



SYNAESTHESIA

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Brief Definition

The title is positioned to the left of a decorative graphic consisting of six circles arranged in two rows of three. The top row has a solid light purple circle, an outlined light purple circle, and a solid light purple circle. The bottom row has a solid light purple circle, an outlined light purple circle, and a solid light purple circle.

- “a sensation produced in one modality when a stimulus is applied to another modality, as when the hearing of a certain sound induces the visualization of a certain color.” - dictionary.com



Intro Video

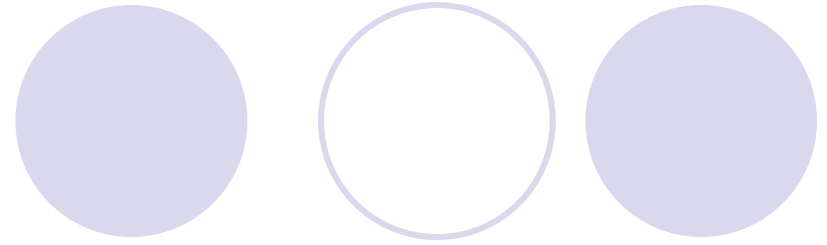
- <http://www.youtube.com/watch?v=veoN1mh7RME>

Synaesthesia



- Synaesthesia is a perceptual condition of mixed sensations
- A stimulus in one sensory modality (e.g. hearing) involuntarily elicits a sensation in another modality (e.g. vision).
- Likewise, perception of a form (e.g. a letter) may induce an unusual perception in the same modality (e.g. a color).

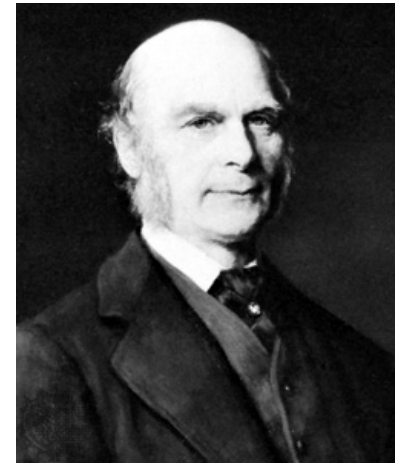
Various Forms



- Grapheme → color synesthesia
- Sound → color synesthesia
- Number form synesthesia
- Ordinal-linguistic personification
- Lexical → gustatory synaesthesia

History

- Research into synaesthesia began in the 19th century with a classic report by Sir Francis Galton, in which he outlined the experiences of several synaesthetes he had studied with color associations.
- Galton remarked that while the color associations of individual synaesthetes were very stable over time, they were not shared between individuals.
- That synaesthetic associations are highly idiosyncratic was an important finding that has continued to this day.



History (cont.)



- In the 1920s and 1930s, synaesthesia fell out of favor with psychologists and researchers. This may be attributed to rise of behaviorism at the time. Behaviorism originated from a push by psychologists to establish the field as a rigorous, experimental science that could be studied by inferential statistics. To them, this dictated that only the observable, objective behavior of a subject should be studied.

History (cont.)



- The turning point in the revival in synaesthesia research at the end of the 20th century can arguably be attributed to a number of experiments carried out by Prof. Simon Baron-Cohen, in which he determined that synaesthesia was a genuine phenomenon, primarily through a test for the persistency of synaesthetic grapheme-color associations.

Testing for Synaesthesia



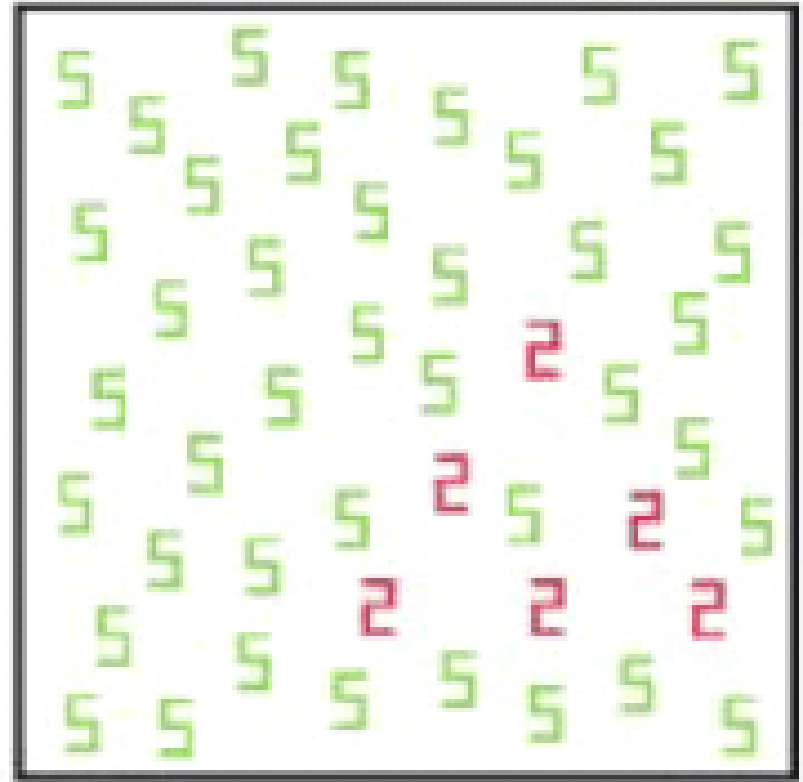
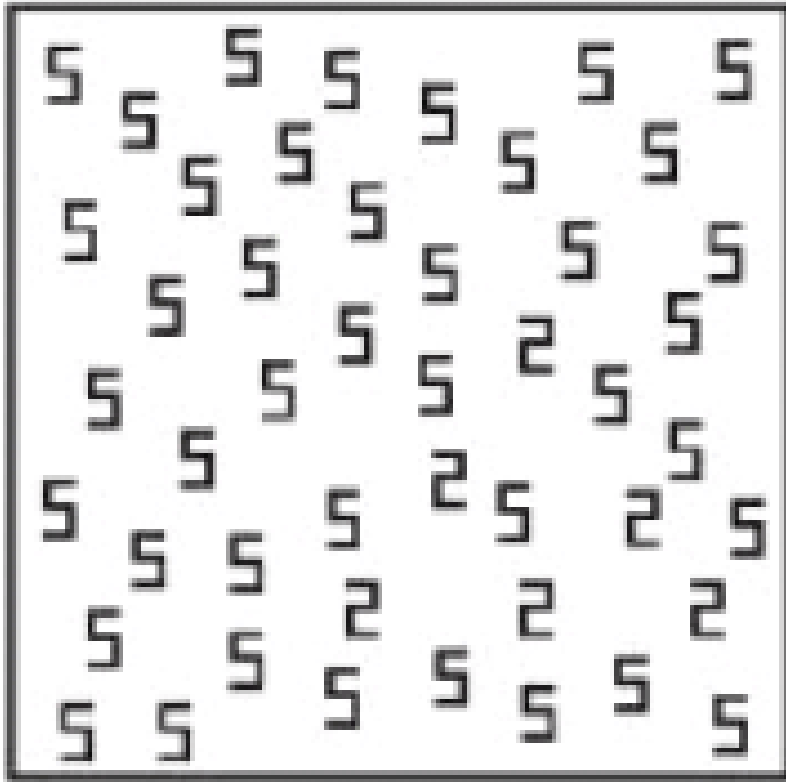
- For some time it was believed that synaesthesia was not a real psychological condition.
- Prof. Simon Baron-Cohen's “gold standard” test changed this markedly.
- In Baron-Cohen’s test, he recorded subjects' grapheme-color associations, and then tested them using the same lists several months or years later. Synaesthetes performed significantly better than control subjects, suggesting that they are not merely making up the condition.

Testing (cont.)



- A later test by Ramachandran further established the legitimacy of synaesthesia.
- While Baron-Cohen's test illustrated the stability of grapheme-colour associations, it did not show that they were necessarily perceptual.
- Ramachandran's test employed “pop out.” This phenomenon can be easily demonstrated by looking at a field of identical characters and asking subjects to pick out the characters that are anomalous.
- The anomalous characters appear to “pop out” to the subject, allowing for near instantaneous identification.

Ramachandran Test



Synaesthesia in Art



- The phrase “synaesthesia in art” refers to a wide variety of artistic experiments in order to synthesize different art disciplines (e.g. music and painting)
- Examples include visual music, abstract film, computer animation, symbolist poetry, multimedia and intermedia.
- Synaesthetic art may refer to either art created by synaesthetes or art created to convey the synaesthetic experience.

Practice in Art



- In the course of established artwork by individuals with synaesthesia, these artists try to convey their sensory input in the forms of paintings and sculptures to communicate their own experiences in a way that others may not be able to familiarize themselves with. Often when with the sound- sight synaesthesia a person who hears a particular sound will see a flash or streak of color in their line of vision. As in the piece “Clouds Rise Up,” Carol Steen says “This is exactly what I saw as I listened to him play his flute. Each note he played had two sounds and two colors: red and orange, which is why the two colors you see move together as one shape on the slightly metallic green surface”.

Practice in Art



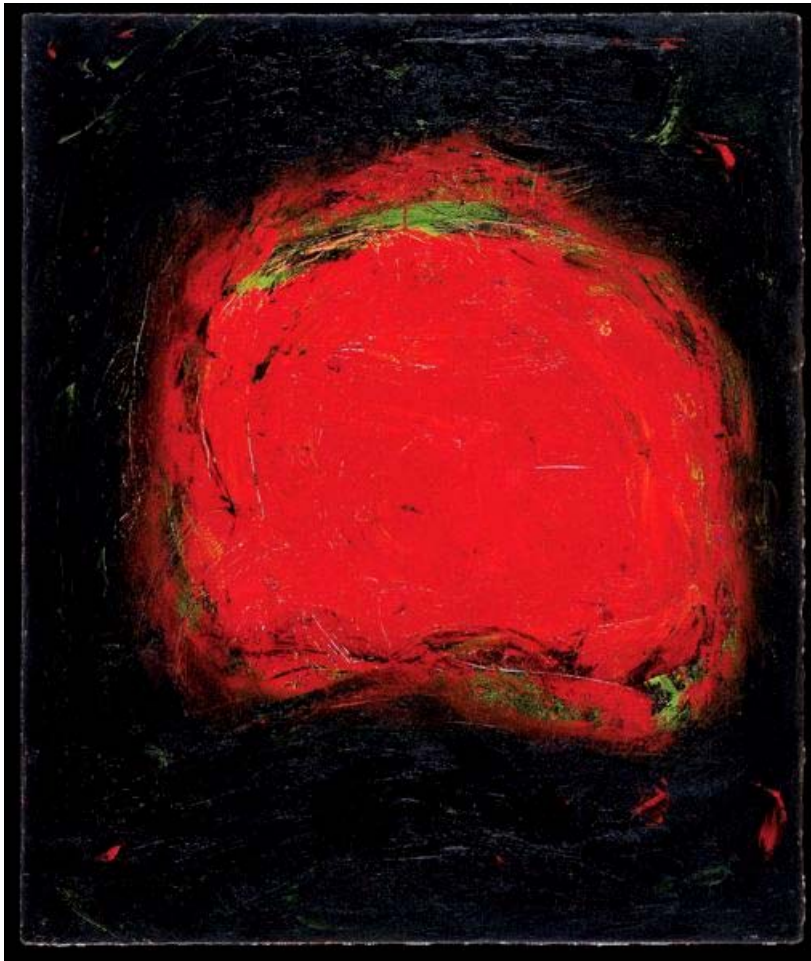
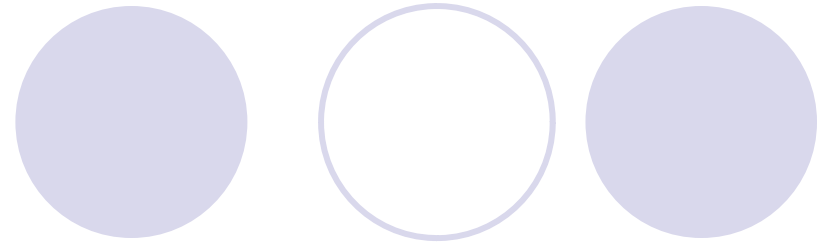
- Carol Steen, Clouds Rise Up
 - Oil on canvas-covered masonite,
 - 62.5 x 51cm.
 - 2004-05

Practice in Art



- Other visions can have an appearance and shape of different form, most often people with synaesthesia also experienced are objects of simple geometric shapes rather than objects of precise detail. Commonly occurred are spots that grow with size and are related to a precise feeling with a defined color. Many of the pieces of artwork tend not to have single contour lines or sharp edges, but to have a blurred effect as seeing something in a dream or haze like state. But often stated what they witness is something very much present in their field of vision as if it was very much at hand.

Practice in Art



- Carol Steen, Vision
 - Oil on paper
 - 15 x 12³/₄ in
 - 1996

Practice in Art



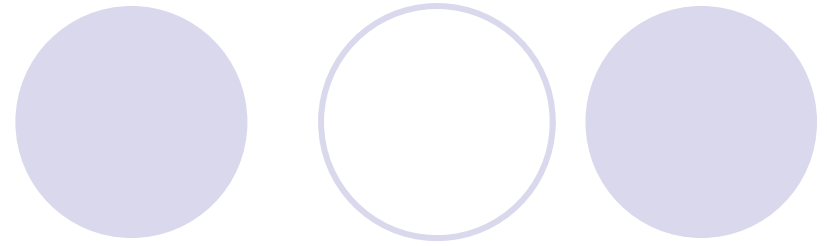
- As with the observation of hearing colors the sense of feel or the sensation of touch can turn visions of sight in different visual effects of colors and shapes. As Carol Steen explained the feeling during acupuncture as “Colors come full force and are utterly, completely brilliant. Moving colors, swirling around, one chasing the other and pushing the blackness all the way to the edge and sometimes just exploding out of there completely”. This expression of synaesthesia as a rush of colors and flurry of movement shows how visually chaotic her sense of vision becomes from her sense of touch. This material of her own sense, her own experience is collectively put into her work “Full View.”

Practice in Art



- Wassily Kandinsky a Russian artist is known for his works in avant-garde and one of the first artists to dwell into abstract art. But he himself may have had synaesthesia he has said “I saw all my colors in spirit, before my eyes. Wild, almost crazy lines were sketched in front of me”. Even as a child he remembered hearing a hissing noise as he stirred his colors in a paint box. Much like people with synaesthesia when they hear a single musical note such as C sharp they witness a hue of red, Kandinsky noted that hearing the cello play it had the darkest of blues. Whether Kandinsky had synaesthesia is not know for sure but he did suggest the sight of colors to sound, making works of art that were visually vibrant as a person with synaesthesia may see.

Practice in Art



- Wassily Kandinsky, Yellow-Red-Blue.
 - Oil on canvas
 - 127 x 200 cm
 - 1925

Practice in Art



- Synaesthesia artworks are among the best ways to suggest the sights of an individual experiences, from canvas paintings, to the visual arts, to music. It puts forth a meaning of a person's visual occurrence; it tells not as much of expression as what is usually common in art. But to represent the exact sensation that their senses display to themselves. This representation is a great way to collect the necessary data of people with synaesthesia. From their works we can see the visual experience and have a better understanding by visually seeing what happens when they hear, smell, or touch and their sensory output creates something representatively creative. Their artworks beginning from their very own state of senses transmitting into a different condition of sensations, is collected into brush strokes and swipes onto the canvas are transformed into a viewable source of what they witness and to be displayed what others may not be able to see, but only in their representational artwork.

Sound Through Color



- **For centuries people have been making associations with sound and color. Different attempts driven by different color note associations.**

Color Organ



- An attempt to combine sound and color in one instrument
- Originally used sound and light.
- Early attempt done by Louis- Bertrand Castel. Original idea Clavecin Oculaire became **Ocular Harpsichord** 1730.

Dan's Amazing Article



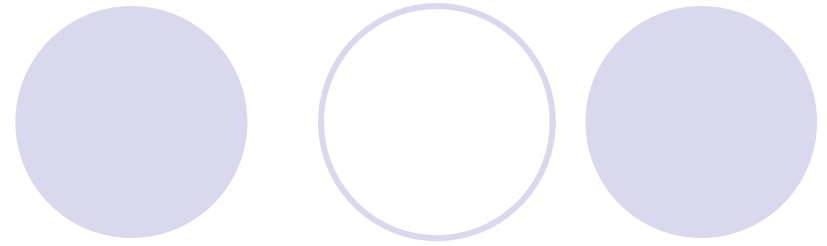
- http://www.nytimes.com/2008/03/16/magazine/16wwln-medium-t.html?_r=3&oref=slogin&oref=slogin&oref=slogin



Uses in Entertainment Media

- Video Games
 - Electroplankton
 - Lumines
- Movies
- Music Videos
- Audio Programs

Video Games



- Electroplankton

- <http://www.youtube.com/watch?v=d3v6npP8OZk>

- Rock Band

- <http://www.youtube.com/watch?v=MSu-6rpvKJU>

Music Videos



- <http://www.youtube.com/watch?v=bJsyN-s78-8>
- <http://www.youtube.com/watch?v=uPrvfkdj8e0>
- YouTube – Sound of Color