Not so bird-brained: Clever crows recognise faces

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Intrigued by the behaviour of wild American crows (Corvus brachyrhynchos) on their campus in Seattle, University of Washington scientists explored whether the birds would recall a face associated with a frightening ordeal.

The researchers donned the rubber mask of a caveman before trapping, banding and releasing seven crows.

Thereafter, researchers wore either this "dangerous" mask or a neutral one -- that of former US vice president Dick Cheney -- and observed, as they walked along the college paths, how the flock of crows reacted.

The "crow magnon" mask prompted the birds into a collective response to a threat. They cawed and screeched, angrily flapped their wings and flicked their tail to warn of the danger, a behaviour called scolding.

But the Cheney mask elicited no response.

The team broadened the experiment to four other sites beyond the university, this time using different masks made in latex by a mask maker. The faces were ordinary looking, either male or female, Asian or Caucasian. Forty-one birds were caught and banded.

As time passed, the number of birds scolding the "dangerous" face did not decline. Rather, the reverse happened.

At the university site, scolding rose from 20 percent of the birds after the banding to an astonishing 60 percent after five years.

"At the other sites, we only tested for a half year and there, 20 to 40 percent of crows scolded," John Marzluff, a professor of wildlife science, said in an email.

What caused the increase in scolding?

Some of the angry birds were the offspring of banded crows, who as fledglings had watched as their parents reacted to the perceived danger.

But there were also unbanded crows, living up to 1.2 kilometers (0.75 miles) from the site. They joined in, apparently learning of the threat through the contagion of mobbing.

Facial recognition is essential for the crows, says the study.

Some humans in the area put out food for the birds while others shot them.

"Some of our sites were rather rural and the birds there are very wary, having been persecuted by people," explained Marzluff.

"Urban crows are very attentive to people, having to sort the good providers from the dangerous."

The crows are particularly intriguing because they have to juggle three potential sources of information, says the paper, which is published in a British journal, *Proceedings of the Royal Society B: Biological Sciences*.

The birds acquired information either first hand, through their own experience; "vertically," from their parents; or "horizontally" from other birds.

Managing this implies the birds have remarkable flexibility in processing information.

In evolutionary terms, animals have to make a trade-off when it comes to processing information.

Gaining information first-hand -- about threats or food, for instance -- is the most reliable way but it is also potentially risky.

Acquiring it from trusted individuals is less costly but also potentially less reliable, and even more so when the information comes from more distant sources.

The American crow is unlikely to be alone in its multi-tasking data

processing.

"It has not been demonstrated, but I'm sure jackdaws and rooks (also) use both individual, horizontal and vertical methods of learning," said Marzluff.

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