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Smriti in *Ayurveda*: A CRITICAL EXPLORATION OF MEMORY AND COGNITIVE SCIENCE

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ABSTRACT

Background:

Smriti is an important cognitive faculty in Ayurveda, representing the recollection of previously acquired knowledge and experience. It is described within the broader framework of Prajna and Jnanothpathi and is influenced by Atma, Manas, Indriya, Indriyartha, Buddhi, and Dhriti. Classical descriptions also recognize the influence of Dosha, Prakriti, Sara, and Vaya on memory.

Objective:

To critically review the classical concept of Smriti, its determinants and functional role in cognition, and explore its possible correlation with contemporary concepts of memory and neurocognition.

Materials and Methods:

A conceptual review was conducted using classical Ayurvedic texts and relevant contemporary literature. The review examined the definition, classification, Smriti Utpatti Karana, role of Atma, Manas, Indriya, and Indriyartha influence of Dosha, Prakriti, Sara, and Vaya, and contemporary processes of memory including encoding, consolidation, storage, and retrieval.

Results and Conclusion:

The review indicates that Ayurveda describes Smriti as an active process of recollection arising from previous experience and supported by attention, learning, repetition, association, and knowledge acquisition. These classical factors show functional parallels with contemporary processes of encoding, retention, and retrieval involving distributed neural systems, including prefrontal, parietal, hippocampal, and medial temporal regions. However, these relationships represent functional parallels rather than direct anatomical or neurochemical equivalence. Thus, Smriti may be understood as a multidimensional cognitive function integrating experience, attention, retention, and recall, providing a conceptual basis for interdisciplinary exploration of memory while preserving the distinct theoretical framework of Ayurveda.

KEYWORDS: *Smriti, Memory, Prajna, Jnanotpatti, Cognition, Ayurveda, Neurocognition.*

INTRODUCTION

Cognition encompasses the processes involved in acquiring, understanding, retaining and utilizing knowledge through experience, perception and mental activity.[1] In Ayurveda, cognition is understood within an integrated framework involving *Atma, Indriya, Manas* and *Buddhi*, and is expressed through *Prajna* and its interrelated faculties, *Dhee, Dhriti* and *Smriti.*[2] Among these, *Smriti* represents the recollection of previously acquired *Jnana* and *Anubhava*, thereby contributing to the continuity of cognitive experience and subsequent behaviour.

Ayurveda places *Smriti* within the broader process of *Jnanotpatti* and considers its functioning in association with the conscious, mental and sensory components involved in cognition. Classical descriptions address its conceptual nature, classification and the factors contributing to its manifestation, while also recognizing variations in cognitive functioning in relation to *Dosha, Prakriti, Sara* and *Vaya*. Thus, *Smriti* is presented not merely as an isolated faculty of remembrance, but as a multidimensional phenomenon influenced by experience, cognitive activity and individual characteristics.

In contemporary cognitive science, memory is understood as a dynamic and multidimensional cognitive function involving encoding, consolidation, retention and retrieval of information. Different forms of memory and their associated processes are supported by interacting neural systems and are influenced by attention, learning, repetition and emotional experience. Contemporary neuroscience therefore provides a framework for examining the functional and neurobiological dimensions of memory alongside the classical understanding of *Smriti*.

The present review critically examines the classical concept of *Smriti*, its position within *Prajna* and *Jnanotpatti*, its cognitive determinants and variations, and its possible functional correlation with contemporary concepts of memory and neurocognition. The review further considers how the classical understanding of *Smriti* may be interpreted in relation to contemporary cognitive and neurobiological perspectives while preserving the conceptual integrity of the Ayurvedic framework.

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Concept of *Smriti*

Etymology

The term *Smriti* is derived from the root *smri* with the suffix *ktin*, denoting remembrance, recollection or bringing previously experienced knowledge to mind. The term therefore indicates the re-emergence of an earlier experience or knowledge into consciousness.[3]

Classical and allied philosophical texts offer varied descriptions of *Smriti*. Charaka defines it as the remembrance of what was directly perceived, heard or experienced earlier,[4] while *Chakrapani* and *Sushruta* describe it as knowledge of past objects and events.[5] The *Vaisheshika* school characterizes *Smriti* as the manifestation of latent impressions (*Saṃskara*) arising through the interaction of self and mind, and the *Yoga Vasisṭha* similarly frames it as the re-emergence of previously perceived experience. The *Sabdakalpadruma* extends this to include an emotional dimension, describing *Smriti* as recollection sometimes accompanied by affective response, while the *Tarka Sangraha* offers the more concise definition of simply remembering a previous experience. Taken together, these descriptions converge on *Smriti* as the active recollection of previously acquired knowledge or experience, rather than its passive storage.

Classification and Conceptual Placement of *Smriti*

Different traditions classify *Smriti* according to the nature or source of previous experience.[4]

1. *Bhasa Pariccheda -Anubhuta* and *Ananubhuta*.
2. *Yogasutra* describes *Bhavita-smartavya* and *Abhavita-smartavya*.
3. *Chakrapani* places *Smriti* along with *Dhee* and *Dhriti* within *Prajna.*
4. *Bhagavad Gita* describes *Buddhi* in relation to *Sathvika*, *Rajasika* nd *Tamasika* states, thereby indicating the influence of the quality of cognition on higher mental functions.
5. According to the original source of knowledge, recollection may arise from *Dṛiṣṭa* (seen), *Sruta* (heard) and *Anubhuta* (experienced).

Cognitive Basis of *Smriti*

Role of *Atma*, *Manas*, *Indriya* and *Indriyartha*

The manifestation of *Smrti* depends on the appropriate association of *Atma*, *Manas*, *Indriya* and *Indriyartha*. *Atma* provides the conscious basis for experience, while *Indriya* and *Indriyartha* facilitate sensory interaction and acquisition of experience. *Manas* acts as an intermediary, directing attention and supporting mental processing, while *Buddhi* contributes to interpretation, discrimination and determination. Thus, memory formation begins with experience and perception and progresses through attention, processing and retention, enabling subsequent recall. [4,5]

Relationship Among *Buddhi*, *Medha*, *Dhriti* and *Smriti*

Buddhi, *Medha*, *Dhriti* and *Smriti* are closely related yet functionally distinct cognitive faculties. *Buddhi* supports discrimination, analysis and determination, while *Medha* facilitates grasping, retention and integration of knowledge. *Dhriti* maintains and regulates cognitive activity through restraint, whereas *Smriti* enables recollection of previously acquired knowledge. Together, they support the processes of understanding, retention, regulation and recall.[6]

***Smriti Utpatti Karana*:** Ayurveda describes both internal and external factors involved in the manifestation of *Smriti*. [7]

Abhyantara Karaṇa

The internal basis of *Smriti* is the appropriate *Sannikarsha* of *Atma*, *Manas*, *Indriya* and *Indriyartha*. This association provides the basis for experience and subsequent cognitive processing.

Bahya Karaṇa

1. ***Nimitta Grahaṇa*** – grasping the cause or occasion.
2. ***Rupa Grahaṇa*** – noticing form or appearance.
3. ***Sadrisya*** – recognition through similarity.
4. ***Saviparyaya*** – understanding through contrast or difference.
5. ***Sattvanubandha*** – attention and concentration.
6. ***Abhyasa*** – repeated practice.
7. ***Jnanayoga*** – gaining knowledge.
8. ***Punah Sruta*** – repeated hearing or exposure.

The first four primarily facilitate recollection through association, while the latter four emphasise attention, knowledge acquisition, repetition and revision. Thus, the classical framework recognises both associative cues and active learning processes in memory.

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Process of *Smriti Utpatti*

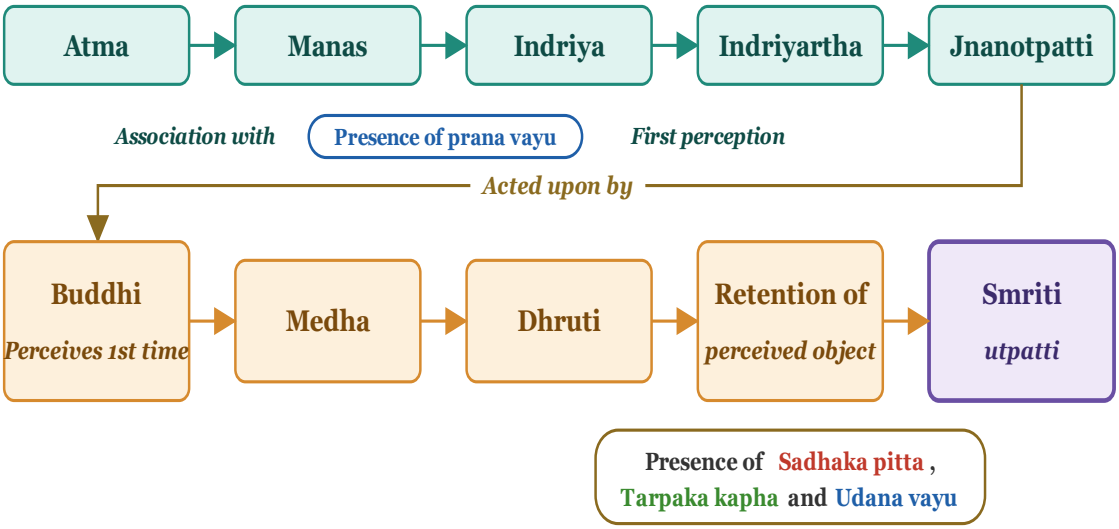


Fig 1. Flowchart showing the Smriti Utpatti.

Dosha* Involvement in *Smriti

Dosha	Function
Vata	Leads mental function — described as the controller and guide of the mind.
Prana Vayu	Regulates sensory perception and mental activity; supports *Buddhi*, *Manas* and *Indriya*.[8]
Udana Vayu	Main *dosha* for *Smriti* — responsible for its acquisition, retrieval and expression.[9]
Vyana Vayu	Gives the mind stability, steadiness and coordination.[10]
Sadhaka Pitta	Governs higher intellectual functions — understanding, discrimination and learning.[11]
Tarpaka Kapha	Located in the head; nourishes the nervous system and sense organs, supports retention.[12]

Table 1. Role of Dosha in Smriti Utpatti

Smriti* in different *Prakriti

- ***Vata Prakriti*:** *Srutagrahi*(good grasping), *Alpa Smriti* (but poor memory), *Chala Smriti* (unstable memory) and *Sighra Vismaraṇa*(quick forgetting).[13]
- ***Pitta Prakriti*:** *Medhavi*(intelligent).[14]
- ***Kapha Prakriti*:** *Chiragrahi* (slow to grasp) but *Smritiman* (good memory).[15]

Smriti* in *Sara

- ***Sattva Sara*:** excellent memory, emotional stability, courage, self-control and cognitive efficiency. [16]
- ***Tvak Sara*:** good intellect and refined perception.[17]

Smriti and Vaya

- ***Balya Avastha*—***Kapha* predominant. *Dhatu*, *Indriya*, and *Bala* are immature, while cognitive and memory functions are still developing.[18]
- ***Madhya Avastha*—** *Pitta* predominant. Physiological maturity supports optimal *Grahaṇa, Dharaṇa* and *Smaraṇa Shakti*.
- ***Jara Avastha*—** *Vata* predominant. Progressive depletion leads to reduced *Grahaṇa, Dharaṇa* and *Smaraṇa,* manifesting as *Smriti Hrasa.*[19]

Contemporary Understanding and Forms of *Smriti*

Smriti may be functionally correlated with memory, involving the encoding, retention, and retrieval of information and experiences. The *Ayurvedic* sequence of *Anubhava*, *Samskara*, and *Smriti* may be functionally understood as a parallel to encoding, consolidation/storage, and retrieval.

Contemporary memory is broadly classified as:

1. **Episodic memory** – recollection of specific experiences or events, related to previous *Anubhava*.
2. **Semantic memory** – retention and recall of facts, concepts, and meanings.
3. **Procedural memory** – retention of learned skills and habits, related to *Abhyasa*.
4. **Working memory** – temporary retention and manipulation of information.[20]

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Neurocognitive Perspective of *Smriti*

1. **Encoding-Prefrontal and Parietal Cortices**: Incoming information is processed through attention and perception. The prefrontal cortex supports attention, organisation, and selection, while the parietal cortex contributes to attention and perceptual processing.
2. **Consolidation – Hippocampus and Medial Temporal Lobe**: Encoded information is stabilised into lasting memory, with the hippocampus and medial temporal lobe playing key roles in memory formation and consolidation.
3. **Storage – Distributed Cortical Networks**: Consolidated memories are maintained through distributed cortical networks, with different information represented across different cortical areas.
4. **Retrieval – Hippocampus and Prefrontal Cortex**: Stored information is recalled through retrieval. The hippocampus supports episodic and contextual recall, while the prefrontal cortex supports selection, organisation, and monitoring of retrieved information.
5. **Emotional and Procedural Memory**: Emotional memory involves the amygdala–hippocampal system, influencing encoding and consolidation of emotionally significant experiences. Procedural memory involves the basal ganglia and cerebellum, supporting learning and retention of skills and habitual responses.
6. **Factors Influencing Memory**: Attention supports encoding through prefrontal and parietal networks; Emotion modulates memory through the amygdala–hippocampal system; Sleep facilitates consolidation; and Repetition and Practice promote synaptic plasticity, strengthening neural connections and recall.[6]

DISCUSSION

The classical concept of *Smriti* presents memory as a cognitive function arising from experience and enabling subsequent recall. Its manifestation involves the association of *Atma*, *Manas*, *Indriya* and *Indriyartha*. Within this framework, *Manas* facilitates attention and processing, *Buddhi* supports discrimination and determination, *Medha* contributes to grasping and retention, and *Dhriti* supports regulation. Thus, *Smriti* functions as part of an interconnected cognitive system.

The *Smriti Utpatti Karaṇa* described by *Charaka* further explains the factors contributing to memory. *Nimitta Grahaṇa*, *Rupa Grahaṇa*, *Sadrisya* and *Saviparyaya* facilitate recall through association, perception and contextual cues. *Sattvanubandha*, *Abhyasa*, *Jnanayoga* and *Punaḥ Sruta* emphasize attention, repetition, knowledge acquisition and repeated exposure. Together, these factors demonstrate the importance of both associative cues and active learning in memory formation and recall.

The roles attributed to *Vata*, *Sadhaka Pitta* and *Tarpaka Kapha* indicate the involvement of regulatory, discriminative and supportive processes in cognitive functioning. Variations according to *Prakṛti* and *Sara* suggest individual differences in cognitive characteristics, while *Vaya* reflects their temporal progression, with development during *Balya*, functional maturity during *Madhya Vaya* and decline during *Jara*.

Contemporary memory is similarly understood as a distributed process involving encoding, consolidation, storage and retrieval. Prefrontal and parietal networks contribute to attention and encoding, hippocampal and medial temporal structures to consolidation, and hippocampal–prefrontal interactions to retrieval. Emotional and procedural memory additionally involve the amygdala, basal ganglia and cerebellum. Acetylcholine, glutamate, dopamine and noradrenaline contribute to the modulation of attention, learning and memory-related plasticity.

Factors facilitating *Smriti*	Cognitive function	Possible brain correlate	Major neurotransmitters
Nimitta Grahana	Recall through a cue or associated stimulus	Hippocampus, prefrontal cortex	Acetylcholine, glutamate, noradrenaline
Rupa Grahana	Recall through previously perceived features	Visual cortex, hippocampus	Acetylcholine, glutamate
Sadrisya	Recall through similarity	Association cortex, hippocampus, prefrontal cortex	Dopamine, acetylcholine, glutamate
Saviparyaya	Recall through contrast or difference	Prefrontal cortex, memory networks	Dopamine, noradrenaline, glutamate
Sattvanubandha	Mental attention supporting memory	Prefrontal–parietal networks, hippocampus	Acetylcholine, dopamine, noradrenaline
Abhyasa	Repetition strengthens learning and recall	Hippocampus, basal ganglia	Dopamine, glutamate, acetylcholine, BDNF – Brain-Derived Neurotrophic Factor
Jnanayoga	Linking new information with previous knowledge	Hippocampus, prefrontal cortex	Acetylcholine, glutamate, dopamine
Punahsruta	Repeated hearing or exposure improves retention	Auditory cortex, hippocampus	Acetylcholine, glutamate, BDNF

Table 2. Relation between factors facilitating Smriti and cognition process

The factors described in the Ayurvedic framework may be functionally interpreted through these contemporary processes. Associative and perceptual factors may involve hippocampal and cortical networks, while attention may engage prefrontal–parietal

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systems. Repetition and repeated exposure are consistent with mechanisms of reinforcement and synaptic plasticity, whereas knowledge acquisition may involve integration of new information with existing representations. These relationships provide conceptual parallels rather than direct anatomical or neurochemical equivalence.

Overall, Ayurveda describes *Smriti* through a multidimensional framework involving cognitive faculties, experiential factors, physiological influences and individual characteristics. Its comparison with contemporary neurocognition highlights shared functional themes while preserving the distinct theoretical foundations of both systems. Further research may examine specific dimensions of *Smriti*, including attention, repetition, learning, retention and age-related changes, using cognitive and neurophysiological methods.

CONCLUSION

- *Smriti*, as understood in Ayurveda, is best regarded as an active, experience-derived cognitive faculty rather than a static store of past knowledge, and this review situates it within the broader framework of *Prajna* and *Jnanotpatti* while outlining the classical determinants that govern its development, regulation and individual variation.
- When considered alongside contemporary neurocognitive models of memory, *Smriti* shows clear functional resonance with the processes of encoding, consolidation and retrieval, even though the two frameworks remain conceptually and methodologically distinct rather than interchangeable.
- This convergence points toward *Smriti* as a productive site for interdisciplinary inquiry, where classical textual insights and contemporary neurocognitive research need not compete but can instead inform and refine one another in the continued effort to understand memory as a whole.

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