



Neuronal Computation and Comprehension: A Review

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Abstract

It deals with what is consciousness and how is generated and how it is deteriorated by a person physically and mechanism of near death and how brain make the sense of world constantly and how mind can be manipulated and embodied cognition mechanism and even about dynamic neuroscience.

Keywords: Neuroscience; Dynamic Neuroscience; Consciousness; Embodied Cognition; Near Death Feeling; Manipulation of Brain

Introduction

Consciousness and neural basis of it Neurology theory of consciousness

Consciousness is sense of awareness of cell and body of its surrounding [1]

It is divided into three types

Subconscious

Semiconscious

Consciousness

- **Subconscious:** It is the level where body is aware about its internal itself and not aware about the outer surrounding
- **Semiconscious:** It is the level where body is aware partially about its surrounding and itself
- **Consciousness:** It is the level where body can sense its surrounding and itself

Neurological basis of consciousness

Short neuron secrete and their coordination in body with hormones create the sense of consciousness and lead to generation of the consciousness in the brain

Production of sense of cognition

Cognition is the understanding ability of a person.

Process of production of sense of Cognition

- Teaching and familiar text produce the stimulus from visual to optical cortex and hearing cause stimulus from auditory nerve to auditory cortex.
- These stimulus passes through the neural circuit to the
- Respected cortex and processed in chemical form in form of neuro messenger.
- Than travel through to the psychical cortex and release the neuro messnger (dopamine or acetylcholine) and carry back the response and create sense of understanding and cognition and similarly happens for arousal just hormone melanin is released from penal gland and for alertness neuro messenger is norepinephrine and epinephrine and for attention for self attention it is epinephrine and norepinephrine.

Quantum mechanical phenomenon and its effect of the brain

Experiment 1

- **Aim:** to find out the effect of quantum mechanical phenomenon on brain
- **Methodology:** daily experience and daily workout routine
- **Observation:**
 - If we leave a particular things like driving for long time or

music for long time than neuromessenger related to it are diploid for other works the work which is the important for that time

- If we perform the work again and again than area of brain develops according to the work we are doing neuron circuit develops according to it (cortical plasticity)

Result

So according to above experiment done we find out that their is effect of quantum mechanical phenomenon on brain.

Importance Of quantum mechanical phenomenon effect of brain

- It helps to gather new information according to current work and develop a sense of understanding towards the brain.
- Develops new neuromessenger and new neuronal circuit inside the brain.
- Less used work (like driving is less used) its is overlapped with more used work [2].

Function and significance of consciousness

The only function and Significance of consciousness is to aware and develop complexed and simplified aspect of brain that is main function of brain that is ability to understand, manipulate.

Mechanism behind near death experiences and nature of consciousness

- In case of near death experience the body goes into Semiconscious state in a case of coma and heart attack

Mechanism behind the near death experiences (study based on heart attack)

- Person faints in case of heart attack his sense of cognition and sense of surrounding losses when heart attacks. His memory loses
- As the blood is not pumped than brain loses its functionality but not fully as the neuron circuit functions in the form of dormant state
- Makes the person in the semi consciousness state [3].

How can be death defined and can consciousness can occur after death?

Death can be defined as the state at which consciousness level drops below Subconscious state. In death body drops conscious-

ness level from consciousness to Semiconscious to Subconscious and then below it till their is no more consciousness.

So answer is yes consciousness can occur just after 5minutes of death as their occurs Subconscious state and some neuron network are functioning and body knows only about itself only in this state not about surrounding and past memories explicit out from all cerebral cortex and translated in psychical cortex and shown through dream.

If consciousness is generated by brain activity, then how do some patients with physically deteriorated brains suddenly gain a brief moment of restored consciousness prior to death, a phenomenon known as terminal lucidity?

Consciousness is generated from neuron network or neuron circuit present and stimulated due to a surrounding and hormonal responses and even due to the neuronal messenger. So its half neural and half hormonal.

So in case of physically deteriorated brains the neural network are active but not stimulated over a time due to degenerative changes like in dementia or Alzheimer's disease but due to Semiconscious activity hormone stimulates the neuron as hormones like the adrenaline and Noradrenaline gives body Alertness and melanin gives arousal and also stimulates optical and psychical cortex and so they gain consciousness and memory and terminal lucidity.

Problem of representation: How exactly does the mind function (or how does the brain interpret and represent information about the world)?

Mind interpretation theory

- Mind works according to situation and stimulus which is carried by the sensory neuron network and transcribed by the cortex [4].
- Situation of fear releases the norepinephrine and epinephrine from the neurons
- Situation of pleasure releases the serotonin and dopamine
- Situation of excitation stimulates the epinephrine for excitement and for pleasure release of serotonin occurs.

Bayesian mind: Does the mind make sense of the world by constantly trying to make predictions according to the rules of Bayesian probability?

Bayesian indicates the prediction based on the previous experience so [5]

- It is related to say yes our brain Bayesian mind the person's prediction is made on the past memory stored in the brain cortex and neural messenger released by neural circuit according to the situation in the past experience.
- So it indicates brain react based on the past experience if their is same situation in the past so it is a Bayesian mind [6].

Computational theory of mind: Is the mind a symbol manipulation system, operating on a model of computation, similar to a computer?

Mind neuron network theory

As brain consist of neuron channel and neuron circuit it constitute of the neuromessenger which releases according to the situation so brain can be adapted to the surrounding and environmental changes and according to the situation so mind is consider as a manipulation system [7].

Connectionism: Can the mind be explained by mathematical models known as artificial neural networks?

Mind mathematical models

Brain constitute of neuron circuit which can be of two types [8].

- **Unidirectional**
- **Bidirectional**
- **Unidirectional neuron circuit:** it constitute of the single signal traveling neuron network in which the neuron signal traveling in single direction may be towards brain or may be towards organ or towards stimulus
- **Bidirectional neural circuit:** it constitute of complex stimulus like for memory and learning or emotions in which neuron signals travels in both direction towards stimulus and towards brain cortex to store it.
- **Extended mind thesis:** Does the mind not only exist in the brain, but also functions in the outside world by using physical objects as mental processes? Or just as prosthetic limbs can become part of the body, can handwritten notes become part of the mind?

Mind vs brain theory

Mind is a Psychological state in which the person is able to concentrate and feel emotion, able to cognition and able to learn so their part can be prosthetic limbs, handwritten notes [9].

Brain is the network of neuron which function are body parts through neurons and on the basis of stimulus so brain is considered part of psychical state of mind [10].

Result

- Neural computation distinct the brain and mind
- Mind is a psychical state and describe neural Dynamic and also neural circuit.
- Describe the consciousness.

Discussion and Conclusion

- Dynamic neuroscience
- mind body dualism
- neural circuits
- mind a psychical state.

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