for language. On the other hand, over recent decades the relation between symbols and meaning, and computational models, have become major foci. While linguists, neuroscientists and computer scientists often look to these latter areas, archaeologists, primatologists and anthropologists tend to look to comparative studies of other times and other species. My own theoretical ideas are perhaps best seen set against these others.

Broadly, theories of the origin of language fall into two forms. Some scholars argue that language evolved gradually, while others favour a more spontaneous ‘explosion’ of language. The former see a long time frame, whereas the latter tends to assume not only a spontaneous, but also a recent origin. My own theory of language origins (Barnard 2008; 2009), in fact, falls in between these alternatives. It suggests not gradualism nor a single ‘explosion’, but several revolutionary stages in the development of language. Each of these is associated with cognitive and especially social changes, as well as with the biological evolution of hominins.

That theory is based on a combination of the ideas of linguist Derek Bickerton (specifically those in Calvin and Bickerton 2000) and evolutionary psychologist Robin Dunbar (e.g. 2003). Dunbar’s theory involves the correlation between neocortex size and group size in primates, and the predictive application of this correlation (and its social implications) to fossil hominins. Bickerton’s is based on studies of the emergence of creole languages from pidgins, and the evolutionary implication of the fact that creoles stabilise rapidly. Both before 2000 and since (e.g. Bickerton 2003), Bickerton argues a rapid transition from proto-language to fully-syntactical language among human ancestors. However, in his dialogical work with Bill Calvin, he argues for stage in which there was sentence syntax, but not yet complex syntax: morphology, agreement between subject and verb, and so on. The implication in Bickerton’s work may be that this rudimentary-language phase may be not long before full language. Yet I take it as a distinct phase nevertheless, and indeed one which can be correlated, logically, with the phase in the evolution of social organization in which exchange, and in particular the exchange of people as mates, was developing.

I call the beginning of the first phase the signifying revolution (Fig. 1). This marks a stage at which hominins, presumably early Homo, are capable of using words and therefore classifying things. This stage of evolution would also be expected to be the one in which sharing, including possibly the sharing of mates, becomes culturally developed. With Homo habilis, and possibly earlier, we have a stage of biological evolution accompanied by a stage of cultural evolution marked by the production of stone tools, and with the cognitive capability to teach and learn how to make them. According to Dunbar’s ‘social brain’ hypothesis, it is also a stage in which grooming gives way to speech or gesture, and some form of language would emerge to replace grooming as the primary means of communication.

The second phase follows the syntactic revolution, perhaps with Homo heidelbergensis or early H. sapiens. With rudimentary syntax comes the ability to formulate complex kin descriptions, and therefore the recognition of mothers’ brothers and mothers’ sisters. According to Dunbar’s theory, Homo heidelbergensis group size will have increased to 120, and we should certainly envisage smaller bands interacting with other bands of the same group and possibly with bands of other groups. We might expect too the development of a ‘syntax’ of mating, including rules of exogamy. The related increase in neocortex size suggests a level of intentionality and a degree of communication enabling the transmission of knowledge about resources, populations and kinship over geographical distances.
The third phase is marked by a **symbolic revolution**, both in language and in symbolic behaviour more generally. This is the phase of fully-developed syntax, as well as of music, art, and religion. Kinship structures are fully-developed, and like creoles stabilise rapidly due to the intrinsic ‘grammar’ underlying them. Scholars, from Sigmund Freud to Chris Knight, have suggested that this was also a revolution or a phase of taboo, changing family and gender roles, and social upheaval. Recently, I have begun to consider further the implications of the symbolic revolution (Barnard, in press): with it undoubtedly came changes in the use of linguistic utterances, from mere communication towards rather more that. I argue that Language became complex because of the evolution of story-telling, legend and myth as culturally-important means of expression. After the symbolic revolution, language co-evolved with mythology in symbolic frameworks which extended, to the limits of cognition, the capacity for verbal expression.

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**Fig. 1. The co-evolution of language and kinship**

<table>
<thead>
<tr>
<th>Homo habilis</th>
<th>Homo heidelbergensis</th>
<th>Homo sapiens</th>
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<tbody>
<tr>
<td>proto-language</td>
<td>rudimentary language</td>
<td>true language</td>
</tr>
<tr>
<td>proto-kinship</td>
<td>rudimentary kinship</td>
<td>true kinship</td>
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</tbody>
</table>

**Words, symbolic communication; inclusive kinship; sharing**

**Sentences; us/Them kinship; incest avoidance; exchange**

**Full syntax; fully-developed kinship systems; universal kin categorization; explicit rules of sharing, exchange and kin behaviour**

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**References**


