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## **Synesthesia, Literature and Shifts in Consciousness: A Study of Wendy Mass' *A Mango Shaped Space***

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### **Abstract**

Since the last two decades synesthesia has been enjoying a renaissance as its scientific and psychological investigations have not only unraveled the neurophysiological structures that mediate experience, but have also brought to fore some significant implications concerning cognition, perception, behaviour, art and emotion'. The present paper endeavours to bring together literature, synesthesia and science of consciousness through an applicational case study of the famous novel *A Mango Shaped Space*. The paper maps out the evolution of the protagonist from a sufferer to a winner within the framework of Altered States of Consciousness.

### **Keywords**

Synesthesia; *A Mango Shaped Space*; Altered States of Consciousness.

## Introduction

I don't remember when the colours began. They have always been with me, like the beat of my own heart or the sound of my own breath. Science teaches that I was likely a fetus when my brain started forming the extra connections or began to have the lack of chemical inhibition that would enhance my world, creating a beautiful water colour that only I could see. (Seaberg 19)

Synesthesia, the fascinating, enigmatic and unresolved rarity of human, is of interest to disciplines as varied as psychology, molecular genetics, neurobiology, science of consciousness, philosophy, theology, arts, anthropology, linguistics etc. Mostly people are familiar with anesthesia, but very few refer to synesthesia. If anesthesia means 'no senses' synesthesia means 'joining senses'. Synesthesia (Greek: syn = together + aisthesis = perception) is the involuntary physical experience of a cross-modal association. People with this condition are rare—about 1 in 25,000 have this unique wiring in their brains. In a synesthete, the signals that come from sensory organs, such as the eyes or the ears, go to places in the brain where they weren't originally meant to be. Thus those signals cause to be interpreted as more than one sensation.

The unique phenomenon of synesthesia has been enjoying a renaissance since the last two decades. The scientific and psychological investigations have not only unraveled the neurophysiological structures that mediate experience, but have also brought to the fore some significant implications concerning cognition, perception, behaviour, art and emotion'.

### **Singing Hues and Synesthetic Universe: A Bird's Eye view**

Francis Galton, cousin of Charles Darwin, one of the influential scientists of the Victorian era who conducted the first systematic experiment in synesthesia, noticed that a certain number of people in the general population, who were otherwise completely normal, seemed to have a certain peculiarity.

They experienced sensations in multiple modalities in response to stimulation of one modality. V. S. Ramchandran, eminent cognitive scientist, speculates:

Isaac Newton could have experienced it. Aware that the pitch of a sound depends on its wavelength, Newton invented a toy—a musical keyboard—that flashed up different colors on a screen for different notes. Thus every song was accompanied by a kaleidoscopic display of colors. One wonders if sound-color synesthesia inspired his invention. Could a mixing of senses in his brain have provided the original impetus for his wavelength theory of color? (71)

Synesthesia, a neurological condition, is a remarkable experience of cross-sensory perception. A synesthete may interestingly hear colours, taste shapes or experience other equally extraordinary experiences. As per neuroscientist Richard Cytowic, 1/25,000 individuals is born to a world where one sensation involuntarily conjures up others, sometimes all five clashing together'. Stimulation of one sensory modality consistently causes sensation in one or more other senses. This condition has been known for at least 200 years; famous synesthetes include the Russian novelist Vladimir Nobokov and composer Alexander Scriabin. For a synesthete, sounds can cause colours, tastes can elicit sensations of touch, or the viewing of words or numbers can invoke the perception of specific colors. Furthermore, these experiences happen accidentally and they are beyond one's control. But one remarkable feature, Richard Cytowic, points out about Synesthesia is:

Synesthetes do not substitute or confuse one sense for another. That is, when seeing with their ears they do not mistake a sound for a sight. Rather they perceive both sensations simultaneously. In philosophers' terms they have extra qualia. (14)

Noam Sagiv puts forth an interesting remark, “synesthesia is normal for synesthetes. Not having synesthesia is as perplexing for synesthetes as synesthesia is for the rest of us (13).

This unique neurological condition is of different types. Cytowic enlists five types of synesthesia – number forms, coloured letters (both written and spoken), tasted words, coloured hearing and the personification of letters and numbers (26). In ‘number forms’ also called ‘spatial sequence synesthesia’, numbers or other ordered concepts lie on a path that twists in different shapes. ‘Colored grapheme’ is one of the common types of synesthesia in which different spoken and written letters appear in different colours. One of the important features of ‘coloured grapheme’ is, two words may sound similar but colour perception may vary as the perception of colours by a synesthete depends more on graphemes rather than phonemes. Although there is no neurological evidence but according to many neuroscientists, the famous French poet Arthur Rimbaud, had coloured grapheme synesthesia. To support their speculation, quite often his famous poem “Vowels” is quoted:

A black, E white, I red, U green, O blue: vowels,  
I shall tell, one day, of your mysterious origins:  
A, black velvety jacket of brilliant flies  
which buzz around cruel smells,  
Gulfs of shadow; E, whiteness of vapours and of tents,  
lances of proud glaciers, white kings, shivers of cow-parsley;  
I, purples, spat blood, smile of beautiful lips  
in anger or in the raptures of penitence;

In her memoir *Blue Cats and Chartreuse Kittens*, Patricia Duffy (2001) writes of living with color-infused letters. She recounts an afternoon when she and her father were reminiscing about the day she learned to write the alphabet; she spontaneously described to him her realization:

To make an R, all I had to do was first write a P and then draw a line down from its loop. And I was surprised that I could turn a yellow letter into an orange letter just by adding a line. (1)

Duffy revealed to her dismayed father that she had involuntarily seen and heard colour throughout her entire life. Her memoir addresses many curiosities that most synesthetes yearn to uncover: why everyone doesn't have the same sensual experience and what happens to the small percentage of the population who has been either blessed or cursed with this commingling of the senses.

Maureen Seaberg (2011), a synesthete, shares her experiences in her remarkable book *Tasting the Universe*:

I memorize the notes according to the colours of the letters. F,A,C,E are the notes between the lines , but for me they are pink, yellow, light blue and red. (40)

'Tasted words' is a form of synesthesia in which phonemes evoke different tastes. The synesthetic tastes are located in the mouth and a synesthete experiences tastes for both written and spoken words. One must understand that synesthetic tastes are different from ordinary tastes such as salty or sweet. 'Coloured hearing' is a form of synesthesia in which sound triggers colours and shapes. Sounds include everyday environmental sounds like dog barks, clattering of spoons, voices and most importantly musical sounds. Very interestingly they discuss the colours of voice and appreciate it. Ms. Carole Steen in one of her interviews, as quoted in ABC radio National transcripts (1996), reveals her unusual world where sounds and colours and shapes and how she considered this unusual ability of hers as God's gift. Apart from these there are some unusual types of synesthesia also where one comes across multi-sensory perception.

## Art and Synesthesia

Walter Pater's statement that 'all art constantly aspires towards the condition of music' unveils the latent nexus between art and synesthesia. V. S. Ramchandran observed that synesthesia is more common in artists, poets. He and Hubbard pointed it out after a few experiments in 2001 that metaphors take the form of cross sensory perception. When we say 'sweet child' we don't refer to sweetness in its literal sense. We quite often come across metaphors which demonstrate cross sensory perception as in the following lines of John Keats's Hyperion:

And like a rose in vermeil tint and shape,  
In fragrance soft, and coolness to the eye...

Both synesthetes and non-synesthetes create cross-sensory images. The difference between a synesthete's metaphorical creations and an artist's multisensory associations is, in the former case it is involuntary and in the latter it is voluntary. Charles Baudelaire in his famous sonnet "correspondence" spoke for the first time about the intermingling of sensory perceptions. Dr. Hugo Heyrman (2005) enumerates different types of literary synaesthesia. He explains a synesthetic art as a cross sensory perception evoked by an art work. Literary synaesthesia on the other hand is a poetic expression or metaphorical articulation which joins two senses. Kinetic synaesthesia refers to experiencing dance in multimedia scenographies. The point to consider here is synaesthesia comes naturally to a person. It's not acquired. Art and Synaesthesia share a close hidden connection because in both we find intersection of two senses. The movements like imagism, surrealism, symbolism exemplify how 'synesthetic experience' is embedded in all forms of art—in poetry, painting, sculpture and music. Art appeals to different forms, to generate that aesthetic appeal the writer refers to the transfer of qualities from one sensory domain to another, to the translation of texture to tone or of tone to colour, smell or taste. Because the various modes

of art rest on and appeal to different senses, synaesthesia correspondences among the senses and synaesthesia can point to similarities and analogues, as well as to metaphors or differences among the artistic forms.

### ***A Mango Shaped Space: Narrative of Cross Wiring between Colours-Sounds***

*A Mango Shaped Space*, first published in 2003 and recipient of American Library Association Schneider Family Book Award in 2004, is a poignant portrayal of a thirteen year old Mia Winchell's struggles and pain who is oblivious of her synesthesia. As neuroscientists say, synesthetes are never aware of the extra qualia, God has bestowed on them. This is what happens with Mia Winchell. Her extra sensory perception becomes a source of mortification in class rooms, schools, among friends. The narrative evolves into a touching story of Mia's courage, her coming to terms with her synesthesia and finally her re-invention of herself.

The narrative opens with Mia's math class. She sees colours and shapes with every sound and letter. As per the types of synesthesia discussed by Cytowic, Mia has been shown suffering from 'coloured grapheme' synaesthesia. The writer gives a very touching description at the very outset in the prologue:

Mia!" My teacher, Mrs. Lowe, startled me.

As I turned, the chalk screeched on the board and a deep-red zigzag shape sped across my field of vision. My classmates groaned at the noise.

"This isn't art class," she said, wagging her long, skinny finger at me as if I didn't know that. "Just use the white chalk."

"But isn't it better to use the right colors?" I asked, confident that the other kids would agree. The class giggled and I grinned, thinking they were laughing at her, not me.

"What do you mean, the right colours?"...

My hands started to shake a little, and I rushed out my explanation. “The colours...the colours of the numbers, you know, like the two is pink, well of course it’s not really this shade of pink, more like cotton-candy pink, and the four is this baby-blanket blue colour, and I . . . I just figured it would be easier to do the math problem with the numbers in the correct colors. Right?” (2)

Mia’s squirming with pain, holding the chalk between her fingers is very touching. Synesthesia, though not a neuronal disorder, affects one’s psyche, behaviour and cognition of the world. Cognition refers to knowledge of any kind one possesses, understanding and perception. The cognition of a synesthete doesn’t match with the cognition of ordinary human beings. The root cause of Mia’s problem ensues from her ignorance of this difference in cognitions.

The writer exemplifies neuroscientists’ scientific description of ‘colour grapheme’ synaesthesia through the protagonist who is shown to be suffering from this type of synaesthesia. As we read the elaborate descriptions of Mia’s troubles, her incompatibility with her classmates and friends becomes more explicit. She struggles to get past the colours the numbers evoke in her head and can't do complex numerical problems. When she enters eighth grade, she also begins to struggle with Spanish because the colours and shapes of Spanish words don't match their English counterparts. When her struggles in math go beyond her endurance, she reveals her problem before her parents.

This disclosure comes as a shock to her parents who fail to understand the symptoms. From here begins Mia’s journey of life- from one doctor to another doctor- from her paediatrician to a psychologist and finally to Jerry Weiss, a psychotherapist who identifies Mia's problem. He explains Mia and her problems the extraordinary cross wiring inside her brain which is making her different from others. The writer furnishes a graphic description of variations in synaesthesia and Mia’s conversations with people suffering from synesthesia. Her curiosity to know more and more about the extraordinary



aspect of her personality takes her to different websites and children of her age. In this process Mia learns to combat against her unusual symptoms.

The way Wendy Mass probes into the consciousness of a synesthete is laudable. Mia initially keeps her extra sensory perception as her secret possession. But, nevertheless, problem cropped up when she began absconding from school for longer durations for doctor's appointments. Her best friend Jenna felt betrayed when Mia disclosed her synesthetic case and she tells some of her classmates about Mia. It's soon common knowledge at school and Mia is bombarded by students asking her to tell them the colour of their names. The teasing isn't as severe as Mia feared but she feels out of place and distracted.

The writer describes 'colour hearing' synaesthesia, not in scientific terms, but through symbols and actions of the protagonist. Mia has a cat, who has a hoarse wheeze when he breathes. Mia called him Mango because that's the colour that she sees when she hears him breathe. Mia and her grandfather were very close. After his demise Mia felt that somehow the soul of his grandfather was there in Mango. This feeling brings her closer to Mango. She found Mango near her grandfather's grave on the day of his funeral. The narrative moves on a faster pace as events happen at a quick pace. After Mia's grandfather's demise, she found solace with Mango. Her world shattered when she lost mango one day and she considered herself responsible for his premature death. Here the writer exposes Mia's anxiety regarding colours vanishing from her life with Mango's departure from the world. The writer intersperses a lot of information about synaesthesia as the narrative unfolds. Mia's acquiring information about synaesthesia from a website, her fears regarding the loss of colours, her meeting with her neurologist and finally her finding a kitten in her neighbourhood, who looks very much like Mango. She sees mustard colours as she hears the sounds of the kitten and names him Mustard. From here begins her journey of life afresh.

## **From Superficial to Profound States of Consciousness: Mia Winchell's Psychological Voyage**

Consciousness is defined in simple terms as awareness. This awareness operates at various levels. We can be aware of our physical, psychological, and spiritual selves. It would be interesting to locate Mia Winchell's journey within the model of Altered States of Consciousness, proposed by, Andrzej Kokoszka (2007). He defines 'Altered states of Consciousness' as states "in which the content, the form or the quality of experiences is significantly different from ordinary states of consciousness, and it depicts states which are not symptoms of any mental disorders" (7). He classifies states of consciousness into two categories- Superficial Altered States of Consciousness (SASC) and Profound Altered States of Consciousness (PASC). He elucidates:

Profound states of consciousness compass a variety of experiences, characterized by content and/or modalities of experiencing, which are significantly differentiated from common everyday baseline experiences. Their strangeness is usually diminished when they acquire an explanation, e.g., unusual states of consciousness become considered as obvious when their occurrence coincides with intoxication with alcohol, prayer, perception of a piece of art, etc. (8)

Superficial Altered States of Consciousness (SASC) denote states "which have slightly different content and/or modalities of experiencing in comparison with the most common experiential states" (Korkaska, 9). Superficial states of consciousness are of different types- fragmented state of consciousness, hysterical state of consciousness etc. Every individual experiences altered states of consciousness unknowingly. But it's interesting to note how and why does a synesthete experiences these altered states of consciousness.

Mia as a synesthete experiences superficial states of consciousness, especially fragmented state of consciousness when her 'extra qualia' is beyond

the comprehension of her classmates, her teachers and her parents. She feels shattered as she says:

I am already sunk. I just can't grasp how to solve it. Normally an x is a shiny maroon colour, like a ripe cherry. But here an x has to stand for an unknown number. But I can't make myself assign the x any other colour than maroon, and there are no maroon coloured numbers. (51)

Her anguish deep within at her losing marks in all quizzes results in loss of hope and fragmentation of inner self. She sighs:

I return to the sheet of math equations in front of me. After staring at the swirls of gray for five full minutes, I finally throw my pencil across the room in disgust. (56)

The protagonist's fight against the extra sensory perception ultimately takes her to a higher state of consciousness not in spiritual terms, but which enables her deal with existential issues. Her simple question related to her survival is – How to live like a normal girl? As the narrative moves we realize her synaesthesia becomes an integral part of her life and she can't think of her life without colours. She re-invents herself, discovers herself. The kitten who looks mustard coloured to her becomes her source of happiness. She says in the end:

That night I dream I'm at the country fair with Zack. We're eating hot dogs with gobs of mustard and laughing at Beth, who's stuck on top of the Ferris wheel. When I wake up I swear I can still smell mustard. It doesn't take me too long to figure out what the dream means. (270)

### **Conclusion**

*A Mango Shaped Space* is a narrative which brings together neuroscience and literature in an inimitable manner. Using subtle symbols with first person limited point of view Wendy Mass has given us a very poignant portrayal of a synesthete. It is hoped that research endeavours bringing together psychology,

literature and science of consciousness would provide the much wanted and much awaited new epistemological break by illuminating significant aspects of knowledge in various branches of human endeavor with special reference to psychology, literature and science of consciousness.

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