

Noppakorn: Is it possible to use taste as a tool to change the perception of sound from a science perspective?

Dr Chaiyos: It is not possible because the pathway of these two senses is not connected.

Noppakorn: It means that if audiences feel the slight change of perception, it is because of our interpretation, not in the neurological process?

Dr Chaiyos: The pathway of gustatory sense or olfactory-Actually, every sense has to go through the temporal lobe of mood. Our auditory system goes through our ear, then passing through the vestibulocochlear nerve (auditory, vestibular nerve) before going to the brain stem then passing to the temporal lobe for processing. The judgemental part, such as whether the voice that we hear is good-bad or the pitches are low or high, is processing in the parietal lobe. Taste and scent are also coming to this part of the brain. It is possible to have some correlation, but it is hardly possible to modify the sound by using taste.

Noppakorn: The final product from the research is a piece for guitar and candy. It will be a piece composed explicitly for this candy which has multiple layers. For example, the candy's outer layer is sweet, and when it dissolves, the second layer might be salty, sour, or bitter.

Dr Chaiyos: It is the same concept. The most that we can do is provide singular taste or multiple tastes and music to audiences and let them process and think about the relation between taste and sound by their interpretation. This way, individuality is going to be high. For example, for some people, chocolate's flavour matches certain songs, but others might disagree. It needs several amounts of tests. On a small group of people, it might hard to tell because it is a variation, but on a large amount, it might be able to find that this chocolate is well-matched with Mozart or the flavour of orange is well-matched with a song which has a high tone, that is possible.

Noppakorn: So, from the neurological point, there is nothing involved with these two senses.

Dr Chaiyos: From an anatomy point of view, the pathway is different between senses, but when the brain processing, both senses will be around the temporal lobe and parietal lobe.

Noppakorn: In the end, it is going to be processed in the same region?

Dr Chaiyos: Human brain is like a computer. Each sense is the information that goes to the computer by using different routes. Of course, there is some correlation between senses, but to transfigure sense using other sense(s), I think that is impossible.

Noppakorn: There is synesthesia that happened to some musician. For example, when they hear some musical note, they can see the colour of that note or be able to tell what is the colour of that specific note.

Dr Chaiyos: It might be able to happen, but very rare. For a large group of the population, it is just imagination or interpretation. When the average population hear a song, it is possible to feel colour, but everyone will be different. Also, in the case of synesthesia is very much individual.

Noppakorn: What is synesthesia. Is it defined as a disease or a disorder?

Dr Chaiyos: It is not. It is neither disease nor disorder. "Syn" is a prefix meaning together, with, or joined. Aesthesia means the ability to feel or perceive. Synesthesia is the combination of this two-term, which means "to perceive or feel together or senses coming together", which is not a disease. This term comes from Greek and uses to describe people who use one sense as a trigger to feel another sense without the stimulation of that particular sense. For example, as mentioned before, someone might have synesthesia related to sound and colour.

Noppakorn: So this might happen to a small group of people?

Dr Chaiyos: Yes. Moreover, it is also different depends on the case of the individual.

Noppakorn: How does synesthesia happen?

Dr Chaiyos: The cause of synaesthesia is uncertain. It might be about the development of the brain in people who have synesthesia. The brain of synesthetes might develop better than ordinary people, so it creates connections or processing better. Alternatively, they might have more neurons. Compared to the CPU, when the CPU is advance, it can create more possibility.

Noppakorn: When we taste different tastes like sweet, sour, salty, or bitter, in science, do they have any visual record like a graph that provides each taste's information? For instance, when people taste sweet food objects, the brain will react in a specific graph's shape.

Dr Chaiyos: The paper called "Anatomy and development of the human taste system" should have the information. This paper is a deep dive into this topic. It was done by a neurologist that specializes in this topic. There should be people who study this, but I do not know whether it is the kind of graph you want. However, this is the review that is easy to read to understand the taste system.

Noppakorn: Good that it is easy to read.

Dr Chaiyos: The taste system links to the brain stem through the seventh cranial nerve (the facial nerve) and the ninth cranial nerve (The glossopharyngeal nerve). The olfactory and gustatory system centre is around the Thalamus, then going to the Temporal lobe. Synesthesia might happen in the brain stem or Temporal lobe. The paper will give lots of exciting information that is relevant to the subject.

Noppakorn: Good to know that there is a scientific connection between senses.

Dr Chaiyos: Human brain is very complicated. When humans receive a sense, it can combine with anything and our brain also good at perceiving multiple senses at once. For instance, people can watch a movie while eating food and be able to understand both. The brain determines every human action, so it is a very complicated subject. However, for your subject, if you want to know that is it possible or not, the final answer is possible because, in the end, every sensory are all processing in the cerebral cortex, which is a very complex sector of the brain which there have many connections and the possibility to tie things together.