

Where Do the Thoughts Come From?

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ABSTRACT

It is indeed paradoxical to think about thought. But not only me but innumerable thinkers have been thinking about where do the thoughts come from? In this paper while taking cognizance of other thinkers, I have added my own thoughts on the subject. As per me, thinking is also a sense like five known senses-seeing, hearing, smelling, tasting and touching. And like these senses, there is a sense organ for thinking and there is a portion of brain which does the processing of thinking signals which after reaching its sense organ get into the processing zones in the brain and get processed to manifest the thought perception. Where does this sense organ reside and from where thoughts emerge and reach this sense organ and where and what are the portions of the brain which do the processing-these are the questions which this paper tries to find answer.

Keywords: *Thinking, Thoughts, Senses in Humans, Sense Organs, Origin of Thoughts, Origin of Senses*

How Paradoxical!!-

A Thought manifesting in mind for exploring the source of the thought!

I have often wondered from where do the thoughts come which must have been vexing the thinkers from time immemorial. When I surf the internet, I find many articles touching the subject. While taking their cognizance, I shall add my own thinking on the topic.

Humans are the only species on this planet earth who think as well as plan and this supreme capacity makes them rule over other species who may be hugely better equipped on other fronts but lack behind in the capability of thinking and planning. We have been able to tame the animals more powerful than us! Huge and more powerful species like dinosaurs have met extinction but humans survived because the thinking and planning power enforced their survival instinct. Humans were born to rule and they have been ruling over all life forms just because of their thinking and planning capability.

What do we know about thoughts? How are thoughts generated? Who generates them? Do thoughts originate in the brain? Do these come from a source external to our body? Is there

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any sense organ (like eyes, ears...) that receives the thoughts from an external source as is the case for the sight which gets light waves to form an image on the retina of the eye—eye being the sense organ and the object the source from where the light waves get reflected to reach the sense organ eye! Once received in the brain, how thoughts get processed in the brain resulting in actions triggered by thoughts? Do we think only when we are awake or we think even during sleep? Do thoughts cease when our body ceases to work with the onset of death or thoughts continue even after death? Are thoughts eternal and outlive death?

These are many questions and there may be many more needing an answer for a better understanding of “Thoughts”!

We shall be discussing these aspects in this paper.

When we start thinking, it immediately comes to our mind that the body part which can be meaningfully correlated with the thought is “The Brain”. It is scientifically known that the brain does the processing of all known senses and thoughts also get processed in the brain. So, it is very pertinent to understand briefly the brain functioning and understand its working in relation to our thinking process.

We shall just peep into the brain parts.

The details are derived from the book, "Tell-Tale Brain" By V. Ramachandran (2010) and the book, " The Brain" by Michael O' Shea:

Situated in the skull, the brain looks something like shown in figure 1:

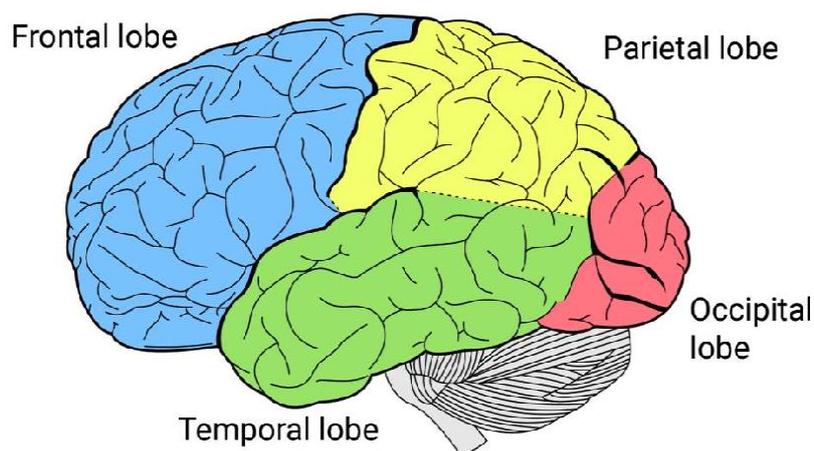


Figure 1: - Brain- the main Cerebral Cortex parts

The above gives the main parts of the brain. The Cerebral Cortex is divided into four lobes:

- Occipital
- Temporal
- Parietal
- Frontal

At Occipital Lobe, visual processing occurs. This lobe is vital for visual perception in humans.

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At Temporal Lobe, higher perceptual functions such as recognizing faces and linking emotions to them are performed.

In the front part of the Temporal Lobe lies a vital part called the Amygdala (see figure 2) which controls the emotional part of human behaviour. The hippocampus (see Figure 2) is another important part of The Temporal Lobe. This lays down new memory traces in the Brain. Fusiform Gyrus is situated near the bottom part of the Temporal Lobe that has subdivisions specialized for recognizing colour, faces, and other objects.

Thus, we see that the temporal lobe is very important when we talk about thinking and thoughts because it is correlated with various aspects of human behaviour which are connected to thinking.

Parietal Lobe processes touch, muscles, and joint formation in the body. These processes combined with vision and hearing give a balance that gives you an understanding of the world around you — in fact, it is the Right Parietal Lobe that provides awareness about the world around you and your physical relationship with worldly objects.

Frontal Lobes include the Motor Cortex, which sends commands to muscles on the opposite side of the body; the Premotor Cortex, which orchestrates these commands; and the Prefrontal Cortex, which is the seat of morality, judgment, ethics, ambition, personality, character, and other human attributes. Its other parts are involved in planning actions keeping goals in mind and holding things in memory.

The Frontal Lobe is a part of The Cerebral Cortex of the brain which is the outermost layer of the Cerebral Hemispheres of the brain and is a seat of higher thoughts where all our highest mental functions are carried out. It is responsible for all forms of higher-level functions including perception, nuanced emotions, abstract thinking, and planning.

Thus, the processing of “thinking and planning” takes place in the Cerebral Cortex (frontal lobes) and also correlates with human behavior processing taking place in the Temporal Lobe.

While we know that the sense organs, eyes, ears, nose, tongue, and skin are the receivers of our five senses and the five senses reach the brain through these sense organs and final processing is done by the brain. But what about thought (which is processed in the brain)—is it another sense? And if yes, is there a sense organ for it which receives the thoughts and from where?

Before we discuss this aspect, it will be of interest to learn the brain location where the processing of our five senses takes place in the brain (we saw in the above paragraphs that thoughts get processed in the Cerebral Cortex (frontal lobes) and the frontal lobe). We shall also learn wherefrom each of the five known senses originates, how the sense reaches the respective sense organ which, then, sends the sense signals to the brain location where processing takes place.

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Let us, first, see brain location for the processing of the five senses:

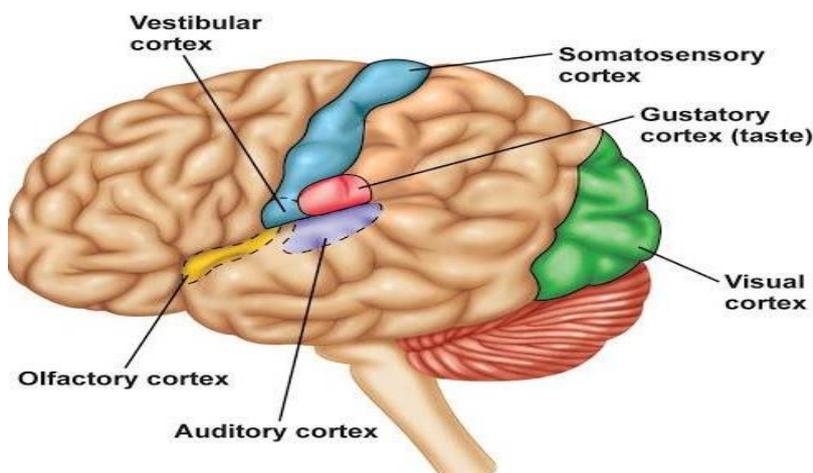


Figure 2 showing different cortex in the brain where different sensory perception processing happens

Let us now see how the five senses are perceived.

Sight

When light falls on an object, the object reflects the light waves. These waves travel and reach the sense organ eye and the image forms in the retina. The light signals from the eye are sent through the neural circuitry to the visual cortex where the processing takes place and we have the visual perception. The processing is complex and not relevant to our topic so I have not dwelt on it. The relevance to the topic is that the origin of seeing sense is external and lies in the environment and the image that we finally see reaches the seeing sense organ, the eye, and then the processing happens in Visual Cortex.

Moving on to the next sense –Hearing the Sound

Hearing the Sound

Sound is a type of energy made by vibrations. When any object vibrates, it causes movement in the air particles. These particles bump into the particles close to them, which makes them vibrate too, causing them to bump into more air particles. This movement, called sound waves, keeps going until they run out of energy. If your ear is within range of the vibrations, you hear the sound. (-www.sciencekidsathome.com)

The sound originates in the environment and travels as Sound Waves and reaches the hearing sense organ, the ear, and these waves get converted into signals by neural circuitry and passed onto the auditory cortex where the processing of hearing happens and, finally, we hear the sound. We, again, omit processing details in the brain as not relevant to our topic.

Next, we take on the sense of taste:

Sense of Taste

For the tasting, we have to keep the article to be tasted on our tongues and then the tongue acts as a receptor sense organ for a taste sensation and sense impulses to the brain for processing and for the final sensation experience of the taste. The processing of the taste sensation triggered by brain parts happens as follows: "When we taste the food, neural activity propagates from the tongue to the brainstem and up to the cerebral cortex region known as the gustatory cortex (see figure above)"

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As seen for seeing and hearing, the sense organ for tasting is the tongue and the sense of taste originates from an article put on the tongue and the taste signals pass through the taste sense organ, the tongue, to the Gustatory cortex where the taste processing happens and, finally, we get the taste sensation.

Moving on to the sense of Smelling:

Smelling Sense

The smell is a very direct sense. For you to smell something, molecules from that thing have to make it to your nose. Everything you smell, therefore, is giving off molecules -- whether it is bread in the bakery, onions, perfume, a piece of fruit, or whatever. Those molecules are generally light, volatile (easy to evaporate) chemicals that float through the air into your nose. A piece of steel has no smell because nothing evaporates from it -- steel is a non-volatile solid.

At the top of your nasal passages behind your nose, there is a patch of special neurons about the size of a postage stamp. These neurons are unique in that they are out in the open where they can come into contact with the air. They have hair-like projections called cilia that increase their surface area. An odor molecule binds to these cilia to trigger the neuron and cause you to perceive a smell.

There is a difference between the smell sensation travelling method and those of seeing and hearing sensations. While the latter travelled like waves and were captured in the sense organs, smell travels in the air --the air current carrying the molecules or odour reaches the smell sense organ-nose, and there on the processing of smell starts.

Thus, the smell sense organ is the nose and the sense of smell originates from objects which give off odour molecules that travel in the air and reach the smell sense organ, the nose, and from there these pass on to Olfactory Cortex, where processing takes place and we get the smelling sensation.

Final we come to the last sense of touching:

Touching Sense

Guro E. Løseth, Dan-Mikael Ellingson, and Siri Leknes offer the following details about touch sensation which emanate from the skin when someone or something touches our body and signals go-to brain:

Touch and pain are aspects of the somatosensory system (see above Figure), which provides our brain with information about our own body and properties of the immediate external world. We have somatosensory receptors located all over the body, from the surface of our skin to the depth of our joints. The touch information is sent to the central nervous system through cutaneous senses (senses of the skin),

The skin can convey many sensations, such as the biting cold of wind, the comfortable pressure of a hand holding yours, or the irritating itch from a woolen scarf. The different types of information activate specific receptors that convert the stimulation of the skin to electrical nerve impulses, a process called transduction. There are three main groups of receptors in our skin: mechanoreceptors, responding to mechanical stimuli, such as stroking, stretching, or vibration of the skin; thermo-receptors, responding to cold or hot temperatures; and chemoreceptors, responding to certain types of chemicals either applied externally or

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released within the skin (such as histamine from an inflammation)." Interconnection of skin to the circuitry of the brain as discussed above provides a sensation of touch.

As was the case for other senses, there is a sense organ for touch which is skin. When someone or something touches our body, the signals go to the brain's somatosensory cortex where touch sensation gets processed. The touch sense originates externally when some object touches our touch sense organ, the skin, and from there it goes to the brain part somatosensory cortex from where after processing we get the sensation of touch.

Summarizing the above discussions, we can say that for each of the known five senses, the sense originates somewhere and somehow externally; travel to the respective sense organ and then the sense organ sends the signals to the respective part of the brain and we are able to see, hear, taste, smell or feel the touch.

Having known the brain areas which do the processing of five senses and the thoughts, let us go back to the questions about thought—Is thought also a sense like five senses, and is there a sense organ for thought and from where thoughts originate and how they reach the brain for processing?

The questions are perplexing and we shall, now, discuss these.

First of all, let us explore whether there are only five senses: or are there more for which science has, so far, not given importance and recognition.

Tom Van Gelder in his paper – “Phenomenology-12 senses” suggests that are more senses in addition to the known five senses:

It was Rudolf Steiner who first proposed that there are twelve senses. His theory on senses was later expanded by various authors, including Appli, Kranich, Schoorel and Soesman. Steiner's twelve senses can be grouped into three categories. He distinguished senses which relate to the perception of:

- your body: the senses of touch, of life, of movement, of balance
- the external world: smell, taste, sight, temperature
- the immaterial, spiritual world: hearing, speech, thought, ego

The first four senses, the lowest, are called physical senses, or senses of the will because they are used to perceive one's own body.

The middle four senses are the senses of feeling. Observations made with these senses arouse feelings. These senses are also reflected in our language: a tastefully furnished house, a sourpuss, hard to swallow, heart-warming, cold thought.

The last four senses, the highest, focus particularly on the other. These are the spiritual or knowledge senses, and they are used in the observation of other people.

As per the above view, thought is a sense which the author calls a spiritual or knowledge sense. Out of known five senses, the only hearing sense is grouped under this category. These senses give us the perception of the spiritual world,

Sense of touch is categorized as a physical sense or a sense of the will. This gives a perception of our own bodies.

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The sense of sight, taste, and smell fall under the category of senses of feeling. These give us the perception of the external world.

Whatever way we categorize, “thought”, is a sense like our five known senses as per the above authors. I also tend to agree with them and wish to expand on it by adding that for this sense to manifest, there is a pre-requirement that this correlates with the external sense of sight and also on the other spiritual senses of hearing, speech and ego. The thought sense, in fact, builds on the foundation which is comprised of these four senses.

Logically we have concluded that “Thinking or thought” is a sense. All known five senses had sense organs that received the sensations for processing in the brain. Does Thought Sense have a sense organ?

To answer this question, we shall go through some literature concerning thoughts, brain, and mind. The following paragraphs are devoted to these aspects:

We have already gained a little knowledge about the brain circuitry which process thoughts; broadening that knowledge, I cite here an article that appeared in The Free Press Journal—Mumbai, on 30th January 2014. It was titled--Unique brain area behind the better decision-making. The details presented in the article were as follows,

"Researchers have identified an area of the brain that appears to be uniquely human and is likely to have something to do with your cognitive powers (thinking capabilities).

"We tend to think that being able to plan into the future, be flexible in our approach, and learn from others are things that are particularly impressive about humans. We have identified an area of the brain that appears to be uniquely human and is likely to have something to do with these cognitive powers," senior researcher Professor Matthew Rushworth of Oxford university's department of Experimental psychology said.

"The brain area discovered is known to be intimately involved in some of the most advanced planning and decision-making processes that we think of as being especially human," said researchers at Oxford University.

"This Ventrolateral Frontal Cortex area of the brain is involved in many of highest aspects of thinking and language and is only present in humans and other primates," said Matthews Rushworth.

The scientists took MRI imaging of 25 adult volunteers to identify key components in the ventrolateral frontal cortex area of the human brain and how these components were connected up with other brain areas.

The results were compared to equivalent MRI data from 25 macaque monkeys. From the MRI data, the researchers were able to divide the human ventrolateral frontal cortex had no equivalent in the macaque- an area called the lateral frontal pole prefrontal cortex.

"This area has been identified with strategic planning and decision making as well as multi-tasking," said first author Franz-Xaver Neubert of Oxford University.

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They found that some parts in this brain area are implicated in psychiatric conditions like Attention Deficit Hyperactivity Disorder (ADHD), drug addiction, or compulsive behaviour disorders. Language is affected when other parts are damaged after a stroke or neurodegenerative disease.

A better understanding of the neural connections and networks involved should help the understanding of changes in the brain that go along with these conditions, said the study published in the science journal *Neuron*."

It is made clear that humans have a distinct ability of thinking which has made them create wonders and tame the other animals. But from where do the thoughts come—we know about the processing of thoughts that occurs in the brain but from where do the signals originate, and is there a sense organ that receives and sends sensory signals to brain circuitry to process thoughts?

It is generally believed that the thoughts originate in the Mind. What is mind then? Have you ever thought about whether the Mind and Brain are distinct entities? As far as my memory goes, we have been using these terms interchangeably and now when I put forward this question, I realize that, yes, these, could, probably, be different. To answer this, we shall have to make efforts to understand what do these words really mean and then try to understand the inter-connection.

I did bring out the brain-mind distinction and their inter-connection in my recently published book, Naresh Kumar (2021)- "The Brain, Mind, Consciousness and the vital question-Who am I".

I present the discussions from the book which is relevant to our topic as follows:
Let us examine what some thinkers on mind and brain have to say—Dr. Ukachoke Chirapat (2018) in "The basic Theory of Mind" says the following about the mind:

"The mind is one thing that has always fascinated and puzzled us. It is the only thing that we can be certain of existing, yet, apparently, we do not know exactly what it is, why it occurs, and how it occurs. This is in contrast to things outside the mind, such as houses, cars, and even other people, which we cannot be certain that they really exist – they may be just illusions – yet, apparently, we know what they are, why they occur, and how they occur. What's more, the phenomena of qualia and consciousness, such as the red colour as it appears phenomenally red in our mind and our phenomenal conscious awareness and experience of that red colour, have always been baffling – what is their nature, why and how do they occur, and cannot there be just the mind without them?

Fortunately, with centuries of studying these matters, first by philosophers and later also by neurologists, neuroscientists, and other scientists in related fields, we now have a wealth of scientific evidence and concepts that are complete enough to form a theory that can answer these great puzzles.

The Basic Theory of the Mind

Based on this wealth of scientific evidence and concepts, the theory has been formed. Its essence is as follows:

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1. From the physical properties of the mind and those of the brain (the alive, processing brain), it can be concluded that the mind always occurs, exists, and functions with the brain and that the brain always occurs, exists, and functions with the mind. Both never occur alone without the other. They are a unity. Each is the intrinsic, equivalent, but different (non-material vs material) aspect of this unity.
2. From the physical properties of the mind and those of the brain's information-processing processes, which are non-material processes, it can be concluded that the mind is the composite of the information-processing processes of the brain (see Figure below).

"What happens when we see, hear, and smell things around us, experience moods, think of various things, plan appropriate actions, and command our hands, lips, and body to move, if not information, information, and information are being processed. We are just informational entities, ever processing information, and living on the informational side of the universe."

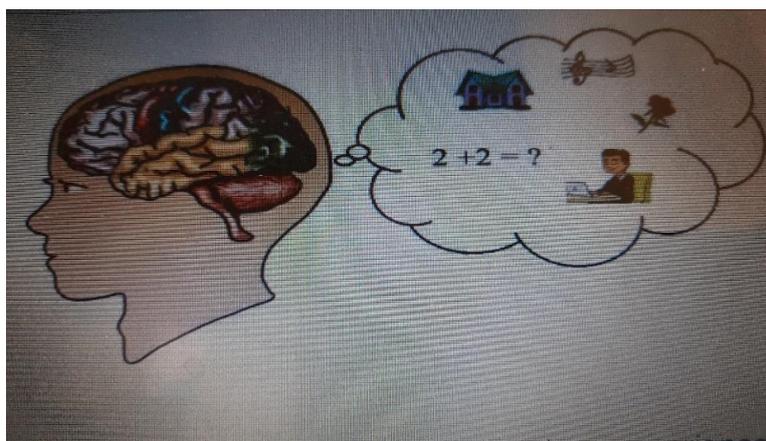


Figure. 3 *The mind is an information-processing entity.*

Because the mind is a composite of information-processing processes, it is an informational entity – a non-material entity that is composed of information and information processing, and because the information processing processes that form the mind are innumerable and involve information that ranges from simple to very advanced, the mind is an informational entity in a highly advanced form. Also, because the mind is a non-material, informational entity, it is not a conventional physical entity (or mechanical entity) like mass, energy, or force; that is why it is so different from the conventional physical entities."

To me, the views of the author carry weight and I go along to define the Mind as an Informational entity that works jointly with the brain. It is truly a functional correlate to the brain. But I deviate from the last remarks by the author that it is a non-material, non-physical entity. Maybe the author is compelled to make this assertion because the mind is invisible. Can invisible entities not be physical entities?

I often wonder that we do not see many things but they do exist and are physical. Bacteria, for example, can be seen by a microscope but is invisible to the naked eye. Till the Microscope was invented we did not see and know about bacteria but it existed and had a physical form. So, it is logical to say that many things may be existing but since we are not able to see them, we feel that these do not exist and do not have a physical form. However, it is also true that there are things that we do not see but we know that they exist. For example,

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we are not able to see "Air" but we know it exists because we can feel its existence. The proof of the existence of air is not by its sight but by the sight of what it does. The cool breeze giving us comfort whereas the storms make their presence felt by the devastating results it leaves after manifesting. Heat is another entity that proves existence by its effect.

"Mind" can be an informational energy form that physically exists but is not visible, its existence is proved by its effect in form of thoughts that comes to us. Maybe a day will come when science will advance to an extent to invent an instrument like the microscope which will give a visual picture of the mind and depict the thoughts visually as bacteria are seen by the microscope.

It is sad that the great Nikola Tesla a scientist (and inventor of AC currents which revolutionized the world and made the world switch over from DC current to AC current) could not pursue his thought to convert into the invention of what he called "Thought Projector" which he was developing during the last days of his life.

Smith (2017) in his paper, "Nikola Tesla's wildest Project----- Thought Projector", mentions "When Nikola Tesla died, he left behind fascinating writings about inventions he never realized. One such invention is DER GEDANKENPROJEKTOR, a camera that could be used to photograph thoughts."

Tesla (1933) argued that if it be true that thought reflects an image on the retina, it is merely a question of illuminating the same properly and taking photographs & then using ordinary methods which are available to project an image on the screen.

"If this could be done then the objects imagined by a person would be clearly reflected on the screen as and when they are formed, and, in this way, each thought of the individual could be read. Our minds would then be "Open books".

We hope to see a day when some genius like Tesla is able to develop an instrument to bring the visual aspect of the informational energy entity "The Mind"

The above explains 'Mind', which could be the additional sense organ that receives thoughts and sends thought signals to the brain's temporal lobe and Cerebral Cortex for processing and we get thought perceptions.

This confirms that the Mind has to be different from the brain:

Mr. Ajai R Singh and Shakuntala A Singh (2011) say in their paper bring out this difference aptly and reassures our thinking that the brain and the mind are distinct and the mind is the entity which is a functional correlate to the brain:

"...There is a need to dispel confusion about the concepts 'brain' and 'mind,' and their relationship. Centuries of writings and opinions have only served to blur margins and make vagueness the hallmark of the relation between these two concepts. In general, historically, the concept 'mind' has received greater attention than the entity 'brain,' and that has not helped clear the confusion.

In no theories of the philosophy of mind of earlier times, both in the east and the west was there any significant attention given to the entity called the brain. Nor have modern philosophical theories done much to repair the damage.

We need to clarify the connection between 'brain' and 'mind,' "

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The authors want us to study two figures to bring clarity between Mind and Brain, let us have a look at these:

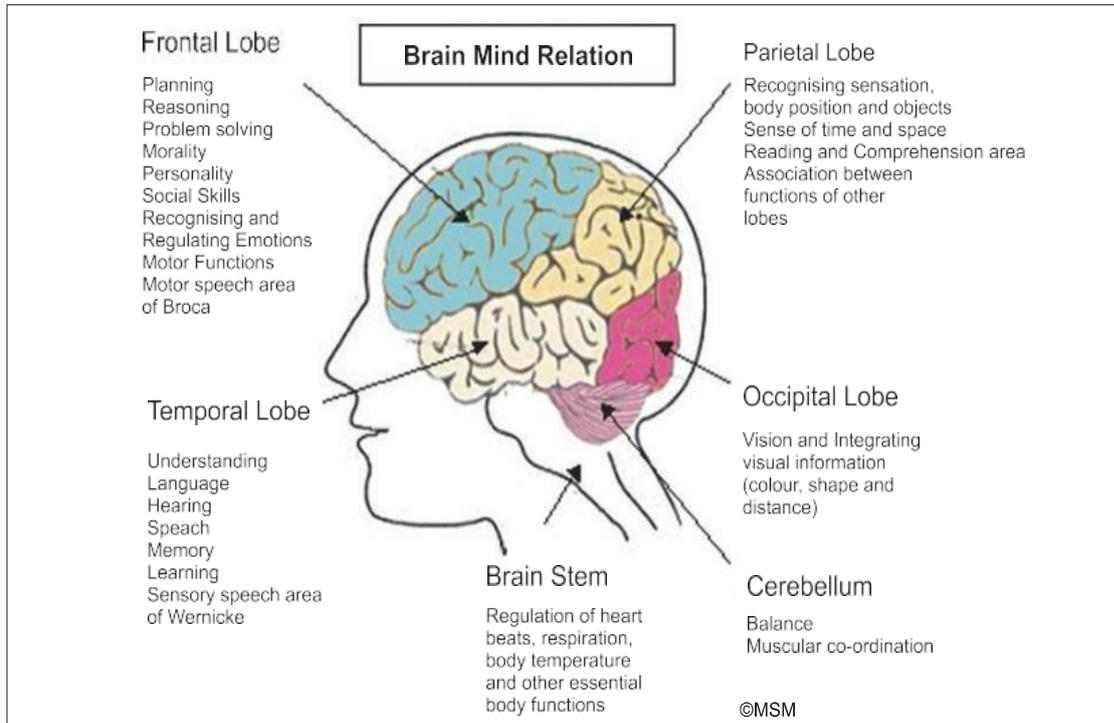


Figure: 4 The structure Brain carries out functions like thinking, emotions, problem-solving, sum total of a person's personality including moral standards/judgments/reasoning, etc., language/ speech, hearing, vision, making sense of perceptions and regulating motor activities, balance/ coordination, heartbeat/respiration/other vital functions, hormonal and related balances. All these functions can be subsumed under a broad category of functions called Mind. The brain is the structure, the Mind a collection of its functions. Brain and Mind, though connected concepts are not synonyms. They should not be used interchangeably.

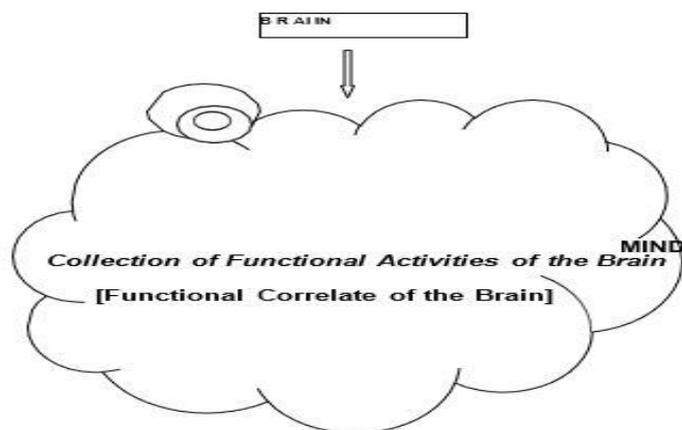


Figure 5: Brain and Mind interconnection

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[Functions of the brain subsumed under the Category Mind include thinking, emotions, problem-solving, the sum total of a person's personality including moral standards/judgments/reasoning, etc., language/speech, hearing, vision, making sense of perceptions, and regulating motor activities, balance/coordination, heartbeat/respiration/temperature other vital functions, hormonal and related balances, metabolic regulation and homeostasis. A human being cannot perform any of these functions without a functioning brain. In other words, without a Brain, there is no Mind.]

The structural entity from which all mental operations arise is the brain. The collection of these functional activities of the brain is called the Mind. The brain is the structural correlate of the Mind. The mind is the functional correlate of the Brain. The brain is a structural entity, Mind is not a structural entity

Thus, it is erroneous to use the words, Mind, and Brain, interchangeably. They are distinct. Mind is the informational energy that is a functional correlate of the brain. It is invisible but it physically exists.

The sense organ from where thought signals enter the brain for processing is 'Mind' which we are, currently not able to see but it does exist and its existence is proved by its effect—the manifestation of thoughts; the same way as the existence of air is proved by its effect—breeze/wind, etc... This is a logical assumption till science advances to prove otherwise. So, we have found an answer to the question of whether the Thought Sense has a sense organ, "The Mind" through which it enters the brain. Now it remains to learn the location of this sense organ, "The Mind" and from where do the thoughts come to the Mind, the sense organ for thinking.

We know the location of the sense organ eyes, ears, nose, tongue, and skin. We know it because these are visible. But the mind is an invisible informational energy entity and hence it is difficult to visually see its location. Its location will not be explicitly seen but will be implicitly learned. I, here below, put a view by a thinker and want to add that I agree only partially to it as it has logical flaws according to me. But let us first have the thinker's view: Jahiel Yasha Kamhi suggests an answer to the question, "Where Is the Human Mind Located?" as follows:

For many of you, this is not a question at all: The mind is located in the brain, or the mind is equal to the brain! You probably use both terms, brain, and mind, interchangeably, like "Everything is in your mind" or "Everything is in your brain".

Are you right?

Let me explain this complicated subject!

Since the seventeenth century, many philosophers and scientists were involved in the debate over this "simple" question: "What are the definition of the human mind and the human brain?"

One of the best-known arguments came from Rene Descartes (1596~1650), a French philosopher, who developed a dualistic theory of mind and matter. In "translation" into today's computer terminology, may we say that Descartes "explained" "the mind as software and the brain as hardware?"

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A British biologist, Sir Julian Huxley (1887~1975) had this to say: "The brain alone is not responsible for the mind".

For decades, we as a human society did not have an explanation in plain English as to how to distinguish the mind and the brain. At the end of the twentieth century, we had a very powerful tool in our hands: brain imaging technology. We got an opportunity to literally see the living human brain at work, the only possible way for a better understanding of how the human brain works. As neuroscience has available a computerized technology for studying the live brain, it can explain many of the previously inexplicable facts about the human brain.

According to neuroscience, we have an accurate definition of the mind and the brain: "The mind is the brain in action. The mind is the state when the brain is alive and at work. When the brain is dead, the mind cannot function".

The mind and the brain need each other. The mind exists only in the live brain. This is the perfect unity between two inseparable parts of human existence. Now, can we say that the mind and the brain are the same? Definitely – not! The mind is not the brain, and the brain is not the mind!

What is the brain? Well, we could say that the brain is some kind of "bio-machine" which produces the mind or that the "living functioning brain produces the mind".

What is the mind? The mind is "a product of the living brain".

It sounds complicated?

I already told you, this subject is complicated!

My article has the title: Where Is the Human Mind Located? What would be your answer? No idea?

Let us make the whole subject "simple":

The human mind is located only in the living, working brain. The dead brain has no mind!

This is "a whole philosophy" on one simple question: "What are the definition of the human mind and the human brain?"

Still confused?"

About the meaning of mind—the mind is the brain in action is the same thing as saying that the mind is the functional aspect and the brain is the structural aspect. The fact brought out that mind and brain are not the same things is agreed by me and is in line with what we have logically understood about the meaning of mind and brain and the distinction between them. But the logic given for announcing the location of the mind is confusing. The author leaves the debate with the words- "Still Confused!!" Yes indeed, there is a confusion that magnifies when you test it with logic. He says that the human mind is located in the brain -- the dead brain has no mind. Using this logic eyes, ears, nose, tongue, skin are all located in the brain because with brain dead you do not have any of these functions. Actually, when the brain stops, the processing of senses stops, and we cannot see, hear, smell, taste, or feel. The stimulus may still be reaching the sense organs but these do not get processed so the perception of senses stops. This does not mean that the sense organs are located in the brain. The basic logic, as per me, is absurd!!

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The fact that the brain does the processing of signals does not mean that signals do not exist outside the brain; it is illogical to say that when the brain is dead the signals die—it is the other way around- signals stop when the sense organ stops functioning. For example, the brain is functional but a blind person cannot see because of damage to the retina the sensory organ to send sight signals to the brain. Brain processes thinking as it does the processing of visual perception—Same way, the processing of thoughts would stop if the unknown sense organ Mind is unable to send signals.

The location of the mind could well be inside the brain or it could be elsewhere; we do not know the exact location of the mind because it is invisible. The answer is elusive not only to me but to neuroscientists and thinkers:

Douglas Heaven (2012) in a paper in *New Scientist* agrees that the answer is elusive:

“Where does the mind reside? It’s a question that’s occupied the best brains for thousands of years. Now, a patient who is self-aware – despite lacking three regions of the brain thought to be essential for self-awareness – demonstrates that the mind remains as elusive as ever.

The finding suggests that mental functions might not be tied to fixed brain regions. Instead, the mind might be more like a virtual machine running on distributed computers, with brain resources allocated in a flexible manner, says David Rudrauf at the University of Iowa in Iowa City, who led the study of the patient.”

The above scientific finding suggests that the informational energy entity may not be residing within the confines of the brain but could be distributed at many places and maybe like a virtual machine running on several computers located at distinct locations. This is further substantiated because of the fact that the thinking sense is distinct from other senses. Other senses are all independent and do not have a correlation with any other sense. But thinking certainly depends on at least the senses of seeing and hearing and also it is an invisible sense organ. So, it is logical that the thinking organ mind may not be limited to one location but may be present simultaneously at different locations in the body but not inside the brain.

As we know that the sense organ for touch, the skin is spread over the whole body. Along similar lines, an article in "Heal by God" substantiates the view that the mind is not located in one place but each cell constitutes the mind. This is in line with the above finding which says the mind is multi-locational. Furthermore, the assertion that the mind is located in cells is not a fig of imagination but is supported by a scientific fact. The following is the view that is appealing to me to be true:

“Below is a statement from Dr. Salt addressing the difference between the brain and the mind.

Brain and mind are not the same. Your brain is part of the visible, tangible world of the body. Your mind is part of the invisible, transcendent world of thought, feeling, attitude, belief, and imagination. The brain is the physical organ most associated with mind and consciousness, but the mind is not confined to the brain. The intelligence of your mind permeates every cell of your body, not just brain cells. Your mind has tremendous power over all bodily systems.

William B. Salt, MD – Gastroenterology

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I believe Dr. Salt's statement is true. Since the brain is visible matter and the mind is invisible matter, it is likely the mind is located in the 16 inches of space between the head and the crown chakra.

I also believe Dr. Salt's statement that the mind extends to every cell of the body. Since the mind stretches throughout the whole body to every single cell, it stands to reason there is a "leader" mind to orchestrate harmony between all cell minds. I believe the "leader" mind is located as aforementioned.

For many years it was believed that memories were stored in the brain, but because of more recent discoveries found through organ transplant research, many have changed their minds about where memory is stored. There are numerous cases where people who received organ transplants began to have thoughts, feelings, dreams, and food cravings that were foreign to their being. After further study, it was discovered these foreign thoughts, feelings, etc. came from the cell memories of their organ donors. Very interesting!

Today many are convinced that memories are stored in the minds of cells all over the body. It is logical there is a "leader" to keep things running smoothly between all cell minds of the body. As to where this "leader" mind is located is for you to decide."

I am led to believe that the above is the most credible theory. The thinking sense organ "The Mind" which is an informational energy invisible physical entity is not having a location in a single place but is multilocal and works in a harmonious way from each cell. Unlike other sense organs which receive signals in a discrete manner, mind receives thought signals continuously and uninterruptedly round the clock even during sleep because thoughts never stop and even during the sleep the thoughts manifest as dreams. Mind cells are working continuously till we die.

We have, so far, been able to arrive to answer to questions -Is thought a sense like five known senses? Does it have a sense organ? And where is the sense organ located?

The answer to the question of whether thought is eternal, the answer is obvious that it is not. The sense organ for thought, "The Mind" dies when body cells die so thought is not eternal. Now, we come to the last question, which is also the title of the paper, "Where do the thoughts come from?"

We, now, know that thoughts come to the sense organ, "The Mind" which is located at cells of the body, and from this sense organ, its signals pass to the brain parts where the processing of thoughts happens and we get the thought perception. The only thing remaining to be answered is from where the thoughts come and reach the thought sense organ, the mind?

In the paper by Caparotta Martin (2020), most of the experts maintain that thoughts originate in the sub-conscious mind and travel to the conscious mind (which we call The Mind-sense organ for thoughts). Thus, as per them, the origin of thoughts is in the subconscious.

In the same paper, Girish Dutt Shukla, author of Maroon In A Sky Of Blue suggests:

Your thoughts are a culmination of your experiences, the stimulus you receive from around you, and your beliefs and principles.

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Your sudden thoughts are not really that random. The precursors must have been simmering in your subconscious for a while. This is often indicated by sudden slip of tongue or impulse actions because sometimes the filter in our conscious is overpowered by our subconscious. Your thoughts can arise because of two reasons – our experiential history and our evolutionary pre-history.

What we have learned, consciously and unconsciously, and the various experiences that have shaped our bodies and the way our neurons interact in large and small ways, are what our experiential history comprises.

On the other hand, our evolutionary prehistory is essentially the experiential history of our ancestors. Many scientists believe that we are only in control of a tiny fraction of our thoughts.

As the majority of our thinking is done by the subconscious, we have little to no control over it. What our brain receives and processes is not under our power.

Of course, we can decide to think about something consciously, such as something we have learned or something we want to recall.

But most of the time when we have taken a particular action, our mind may still be cooking up alternative plans.

I think the author has brought his point very well. One thing is sure that thoughts do not come from external sources, these are hidden within the person. As we discussed earlier also the thought sense is not independent, it does depend on what we see or hear i.e., it has a dependence on other senses. In fact, the thought inputs are derived from memory, past experience, the knowledge that lies within the person. As per the author, the thought originates from the subconscious. I do not agree that the thought originates from the mind be it conscious or subconscious mind, the mind is the sense organ for thoughts that receives the thought impulses and sends them to the brain for processing.

Before we draw inferences from the above paper, let us take into account what other thinkers have to say on the subject.

I would like you to go through the following video in which Rupert Spira is discussing the question -where do our thoughts come from?

<https://youtu.be/HeCvA15cVoc>

The speaker is suggesting that thoughts come from within and are not dropping from outside the human body. The thoughts pop from within and disappear within. The source of thought is the "I" and this "I" is not my hand, leg, heart, brain, mind, or body. The "I" is distinct from all these. What is "I" or Who am I is a big question? I dealt with this question in length in my book, "The Brain, Mind, Consciousness and the vital question -who am I?" by Naresh Kumar (2021).

I reproduce the logical answer derived from philosophical and partial scientific discussions in the book which explains brain, mind, consciousness their interconnections and then tries to answer the vital question "who am I?" (for details, please go through the book)

"Consciousness is an invisible non-material informational *SUBTLE ENERGY FORM*, which cannot be computed, which is actually a special kind of re-entrant signaling state; however,

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the re-entrant signaling state leaves much to be explained viz how the signaling state is achieved, what causes it and how it is constructed?

Consciousness is different from mind and brain but does have a strong correlation with them. However, it is a fact that the brain, as well as mind, are relevant to consciousness and that the Brain and Mind are interconnected. The Brain is a physical entity and the Mind is a physical informational entity and is the processing part of the brain.

The brain is the structural correlate of the mind, and the mind is the functional correlate of the brain. The functions as per the structural changes occurring in the brain activate different parts of the body triggered by Consciousness.

Awareness and consciousness are two different things –when you are conscious, you are certainly aware but being aware does not necessarily mean that you are conscious. Having understood the consciousness, we return to the main question –"Who am I"

"I" cannot be brain or mind because either of them is not supreme because without consciousness they are powerless.

The knowledge that we have of "Consciousness" does show that this "Subtle Energy Form" is the most powerful entity and it governs the brain, mind, and body. The whole self which is constituted of body, brain, and mind gets governed by a single subtle energy form which is "Consciousness". This subtle energy form is more powerful than the supreme commander "The Mind". The whole of my entity is under the clutches of the subtle energy "Consciousness. "I" is not the Brain; it is not the Mind but it could be the "Consciousness" which is the subtle energy that has awareness in its lap and also thoughts are found to be connected with it. It is sum total of my existence – thus, it would not be illogical to posit that the "Consciousness-the subtle energy form" is "I" Our exploration of the question "Who am I" ends with this logical and partial scientific find.

Thus, our logical thinking leads us to believe that Consciousness is the "I". The conclusion is based on logical thinking and partial scientific understanding of "Consciousness"

The speaker suggested that thoughts originate in "I" but he left it at that. He did not explain what is "I". But now we know that "I" is consciousness.

The author of the paper had suggested that the thoughts reside in the subconscious and they pop up from there.

Thus, both thinkers are probably meaning the same thing that thoughts originate from within ourselves; one says that these originate from sub-conscious and another says it arises from "I" which is consciousness.

I agree with both of them. Our accumulated memory, experiences, past learnings, and knowledge are all stored in sub-conscious which is part of the "Consciousness" which is "I". When there is a trigger invoked by an external impulse, some part of knowledge, experience, or memory which is in a dormant state in sub-conscious resonates with the stimulus and throws thought signals to the thought sense organ, "the Mind" which dwells on it to enlarge it and passes on the enlarged thought signal to the brain for processing and the final thought manifests.

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I think we have come a long way in our thinking and have resolved most of the questions we started with.

CONCLUSION

To summarize, we can say that thinking is also a sense like the other five known senses—seeing, hearing, smelling, tasting, and touching. As the five senses have sense organs to receive the respective senses, the thinking sense also has a sense organ which is the Mind—an information energy invisible physical entity. The touch organ is located across the body in the skin of the body—similarly the thinking sense organ Mind is spread over the body in its cells. The origin of all five senses is known to us, thoughts originate in our subconscious part of the consciousness. On some external impulse, some part of stored knowledge or memory in the subconsciousness resonates with the external impulse which triggers a resonant thought signal to emerge and travel to the Mind which is the sense organ for thoughts. The mind refines, dwells on, and enlarges the resonant thought signal into a meaningful thought which in a signal form is passed to the Temporal and Cerebral Cortex of the brain and processing of thought signals happen and final thought is perceived by us which when pursued produces a chain of thoughts by giving more and more external stimulus to repeat the whole process of thinking. Our mind is never empty; it is continuously receiving thought signals and sending them to the brain and we go on thinking non-stop.

The part which is only known partially (not fully) in the thinking processing system is the Consciousness—Scientists consider it as a "Hard Problem" and answers to the hard problem is hidden in the lap of science and which when unfolded will give a true and complete meaning to the answer to the topic of this paper!!

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