INTERNATIONAL LEXICON OF AESTHETICS

Spring 2018 Edition, DOI 10.7413/18258630025

SYNAESTHESIA

by Andrea Gatti

(First published March 31, 2018)

It. *Sinestesia*; Fr. *Synesthésie*; Germ. *Synästhesie*; Span. *Sinestesia*. The term is from the Ancient Greek *syn* ("joint") *aisthesis* ("sensation"), or *syn-aisthánestai* ("perceiving together"), and it denotes the simultaneous perception of two or more sensory data from different sensory organs. "Synesthetes" are those individuals (4-5% of the population) to whom alphabet letters, numbers or sounds appear to be of a particular colour, smell, or tactile quality; for some of them, numerical sequences can also be seen as points in space. In aesthetic terms, synaesthesia is an effect deliberately pursued by certain representations that seek to provide multiple stimuli which are perceived as one gestalt experience.

THE CONTEMPORARY DEBATE

Although there are references to synesthetic questions and experiences even in ancient and modern philosophical literature, the treatment of synaesthesia as a neurological phenomenon developed mainly in the second half of the nineteenth century, in the works of scientists such as Gustav Fechner and especially Francis Galton, who in 1880 published two milestones essays with the same title, *Visualized Numerals* ("Journal of Anthropological Institute" and "Nature").

It was then a series of four annual conferences held in Hamburg from 1927 to 1936 to mark a significant increase of interest in the topic, which soon found expression and application also in the field of art, although it is worth mentioning that in 1857 Baudelaire had already expressed in *Correspondances* the idea that senses can and should intermingle: "Perfumes there are as sweet as the oboe's sound, | Green as the prairies, fresh as a child's caress"; and in 1871 Rimbaud had attributed in his poem *Voyelles* a precise colour to each vowel: "A noir, E blanc, I rouge, U vert, O bleu: voyelles, | Je dirai quelque jour vos naissances latentes".

The research into synaesthesia involves the determination of neuro-anatomical variations, since the experience of visual sensations when other senses are actually stimulated implies particular neural connections (van Campen 2004). Among the most common and recurring forms of synaesthesia, are: *grapheme-colour* synaesthesia (seeing coloured letters or numbers); *chromesthesia* (when sounds evoke

experience of colours); *spatial sequence* (numbers are seen taking up specific points in space); and *auditory-tactile* synaesthesia (when certain sounds give an impression of body contact).

Richard E. Cytowic, one of the leading researchers on synaesthesia, focuses on its neurological aspects but also considers its aesthetic implications. From the beginning of the 2000s, his studies have examined direct experiences of synaesthesia clarifying its main terms and contents. Especially in *Wednesday is Indigo Blue* (2009), Cytowic insists that through synaesthesia it is possible to understand the neurological bases of creativity, since the gene of synaesthesia simultaneously excites areas of the brain that are usually unrelated, joining different qualities such as sound and colour. According to Cytowic in those who suffer from a type of synaesthesia (*e.g.* grapheme-colour synaesthesia), the hyperconectivity of the brain operates outside of a defined pattern and it can provide predisposition or the talent for cross connecting usually and seemingly unrelated data: this is the typical dynamics of metaphors.

Crétien van Campen (2009) addresses the problem from a scientific and an artistic point of view, especially in *The Hidden Sense* (2007). For van Campen, synaesthesia is not a simple metaphorical way of describing a perceptual experience, nor is it a way of creating works of art giving way to audio-visual experiences, but a real hidden sense, a capacity of thinking in a visual way, one that opens new perspectives on the human faculties of perception. He associates synaesthesia with the distinction between Kant's *sensus communis*, which he compares to *synchronesthesia* ("a common gift to perceive matching qualities in different sensory domains"), and *sensus communis aestheticus*, an *analogon* to synesthetic perceptions ("a personal gift to perceive special aesthetic qualities in multisensory domains"): "All people have the common sense to perceive the rhythm in a film's sequence of images or in the percussion in a musical piece, and even that these rhythms may match. Fewer people, however, have the aesthetic sense to perceive colour nuances in the sound of a cello" (van Campen 2007: 154).

ART AND AESTHETICS

Although there are well-known cases of synesthetic artists such as Vasilij Kandinsky, Aleksandr Scriabin, and Vladimir Nabokov, the main concern of aestheticians for synaesthesia is related to artists' perceptual experimentation and interest in using simultaneous stimuli as forms of communication.

Cytowic actually excludes artistic synaesthesia from the study of "genuine synaesthesia": while neurological synesthetes experience joint perceptions even in the absence of the relevant stimuli (as when someone sees colours reading the letters of the alphabet), in art two or more stimuli are intentionally connected (sensory fusion); furthermore, in the case of neurological synaesthesia only some individuals have access to such experiences, whereas in art such cross perception can be experienced by the non-synesthetic public.

According to van Campen, however, artistic experiences, such as those of Kandinskij and Scriabin arise from involuntary synesthetic experiences: artistic representations stemming from those "natural" experiences, therefore, can contribute to the study of synaesthesia (van Campen 1997).

Aesthetic analyses of synaesthesia focus on artistic experiences that involve multiple senses or

perceptions. Peacock reconstructs the history of attempts to create synesthetic experiences from the eighteenth century French Jesuit Louis Bertrand Castel's *Clavecin oculaire* (a harpsicord that combined sounds and colours) to the *Colour organ* created in 1893 by Alexander W. Rimington, who had considerable success in concert halls with his colour-music performances of compositions by Wagner, Chopin, Bach and Dvorak (Peacock 1988). Artworks involving interactions between two or more different sensory modalities have been part of such movements as the *Gesamtkunstwerk* ("total work of art", which arose in the German area with the musician Richard Wagner), or *Der Blaue Reiter*, which involved dance, music, and acting starting from the experiences and theories described by Kandinskij in *The Spiritual in Art* (1911).

In recent years, one of the main artistic domains of synesthetic experimentation has been in *visual music*, which closely links sounds to visual art performances. It also has been widely applied to virtuality, including digital software that produces multimodal perceptions through music and images.

Aesthetic investigations on digital synaesthesia constitute another major new field. Given its use of visual, tactile, auditory, and olfactory media digital technology may open new ways of perceiving: "This description of the aesthetics of digital art, focusing now much more on the nature of algorithms, or on the computer program, showed a consensus with current neuro- and cognitive scientific research on synaesthesia, which in the sciences as well is no longer defined as merely cross-modal, but also as an intermodal perceptual phenomenon that is even shaped by semantic and social parameters" (Gsöllpointner, Schnell and Schuler 2016: 8).

BIBLIOGRAPHY

S. Baron-Cohen, J.E. Harrison (eds.), *Synaesthesia: Classic and Contemporary Reading*, Cambridge, Blackwell, 1997.

G. Berman, *Synaesthesia and the Arts*, "Leonardo", 32 (1999): 15-22.

C. van Campen, *Synaesthesia and Artistic Experimentation*, "Psyche. An Interdisciplinary Journal of Research on Consciousness", 3 (1997), accessed October 29, 2017, http://journalpsyche.org/files/oxaa1d.pdf.

— *Artistic and Psychological Experiments with Synaesthesia*, "Leonardo", 32 (1999): 9-14.

— *Kinetic Synaesthesia: Experiencing Dance in Multimedia Scenographies*, "Contemporary Aesthetics", 2 (2004), accessed September 25, 2017, http://www.contempaesthetics.org/-newvolume/pages/-article.php?articleID=235.

— *The Hidden Sense: Synaesthesia in Art and Science*, Cambridge, MIT Press, 2007.

— *Visual Music and Musical Paintings. The Quest for Synaesthesia in the Arts*, in F. Bacci, D. Melcher (eds.), *Art & the Senses*, Oxford, Oxford University Press, 2011: 495-512.

M.J. DE CÓRDOBA (ed.), *Actas del IV Congreso Internacional de Sinestesia, Ciencia y Arte*, Almeria, Ediciones Fundación Internacional Artecittà, 2012.

R.E. Cytowic, *The Man Who Tasted Shapes*, New York, Putnam, 1993.

— *Synaesthesia: A Union of the Senses*, Cambridge, MIT Press, 2002.

— D.M. Eagleman, *Wednesday is Indigo Blue: Discovering the Brain of Synaesthesia*, Cambridge, MIT Press, 2009.

M. Haverkamp, *Synesthetic Design: Handbook for a Multi-Sensory Approach*, Basel, Birkhäuser, 2014.

K. Gsöllpointner, R. Schnell, R.K. Schuler, *Digital Synaesthesia: A Model for the Aesthetics of Digital Art*, Berlin, De Gruyter, 2016.

L.E. MARKS, *Synaesthesia and the Arts*, in W.R. Crozier, A.J. Chapman (eds.), *Cognitive Processes in the Perception of Art*, North Holland, Elsevier Science, 1984: 427-447.

K. Peacock, *Instruments to Perform Colour-Music: Two Centuries of Technological Experimentation*, "Leonardo", 21 (1988): 397-406.

V.S. Ramachandran, *Hearing Colours, Tasting Shapes*, "Scientific American Mind", 288 (2003): 16-23.

J. Simner, E. Hubbard (eds.), *The Oxford Handbook of Synaesthesia*, Oxford, Oxford University Press, 2013.

J. Ward, *The Frog Who Croaked Blue*, London, Routledge, 2008.

— *et al.*, *Synaesthesia, Creativity and Art: What is the Link?*, "British Journal of Psychology", 99 (2008): 127-141.

HOW TO QUOTE THIS ENTRY

A. Gatti, *Synaesthesia*, "International Lexicon of Aesthetics", Spring 2018 Edition, URL = https://lexicon.mimesisjournals.com/archive/2018/spring/Synaesthesia.pdf, DOI: 10.7413/18258630025.

Please note that this URL is fixed, since it belongs to *ILAe*'s archived edition. This allows readers to quote a stable document for academic purposes.