

HE'S GOT RYTHM



If you were at our September General Meeting you will remember the dancing cockatoo video clip shown. The following is that bird's story.

Snowball is a male Eleonora Cockatoo, *Cacatua galerita eleonora*, about fifteen years old, and is noted for being the first non-human animal conclusively demonstrated to be capable of beat induction – perceiving music and synchronizing body movements to a beat, in other words dancing.

Snowball's abilities first became apparent after being acquired from a bird show at the age of six by his previous owner. Encouraged by the family he would bob his head in time to the Backstreet Boys song, “*Everybody*”. After a while his owner and his children observed Snowball developing rhythmic foot-lifting gestures, perhaps in imitation of his human companions' arm-lifting gestures.

In August 2007, Snowball was relinquished by his owner (at least his third) to the *Bird Lovers Only* bird shelter in Schererville, Indiana, as he had become “difficult to manage”, following his daughter's departure to college. Shelter owner, Irena Schulz, was informed of the Cockatoo's unusual ability and, after confirming this behavior at first hand, uploaded a video of Snowball's dancing, swaying, and head bobbing to her website. Some time later the video was uploaded to YouTube, where it became something of an internet phenomenon, with over 200,000 hits in one week. The video was also featured on a number television programmes in the U.S.A.

Snowball has also appeared in TV commercials, including advertising *Loka* brand bottled water in Sweden in 2008 and in a *Taco Bell* advert in 2009, dancing to “*The Piña Colada Song*”.

In 2008, the YouTube clip featuring Snowball was brought to the attention of Drs. Aniruddh D. Patel and John R. Iversen of the Neurosciences Institute, in La Jolla, California. In an interview with the *New York Times*, Dr. Patel stated that his “jaw hit the floor” on seeing the video, comparing the unlikely event of a cockatoo dancing to human music to that of a “dog reading a newspaper out loud”. Between January and May 2008, Patel led research to determine whether or not Snowball was, in fact, truly synchronizing his body movements to the music (as opposed to simply mimicking or responding to visual clues from humans present in the room at the same time). Snowball's favorite piece of music was played to him at several different tempos and his reactions recorded on video for later analysis.

The results, published in the paper "*Investigating the human-specificity of synchronization to music*" showed that Snowball was capable of spontaneously dancing to human music and that he could, to a limited extent, adjust his movements to match the tempo of the music. Such behavior was previously thought to only occur in humans. Snowball's ability to synchronise his movements to music is thought to be unrelated to the male natural courtship display of an Eleonora Cockatoo. The courtship display is described as "simple and brief" and involves a male strutting towards a female with his crest raised, whilst bobbing and swishing his head in a figure-eight movement and "uttering soft, chattering notes all the while".

Adena Schachner and other scientists at Harvard University have also studied Snowball and reached conclusions similar to those of Dr. Patel. Schachner also identified that Alex, an African Grey Parrot, *Psittacus erithacus*, famed for his intelligent use of language may have also shared the ability to 'dance'.

Dr. Patel has suggested that the capability of both humans and cockatoos to move synchronously to a rhythmic beat may be a "by product of a link between the auditory and motor parts of the brain" resulting from the ability both species to learn and mimic sounds.

R.V.C. with help from Wikipedia