

What Makes a Face Look Alive? Study Says It's in the Eyes

December 20, 2010

The face of a doll is clearly not human; the face of a human clearly is. Telling the difference allows us to pay attention to faces that belong to living things, which are capable of interacting with us. But where is the line at which a face appears to be alive? A new study published in *Psychological Science*, a journal of the Association for Psychological Science, finds that a face has to be quite similar to a human face in order to appear alive, and that the cues are mainly in the eyes.

Several movies have tried and failed to generate lifelike animations of humans. For example, the lifeless faces in *Polar Express* made people uncomfortable because they tried to emulate life but didn't get it quite right.

"There's something fundamentally important about seeing a face and knowing that the lights are on and someone is home," says Thalia Wheatley of Dartmouth College, who cowrote the study with graduate student Christine Looser. Humans can see faces in anything—the moon, a piece of toast, two dots and a line for a nose—but we are much more discriminating when it comes to deciding what is alive and what is not.

Wheatley and Looser set out to pin down the point at which a face starts to look alive. Looser drove around New Hampshire visiting toy stores and taking pictures of dolls' faces. "It was fun trying to explain what we were doing to shopkeepers. I got some strange looks," says Looser, who then paired each doll face with a similar-looking human face and used morphing software to blend the two. This made a whole continuum of intermediate pictures that were part human, part doll.

Volunteers looked at each picture and decided which were human and which were dolls. Looser and Wheatley found that the tipping point, where people determined the faces to be alive, was about two-thirds of the way along the continuum, closer to the human side than to the doll side. Another experiment found that the eyes were the most important feature for determining life.

The results suggest that people scrutinize faces, particularly the eyes, for evidence that a face is alive. Objects with faces may look human, but telling the difference lets us reserve our social energies for faces that are capable of thinking, feeling, and interacting with us.

"I think we all seek connections with others," Wheatley says. When we recognize life in a face, she says, we think, "This is a mind I can connect with."

See examples of the morphed faces used in the experiments here:

http://www.youtube.com/user/PsychologicalScience#p/u/6/ti9o_HDAXwk
<http://www.youtube.com/user/PsychologicalScience#p/u/5/X2v6Jvj7ckI>