

# WHY TALK? SPEAKING AS SELFISH BEHAVIOUR.

THOM SCOTT-PHILLIPS

*Language Evolution and Computation research unit, University of Edinburgh,  
George Square, Edinburgh, EH8 9LL, UK*

Many theories of language evolution assume a selection pressure for the communication of propositional content. However, if the content of such utterances is of value then information sharing is altruistic, in that it provides a benefit to others at possible expense to oneself. Close consideration of cross-disciplinary evidence suggests that speaking is in fact selfish, in that the speaker receives a direct payoff when successful communication takes place. This is congruent with the orthodox view of animal communication, and it is suggested that future research be conducted within this context.

## 1. Introduction

### 1.1. *The Neglect of Pragmatics in Theories of Language Evolution*

The generative emphasis on the transfer of propositional information as the defining trait of language has meant that other features – particularly pragmatic ones – have sometimes been neglected in the study of its origins. For example, Hauser and Fitch’s attempt to define the uniquely human aspects of language (2003) makes no mention at all of pragmatics. Hauser, Chomsky and Fitch (2002) do similarly, and nowhere in Bickerton’s self-styled introduction to the field (in press) does he consider the relevance of pragmatics to evolutionary accounts of the language faculty. For many researchers in the field of language evolution, pragmatics appears not to be a foundational issue.

Yet it is necessarily core. If language were approached anew, from a Darwinian standpoint, then the first questions we might ask would arguably be about linguistic *use*; in other words, pragmatics. As one prominent evolutionary psychologist has put it: “The issue here is a purely empirical one. How *do* we use language?” (Dunbar, 2004, italics in original). Despite its importance, this fundamental question is little addressed, let alone answered.

### 1.2. *The Illusion of Linguistic Communism*

In asking just such questions about conversational behaviour a paradox emerges. Pinker and Bloom (1990) argue that language evolved in response to pressures of communicative efficiency, the adaptiveness of which is clear: pooled knowledge

will usually result in better outcomes for all. However, it is equally true that in such an environment there is scope for a selfish individual to listen as much as possible, and thereby acquire information, but not to speak, since doing so may dilute the value of the information held. Such an individual would prosper; she can make use of knowledge held by others at no cost to herself.

Yet we do not pursue such a strategy. On the contrary, we are a species that is motivated to speak. In the words of one researcher, we have a “robust and passionate urge of some kind to communicate” (Bates, 1994, p.139). Although some individuals talk more than others, nobody is obstinately silent. In contrast, efforts to teach language to non-human primates often suffer from the primate’s lack of motivation to use what they have learnt, unless food or some other stimulus is provided: “monkeys and apes rarely seem to ‘donate’ information... there is little evidence... that primates use their voices *in order to inform*” (Locke, 2001, p.39, italics in original). Humans could hardly be more different. Our willingness to tell others things we think worthy of comment is taken for granted. Even pre-linguistic human infants seem keen to convey illocutionary content; lacking words, they use intonation instead (Ninio & Snow, 1996). The fact that we willingly and pro-actively converse with each other – and thereby, supposedly, provide listeners with the valuable currency of information – presents a challenge to adaptationist theories of language evolution that assume communicative efficiency is/was the overriding selection pressure. This paradox has been termed “the illusion of linguistic communism” (Bourdieu, 1991, p.43).

### **1.3. Talk as Altruistic Behaviour**

Miller has expressed the same problem another way: “The trouble with language is its apparent altruism” (2000, p.346). Although both the usual explanations of altruism – *inclusive fitness* (Hamilton, 1964) and *reciprocal altruism* (Trivers, 1971) – have been proposed as the solution or partial solution to the problem (e.g. Fitch, 2004; Pinker, 2003) they cannot tell the whole story. The first says nothing about our apparent willingness to share information with non-kin. The second depends upon efficient policing (see, e.g. Fehr & Gächter, 2002), yet the one-to-many nature of conversation ensures that the social balance sheet of all but the most introverted individuals will be permanently in the red. Moreover, a range of cross-disciplinary evidence exists that, taken together, suggests not only that the speaker benefits from conversation, but that, in fact, they receive direct benefit from speaking. If this is true, then speaking contains a direct pay-off, over-and-above any desire to communicate. Thus, a solution to the paradox is offered:

sharing information would no longer be altruistic; it would, instead, be a selfish act that happens to benefit the listener at the same time.

In fact, brief consideration of our everyday experience of language is suggestive: “People compete to say things. They strive to be heard... those who fail to yield the floor... are considered selfish, not altruistic. Turn-taking rules... regulate not who gets to listen, but who gets to talk” (Miller, 2000, p.350). These observations are hard to explain within an altruistic framework. On the contrary, they appear decidedly selfish. If that were not the case then we would not compete to be heard (at least not to the same degree), yielding the floor would be selfish, and turn-taking rules would regulate whose turn it is to receive valued information. Of course, all this leaves open the question of what the benefit to the speaker might be. Dessalles (1998) suggests that it is status; Miller (2000) and Burling (2005) cite sexual selection. Other propositions can be imagined. Here, however, that question is deferred; instead the focus is simply on the evidence that speaking is a selfish act. That evidence comes from three distinct fields: evolutionary psychology, anatomy and computational modelling.

## **2. Speaking as Selfish Behaviour**

### **2.1. Evolutionary Psychology**

The central tenet of evolutionary psychology is that our brains are evolved organs that are susceptible, as all organs are, to the pressures of natural selection. Consequently, our innate psychological tendencies leave us suitably-equipped to deal with the challenges of complex social interaction as they were encountered in the environment in which we have evolved. One well-attested example of such wisdom is the existence of strategies for detecting social cheats: problems contextualised in terms of a social contract are far easier to solve than those expressed in any other terms (Cosmides, 1989). For example, when asked which facts are relevant to the preservation of the rule “If you take a pension then you must have worked here ten years” subjects will, if asked to put themselves in the position of the employer, pick out the correct answers. However, when asked to consider the matter as though an employee, sentences like “worked here twelve years” and “did not get a pension” – phrases that do not inform the question being asked – are deemed relevant (Gigerenzer & Hug, 1992). The headline conclusion from a series of such experiments is that we have a mind that “includes cognitive processes specialized for reasoning about social exchange” (Cosmides, 1989, p.187, but see Gray, 2003 for a different view). We should therefore be able to

draw conclusions about the nature of behaviour from the presence of such mechanisms. That is, by reverse engineering from the situations in which we suspect and detect deception, we can deduce the form of our social contract.

From this perspective, two observations are telling. The first is that introversion – listening but doing little speaking – is not a conversational offence. Quiet individuals are able to collect information from others without reciprocation, yet the assumption that the listener is the main beneficiary would predict the opposite. Thus, we should expect to find psychological mechanisms geared to detecting and ostracising individuals that remain silent during conversation. In contrast, one particular form of speaking – lying – *is* frowned upon. If we may characterise lying as talking on false premises, then it can be understood in selfish terms: as attempting to gain whatever payoff is on offer in conversation without concern for truth. As such, the psychology of conversational behaviour suggests that speaking is a selfish act.

## **2.2. Anatomy**

Brief consideration of anatomical data suggests that selection has acted more on our ability to speak than it has on our ability to listen and thus, supposedly, to acquire information. Put simply, our ears are little evolved from primates whereas our vocal tracts have evolved significantly since the last common ancestor (Lieberman, 1984). Indeed, they are more developed than is necessary in order to produce unambiguous utterances. In fact, the vocal tract is massively redundant if we assume its purpose is the production of evermore unambiguous utterances. Even in a language with relatively few distinct phonemes the potential number of, say, four-syllables words that a human can produce is far greater than the number of words in the average lexicon. For example, Hawaiian, on some measures, has a particularly small phonological set of just eight consonants and four vowels. Yet even here, a consistent CV syllable structure produces  $8 \times 4 = 32$  possible two-phoneme words,  $32^2 = 1,024$  possible four-phoneme words,  $32^3 = 32,768$  possible six-phoneme words and  $32^4 = 1,048,576$  possible eight-phoneme words. At the other extreme, a language with, say, 20 vowels or diphthongs and 24 consonants (as the southern British English accent has) and CV syllable structure would have  $20 \times 24 = 480$  syllables and  $480^2 = 230,400$  four-phoneme combinations. Estimates of the size of an individual's lexicon are typically in the 50,000 to 75,000 range (e.g. Oldfield, 1966; Pulvermüller, 1999), and many words are much longer than four phonemes anyway. The full range of linguistic content could still be produced with a vastly simplified vocal tract. Though it has been suggested that

the larynx may have descended in *Homo sapiens sapiens* for reasons other than speech (Fitch, 2000), this does not in itself explain further evolutionary developments.

In contrast, no similar development of redundancy is observed in our ears: background noise remains just that, whereas a pressure to consume information would be expected to produce a catch-all listening device. However, we have not evolved ear trumpets as part of our anatomy (Miller, 2000, p.350-351). The situation is summarised thus: “human languages are adapted to general mammalian perceptual capabilities... [whereas] human speech has clearly evolved with the *production* of language as its primary adaptive context” (Tomasello & Bates, 2001, p.3, italics added).

### **2.3. Computational Modelling**

Finally, a computational model (Hurford, 2003) gives us further evidence that natural selection acted on our ability to communicate rather than interpret. Here, agents engage in communicative tasks with one speaker and one hearer. Agents’ abilities were evolved using a genetic algorithm, and the basis for selection was set to either *communicative* or *interpretative* success. In the former case, the languages that emerged were those in which synonymy was rare and homonymy tolerated, just as is observed in virtually all recorded languages. In contrast, when *interpretative* success was used as the basis for selection then the converse situation – unknown in natural language – arose: homonymy was rare and synonymy tolerated. As Hurford concludes, and as we have now seen in a variety of different ways: “humans evolved to be well adapted as senders of messages; accurate reception of messages was less important... *we may be primarily speakers, and secondarily listeners*” (p.450, italics added). This is because, it is suggested, the greater payoff in most conversational interaction is available to the speaker rather than the hearer.

### **3. Concluding Remarks – Marrying Animal Communication with Pragmatic Behaviour**

Implicit in the orthodox evolutionary view of animal communication is that it is, typically, a selfish act. Signallers emit signals in order to manipulate the behavioural machinery of receivers, and receivers evolve behavioural mechanisms – characterised as mind-reading – that allow them to make the best use of any observed behaviour of the signaller (Krebs & Dawkins, 1984). Thus, a signal becomes so only when the receiver makes use of it as such; to the receiver, there is

no meaningful difference between signals intentionally produced by the signaller and any other observation they may make of the signaller's behaviour.

It is probably no coincidence that this view of animal communication maps well onto the pragmatic notion of inference. Where listeners infer meaning, they are, in the terminology of animal communication, reading a mind: they use the utterance to gain an insight into the speaker's intended meaning (Origgi & Sperber, 2000). It seems reasonable to propose, similarly, that when giving a signal – that is, making an utterance – speakers are trying to manipulate the behaviour of others. Certainly, given the clues reviewed above, more detailed examination of language as selfish manipulation is merited.

Although, as already mentioned, some researchers have proposed individual payoffs to speaking, it is surely more likely that the payoffs will take a wide variety of forms. Increased status within the group (Dessalles, 1998) is likely to be a payoff in some scenarios, and greater sexual opportunity (Miller, 2000; Burling, 2005) in others. But in other circumstances neither of these will apply. Rather than see such examples as exceptional, it seems more appropriate to conceive of all signalling (linguistic or otherwise) in the terms of animal communication systems: as attempts to manipulate the behaviour of others. For example, in issuing the utterance "Make me a cup of tea" I am attempting to manipulate the body of the listener so as to perform an act on my behalf. Whether or not the imperative is obeyed is a function of their ability to infer my state of mind – that is, to mind-read (a straight-forward task in this example, since I have made my state of mind explicit, though this would not necessarily be the case in a more complex example) – and of whether they consider it in their interest to comply.

Exploration of how well this perspective of human language is congruent with traditional accounts of pragmatic behaviour is surprisingly little-addressed by language evolution researchers. This is especially true given that it provides the individual variation – in the form of one's ability to engage in mind-reading and manipulation – that is the fuel of natural selection. From an evolutionary perspective, we are better to conceive of language in the same essentially selfish terms as animal communication. The alternative, naïve assumption that language is used to transfer propositional content leads to a series of arguments that the present analysis suggests are unlikely to be true: that, by listening to new and relevant information, listeners receive most, if not all, of the benefit from conversation, and thus that in order to explain our willingness to communicate we

must find some justification for massive reciprocated altruism in language use. As we have seen, this seems unlikely. We are better to conceive of human communication in just the same way as we do the communication of any other animal: as the product of selfish attempts to manipulate and mind-read the behaviour of others.

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