EXTENSION OF PSYCHOLOGICAL MEMORY MODEL OF HUMANS TO INCLUDE CONCEPT OF CHIDAKASHA

Abstract

The human mind is a complex part of the body that scientists and psychologists are still trying to understand. The Atkinson-Shiffrin model of human memory is a well-known approach to decoding memory, but it has been refined over time. However, when we consider the concept of chidakasha and the karma theory in Sant Mat and Hinduism, we see that scientists tend to focus only on the physical body and neglect the subtle and causal bodies, which continue to exist even after death and may explain the persistence of memory from past lives. There is a similarity to the modern concept of Cloud storage. This study aims to expand the Atkinson- Shiffrin model to include the effects stored in the chidakasha, which guide our actions in our present lives.

Keywords: Extension, Psychological Memory, Model of Humans, Chidakasha

Author

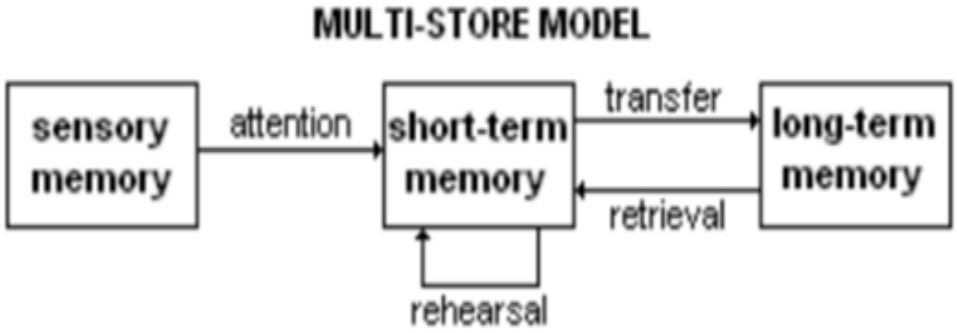
Gaurav Mathur
Executive Director/EMU/RDSO/Indian Railways
Department of Electrical Engineering/Indian Railways
University of Roorkee
(College of Graduation)
gm.irsee@gmail.com

The human mind is a complex part of the body that scientists and psychologists are still trying to understand. The Atkinson-Shiffrin model of human memory is a well-known approach to decoding memory, but it has been refined over time. However, when we consider the concept of chidakasha and the karma theory in Sant Mat and Hinduism, we see that scientists tend to focus only on the physical body and neglect the subtle and causal bodies, which continue to exist even after death and may explain the persistence of memory frompast lives. This study aims to expand the Atkinson-Shiffrin model to include the effects stored in the chidakasha, which guide our actions in our present lives.

First, we will discuss the Atkinson-Shiffrin model, then the concept of karma as "Naksha" on the chidakasha, the retrieval of these memories when attention is focused, and finally, we will combine the two to present a complete model of human memory.

The Atkinson-Shiffrin model, which was first introduced by Richard Atkinson and Richard Shiffrin in 1968, posits that human memory can be broken down into three fundamental components: a sensory register, a short-term store, and a long-term store. The sensory register is responsible for receiving and briefly retaining sensory information, while the short-term store serves as a temporary holding space for information. In contrast, the long-term store is responsible for storing information that has undergone rehearsal in the short-term store, preserving it indefinitely.

Although the Atkinson-Shiffrin model has faced its fair share of critique, it has undeniably left a substantial impact on the field of memory research. The multi-store model of memory, as articulated by Atkinson and Shiffrin, provides valuable insights into the workings of memory processes. It delineates the presence of the sensory register, short-term store, and long-term store as integral components of the memory system. It's worth noting that the concept of distinct memory stores was not entirely novel, as William James had already outlined a similar distinction back in 1890. However, the separation of memory stores was a topic of considerable debate during that period. Below, we summarize the evidence that supports the differentiation between long-term and short-term memory stores. This notion is central to the Multi-Store Model.



Multi-store model: Atkinson and Shiffrin's (1968) original model of memory, consisting of the sensory register, short-term store, and long-term store.

Atkinson and Shiffrin's model also introduced the concept of a sensory register and control processes designed to oversee memory transfers. Since its original publication,

several extensions and alternative frameworks have emerged to refine and expand upon the model.

1. **Sensory Memory**: The sensory register, also known as sensory memory, briefly holds environmental stimuli detected by the senses. It consists of different registers for different sense. The sensory registers do not process the information but detect and hold it for use in short- term memory. Information is transferred to short-term memory only when attention is given to it; otherwise, it decays rapidly. While there is a sensory register for each sense, most research has focused on the visual and auditory systems.

2. **Iconic Memory**, associated with the visual system, is the most studied sensory register. It was experimentally demonstrated using a tachistoscope. Iconic memory can hold an unlimited amount of visual information within the field of vision. However, it only contains information about visual parameters such as outline,structure, size, colour, and location, not linguistic meaning. Iconic memory has a limited capacity for further processing, and the stored information decays rapidly after 0.5-1.0 seconds.

3. **Echoic Memory**, refers to the information that is processed by the hearing system. Similar to iconic memory, echoic memory only retains superficial aspects of sound such as scale, beats, or rhythm, and it has a nearly unlimited capacity. The duration of echoic memory is generally believed to be between 1.5 and 5 seconds depending on the context, but it has been shown to last up to 20 seconds when there is no competing information.

4. **Short-Term Memory**, on the other hand, is the information that is attended to and transferredfrom sensory memory.

   Duration: Information that enters short-term memory experiences a gradual decay and is eventually lost over time. However, its duration exceeds that of sensory memory. It can persist for approximately 18-20 seconds when not actively rehearsed, and under certainconditions, it may extend up to around 30 seconds, depending on the sensory modality. The process of rehearsal, involving the repetition of items, enables this information to be retained within the short-term store for an extended duration. Rehearsal can be applied to any information that is attended to, including mental imagery and visual content. Furthermore, it's important to note that the modality of information in the short-term store doesn't necessarily have to match the sensory input. For example, written text can be held as auditory information, and auditory input can be mentally visualized. The act of rehearsing significantly contributes to the transfer of information into long-term memory. However, Atkinson and Shiffrin's research did not extensively delve into the rehearsal and storage of other sensory modalities due to experimental challenges.

   Capacity: The short-term memory store has a limited capacity, typically estimated to hold around 7 ± 2 chunks of information. These chunks, as famously described by Miller, represent independent units of information. It's worth noting that some chunks may appear as a single unit even though they can be broken down into multiple individual items. The process of chunking, where information is organized into meaningful groups, allows for a more significant amount of information to be retained in memory. For instance, a sequence of digits like 149283141066 can be chunked into meaningful units such as "Columbus [1492] ate [8] pic [314-3.14-x) at the Battle of Hastings ." The

restricted capacity of short-term memory places limitations on the quantity of information that can be effectively processed simultaneously.

5. **Long-term memory** is a more permanent store where data can be copied and relocated to the short-term store for manipulation.

6. **Transfer from STS**: Information is believed to automatically transfer to the long-term storefrom the short-term store. According to Atkinson and Shiffrin's model, this transfer occurs as long as in the short-term storethis information is being given attention to. The amount of attention given to the information determines how long it stays in short-term memory. The longer an item is held in short-term memory, the stronger its memory trace will be in long- term memory. There are certain extraneous variables that can affect the results in an unwanted way. These variables include participant differences (such as personal ability and capacity levels), demand characteristics (participants' knowledge about the experiment and what they bring to it), experimenter effect (the researchers' expectations and potential bias behaviour), and non-standardized instructions and procedures (different instructions and lackof consistency in procedure). Atkinson and Shiffrin provide evidence for this transfer mechanism which show that repeated rote repetition enhances long-term memory. The original Ebbinghaus memory experiments also support this idea, as they demonstrate that forgetting increases for items that are studied fewer times. Additionally, there are encoding processes that are more effective than simple repeated rote learning, such as connecting new data to existing data in the long-term store.

7. **Capacity and Duration**: In terms of capacity and duration, memory (long-term) is assumed to have nearly limitless capacity and duration in this model. Brain structures may deteriorate before any limit of learning is reached. However, it is important to note that not all items stored in long-term memory are accessible at any given point in a person's lifetime. The connections, cues, or associations to the memory may deteriorate, making the memory temporarily unreachable.

I. THEORY OF KARMAS AND IMPRESSIONS ON CHIDAKASHA

The surroundings of an entity as also his subjective actions produce impressions on him, which are preserved in *Chidakasha*(also known as *Manakasa*), which is as elastic as ether in creation. Mind with its four functions becomes cognizant at the time of recording of the impressions. But when its attention is diverted the previous impressions fade away and pass into the stage of memory. They are never completely eliminated but scrupulously preserved in the old records of *Chidakasha*. When we focus our attention on them voluntarily or involuntarily, they are immediately recollected.

On close observation of these occurrences of reproduction of these impressions, it can be understood that when attention is focused on these impressions one acts entirely in accordance with the nature of those impressions, however feeble and unintelligible they are. Secondly, these acts react on *Chidakasha* and reinforce the impressions and constitute centers of future action, whenever an attention gets focused on them. These impressions as well as the actions done are called *Karmas*.

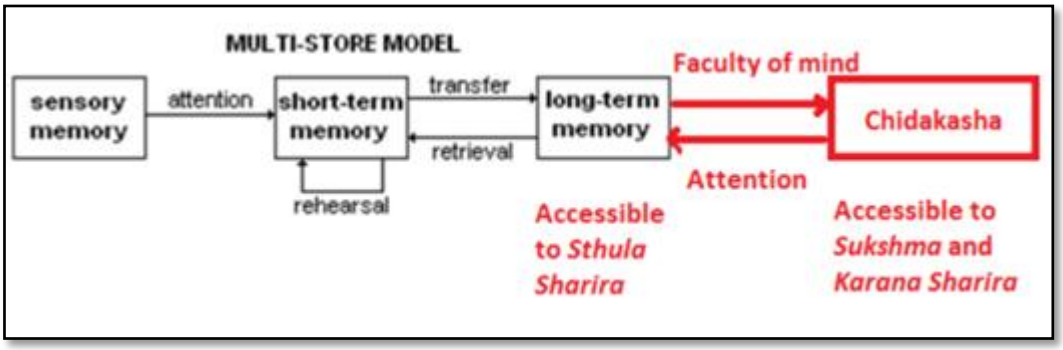
1. **SukshmaSharira:** The *SukshmaSharira*, that is, the Subtle Body comprises of the three *Koshas of PranamayaKosha, Manomaya Kasha* and *VijnanamayaKosha*. In this body the *VijnanamayaKosha*, that is, intelligent sheath endowed with consciousness is the agent. The mental sheath or *ManomayaKosha* having will power is the instrument. The vital sheath or *PranamayaKosha* is endowed with activity. It is this *SukshmaSharira* that moves from one body to the other incourse of the transmigration of soul. It is also the body with which one enjoys the dreamstate.

2. **Karana Sharira:** The *AnandmayaKosha* constitutes the causal body or *Karana Sharira* and corresponds to the state of deep sleep. While the Gross Body perishes with death, the Subtle Body remains as long as the Spirit is revolving in transmigration. It gets dissolved at the end of the *Kalpa*when *Pralaya* takes place. The causal body gets dissolved when the Spirit merges in the Universal Spirit upon salvation.

II. THE EXTENDED MEMORY MODEL WITH CONCEPT OF CHIDAKASHA

Thus understanding the above concept of karmas as per Sant Mat, we find a striking parallelbetween the existing psychological model/ theory of Human Memory and the concept of *Chidakasha*.

We can therefore think that if we consider *Chidakasha* accessible to *Sukshma* and *KaranaSharira*, then our long term memory can be further extended into Chidakasha, where the imprints are carried on and on for various lives and only upon focusing of attention current on them they become live again. So our diagram of Atkinson-Shiffrin model of human memory can now be extended as follows



Thus we find a holistic approach of approaching human memory, which is an amalgamationof the pure scientific and psychological approach with that of the spiritual approach.

Thus we see that our Mind with its four functions becomes cognizant at the time of recording of the impressions. But when its attention is diverted the previous impressions fade away and pass into the stages of memory. They are never completely eliminated and are finally engraved on the Chidakasha which are never washed away on their own but become anarchive of old records and become the reason of our actions and the reason of rebirths. This is very akin to the modern concept of Cloud storage, where a central server stores all the distributed client data, accessible at the time of need. When we focus our attention on them

voluntarily or involuntarily, they are immediately recollected. On close observation of these occurrences of reproduction of these impressions, it can be understood that when attention is focused on these impressions one acts entirely in accordance with the nature of those impressions, however feeble and unintelligible they are. Secondly, these acts react on *Manakasa* and reinforce the impressions and constitute centers of future action, whenever an attention gets focused on them. These pleasurable or unpleasant experiences produce a stronger desire to repeat those experiences and make them get entangled in the association of mind and matter. As the bodies assumed in those regions are impermanent and changeable and also infirm, subject to influences of the regions they experience, so the spirit entities thus pay dearly for associating with the mind and matter.

Thus we see a great reference to cloud computing, which has no cross talk. This spiritual cloud computing represents Human microcosm as a perfect replica of Nature.

If the seeker, who takes refuge in the feet of the Satguru, gets initiated and starts performing spiritual practices, all these imprints will slowly get cleansed. Firstly if the devotee resigns himself to the will of the Lord and conducts himself accordingly, the effects of the actions done by him in the present life do not accrue to him. No new impressions are formed by the Kriyaman Karmas. Even thought the effects of the Prarabdha Karmas have got to be experienced by him in the present life there would be a vast difference in the result, i.e. in the amount of pain and pleasure experienced by the devotee. On account of his engaging in spiritual practices he becomes capable of withdrawing his spirit current inwards and upwards to a certain extent and thus the intensity of his pain and pleasure gets reduced to the extent of his active involvement in spiritual practices. The devotee easily disposes of the Sanchit Karmas during his practices. When a devotee traverses the mental sphere in course of his internal journey towards spiritual regions these impressions are manifested by the power of spirit and appear to him as real objects. They detain him for sometime but then he proceeds forward with the help of his Satguru. Thus the effect of Sanchit Karmas is also nearly obliterated.

The devotee thus attains his goal in this life itself eradicating all types of Karma s by the Grace of the Supreme Being and SantSatguru.

