

# ORCHESTRA OF THE SENSES



In this **Human +** The Future of Our Senses episode—*Orchestra of the Senses*—we discover how the mind orchestrates our five senses to interpret our bodies, our worlds, and other humans.



# TOPIC

# 1

## Plastic people, multisensory worlds

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Recently, our ideas about the brain have changed. We no longer see it as a fixed organ but instead as a flexible and adaptable headquarters, where sensory inputs are analyzed and interpreted. The brain translates these inputs into pictures, sounds, feelings, smells, and tastes in our “mind’s eye.” Now that we know more about the plasticity of our brains, we can see how our sensory worlds change according to our brains’ interpretations.

## DISCUSSION QUESTIONS

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Many famous artists and writers have claimed to have synesthesia, including Vladimir Nabokov, who was also a collector of butterflies. Synesthesia is a condition in which one sense (for example, hearing) is simultaneously perceived by one or more additional senses, such as sight, so that people can see colours when they hear sounds, or taste flavours when they hear music. Why would synesthesia lend itself to creative genius?

- What does it mean for our ideas about human beings if we understand people as plastic and changeable? Is this different from how earlier generations understood humans and our brains?

- Creativity is not limited to those who have hypersensitivities—it exists in all of us. Those who have learned to perceive the world differently, like John, who is blind and an accomplished artist, take advantage of these unique perspectives. Because of his memories of sight, he is able to create paintings from touch. What does that mean for how we sense things? Does it mean that everyone’s unique memories and experiences influence our senses?

- How do food scientists (gastrophysicists) already use our senses to attract us to consume certain foods? The science, explained in Jozef Youssef’s Kitchen Theory design studio, is also used to make us crave snacks and carbonated drinks. For example, it has been established that clear soda pop often fails to catch on, whereas brown soda does better. Why is soda often brown?

## EXPLORE

Other stories about augmented human senses...

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### Nabokov’s synesthesia

<https://www.brainpickings.org/2018/05/15/nabokov-synesthesia/>

### Science of junk food cravings

<https://www.nytimes.com/2013/02/24/magazine/the-extraordinary-science-of-junk-food.html>

### History of food advertisement

<https://99percentinvisible.org/episode/flying-food/>

### The failure of crystal Pepsi

<https://www.mashed.com/111261/crystal-pepsi-flop/>

## Guess what?

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Did you know that we eat with our ears? In an Oxford University study, Professor Charles Spence had research subjects eat potato chips and discovered that the loud crunching that travels to our inner ear via air and bone conduction helps us identify what we’re consuming. Depending on the snack, the noise can reach 63 decibels. Rustling leaves reach 20 dB.

<http://mentalfloss.com/article/531186/science-behind-why-we-crave-loud-and-crunchy-foods>

**“MY WORLD IS  
RICHER,  
MORE COLOURFUL,  
MORE INFORMATIVE”**

# TOPIC

# 2

## Overwhelming senses

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This episode illustrates how the amalgamation of our five senses allows us to understand our bodies as we move through space. But in addition to the traditional five senses we have three more: the vestibular sense (direction), proprioception (balance and movement), and interoception (the sense of our internal organs). When we are overwhelmed, interoception, the focus of this episode, is heightened, and panic may result. But because our brain is plastic, we can rely on the body to help us if any of the five senses is lacking.

## DISCUSSION QUESTIONS

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What does it say about our ideas of disability when we see that people can overcome the loss of one sense by adapting their other senses? What holds people back from breaking “out of the prison,” as the climber, Erik, says we should? What prison is he referring to and who has built it?

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Interoception and its relation to panic attacks may remind you of the HUMAN + episode on hearing, in which an environment of total silence causes people to panic because they can hear their heart, lungs, and other inner organs. Why would it be anxiety-inducing to be aware of our inner organs?

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How are sensory deprivation tanks sensorially different from natural silence or darkness? Why is the tank calming, when other kinds of silence or darkness can be frightening? Does everyone find it calming?

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When the singer Mandy describes how she performs, she explains that music is not just sound. It is also emotion and vibrations. What senses does music stimulate besides hearing?

## EXPLORE

Other stories about augmented human senses...

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### Sensory deprivation tanks

<https://www.thecut.com/2015/08/i-survived-my-terrifying-hour-in-a-float-spa.html>

<https://www.wired.com/story/the-science-of-sensory-deprivation-tanks-in-stranger-things/>





# TOPIC

# 3

## GROUP DISCUSSION

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### Symphonies of our minds

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What kind of synesthesia  
would you like to have?

Could it open up new  
perspectives?

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What would you do if you  
lost a sense?



# HUMAN +

HUMAN + The Future of Our Senses  
Impact Campaign

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