# Historical discoveries and their significance for the virtual image in art

**Romana Schuler (Vienna, 2012)**

"Why does man have two eyes?" is the title of a paper by the physicist Ernst Mach[1] and the question he asked of his audience in 1866. Mach's question reflects the great interest in stereoscopic vision throughout the nineteenth century and the fascination that inventions like the stereoscope (Wheatstone, 1838) and stereoscopic photography (Brewster, 1849) exerted. I should like now, 150 years later, to ask why the early perception experiments by experimental physicists and physiologists in the nineteenth century are attracting increasing attention in contemporary art. This very broad-based question in fact led me to my current research focus. My interest is in the development of apparent movement and virtual space with reference to experimental psychological and physiological research since the nineteenth century and its influence on the development of the virtual image in the twentieth and twenty-first centuries.

Using modern neurological scanners scientists today can localise in the brain and visualise perception processes such as the perception of movement. Meanwhile artists often resort to historical scientific experiments so as to aesthetically revive antiquated laboratory experiments – sometimes with great success – and implant and promote them in the art world as a form and artistic expression in contextualised transfer art. The aesthetic transfer from the laboratory to the art world is not performed in the same way by all artists; there are many who resuscitate historical processes of discovery such as perception research.

This also means that there are different artistic approaches to historical experiments and their scientific research and presentation. Today's exhibitions frequently historicise scientific experiments of the eighteenth and nineteenth centuries, effectively transferring them to the context of art. Jean Baudrillard[2] sees this as a trans-aesthetic process: the real object is transformed into a hyper-real work of art; in other words, historical experiments actually carried out in laboratories take on an aesthetic presence as works of art. These hyper-real artistic works are reminiscent of romantic "reprises" and show a material and pictorial "real" representation of knowledge, without producing any new findings. One could almost speak of post- or even neo-historicism. The classical historicism of the nineteenth century is characterised by its eclectic agglomeration of old artistic styles. Today, we can recognise a similar structure in the presentation of historical epistemic systems, particularly the nineteenth century, in contemporary art. Representatives include prominent artists like Olafur Eliasson with his elaborate reconstructions of perception installations, or Carsten Höller with his upside-down glasses, which he borrowed one-for-one from the American experimental psychologist George Stratton (1896) and the spectacle experiments at the Institute of Experimental Psychology in Innsbruck (1929–50). On other occasions, Höller wallpapered the back of a roundabout with the Zöllner illusion or demonstrated his artistic investigation of the phenomenon with the aid of artificial, red-green flickering reindeer in the exhibition room.

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[1] Ernst Mach was born on 18 February 1838 in Chirlitz near Brno (now Chrlice) in the Moravian part of the old Austro-Hungarian empire. He started studying mathematics and physics in Vienna in 1855, gaining a doctorate in physics in 1860 and his habilitation the following year. He held a professorship in Graz in 1864 and was professor of experimental physics in Prague from 1867 to 1895. In 1895 he became head of the faculty of philosophy, history and the theory of inductive sciences created especially for him.

[2] Jean Baudrillard, *Die Illusion und die Virtualität* (Bern, 1994), p. 11–12

The impressive illuminated walls of mist by James Turrell are in fact an artistic remake of perception psychology experiments, comparable with the ganzfeld experiments by experimental psychologist Wolfgang Metzger (1930).

A centuries-old traditional task of art is to act as a cultural and scientific image archive. This restriction of the function of art to an aesthetic documentation medium could also explain why independent artistic research has been blocked or at least marginalised. This task has now been taken over by digital storage media. The popular artistic transfer of scientific experiments today does not produce any significant new discoveries but merely reconstructs and repeats them.

The reference points for this notion of art can be found in the traditional classical definition of art in antiquity in which the term *téchne* puts art in the category of *artes mechanicae* and not *artes liberales*. It was not until Renaissance engineer artists like Leonardo da Vinci, Alberti or Dürer that art acquired the status of *ars inveniendi*.[3] Today this position, achieved with difficulty over five hundred years ago, is now being relativised – no doubt on account of changed market aspects – and is clearly losing its value. But is it not the investigation of scientific concepts that evokes and characterises a progressive experimental idea of art? Should experimental art not establish itself alongside science as an additional creative instance that is not confined to imagery but has its own creative epistemic programme and initiates a process of renewed discovery? I see this emancipated attitude to art in programmes by artists like Dan Graham, Alfons Schilling or Peter Weibel, who regard the delimiting of art as a reflection of problem constancy. With the aid of selected media art works I shall attempt to explain my investigation of a forward-looking reprise and reflection on epistemic systems in a visionary interaction of scientific and artistic thinking.

[3] See Serge Moscovici, *Versuch über die menschliche Geschichte der Natur* (1968), Frankfurt /M. 1990, p. 325–83.