



Real illusion or illusory illusion: The method of Faux Illusions for verifying new illusions

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Abstract Here the problem of the verification of new illusions is addressed. Subtle perceptual illusory experiences can be hard to recognize, meaning that it can be difficult or impossible for an introspecting psychologist to convey a new illusion or verify that other people experience a new illusion without polluting other people's experience by introducing biasing expectations through the very act of describing what the illusory experience might be like. The proposed solution is to offer subjects an array of descriptions of faux illusions that are known to be unexperienceable, along with the new illusion, in order to determine whether naïve subjects are uniquely more likely to report an illusory experience for the hypothetical new illusion than for the faux illusions.

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Psychologists have identified numerous perceptual illusions, but there remains a basic problem in the process of reporting the existence of a new illusion: the problem of objective verification of the reality of the illusion. If I think I have experienced an illusion, how do I know whether others experience it too? If I tell other people what I experience, I might pollute their experience (i.e. the power of suggestion), but if I do not tell other people what I experience, they might not pay attention to the relevant sensation and miss the experience altogether.

Let's say I think that if I touch my tongue to a canine tooth through the hole in a soda tab and move the tab around, it feels a bit like my tooth is moving. (I do think this). But, no one I have asked to do this has ever reported being sure that they experience the tooth-wiggling effect,

though some people report that they might. Below, I outline a version of the method of Faux Illusions which I hypothesize can help determine whether other people experience what I think I might experience.

Subjects can be given a list of what they are told are three potentially experienceable illusions along with a description of how to achieve each effect. For example, to test for the existence of the Loose Tongue illusion, the list might include three items: (1) The One Big Tooth illusion. Rub your tongue rapidly against the back of your two front teeth and then stop. It will feel like you have one big tooth. (2) The Loose Tooth illusion. Touch your tongue to your canine tooth through the hole of a soda tab and gently move the tab back and forth. It will feel like your tooth is loose. (3) The Long Tongue illusion. Stick your tongue as far out of your mouth as you can and tap the tip of your tongue with your finger. It will feel like your tongue gets even longer while you are tapping it. Subjects can rate the

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plausibility of each illusion being real before and after actually trying the procedures: only real illusions should emerge from the plausibility ratings following attempting the experience.

The Faux Illusion procedure might need to be modified based on the particular illusion at hand. For example, an illusion with high face validity might have a ceiling plausibility rating even before subjects attempt the procedure, in which case a lack of a drop in plausibility following attempted experience would be the dependent measure to examine. Or, there might be individual variance in susceptibility to an illusion, in which case a large number of subjects might be necessary to determine the existence of the illusion. For example, not many people can turn their tongues upside-down and of those who can, not all experience the Tongue Twister illusions [1], but those who do experience the illusion very strongly. In addition to the ratings, subjects might be given a chance to indicate that they definitely experience a certain illusion. Faux Illusions should be normed to make sure virtually no one reports definitely experiencing them so that rare individual reports of definitely experiencing an illusion can be meaningful. Still, an illusion might be experienceable by only a very small number of people, or even by just one person who happens to have unique perceptual cognition: the current method can verify but not rule out the reality of a new illusion.

On the one hand, perhaps the Faux Illusion procedure is irrelevant to establishing the veracity of many illusions: maybe if other people do not experience an illusion, there is no illusion, and if they all experience it, no further proof is necessary. But, with a subtle illusory effect, people honestly might not know if they experience the effect or if they imagine the experience. Without faux illusions as controls and a subject group of naïve individuals, people's responses, and even experiences, of certain illusions might be contaminated by various forms of bias. The method of Faux Illusions is a more general tool than tooth-wiggling illusion verification alone: it is my hope that formal methods of illusion verification will open a door for the substantiation and study of a range of otherwise seemingly intractably personal illusory experiences.

Conflict of interest

The author declares no financial or commercial conflicts of interest related to this article.

Reference

- [1] Egeth M. Two new illusions of the tongue. *Perception*, 37(8), 1305–07.