

Welcome to the **Microcosm of the Senses**. This box holds objects which can stimulate your senses. Plastered around the insides of the box are blocks of text addressing vague concepts and stimulating ideas about the senses. The texts often refer to objects in the box to support ideas or simply help place your mind in an appropriate setting. We encourage you to obey the texts but feel free to hold other objects and think different thoughts. You, as the sole viewer and manipulator of this box, are in essence the “god” of this small universe. You are free to do as you please, move the objects as you will, interpret them as you wish and read the blocks in whatever order you desire. Take your time, question the topics addressed, and enjoy, or don't...

Can you see **the cork**? This cork came from a Sicilian red wine. How does the cork feel in your hand(s)? Can you smell the residue wine on the cork? Even taste it? Place the cork in the middle of your fingers, wrap your fingers around it, how does it feel? How do your fingers wrap around the cork? Notice the smoothness around the cork but the grid-like roughness on the flat surfaces of the cork. How, do you think, the cork was oriented in the bottle? Is it moist? Does it make a sound? When you touch it a certain way?

The human body is a medium for the 8 senses (not just the common 5). Those being: sight, smell, sound, taste, touch, proprioception, interoception and vestibular sense. Through our sensory organs and our body we use our senses as tools to uniquely perceive events. All our thoughts are grounded in our senses.

The physical concept of the human body was primarily explored in the realm of medicine. On the other hand philosophers investigated the concept of the body and its complex relationship to the senses. Bruno Latour's interpretation of William Jones' philosophy about the body demonstrates how complex this relationship can be: "To have a body is to learn to be affected". This line of reasoning leads to somewhat of a paradox: the notion of the sensual body cannot exist without the senses which can affect it and likewise the senses cannot exist if there isn't a body to perceive them. This shows how the body isn't a residue of a superior concept like a soul or thoughts but instead a tool to register and become sensitive to our reality. Bruno Latour goes on to say that the body itself cannot be defined but instead can only be rendered sensitive to the world. For the body to exist it must have the capacity to be affected, so, the body itself acts as a sensory medium but it also creates the concept of a world which can be sensed.

To make the most of our bodies and our senses we have to learn how to use the body as well as possible. Since all conventional learning is, at its core sensory based, all learning revolves around perception of senses. Thus, to improve your ability to use your body well is to improve your perception of senses and consequently learn how to learn. This is a problem which is arising in various academic fields and environments (schools, university, research and more), people are "losing touch" of their body and thus decreasing their ability to conventionally learn.

Similarly the **cork's** purpose is to fill the hole of a bottle (temporarily or permanently) and the purpose of a hole within a bottle is for it to be filled (with a cork). Do you understand the relationship the cork has with the bottle? Without the body to sense the cork, it cannot exist and the fact it exists proves the body must sense it.

This borderline questions existentialism and essentialism. Replace the cork with yourself. You exist and therefore, following the reasoning above, must have a purpose. Essentialism supports the idea that essence precedes existence, you have a purpose therefore you exist; or as René Descartes said: "I think, therefore I am". Essentialism implies a divine meaning to our lives established by an (third-party) external source, a god. Jean-Paul Sartre was a renowned French philosopher who questioned this philosophy. Sartre flipped this reasoning and instead suggested: "I am, therefore I think". Sartre suggested existentialism or that existence precedes essence. This would mean we create our meaning to our lives by existing. Was the cork made to fit the hole or was the need to fill the hole the reason the cork was made? You exist in the **Microcosm of the Senses**, for what purpose? Actually, never mind the purpose... Was the purpose for you to exist in the **Microcosm of the Senses** preconceived or is your purpose created by you existing in the **Microcosm of the Senses**?

The ancient Greek and Chinese physicians developed very different ideas about the body and how it works. While the West worked primarily through anatomical dissection the Chinese explored remedies and acupuncture. Despite one medicine appearing absurd to the other, both trains of thought (Chinese and Greek) couldn't deny the medical success with the radical ideas of the other. This fueled inter-traditional research with many Greek physicians visiting China to experience their medical practice and vice versa. Somewhat of a paradox is formed; each physician knew the body to be different because they felt it differently but likewise they felt the body differently because they knew it to be different, and so they disagreed.

Wine tasting has also become a victim of the ambiguity of the senses. Despite people agreeing that a certain wine is sweet or fruity, they may differ on whether it's "good" or not. Wine tasting has started to shift from detailing the common causes of the taste to the individualistic experiences of the taste. The article "Tastes of Wine" highlighted how wine tasting has evolved to become a personal judgment of the wine; it's up to the individual to figure what a wine should taste like and try to explain this private understanding. These discrepancies originate from multiple concepts. Firstly; the difference between an object's primary and secondary characteristics and consequently the difference between perceiving and interpreting these characteristics. Secondly, the issue with sensory translation and communication.

The first concept explains how all sources of senses have both primary and secondary characteristics, or objective traits and subjective perceptions. This interpretation of objects is quite old and has been referred to in countless texts. The idea that all individuals perceive and understand an object's objective traits the same way is undeniably true.

Find the **folding knife** in the box. Everyone can agree on the objective traits of the knife. It is brown, gold and silver. The handle feels smooth...the blade, sharp. It clicks when it opens...These are all objective traits of this object which everyone can agree on.

Subjective perceptions are, as defined, subjective. They are the combination of the thoughts produced from the individual's interpretation of the primary characteristics and the individual's memories of past experiences with similar, or not, events.

This notion creates a quite individualistic outlook on reality. We may all perceive events the same but our subjective truths of the object will always vary. Research papers and philosophical experiments have shown how incredibly stubborn humans are with their subjective truths, unwilling to accept interpretations other than their own and going out of their way to suppress, contain, eliminate or assimilate foreign interpretations.

Subjective truths invoke feelings and emotions in the individual. Pick up the **folding knife** again. Open it and carefully hold each side of the knife in one hand. One hand feels the smooth handle and the other; the sharp blade. If the hands belonged to different people unaware of the concept of the knife or the fact it has two sides; one would say a knife is smooth, elegant and peaceful while the other claims it to be sharp, thin and dangerous. Both are equally correct yet they would disagree with each other. What does the knife mean to your separate hands? What about when you combine them?

This knife was given to me by my grandfather, he's an avid fan of knives and has amounted quite a vast collection throughout his travels. To me the knife smells of his house, it's a knife used for cutting fruit or vegetables while on a family picnic in the meadows lining the French countryside. There is a sense of danger to it but an overwhelming sense of peace and calmness. To a person who has cut themselves or experienced violence with a similar knife; this knife may invoke feelings of fear and violence... These are subjective truths, despite differing wildly they are both true, to the select individual. What does the knife make you feel, what does it make you remember? Why do you remember this?

A famous parable involves an elephant and 4 blind men, they each touch different parts of the elephant, each claiming an elephant is like a tree (the leg), a hose (the trunk), a rope (the tail) and a wall (the body). Each blind man has a true objective perception of the part of the elephant they're touching and an equally true subjective interpretation of this perception. All the men's statements are true, yet they seem absurd to each other. This experiment eventually has two outcomes, either the men put aside their subjective truths and accept that the elephant can be all of these things, or they remain stubborn and fight to the death in the name of their truth being "truer" than all the others (how grim).

We suggest a third (secret) outcome: the elephant, ultimately, indifferent to its meaning (in the eyes of the men) is probably just bothered by the physical groping and annoying discussion between the men. Thus it tramples them all to death and continues to solely exist, void of external interpretation and in eternal bliss.

Imagine your brain as a vast library where memories are stored not as single, isolated snapshots but as complex tapestries woven from different sensory, emotional, and conceptual threads. When we experience an event, whether it's the sight of a beautiful sunset, the sound of waves crashing on the beach, or the taste of our favorite meal, our brain is busy processing these diverse sensory inputs. These inputs are then bound together to form a coherent memory. This binding process is the foundation of memory formation and retrieval, and it's where multisensory experiences play a crucial role.

Have you ever wondered why certain memories seem to stick more vividly in your mind? Often, it's because these memories are enriched by multiple sensory cues that naturally go together in our environment. Think about the comforting aroma of coffee paired with the sound of a bustling café or the familiar sight of your childhood home accompanied by the chirping of birds. These preexisting, learned associations between different senses make these memories more robust and easier to recall. When we encounter these paired stimuli, they activate related neural networks in our brain, creating a stronger memory trace.

Here's a challenge: See the **chocolate** near this text box? Take a moment, no more than 10 seconds, and just try and commit it to memory. Do nothing but stare at it.

Done? Okay, keep reading.

Semantic congruency, or the meaningful pairing of audio and visual features, also plays a significant role in memory recall. Memories that are semantically congruent, where the audio and visual features correspond to the same object or concept, are easier to integrate and recall. For example, when you see a picture of a cat and hear a meow, the brain effortlessly binds these two stimuli together because they make sense together. This meaningful integration is akin to a "deep level of processing," where memories are encoded more deeply and are therefore easier to retrieve later on.

Now, let's talk about the brain's incredible architecture that supports these multisensory memories. The Lateral Occipital Complex (LOC) is a brain region that plays a crucial role in object recognition. When audio and visual features are semantically congruent, the LOC helps bind them together at an object-level of multisensory processing. This binding facilitates memory recall, making the memory more vivid and complete.

On the other hand, the hippocampus, a brain region traditionally associated with memory, becomes activated when the audio and visual features are not naturally associated but have been learned together over time. It helps us remember these arbitrary or event-level multisensory associations.

Hey, quick question... Can you write down/recite what you remember about the **chocolate**?

Done? Okay, this time around, please take a **deeper look** at the chocolate. You may take it up, taste it, smell it, stare at it further... The choice is yours. You have 10 seconds. Alright, keep reading.

Speaking of the usage of brain regions, we also have two types of memory recall: Bottom-up and Top-Down. In the context of multisensory memory, bottom-up retrieval can be seen as the spontaneous activation of memories through sensory cues that involve multiple pathways. Imagine experiencing a sunset at the beach: the vivid colors, the sound of waves crashing, the smell of the ocean, and the feeling of sand between your toes. Each of these sensory inputs serves as a bottom-up cue that can independently trigger the multisensory memory of that sunset. For instance, hearing the sound of waves in a movie or smelling a similar ocean scent might spontaneously evoke memories of that specific sunset, illustrating the power of bottom-up retrieval in accessing multisensory memories.

In contrast, top-down retrieval in multisensory memory involves the intentional and goal-directed search for specific multisensory memories based on internal knowledge, expectations, or goals. For example, if you're trying to recall a memorable dinner experience at a restaurant, your internal knowledge of the taste of the food, the ambiance of the restaurant, and the conversation with your dining companions can guide your memory search. In this case, your goal of remembering the entire dining experience helps to refine and retrieve the multisensory memory cohesively, utilizing top-down processes to access the integrated multisensory information.

So, what are the benefits of having these multisensory memories? First and foremost, they enhance memory recall. Pairing visual stimuli with associated sounds or other sensory cues creates a richer, more detailed memory trace that's easier to retrieve. These memories also provide richer contextual details, making them more vivid and memorable. Additionally, having multiple sensory cues associated with a memory allows for more varied retrieval cues. If one sensory cue doesn't trigger the memory, another might, providing multiple pathways to retrieve the memory effectively. Memory is not a static entity residing in a single corner of our brain. Rather, it's a rich tapestry woven from sensory details, emotional nuances, and verbal descriptions. Imagine each memory as a unique constellation, with various stars representing its different facets. For instance, recalling an apple might summon its crisp texture, vibrant color, juicy taste, and perhaps even memories of orchards or pies.

Okay, now just like before, can you please write down what you **remember** about the chocolate?

What differences do you see between your descriptions before and after using multiple senses to interact with the chocolate?

In conclusion, memory recall benefits immensely from multisensory integration. Whether it's the natural associations between different sensory experiences, semantic congruency, or the involvement of specific neural mechanisms like the LOC and hippocampus, multisensory memories are richer, more robust, and easier to retrieve. They offer a holistic approach to memory storage and retrieval, underscoring the importance of multisensory experiences in shaping our memories and our lives. So, the next time you find yourself marveling at a beautiful sunset or savoring a delicious meal, remember that your brain is busy creating a multisensory memory tapestry that you'll cherish for years to come!

How does everything link together, explain cycle and how any variation from this cycle is normal and represents normality

We recommend you read the following last...

The way you've interpreted the **Microcosm of the Senses** is unique and private. If you haven't managed to tie all these concepts together we can provide a brief guide on how we thought these all linked together: Life is a collection of experiences and what makes you *YOU* (personality, memories, reactions, experiences, etc...), is defined by how you experience, interpret, react and so on to these specific experiences. This forms somewhat of a cycle: You use your senses to perceive events, using your perception, past experiences, emotions and your unique personality you make unique interpretations of these perceptions. This leads to a profound level of understanding which stores these new experiences and makes memories. These memories become past experiences as your life chronologically progresses and they're eventually used to shape your emotions, personality and thus, the way you react to future events. Like this, the cycle continues, until you naturally leave it by no longer perceiving events (death).

This was our own, unique, interpretation of these concepts. However, We may be the creators of the **Microcosm of the Senses** but, as you've probably learned, this interpretation is in no way any more "correct" or "wrong" than anyone else's interpretation. The ultimate goal of this project was to simply shine some light on these concepts and demonstrate the unique diversity which exists in this dear reality of ours.

We hope you've enjoyed and gained some newfound insight on how you interpret the world and the beings that inhabit it... Thank you for your time.

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