# The hand can't be fooled, study shows

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Research published in the March issue of *Psychological Science*, a journal of the Association for Psychological Science, is suggesting that we process images in two very distinct ways.

Ben-Gurion University of the Negev Psychologist Tzvi Ganel and his colleagues presented research participants with the “Ponzo” illusion, an image common in psychological research that makes two objects that are similar in length appear drastically different. They then hooked participants’ index finger and thumb to computerized position tracking equipment and asked them to grasp the objects with their fingers.

Even thought the object appeared to be larger (or smaller) than it really was, the size of their grasp reflected the object’s real rather than apparent size. For good measure, the researchers arranged the illusion so that the object that appeared to be the smaller of the two was actually the larger of the two.

As Ganel points out, these findings provide compelling support for what psychologists and neuroscientists describe as the “two visual systems hypothesis." According to this view, put forward more than a decade ago by Mel Goodale and David Milner, one system, -- vision-for-perception -- gives us our conscious visual experience of the world, allowing us to see objects in the rich context of the scenes in which they are embedded. It’s also the one that is fooled by optical illusions.

The other system, vision-for-action, provides the visual control we need to move about and interact with objects. This system does not have to be

conscious, but does have to be quick, goal-directed, and accurate - and as a consequence, is much less likely to be fooled by illusions such as the one used by Ganel and his colleagues.

“The idea of two visual systems in a single brain might seem initially counter-intuitive.After all, it seems obvious that it is the same subjective image that allows us both to recognize the coffee cup on our desk and to pick it up” writes Ganel. But this belief is an illusion, as the new research demonstrates.When there is a conflict between what we perceive and what is really out there in the world, it seems that it is our fingers have an advantage.

Source: Association for Psychological Science