While a Magician Works, the Mind Does the Tricks

I often refer to scribing as a magic trick: We watch a human pull images from thin air, grabbing pictures and ideas from the vapor of conversation and giving them physical form.

This NY Times article gives insight on why the physical performance of illusion is so captivating and how the brain uses neural tricks to do this: approximating, cutting corners, instantaneously and subconsciously choosing what to "see" and what to let pass.

The original paper details the mental models that enable magic to be experienced, such as the the cognitive-neuroscience paradigms of change blindness in which people fail to notice that something is different from the way it was before.

In a paper published last week in the journal Nature Reviews Neuroscience, a team of brain scientists and prominent magicians described how magic tricks, both simple and spectacular, take advantage of glitches in how the brain constructs a model of the outside world from moment to moment, or what we think of as objective reality.

For the scientists, Susana Martinez-Conde and Stephen Macknik of the Barrow Neurological Institute in Phoenix, it raised hope that magic could accelerate research into perception. "Here's this art form going back perhaps to ancient Egypt, and basically the neuroscience community had been unaware" of its direct application to the study of perception, Dr. Martinez-Conde said.

One theory of perception, for instance, holds that the brain builds representations of the world, moment to moment, using the senses to provide clues that are fleshed out into a mental picture based on experience and context.