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Non-Human Cognition

Language is a complex communication system

Linguists and philosophers historically see language origin and evolution as a special and unique communication system between humans (Scott Phillips, 2015). Yet lately, there has been a discussion if the evolution of human communication can be compared with non-human cognition and communication (Scott Phillips, 2015). Because for example, we assume that the communication between great apes can tell us a great deal about the origins of human communication and language (Scott Phillips, 2015). Even though great ape communication does not share the same communal foundations as human linguistic ability, it probably did involve to a more sophisticated degree over time and is more than just a particular code system (Rendal, 2015). Tomasello & Herrmann gave an extensive battery of cognitive tasks to some great apes and 2-year-old human toddlers in a study. The assumption here was that because children have a greater degree of general intelligence, better skills and memory, they should exceed in this experiment. But this was not the case; apes and toddlers had a very similar result. However, with a second study, the critical difference was that children tried to communicate with the adults to help them. They suggest that humans evolutionarily understand that social-cognitive skill is valuable toward complex forms of cooperation (Tomasello & Herrmann, 2010).

In the case of silicon-based non-humans, it is generally accepted that these forms of Artificial Intelligence (AI) are very good in mimicking human intelligence and behaviour such as memory, learning, and decision-making but lack an actual cognitive ability to have a comprehendible and cultural complex communication system (Chen & Wong, 2019). AI, for now, can have a basic conversation but have no fundamental understanding of the words they use. However, some advancements and tests have been made to give a word more meaning by relating words in a vector space or 'thought vector'. For example, the word 'boat' is close in vector space to 'water' (Knight, 2016). But if AI systems become increasingly complex and sophisticated, I believe it is essential to collaborate with them effortlessly through language. Computers are by themselves powerful and complex systems, after all.

I would argue that human communication involved in a much better 'theory of mind'. Our cognitive ability developed more complex and abstract models of others knowledge, goals, intentions, beliefs and disbeliefs (Schlinger, 2016). Furthermore, this ability provides us with a more complex and systematic sequence to plan models and communicate this with others. Even historically argued, this gave homo-sapiens the upper hand compared to Neanderthals (De Boer, 2016). This is interesting because Neanderthals could technically have the same facial expressions and body language as humans, yet their brains have not evolved evenly like that of homo sapiens.

Nevertheless, we still could emphasize that animals also can understand complex facial expressions, body language and vocal manipulation, like between humans and, for example, dogs. Although we feel emotionally bonded to these domesticated animals, they are not unique with associative learning (for example, understanding the relationship between a vocal sound and expected behaviour), but they do exceed social cognition. Dogs have an impressive ability to understand other animals' behaviour (especially for humans) as a cue (Lea & Osthaus, 2018). Still, I would say that the overall complex nature of human language has too many divergences with the communicative practices of non-humans.

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