Prof Dr Nicola Clayton

Professor of Comparative Cognition, Department of Experimental Psychology, University of Cambridge, Cambridge, UK

"Comparative social cognition: lessons from corvids and children"

Food-caching corvids appear to possess rather sophisticated social cognition. These birds hide food, but as such caches are susceptible to pilfering by other individuals, they have adopted a number of counter-strategies to protect their caches from theft, e.g. hiding most of them out of sight if another bird is watching, or hiding them in quiet places if the observer can hear but cannot see. When observed by potential pilferers at the time of caching, experienced jays that have been thieves themselves, take further protective action. Once the potential pilferers have left, they move caches those birds have seen, re-hiding them in new places. Naïve birds that had no thieving experience do not do so. By focusing on the counterstrategies of the cacher when previously observed by a potential pilferer, these results raise the intriguing possibility that re-caching is based on a form of mental attribution, namely the simulation of another bird's viewpoint. Furthermore, the cahers also keep track of which observer was watching when and take protective action accordingly, thus suggesting that they may also be aware of others' knowledge states.

By contrast experiments on knowledge attribution in 2-year old children suggest rather less impressive social cognition. Although the young children were able to use their own visual experience in a novel situation to subsequently infer another person's visual perception in a similar context, they failed to understand the crucial role that perceptual access plays in knowledge formation. Taken together these results indicate that young children's appropriate use of pointing gestures in natural communicative situations is not an indication of a genuine understanding of other people's knowledge states, as recently claimed, but may be better accounted for by assuming simpler processes such as an understanding of engagement.