

New study examines brain processes behind facial recognition

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When you think you see a face in the clouds or in the moon, you may wonder why it never seems to be upside down.

circuits can be modified by knowledge and experience.

It turns out the answer to this seemingly minor detail is that your [brain](#) has been wired not to.

Provided by University of Western Ontario

Using tests of [visual perception](#) and [functional magnetic resonance imaging](#) (fMRI), Lars Strother and colleagues at The University of Western Ontario's world-renowned Centre for Brain & Mind recently measured activity in two regions of the brain well known for facial recognition and found they were highly sensitive to the orientation of people's faces.

The team had participants look at faces that had been camouflaged and either held upright or turned upside down. They found that right-side up faces were easier to see - and activated the face areas in the brain more strongly - thus demonstrating that our brains are specialized to understand this orientation.

The surprise came when they found this bias in brain activity also applies to pictures of animals.

Like faces, animals are biological visual forms that have a typical upright orientation. In the study, published in the current issue of the journal *PLoS ONE*, Strother and his colleagues propose that the human visual system allows us to see familiar objects - not just faces - more easily when viewed in the familiar upright orientation.

They also demonstrated this bias can be found in the neural activity of those brain areas involved with the most basic steps in visual processing, when visual inputs from the eyes first reach the brain.

In future research, the team hopes to chase down how this bias is set up in these early visual areas of the brain - and what this tells us about how brain

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