WHEN IS A CODE NOT A CODE?

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It is often stated that mind-reading, or the ability to attribute and reason about other's mental states, is a cognitive prerequisite for communication (Clark 1996; Levinson 2006; Wilson & Sperber 2012; Scott-Phillips 2014; Tomasello 2008). One foundational argument for this is that the code model of communication fails to account for how hearers access speaker meaning. Alternatives to the code model focus on identifying speakers' intentions, and so require mind-reading. This argument is very rarely questioned, but it is deeply problematic.

First, the 'classic' code model, where signals are associated with meanings in a simple dictionary-like way, does not even account for all cases of animal communication. If this is true, then it is hardly surprising that it also fails to account for some human communication, (and presumably we would not want to conclude that animal communication also requires mind-reading). A more plausible code model of animal communication is required if it is to be a genuine target.

At least some animal communication uses intentionally produced signals that rely on complex and probabilistic codes, where signal interpretation is sometimes context-sensitive (e.g. Roberts et al. 2012). Importing context-sensitive coding into the code model is crucial, as makes it possible for interpretation of signals to depend on a range of socially and ecologically important inputs. These inputs can include prosody, speaker's line of sight and current activities, non-mentalistic goal recognition, and emotion recognition. Complex decoding processes can also rely on pragmatic presumptions, such that it is worthwhile to pay attention to utterances directed towards oneself (e.g. marked by sustained eye contact), and that utterances are easy to decode. In this 'broad' code model, communication is tied to existing ways of successfully interacting with others, and can be done in a way that does not rely on mind-reading.

However, if the claim is that animal communication (code-like) is qualitatively different to human communication (not code-like), given the broad code model, it is not entirely clear what the qualitative difference is. Clearly, there is a lot that the broad code model cannot do. But the broad code model makes it possible to identify speaker meaning across a range of contexts that are likely to be ontogenetically and phylogenetically important, including deictic signals. If this is the case, then it looks like mind-reading is not always necessary for engaging in context-sensitive and pragmatically informed communication.

There is a further problem though. If one views all cognition as essentially coding/decoding information, then *any* model of human communication will be a code model at some level of description. Even if mind-reading turns out to be essential for human communication, an information processing model of mind-reading would be part of a larger code model of communication. Yet mind-reading remains a black box, making it difficult to evaluate exactly when and how it contributes to communication. It is not clear what online and stored inputs are selected and used, and how and which inferences are generated. Further, related to similar debates about animal mind-reading, there are thorny questions about what counts as 'genuine' mind-reading, compared to any other process that uses perceptual cues and stored information to predict and explain behavior. So, even if mind-reading is claimed to be part of a larger code-model of communication, it is currently very unclear what process it refers to.

Following Buckner (2014), it is unlikely that there is a clear-cut answer to this, but he provides an interesting perspective on how to approach mind-reading. Buckner follows a Dretskian analysis of representational content and suggests that an agent is more along the continuum of being able to mind-read, or represent mental states, the more able they are to integrate information concerning the candidate mental state in question (and act accordingly), and the better they are able to learn novel cues that mark the presence of that candidate mental state. That is, mind-reading is not an all-or-nothing capacity, but a graded capacity to engage in certain kinds of cognitive processing (and ones in which adult humans do not always excel).

Given this gloss on mind-reading however, it is even less clear what necessity claims about mind-reading in the context of communication amount to, because mind-reading is not a single, monolithic capacity. Instead, it seems likely that different types and levels of mind-reading, at different levels of complexity/flexibility, will be necessary for more or less successful engagement with specific types of communicative acts. In this case though, not only is one of the foundational arguments in favour of the necessity of mind-reading for human communication deeply flawed, but claims about the necessity of mind-reading for human communication are at best massively underspecified, and at worst cognitively implausible.

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