

Alignment vs conflict of interests in language evolution: Two pathways to high-level mindreading

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High-Level Mindreading (HLM), a type of controlled and reflective mentalizing activity, has been argued to be one of the core cognitive abilities underlying language (e.g.; Scott-Phillips, 2014; Wilson & Sperber, 2006). Most accounts of the evolutionary emergence of HLM in early humans put it in the context of cooperatively working towards common goals. Relatively less attention has been given to more competitive scenarios that assign greater prominence to the elements of rivalry between individuals (Tomasello, 2018; Witteveen, 2021). Here, we look at the latter aspect, arguing for its greater than currently appreciated relevance to the evolution of HLM. Specifically, we claim that:

- evolutionarily, HLM may derive not only from pressures on (i) *optimising communicative relevance* in the service of making cooperation effective, but also pressures on (ii) *epistemic vigilance* in the service of making cooperation stable;
- the relative importance of optimising relevance vs epistemic vigilance depends on a single predictive factor, i.e. the degree of alignment of interests between individuals. Highly aligned interests promote cooperating effectively, whereas a degree of conflict of interests promotes being epistemically vigilant so as to minimise the risk of deception and defection. In short, optimizing relevance improves coordination skills useful for cooperation, while epistemic vigilance creates a cognitive defense against attempts at deception.

It is widely agreed that the physical and social ecology of early humans involved a variety of contexts in which collaborative interactions were essential for one's fitness (such as big game hunting or cooperative breeding). Most accounts (Tomasello, 2018; Witteveen, 2021) highlight the benefits of cooperation and the need to evaluate the competence of the potential collaborators and the ways of efficiently coordinating joint action, which puts high demands on the cognitive skills related to the understanding of the mental states of others. This is indeed the case where the interests of group members are closely aligned. However, individuals in a group always tend to have partly conflicting interests, because they compete for the same limited resources, such as food, safety, or high-quality mates. Proportional to the degree of conflict of interest is the risk of

defection and deception in communication, which in turn puts high demands on being able to accurately determine the trustworthiness and reliability of a potential partner.

We consider here the theoretical framework proposed by Heintz and Scott-Phillips (2023), in which relevance optimization, ostensive communication and epistemic vigilance (EV) played a crucial role in the evolution of human communication and language. Mentalizing abilities (i.e. theory of mind) are the evolutionary outcome of a process in which understanding others' communicative and informative intentions was an obligatory path to have open-ended, highly flexible and context-dependent, indefinitely recursive and voluntary communication (Scott-Phillips & Heintz, 2023).

We would like to complement this account by stating, as signalled above, that the degree of alignment of interests predicts two different evolutionary scenarios. In situations of high alignment of interests, i.e. mutualistic or near-mutualistic interactions where the risk and/or costs of partner defection are relatively small, it is more important to maximise the benefits of cooperative interaction. Such scenarios prioritise coordination and optimising relevance over being epistemically vigilant. Conversely, when the alignment of interests is smaller, and the risk of deception or partner defection is higher, it is more important to minimise those risks; this prioritises epistemic vigilance over relevance-optimisation. Importantly, the two paths are not mutually exclusive, and in fact both rest on the importance of cooperation, but bring to the forefront different aspects of cooperation subserved by different cognitive mechanisms: the effectiveness of cooperation (aided by relevance optimisation) vs the stability of cooperation (aided by epistemic vigilance).

What is the possible contribution of these two aspects of cognition to the origin of human communication? In a scenario without relevance optimization, there would not have been a bias that would have led to the origin of increasingly sophisticated communicative interactions; in a scenario without epistemic vigilance, the tools to deal with attempts at deception and manipulation made possible by a greater push for communication would have been lacking: language would never have appeared.

References

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