Representation in Animal Signals
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According to ethological theory, animal behaviour is mediated by the exchange of information among individuals. Individuals influence the behaviour of others by sending specific information about themselves or about third parties, leading to the evolution of specialised traits (signals). This view of animal behaviour requires a theory of semantic content. One of the most influential theories of content is teleosemantics, and in this presentation I would like to explore whether teleosemantics can explain the content of animal signals. I will argue that only a purely consumer-based version of teleosemantics is appropriate.

One teleosemantic approach to semantic content is Fred Dretske's. He suggested that representations have the evolutionary function to indicate a state of affairs. Several authors have rejected this suggestion, objecting that many animal signals simply do not have the function to indicate a state of affairs (e.g., Millikan, Godfrey-Smith). Godfrey-Smith in particular argued, rightly I think, that the overall success of a signal depends only partly on its degree of reliability.

The most influential teleosemantic account of content is Ruth Millikan's. A crucial element in her account is the cooperation between signal producers and signal consumers; she drops the indication condition. Despite Millikan's claims to the contrary, her account cannot make sense of all animal signals because the cooperation condition is often not satisfied. The producing and consuming devices of a given animal signal belong to distinct individuals, who often have opposing evolutionary interests. On Millikan's account, many animal signals are not really signals at all. I will use the mating signals of fireflies and their predators to illustrate my case against Millikan.

I suggest that these difficulties can be overcome by a purely consumer-based version of teleosemantics, which abandons the cooperation requirement. The idea is that only the function of the consuming device determines the signal's content, whereas the function of the producing device is not content-determining. It can be shown that in non-cooperative signals, consumer-based teleosemantics attributes content whereas Millikan's account does not, and it attributes the (ethologically) appropriate sort of content; further, in cooperative signals, consumer-based teleosemantics attributes the content that Millikan's account would attribute (as it should).