

## Book Review

*Speaking Our Minds: Why human communication is different, and how language evolved to make it special*, by Thom Scott-Phillips, Palgrave MacMillan (2014), 212 pp, £24.99.

Language evolution is a notoriously complex problem. As such, the central topic of how and why language evolved tends to split into a number of questions that are often tackled separately. Why are humans the only species to have such a complex communication system? How were the first communicative conventions established, and how did they develop into languages that take on the forms we observe? What explains our motivation to communicate, and what pressures allow language to remain evolutionarily stable?

In *Speaking Our Minds*, Thom Scott-Phillips offers an account that aims to address all of these questions. The central argument is that language is made possible by an evolutionarily novel form of communication that is uniquely human: ostensive-inferential communication. In this form of communication, signallers provide evidence for their intentions, and receivers interpret this evidence to infer the meaning the signaller intends to convey. This ability relies on sophisticated forms of social cognition which, in turn, arose in our species as a consequence of selection pressure for the ability to better track others' intentions, as the size and complexity of social groups increased. Scott-Phillips marshals a broad range of evidence in support of this view, from non-human primate communication to the creation, learning and use of artificial languages by human participants in the lab.

An unstated assumption in both mainstream and evolutionary linguistics is that language is fundamentally a code, enriched and made flexible by our inferential abilities. The key insight underpinning the book is that this mainstream view is wrong. Specifically, it is backwards. Ostensive-inferential communication makes language possible, and the conventional codes we are able to create as a result make it flexible and productive. This is not just a terminological quibble. The implication is that the traditional view rests on a

mechanistically wrong account of how language works, and hence leads to mistaken conclusions about its evolution. Specifically, human language relies on sophisticated metapsychological abilities: therefore, looking for language's precursors in mechanistically distinct communication systems such as monkey calls will not illuminate its origins. This placement of pragmatics at the explanatory centre is a welcome move, casting new light on many aspects of language evolution. For example, a pragmatics-informed approach can explain not only how languages emerge, but also why they continually change, since meanings are never directly transferred but are instead repeatedly inferred in the context of communication. Furthermore, this approach solves another frequently-cited puzzle: if the function of language is communication, why is it so ambiguous? This problem disappears in the light of language in use: ambiguity is an artefact that arises from taking language out of context. In context, ambiguity becomes the efficient reuse of signals, itself a functional feature.

Most of the book is extremely clearly argued. For example, Chapter 1 cuts through much confusion regarding the relation of animal call systems to language. It does this by noting that the former are natural codes and the latter is a conventional code: thus, they involve two distinct kinds of meaning. In the former case, 'meaning' corresponds to a signal's ultimate function; in the latter, to the proximate mental representation conventionally associated with a signal. Given the clarity with which this distinction is drawn, it is perplexing that in the following chapter Scott-Phillips chooses to collapse it in the service of a unified definition of combinatorial communication: a composite signal whose meaning is '*not simply* the combination of the meanings of the two individual signals' (p. 28; emphasis mine). The 'not simply' has to cover two very different scenarios, given the two

distinct senses of ‘meaning’: (1) for natural codes, the ritualization of a new function for a combination of existing signals; (2) for conventional codes, the modulations that syntax and context make to a listener’s mentally represented word meanings. The explanatory usefulness of drawing these two processes together is unclear, especially since, as Scott-Phillips acknowledges at the end of the chapter, combinatorial communication in natural codes is thus ‘not really combinatorial at all’ (p. 50). Moreover, this definition of combinatoriality is at odds with the use of the word elsewhere in the language evolution literature, where it usually refers to the combination of meaningless elements to form meaningful signals (as in phonology; de Boer et al. 2012)—a topic that *Speaking Our Minds* does not address. These two sources of confusion make this chapter less clear than it could be to readers within the field.

The book is both ambitious and concise: in the space of less than 200 pages, answers are offered for all the questions stated above, and more. Some parts of the account are at present necessarily speculative. For example, the lack of currently available evidence on whether great ape communication is ostensive makes Chapter 4 more of a plan for future research than a knock-down argument. Indeed, part of the problem may be not just that the relevant studies have not yet been conducted, but that they might be prohibitively difficult to design. It is hard to imagine experiments that could unambiguously determine the presence or absence of an informative intention (an intention to change another’s mental representations) or a communicative intention (an intention that the other recognizes your intention to change their mental representations) in non-human primates, while remaining simple enough to be valid and interpretable. As such, it seems a little unfair to take the lack of such experiments to date as ‘an implicit, collective acknowledgement . . . that great apes would fail such tasks’ (p. 90). Nevertheless, this does not mean such experiments are impossible, and Scott-Phillips does not rule out the prospect of the results potentially going against his hypotheses.

Having argued for the human uniqueness of ostensive-inferential communication, the book turns to two further questions: how do communicative conventions emerge, and how do they come to take on the forms we observe? Readers seeking explanations of particular aspects of syntax will be disappointed; Scott-Phillips offers grammaticalization as a mechanism for the emergence of grammar, but does not go into details. The strength of Chapter 5, and of the book as a whole, is in the use of powerful general principles to cast new light on old debates. One such debate concerns the nature of protolanguage: roughly, whether early utterances were more like

words or whole sentences. Scott-Phillips draws on insights from Smith (2008) to argue that this is a false dichotomy. From a pragmatic perspective, the important point is that the meanings of early conventions must have been repeatedly inferrable across contexts to survive. However, the discussion confuses the issue somewhat. Scott-Phillips argues that a protolinguistic convention for ‘animal’ could have been used to communicate a wide range of propositions, from ‘There’s an animal behind that bush!’ to ‘I’m hungry’. However, this raises the question of how the convention would retain the stable meaning ‘animal’ in the face of such promiscuous usage. What keeps the meaning of a convention stable, if not the contexts in which it is used? In modern languages, words can be semantically promiscuous thanks to linguistic context: words mutually constrain each other’s semantic contribution to an utterance (Cohen 1986). In the absence of linguistic context, a convention would have to be used in a limited set of non-linguistic contexts in order to remain stable. The exception is iconic signals, whose forms offer some direct evidence for their meanings. These signals could therefore act as a ‘fixed point’ in early utterances, until enough conventions emerged to constrain each other’s meanings in context and allow for more semantic promiscuity. While Scott-Phillips acknowledges the likely importance of iconic signals in early ostensive communication, this point is not explicitly tied to the protolanguage discussion. This connection potentially extends the overall argument: like turtles, it’s inference all the way down. The conventions of the linguistic code are themselves continually re-produced by the same inferential process in which they are used as components.

The final chapter exemplifies the broad range of the book, addressing a number of evolutionary issues in the light of the central thesis. Convincing answers are offered for many remaining questions: whether humans have a Universal Grammar-like biological adaptation for language learning (Scott-Phillips is agnostic, but argues that if it exists, it must have been selected for after the appearance of the first protolanguages), the evolutionary function of language (mindreading and manipulation of others’ mental states), and how language remains evolutionarily stable (the policing of social reputation). These answers follow organically from the framework laid out earlier in the book, showing the explanatory strength of the overall argument. The book thus offers a unifying account that tackles many of the questions surrounding the evolution of language. The extent to which readers accept the answers will depend on how convinced they are of the central claim that ostensive-inferential communication was the crucial prerequisite that allowed language to

emerge. Whether the majority of readers endorse this claim or not, *Speaking Our Minds* is an engagingly written and convincingly argued work that promises to stimulate much new research in the field.

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## References

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