

Senses working overtime

Sight, sound, smell, taste and touch are generally perceived as separate and distinct sensations, but for some people the senses merge, resulting in a more intricate and remarkable experience

Synaesthesia is a neurological condition that gives rise to the blending of sensations that are normally experienced separately. People who experience it – referred to as synaesthetes – perceive the ordinary world in an extraordinary way. Some are able to see colours when listening to music, for example, or recognise letters and numbers as specific hues or shapes. For others, words and sounds can have a particular feeling, smell or taste.

The word 'synaesthesia' is derived from the Greek roots *syn* (union) and *aesthesia* (sensation) meaning 'union of the senses'. There are many different types of synaesthesia (see overleaf) and, although there are some commonalities, most synaesthetes' perceptions are unique and the condition can be experienced in almost any sensory combination. For example, one individual might associate the word 'Monday' with the colour green, while it might be blue for someone else. What's clear is that it's consistent for each synaesthete, and their way of seeing the world is involuntary, automatic and totally natural to them.

Potential causes

Believed to affect two to four per cent of the population, synaesthesia has been recognised for centuries but has only attracted more serious neurological and psychological study in the past few decades. Although the cause of the condition and why it happens is still being debated, research suggests there might be a genetic predisposition, as many who have the trait have a first-degree relative who is also a synaesthete. Apart from the possible genetic link – which remains to be proven – some experts think the blending of the senses might be influenced by multisensory development and learning in early childhood.

On the whole, many who have grown up with their particular sensory perception are unaware of the fact until it's pointed out to them by someone else. In a TED Talk, Jamie Ward, professor of Cognitive Neuroscience and one of the leaders of the synaesthesia research group at the University of Sussex, says: 'It seems extraordinary to us, but for people with synaesthesia, that's the only reality they know. This is how they experience the world, and for them it's a perfectly normal way of experiencing things.'

Once aware, many synaesthetes regard their sensory abilities as a gift rather than an impairment, and there appear to be

some associated benefits. Studies suggest that many have a better memory, which experts think is down to the ability to recall through the engagement of the extra sense. Synaesthetes who see colour are generally good at differentiating hues and tones. And, although the condition doesn't necessarily lead to increased creativity, it seems many synaesthetes feel inspired to convey their outlook through the arts.

Personal experience

Award-winning artist Gosha Gibek says she's been blessed with synaesthesia for as long as she can remember. At first, she thought everyone could perceive the world like her. It was only later in life, when someone told her it was unusual that she could see a name as a colour, that she discovered it was a rare ability.

'My synaesthesia mainly enables me to see letters and words in colour and also in space,' says Gosha. 'For me, every letter has its own unique hue. For example, "A" is always bright orange-red, "E" is blue and translucent, just like the sky on a sunny day, and "O" gives a white bright light, like a light bulb. The vowels always shine, brightening up the surrounding letters, whereas consonants are usually dark, solid colours. When letters are combined to form words, the colours combine and the first letter gives the word its colour scheme. When I look at colours, I hear music and see them in motion, gleaming in the light. It's as if I can sense the energy of the world and that energy manifests itself in colours.'

Working from her studio next to Haworth Art Gallery in Accrington, Lancashire, Gosha has embraced her synaesthesia as a gift. Inspired by her sensory perception, her signature style of art is full of vibrant colours focusing on people in motion, sports scenes and memorable landscapes.

In her painting, *Liverpool Echo – City Panorama at Night* (pictured overleaf), all of Gosha's senses are triggered by the colours and scene. She says: 'When looking at this sunset, I hear the music of Beethoven's 5th Symphony. Ta ta ta taaa... ta ta ta taaa... The sound resonates around the sky. I also hear the aliveness of the city, such as people talking, birds screeching, busy roads and cars beeping. The beautiful dark blue, violets, oranges and red colours that spill over the canvas like sweet juice activate my sense of taste. There is so much





going on in this painting of Liverpool. Everything is in motion and I sense the energy of exploding light and gleaming water. The bird on the top of the Liver Building flutters its wings, the big wheel is turning, and I can feel the chilly breeze of wind on my face.'

This way of seeing the world is further explored by pioneering researcher Richard Cytowic and distinguished neuroscientist David Eagleman in their book, *Wednesday Is Indigo Blue*. They argue that perception is already multisensory, but its multiple dimensions are beyond the reach of consciousness for most people. For them, reality is more subjective than most people realise, and synaesthesia highlights the amazing differences in people's perceptions.

Although the condition is relatively rare, those who experience this anomalous blending of the senses in its various forms have a fascinating window on the world. And Gosha, for one, is hoping to share the gift: 'It has become my mission to change the look of the world through my art, to share feel-good moments and to help people feel the healing, positive energy and unconditional love of colours.' It serves as a wonderful reminder of the many varied and equally relevant ways of experiencing life.

Words: Carol Anne Strange

To discover Gosha's art, visit gosh-art.com

WELL-KNOWN SYNAESTHETES

Richard Feynman, theoretical physicist, saw letters and equations in colours.

Hélène Grimaud, French pianist, sees musical notes as colours and sees colours when listening to music.

David Hockney, English artist, sees colours in response to music.

Tori Amos, singer, sees light as strings of colour when hearing songs.

Franz Liszt, composer, saw colours in musical tones.

Marilyn Monroe, actress, is believed to have seen vibrations when she heard sounds.

Vincent van Gogh, artist, is thought to have experienced auditory-visual synaesthesia.

ILLUSTRATIONS: IRINA PERU. PAINTING: GOSHA GBEK

SENSORY TYPES

There are around 80 different types of synaesthesia and some people experience more than one type. Here are a few

Grapheme-colour synaesthesia. Letters, numbers or symbols are triggers for seeing colours, with each grapheme having its own specific hue.

Lexical-gustatory synaesthesia. Speech or reading induces a sensation of taste and/or texture in the mouth or stimulates the thought of a specific taste. For example, the word 'Saturday' might taste like an orange.

Olfactory-visual synaesthesia. A certain smell elicits a visual experience. For example, chocolate might smell 'pink' or the aroma of a certain type of wine might appear as a symbol or a more complex visual scene.

Auditory-visual synaesthesia. Music or sound can trigger a visualisation. For example, a certain tone can induce a geometric shape, or a musical extract might evoke a specific scene.

Chromesthesia. The ability to hear in colour, and to perceive sounds or feel melodies when colours are observed.

Time-space synaesthesia. Seeing or feeling time as if it were a physical entity, often experiencing it as a circular ring surrounding the body that rotates clockwise throughout the year.

Touch-emotion synaesthesia. A tactile perception awakens certain emotions in the mind.

Auditory-tactile synaesthesia. Listening to certain sounds creates physical sensations in the body.

Spatial-sequence synaesthesia. Ordinal sequences, such as numbers, letters or months, are perceived as occupying points of space. For example, small numbers might be perceived as being close and large numbers as if they were far away.

Synaesthesia of personification. Associating symbols, letters, numbers or words with a specific personality or trait. For example, perceiving the letter 'I' as being sulky or the letter 'O' as being gentle.

Mirror-touch synaesthesia. Experiencing a physical feeling when other people are touched, often inducing the same feeling. For example, feeling the same pain when a friend has injured their leg.

For more information and support, visit uksynaesthesia.com and synesthesia.info. Those who suspect they have synaesthetic abilities can obtain a diagnosis through a process of questionnaires, self-reporting and a method called the synaesthesia battery, which measures consistency – visit your GP for information.

