

Animal behaviour

Snowball fight

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Everybody knows that birds sing. But it appears that some can dance, too.

SNOWBALL is probably the world's most famous living parrot, with a Wikipedia entry to prove it. One clip of him on YouTube, a video-sharing website, has had over 2m hits. The sulphur-crested cockatoo's claim to stardom is his ability to perform what looks decidedly like dancing (to the Backstreet Boys' hit, "Everybody"). It is an intriguing display but an aberrant one, as parrots have never been seen to dance in the wild. Nevertheless it may, according to Aniruddh Patel of the Neurosciences Institute in San Diego, shed light on the evolutionary origins of song and dance in people, too.

There are three main theories of the origins of singing and dancing. Two suggest they are functional—either serving to attract mates or fostering social cohesion and thus collaboration. The third, put forward recently by Dr Patel, says the whole thing is a glorious accident—the by-product of an evolved capacity for mimicking vocal cues, which humans have because that is how they learn to speak. This is a plausible explanation of singing, but how it might then lead to dancing (ie, a rhythmic movement of various parts of the body in time to the music) is obscure. Nevertheless, one possible test of Dr Patel's hypothesis is to see if anything resembling dancing emerges in animals known to be vocal mimics, who are exposed to the rhythms of human music.

Dr Patel and his team have thus taken a close interest in Snowball, who has been residing at the Bird Lovers Only Rescue Service in Schererville, Indiana, since he was left there by his previous owners in 2007, along with a CD of his favourite music. The results of their research have just been published in *Current Biology*.

Their conclusion, after sophisticated statistical analysis to exclude the possibility of coincidence, is that Snowball really is dancing. If a song's tempo is changed without changing its pitch, his head-bobbing and leg-

**Shake it all about**

lifting change time to match. And they are not alone in this conclusion. Adena Schachner of Harvard University and her colleagues have also been studying this psittacine prodigy and they, too, have just published their findings in *Current Biology*.

Broadly, they endorse Dr Patel's conclusion that Snowball is jiving to the beat. They have also found a similarly talented African grey parrot, and conducted the same experiments on that. But they went further than Dr Patel by trying to persuade cotton-top tamarins, a species of

monkey, to learn to dance as well. They failed, as Dr Patel's theory predicted they would, because tamarins—although very vocal—are not mimics.

Further investigation on YouTube, by Dr Schachner, has turned up 33 video clips of animals with Snowball-like talents. All told, there are 14 types of parrot in these video clips, all species well-known for vocal mimicry, and one elephant. That elephants are vocal mimics is less widely known, but it has recently been established scientifically.

Whether any of this truly endorses Dr Patel's hypothesis is moot. Since none of the species looked at is known to dance in the wild, and all are known vocal mimics, it does suggest that vocal mimicry somehow provokes dance-like behaviour when an individual is exposed to a rhythmic sound. But, though there is no disputing Snowball's talent, that is not proof.