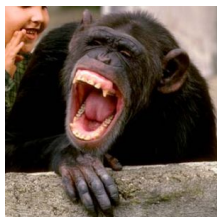


6 January 2007

By: Stefan Anitei, Science Editor



[Why Is Laughter Contagious?](#)

For stress and social reasons

You know that sometimes you laugh like a fool: you see two people laughing, and without knowing the reason, you burst into laughter anyway. Scientists have recently proven that laughter is indeed contagious: the brain responds to the sound of laughter and puts the rictus on your face. "It seems that it's absolutely true that 'laugh and the whole world laughs with you,'" said Sophie Scott, a neuroscientist at the University College London. "We've known for some time that when we are talking to someone, we often mirror their behavior, copying the words they use and mimicking their gestures. Now we've shown that the same appears to apply to laughter, too—at least at the level of the brain." The research team exposed subjects to different sounds and measured the responses in their brain with an fMRI scanner. Some sounds, like laughter or a triumphant shout, triggered positive responses, while others, like screaming or vomiting, provoked negative responses. All of the sound activated the premotor cortical region of the brain, which prepares the face muscles to contract in a way correlated to the sound. Positive sounds provoked a much more powerful reaction than negative sounds, that's why we involuntarily smile when we see people laughing. "The team also tested the movement of facial muscles when the sounds were played and found that people tended to smile when they heard laughter, but didn't make a gagging face when they heard retching sounds," said Scott. Researchers think that the brain intends to avoid negative emotions and sounds, which provokes stress. "The contagiousness of positive emotions could be an important social factor," said Scott. Perhaps, human ancestors may have laughed in groups before they could speak and that laughter may be much older than articulated language. Chimpanzees clearly do it. "We usually encounter positive emotions, such as laughter or cheering, in group situations, whether watching a comedy program with family or a football game with friends," Scott said. "This response in the brain, automatically priming us to smile or laugh, provides a way or mirroring the behavior of others, something which helps us interact socially. It could play an important role in building strong bonds between individuals in a group." That's why when we see/find something very funny, we say "I was laughing by myself". The team will investigate these emotional responses in the brain of people with autism, who present "general failures of social and emotional processing to better understand the disease and why those with it don't mirror others emotions," she said.