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# Synesthesia: The Realities of Multiple Perception

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## Is Synesthesia Real?

Synesthesia is an experience – and even a condition for some – in which the individual can perceive more than one sensation at once. For example, many synesthetic individuals, or “synesthetes,” can experience words as color, words as taste, sound as color, sound as shape, and various other combinations of sensation; most might even have many different forms of synesthesia and they can be unidirectional or bidirectional. The question of whether or not synesthesia is real is generally in regards to if people actually experience it or if it is simply a product of metaphor, hallucination, or attention-seeking. Now, research has provided evidence of synesthesia as sensational experience that is actually experienced by the body. But regardless of the biological evidence, there are, in fact, various realities that span beyond the reality of its existence and that interact with one another. From synesthesia as the body experiences it, the personal experience of the synesthete, and even beyond, analysis of these realities can shed a significant amount of light on various aspects of reality as we know it.

## A Foundation of Fact?

A look at the biological basis of synesthesia is, I believe, a good place to start in examining the realities of synesthesia. More often than not, science is constructed of supposed truths based on concrete evidence, and these truths are used to explain how things work and why things are the way they are. The tricky thing about the science of biology is that it involves humans, who are different in an infinite number of ways. In terms of a basic structure, we humans are very similar. We have skeletons, muscles, organs, skin, etc. set up in the same way, for the most part; however, each person has his or her own genetic predispositions, sensitivities, perceptions, experiences, opinions, etc. Because we are so diverse, and unpredictably so, we

cannot truly be sure of anything. Everything we supposedly know could be due to a minute fault in all of our perceptions. Who is to say? So we must keep an open mind in terms of scientific truths, and we must also look towards other areas of study to construct a best possible conception of the universe around us.

Interestingly, it is the biological evidence that has provided synesthesia validity in our society. For example, comparisons of scans of synesthetic brains against average ones show simultaneous activation of different areas of the brain in synesthetes when exposed to the proper sensory stimuli; no activation in those areas of the brain took place when test subjects simply thought of or imagined the stimuli (Cytowic and Eagleman 206). Because these scans show that synesthesia is an actual experience rather than one imagined or hallucinated by individuals, synesthesia has become more of an object of study. There is also a genetic nature of synesthesia as it is often found to run in families: “Family linkage analysis, a form of genetic analysis that identifies a region in the genome that carries important changes, suggests a region critical for synesthesia on chromosome 16...” (Cytowic and Eagleman 225). But why is biological support so crucial in order for synesthesia to be taken seriously? Why must there be evidence that we can physically perceive, i.e. looking at a brain scan, in order for something to be real and true?

One reason researchers are so interested in synesthesia is due to what it could tell us about the brain, synesthetic or not. It is theorized that synesthesia could be the link to understand how the brain understands metaphor and qualia, which is “defined as the subjective aspects of sensation such as redness, sweetness, or pain, for example” (Cytowic and Eagleman 14). Because synesthesia is a blending of the senses and metaphor is a blending of concepts, sometimes sensations, there is certainly a possibility that the two could be linked. This possible link can even be seen in the brain:

The angular gyrus at the junction of the temporal, parietal, and occipital (TPO) cortices is known to be crucial for forming cross-concepts because it is a functional crossroad of feeling (parietal), hearing (temporal), and seeing (occipital). The convergence of three sense modalities results in abstract, modality-free representations about objects in the world... (Cytowic and Eagleman 195)

Because cross-activation has been observed in the different areas of the synesthetic brain, perhaps the pathways established from synesthesia facilitate the forming of metaphoric concepts.

Even when synesthesia was in vogue during the 1800s, theories of its origin in terms of the brain became to crop up as more cases of it emerged. Many believed in an area of the brain called the “*sensorium*...in which sensory information (all sensory information, irrespective of the particular sense) is made consciously accessible” (Jewanski et al. 290). Philosopher George Henry Lewes suggested that:

A stimulus excites the auditory nerve and centre, the Sensorium responds in a sound. But if the response of sound is to replace the stimulation of the optic centre, it can only be in one of two ways: either there must be a path of communication between the two centres, so that the agitation of the one sets the other in action, or the Sensorium, in which both centres penetrate and lose themselves, giving up to it their energy, is alternately set in the attitude of sound and color, and this so rapidly that the two responses seem simultaneous (Jewanski et al. 299)

Interestingly, this idea is reminiscent of the areas of the synesthetic brain and the angular gyrus in terms of metaphor. I find it amazing that this idea that all this sensorial information activates and comes together in the brain persists across time. There almost appears to be a circular relationship between the brain and synesthesia in that the brain feeds into knowledge and theories of synesthesia as synesthesia feeds into knowledge and theories about the brain.

As odd as it may seem for some, one cannot depend on science alone in the fields of biology and medicine. In her book, *The Body Multiple*, Annemarie Mol states that “[c]linical diagnosis, after all, doesn’t simply depend on the patient’s body, but also on the clinical interview” (65). Many often forget that medicine is not simply about what the body tells the doctor, but the interaction between doctor and patient is crucial as well. As much weight as some may place on the science behind synesthesia, the brain is not where the significance of synesthesia lies. On the nature of disease and illness, Mol states that “in addition to *disease*, the object of biomedicine, something else is important too, a patient’s *illness*. Illness here stands for a patient’s interpretation of his or her disease, the feelings that accompany it, the life events it turns into” (9). While synesthesia is not a disease or illness, Mol’s words are applicable. So, yes, the biological basis of synesthesia is important, but it is not the crucial focal point that researchers make it appear to be. Synesthesia is not only about the condition itself, but it is also about what the synesthete thinks about it, how he or she feels about it, and how his or her life has been affected by it.

## The Everyday Existence of Synesthesia

In contrast to the biological reality that displays the difference between synesthetes and non-synesthetes and the meta-reality of otherworldness which will be later discussed, the

individual reality is, funnily enough, quite normal. To experience more than one sensation at once is, of course, extraordinary; however, to the synesthete, it is a normal part of their perception of the world. For example, the metaphoric language with which synesthetes often describe their experiences is likely what caused many to disregard the condition as merely metaphor, but such difficulty in concrete explanation could be related to attempting to describe color to someone born blind or music to someone born deaf. Similarly, the loss that a synesthete might feel if he or she were to lose their synesthesia could likely be compared to the loss any individual might feel if he or she were to lose one of their five senses.

Even though synesthesia is simply a normal part of a synesthete's sensation perception, synesthete's undergo a unique experience in which their sensation perception is defined. Mol makes an interesting point in her ethnography of atherosclerosis, in which she states that the disease does not exist until it is diagnosed:

Whatever the condition of her body before she entered the consulting room, in ethnographic terms [the patient] Mrs. Tilstra did not yet have this disease before she visited a doctor. She didn't *enact* it. When all alone, Mrs. Tilstra felt pain when walking, but this pain was diffuse and not linked up to a specific walking distance on flat ground. The trouble Mrs. Tilstra encountered when she tried to walk her dog did not yet have the shape that emerges when she answers her doctor's questions. (22-23)

Similarly, many synesthetes do not even know the name of their condition until it is brought forward to them. Because it is natural to them, they originally believe that that is how everyone perceives the world until it is brought to their attention that that is not the case. Many find out their difference and its definition through books, the Internet, or through other people. Due to the

heritable nature of synesthesia, some might even find out through family. In one of her interviews for her book *Tasting the Universe*, Maureen Seaberg talks with jazz pianist Marian McPartland about her synesthesia, the 91-year-old was unaware of the term until Seaberg brought it up during the interview, asking her to repeat it and then stating that her color perceptions of certain musical keys were “just an idea” and that she thought Seaberg was “making more out of it than it is (203-204).

An interesting aspect of synesthesia is that synesthetic experiences can differ greatly from one synesthete to the next. If one entertains a purely scientific standpoint, this might seem rather odd as scientific truths are made of patterns and consistencies. But there is variety in sensation perception even among non-synesthetes. I, myself, have argued over the colored nature of certain objects, arguing that they were purple, for example, while others argued their blueness: “there is no absolute perception of color, but rather a reconstruction of color, like that of the whole outside world, by the brain” (Changeux 19). These are smaller differences compared to those of synesthetes and their sensations, but the principle still applies that there is a difference in sensation perception amongst all of us. But thinking of the variance in synesthetic experience brings to mind a story of three blind men and their perception of an elephant:

When three blind men were queried about the nature of the elephant, one replied that it resembled a long, thin rope, another that it was like a stubby, thick pillar, and the third that it was an immense sack. The three disagreed because the first had grasped the elephant’s tail, the second had embraced a leg, and the third was running his hands over the stomach. But they didn’t know this. Each knew only that he was right, and each was bewildered by the delusions of the others. All

three had real knowledge of the same elephant. Yet what each knew was absolutely different. (Kuriyama 22)

Similarly to the blind men's differing perceptions of the elephant, the synesthetes' various and individual experiences are not any less real or true from each other. The argument between the blind men is also relatable to the arguments that some synesthetes have over the "true" nature of certain synesthetic perceptions: "Because associations are idiosyncratic, synesthetes often regard each other's experiences as absurd, insisting, for example, that, 'Only music in the key of F is yellow, and it's harvest gold at that'" (Cytowic and Eagleman 90-91). It is interesting how even in the personal and aesthetic nature of synesthesia that a need to define and determine a single truth takes place.

Presumably, the degree to which synesthetes argue for the verity of their synesthetic perception could be linked to the affect that is often attached to their personal experiences. Due to the idiosyncratic nature of synesthetic experiences, it is understandable that synesthetes might feel a degree of protectiveness over their unique spectrum of sensation. In fact, synesthetes feel a degree of distress when they are faced with sensations incongruent with their own synesthetic ones: "mismatched perceptions—such as seeing a letter printed in the wrong color ink—can be like fingernails on a blackboard" (Cytowic and Eagleman 54). This reaction might seem dramatic, but many average individuals might feel a level of disquiet if the blue sky they had always known suddenly appeared to be orange. Personally, I flinch and scowl when I hear a sour note in a musical composition, and any sort of cacophony – however brief – makes my head ache. This only further emphasizes the normalcy of synesthetic experiences to the synesthete. While the condition might seem extraordinary, synesthesia is an integral part of the synesthete's sensation perception, just as the individual five senses are to the average individual's.

Synesthesia can even be used as a skill in some synesthetes, just as good eyesight or good hearing could in an average individuals. Many synesthetes have eidetic or eidetic-like memories because they can make associations between the stimulus and the sensation, i.e. numbers and their color associations; their synesthesia ends up working as a sort of mnemonic device. Perfect pitch has also been observed in many sound-sensation synesthetes as they know the “correct” color, shape, texture, etc. of a certain note. The skillfulness and the aesthetics of the synesthetic experiences – as well as the previously mentioned possible linkage to metaphor – can help to fuel creativity, and many creatively-minded artists, musicians, and writers use their synesthesia to fuel their craft. Perhaps they can achieve their artistic endeavors because they have access to something that others do not.

## Beyond Sensation, Beyond the Stars

In his book, *Bright Colors Falsely Seen*, Kevin T. Dann states that, in terms of the “photisms (or other ‘secondary sensations’ stimulated by their synaesthesiae)...[s]ynaesthetes experienced their own synaesthesiae as a *form of thinking*” (82). This can even be applied to synesthesia itself, rather than just its experiences. There are many ideas of synesthesia as being something that can be accessed by a select few: “In *The Man Who Tasted Shapes*, Richard [Cytowic] argued that ‘synesthesia is actually a normal brain function in every one of us, but its workings reach consciousness in only a handful’” (Cytowic and Eagleman 221). This indeed seems likely when one considers that synesthesia can be experienced by non-synesthetes through meditation or drug use, so perhaps just an alteration of a state of mind or “form of thinking” is necessary in order for anyone to experience synesthesia. And rather than synesthesia merely being a different form of sensation perception, perhaps it is something *more* than the average

sensation perception. Perhaps a select handful can not only access synesthesia but, through synesthesia, they can access something *more*.

The idea that synesthesia could be accessed by non-synesthetic individuals is, to me, intriguing. Personally, I would love to be able to perceive the world in a different way; however, many researchers like to make the point that the synesthesia attained through meditation or drug use are not necessarily “real” synesthetic experiences. In their comparison of “genuine” synesthesia versus drug-induced synesthesia, Sinke et al. state that “even though drug-induced and genuine forms of synesthesia share some superficial commonalities, it looks like different mechanisms are responsible for each as there are fundamental differences”; they also recommend that drug-induced synesthesia be placed “in a separate category” altogether (1430-1431). Even in subjects as aesthetic and arguably metaphysical as synesthesia, there is still a compulsion to place definition and order on every aspect of our world. There must be a pattern, there must be evidence that must be quantified. If synesthesia is truly as transcendental as it appears to be and as many theorize it to be, it surely does not need physical evidence as that would defy its metaphysical nature. This is exemplified in Buddhism, where synesthesia is viewed as something of a pathway to enlightenment: “the Buddhist *Mahayana-sutra-alamkara*, whose verses are attributed to fourth century sage Asanga, claims (ch. 9, verse 41) that for a Buddha (the ultimate master of meditation), ‘In the transformation of the five senses highest mastery is required, in the operation of all (five senses) upon all (five) objects...’” (Walsh 10).

Many hold the belief that there is a sort of relationship between sensation and transcendence. As the five individual senses the average individual uses to understand his or her environment are very physical, there is the belief that their abandonment can lead to a sort of

metaphysical comprehension. In relation to this, Kuriyama mentions Socrates and his fear of blinding his soul by attempting to comprehend the world with his five individual senses:

For when the soul uses the body “for any inquiry, whether through sight or hearing or any other sense – because using the body implies using the senses – it is drawn away by the body into the realm of the variable and loses its way and becomes confused and dizzy, as though it were befuddled.” Only “in that realm of the absolute, constant and invariable” – the realm of disembodied forms – is true wisdom possible.” (126)

If we assume Socrates’s fear to be true – that using the individual senses will lead to befuddlement – perhaps a blending of the senses would be better equipped at comprehending the universe. José Arguelles, at least, believes synesthesia to be linked to “an experience of transcendence of the world of physical reality” (Dann 102). And relatedly to Cytowic’s opinion that everyone has the potential for synesthesia, Arguelles believes that we begin in a “condition of synaesthetic unity – [in] the womb and early childhood – into a stage of expansion, growth, and experimentation, in which we are tested and formed only to return at last to a more highly synthesized condition of fulfillment and realization (Dann 103). While transcendence is viewed as more of a New Age sort of concept, there are scientific theories that postulate the existence of other dimensions. If they do exist, it is not impossible to think that there is some way to access them. As our five senses are very physical, very Earthly, perhaps it is through leaving them behind – or, at least, utilizing them differently – that we can leave Earth behind and access these other dimensions.

There might even be a sort of dimension or universe existing within our own, that of a quantum level. In terms of the quantum world, anesthesiologist Dr. Stuart Hameroff “believes

that people with synesthesia have had their threshold altered [to be lower] so they tend to inhabit quantum consciousness more often than regular folks...[a]nd he thinks the *qualia*...that make up the senses are also in the quantum world” (Seaberg 255). There is something to the idea of synesthetes being more receptive to the quantum particles of the universe as they are more receptive of sensation rather than experiencing each sense individually and separately. This lower threshold to quantum consciousness could possibly be correlated to the pathways between the different areas of the synesthetic brain; an individual could be more receptive to quantum consciousness because of the neural pathways established by synesthetic experience, or vice versa.

While eideticism could be viewed as a possible skill that a synesthete could develop through their sensation associations, Dann proposes the idea that it could also be a form of transcendental truth. He states that the eidetic image is similar to the synesthetic experience in that it is “[vividly and memorably] ‘seen’ inside the mind and is accompanied by bodily engagement with the image (including a sense of its ‘felt meaning’)” (105). Because there is such vivid sensation tied to this mental imagery, some believe the eidetic experience to be tapped into a “Platonic realm of pure, ‘higher’ mental imagery” (Dann 112). Perhaps this Platonic realm is also where metaphoric language and imagery come from, and the differently-minded – differently-conscious – synesthetes and eidetics are the ones who access it. Autistic savant and synesthete Daniel Tammet states that “[t]here are mathematicians, well established ones...who believe numbers exist in another dimension, in another world” (Seaberg 252). The idea that all these concepts already exist in other dimensions is actually not that far-fetched. It is, after all, better to think that they exist on another plane of being rather than they just appeared out of thin

air. And perhaps it is their other-dimensional nature that it is yet unclear how the brain understands metaphor and how we humans even conceived of numbers in the first place.

Keeping these dimensions and concepts in mind, it begs the question of whether or not synesthesia might truly be some form of cosmic consciousness. Synesthesia does appear to have an effect on an individual's way of thinking, i.e. in terms of creativity and metaphor, so it is possible that this altered state of mind could result in an awareness of the beyond. Seaberg makes notice of the photisms that many synesthetes experience as being "celestial, like stars being born or subatomic light particles" (190). So perhaps there is a separate dimension where these colored illuminations, numbers, and images exist that only certain-minded people have a link to, that they can access with the right stimulus or state of mind.

## The Synesthetic Realities

In the beginning of her book, Mol states that because "the object of manipulation tends to differ from one practice to another, reality multiplies. The body, the patient, the disease, the doctor, the technician, the technology: all of these are more than one. More than singular" (5). This idea shaped this analysis of synesthesia and the multiple synesthetic realities. Indeed, the reality of synesthesia multiplies when one applies biology, personal experience, and beyond. All of these realities differ and yet they are constantly interacting with one another and shaping and defining each other; it is their dialogue that is significant to observe and analyze. To focus on only one reality would be foolish as it is very possible that our "knowledge" that constructed that reality is wrong. After all, when one considers the infinity that is the universe, how can anyone really be sure that anything anyone knows is correct? I bring up a few questions throughout this analysis that I never really answer, but I feel that is kind of the point in this sort of discussion.

Life is full of great questions that can never be truly answered, no matter how hard we might try. Thus, to consider and apply multiple realities is the best way to construct the best possible comprehension of the universe. And because synesthesia itself exists in multiple realities, it is perhaps because of this that it exists as a sort of meta-perception in terms of mixed sensation, metaphor conception, and cosmic consciousness.

## Works Cited

Changeux, Jean-Pierre. *The Good, the True, and the Beautiful: A Neuronal Approach*. Trans.

Laurence Garey. New Haven: Yale University Press, 2008. Print.

Cytowic, Richard E., and David M. Eagleman. *Wednesday Is Indigo Blue: Discovering the Brain of Synesthesia*. Cambridge: The MIT Press, 2001. Print.

Dann, Kevin T. *Bright Colors Falsely Seen: Synaesthesia and the Search for Transcendental Knowledge*. New Haven: Yale University Press, 1998. Print.

Jewanski, Jörg, Julia Simner, Sean A. Day, and Jamie Ward. "The Development of a Scientific Understanding of Synesthesia from Early Case Studies (1849-1873)." *Journal of the History of Neurosciences* 20.4 (2011): 284-305. Print.

Kuriyama, Shigehisa. *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine*. New York: Zone Books, 1999. Print.

Mol, Annemarie. *The Body Multiple: Ontology in Medical Practice*. Durham: Duke University Press, 2002. Print.

Seaberg, Maureen. *Tasting the Universe: People Who See Colors in Words and Rainbows in Symphonies*. Pompton Plains: New Page Books, 2011. Print.

Sinke, Christopher, John H. Halpern, Markus Zedler, Janina Neufeld, Hinderk M. Emrich, and Torsten Passie. "Genuine and Drug-Induced Synesthesia: A Comparison." *Consciousness and Cognition* 21.3 (2012): 1419-1434. Print.

Walsh, Roger. "Can Synaesthesia Be Cultivated? Indications from Surveys of Meditators." *Journal of Consciousness Studies* 12.4-5 (2005): 5-17. Print.