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Manas and Chaksu - Mana Samyoga: An Integrative Perspective in Neuro - Ophthalmology

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Abstract

In Ayurveda, *Manas* is described as *Ateendriya* (beyond direct perception) and *Ubhayendriya* (both sensory and motor in nature). True perception requires the coordinated interaction of *Atma, Indriya, Artha,* and *Manas*. Among the *Indriyas, Chakṣu* holds a unique and inseparable association with *Manas*, termed *Chakṣu–Mana Samyoga*, which is fundamental for visual cognition. In *Salakya Tantra*, vision is not regarded as a mere ocular process but as an integrated psycho neural function governed by Vata Dosa. Modern neuro-ophthalmology parallels this understanding by emphasising attentional regulation in the visual pathway involving the retina, optic nerve, thalamus, and occipital cortex. Disruptions in this integration manifest in conditions such as photophobia, stress-induced blurred vision, glaucoma, and psychosomatic visual disorders. Stress is increasingly recognised as a major factor influencing intraocular pressure, vascular regulation, and optic nerve health. This article reviews Ayurvedic perspectives of *Manas, Chaksu, Manovaha Srotas, and Indriya Panca-Pancaka* while correlating them with modern neurological processes, thereby establishing an integrative framework for neuro-ophthalmology.

Keywords: Chakshu, Mana, Indriya, Neuro-ophthalmology, Visual perception

Introduction

Vision accounts for nearly 80% of human knowledge acquisition, describing Chakshu as "*cheste Roopam Roopavantham cha Prakashayatiti Chakshu*," responsible for the perception of vision which makes *Chakshu* the most vital *Indriya* in human life. Ayurveda considers the eye as the seat of Alocaka Pitta[1], responsible for the perception of rupa (form, light, and color), and supported by *Tarpaka Kapha*, which maintains clarity and nourishment. Governed by *Tejo Mahabhuta* and regulated by *Prana Vayu*, visual perception in *Ayurveda* is not restricted to the ocular apparatus but extends into psychoneural and cognitive dimensions. *Caraka Acharya* explains that for valid perception requires the synchronous functioning of *Atma, Indriya, Artha, Manas,* and *Buddhi*. Thus *Chaksu Mana Samyoga* acts as the functional bridge linking ocular physiology with mental and intellectual processing. Modern neuro-

ophthalmology supports this concept through its understanding of visual attention, selective filtering, and cortical integration[2,3].

Manas

Manas is considered the inner controller of the *Indriyas*, functioning as *Gyanendriya* , *Karmendriya* and *Ubhayendriya*. Its primary functions include *Indriyabhigraha* (control of sense organs), *Svasyanigraha* (self-regulation), *Uhyam* (hypothetical reasoning), and *Vicara* (logical analysis)[4]. "*Manah purah saranindriyanyarthagrahanasamarthani bhavanthi"*, without *Manas* sensory organs cannot perceive and cognition remains incomplete. From a neurological perspective, *Manas* can be correlated with thalamo-cortical-prefrontal circuits that regulate attention, working memory, and executive processing, ensuring that visual input is processed meaningfully[5,6].

Manovaha Srotas

Manovaha Srotas is described as the channel responsible for mental functions, rooted in the *Hrdaya* (brain) and *Dasha Dhamani* (cranial nerves). These structures symbolize the neural and vascular pathways that sustain cognition and perception. Disturbances in *Manovaha Srotas* occur due to *Asatmyendriyartha Samyoga* improper contact of senses with their objects, which may manifest as ocular strain, psychosomatic visual dysfunctions, or stress induced visual disorders. In modern terms, *Manovaha Srotas* may be compared with cranial nerves, neural pathways, and the limbic-cortical systems responsible for emotional and cognitive regulation of vision[7,8].

Chaksu

Chaksu is the sensory organ of vision, functioning through *Alocaka Pitta*, which enables form and light perception, while *Tarpaka Kapha* provides lubrication, nourishment, and clarity. Governed by *Prana Vayu, Chaksu* operates as the physical gateway for visual inputs, but its perception is incomplete without *Manas* and *Buddhi*. Modern science correlates *Chaksu* with the eye's anatomical and physiological apparatus, including the cornea, lens, retina, optic nerve, and visual cortex, while *Alocaka Pitta* can be paralleled to photoreceptor pigments and neural signalling required for vision[9,10].

***Indriya Panca-Pancaka* and Vision**

Ayurveda explains sensory perception through the model of *Indriya Panca-Pancaka.* In the case of vision, the five aspects are:

1. *Chakṣu* as the organ of vision - *Indriya*
2. *Tejas* as its elemental basis- *Indriya Dravya*
3. *Aksi* (two eyes) as its anatomical seat - *Indriya Adhishtana*
4. *Rupa* as the object of perception - *Indriya Artha*
5. *Rupa Buddhi* as the final cognition - *Indriya Budhi*

This framework highlights that vision is not a single event but a chain of interconnected processes from stimulus reception to cognitive understanding[11,12]. Modern parallels can be drawn as follows, *Chakṣu* corresponds to the optic apparatus, *Tejas* to photons that initiate retinal phototransduction, *Aksi* to ocular structures, *Rupa* to the visual stimulus in the form of wavelength and color, and *Rupa Buddhi* to higher cortical processing in the occipital and prefrontal cortex.

Caksu Vaisesika* and *Buddhi Vaisesika

The concept of *Caksu Vaisesika* refers to the ability of the visual faculty to differentiate *Samsthana* (form), *Rupa* (appearance), and *Varna* (color). This reflects the analytical functions of the visual cortex, which processes form, shape, and color in different neural streams.

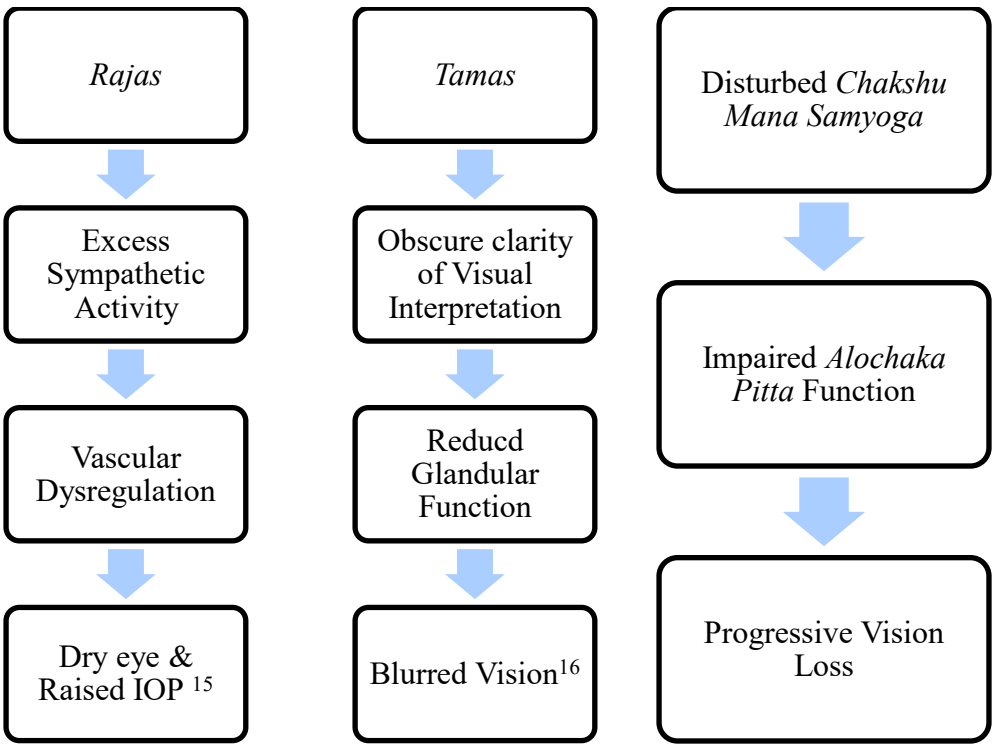
Buddhi Vaisesika, situated at the *Srngataka marma*, represents the higher intellectual processing of visual information, transforming perception into understanding and memory[13]. Modern science associates this with thalamic relay systems, the occipital lobe, and prefrontal cortex, which together integrate sensory input with cognitive interpretation.

Srngataka Marma

Srnkataka marma located in the region of the head is described as a central junction of *Mana, Indriyas,* and *Prana Vayu* and is considered a *Sira marma* where the vein nourishing the eyes, nose, ears and tongue converge. *Bhela Samhita* highlights that *Nasya* therapy acts through this *marma* to influence the eyes, nose, ears, and brain simultaneously[14]. From a modern anatomical perspective, this *marma* corresponds to the optic chiasma, olfactory trigeminal pathways, and limbic structures, which serve as a neurological hub integrating visual, sensory, and emotional processing.

Chaksu-Mana Samyoga

Perception in Ayurveda requires the combined functioning of *Atma, Indriya, Artha, Manas,* and *Buddhi. Chaksu Mana Samyoga* emphasizes that visual perception is never purely ocular but fundamentally psychoneural. *Manas* directs attention towards the visual stimulus *Chaksu* receives it and *Buddhi* interprets it completing the perceptual cycle. Disruption of this *samyoga* by *Mano Guna* imbalance,



Role of *Panca-Kayagni* in Vision

The five divisions of *Kayagni* demonstrate Ayurveda's holistic view of vision. *Alocaka Agni* governs

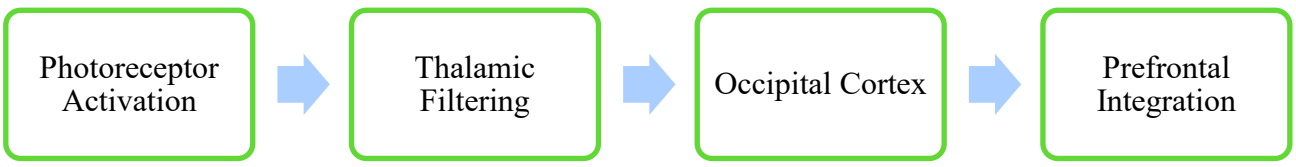
direct visual perception, *Ranjaka Agni* is associated with blood and color perception, *Bhrajaka Agni* relates to light interaction with skin and radiance, *Sadhaka Agni* regulates cognition and emotions, and *Pacaka Agni* provides nourishment to all others[17]. This illustrates that vision depends not only on the eye but on systemic metabolism and digestion. Modern parallels include the gut brain eye axis, metabolic regulation of neurotransmitters, and nutritional influences on retinal and cortical function.

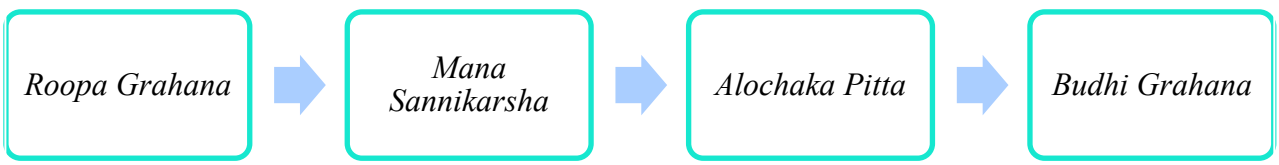
Modern Neurological Correlates

The modern visual pathway begins at the retina, proceeds through the optic nerve and chiasma, reaches the lateral geniculate nucleus (LGN), and culminates in the primary visual cortex (V1). Visual attention is regulated at the thalamic level, comparable to *Mana Sannikarsa*, while higher cognitive processing occurs in the prefrontal cortex, resembling *Buddhi Grahana*[18]. Stress significantly influences these pathways through hypothalamic-pituitary-adrenal (HPA) axis dysregulation[19], which may raise intraocular pressure, impair optic nerve health and alter vascular regulation.

Clinical Correlations

Ayurvedic and modern perspectives align in clinical correlations. *Roopa Grahana* corresponds to activation of photoreceptors, *Mana Sannikarsa* to thalamic attentional mechanisms, *Alocaka Pitta* to visual processing in the occipital cortex and *Buddhi Grahaṇa* to Prefrontal cotical interpretation. Disorders arising from their disruption include glaucoma, central serous chorioretinopathy, psychogenic vision loss, hysteria, and malingering[20]. Ayurvedic conditions such as *Doomadarshi*[21], *Aupasargika linganasa, Timira* and *Avila Drsti* may be compared with retina, optic nerve or cortical lesions producing visual field defects.





Discussion

Chaksu-Mana Samyoga establishes that vision extends beyond ocular mechanics and represents a deeply psycho neural phenomenon. Classical Ayurvedic texts, such as *Bhela's* description of *Panca Kayagni*, the *Vaisesika* classification of perception, and Susruta's account of *Srngataka marma*, reveal a highly evolved understanding of sensory-neural integration. Modern neuroscience similarly emphasizes that visual perception requires attentional regulation, selective filtering, and higher order cognitive interpretation. Both systems recognise stress as a critical disruptor of visual health. Caraka and Susruta describe several stress related *Nidanas* of vision loss[24],

- *Swapna Viparyaya* - irregular sleep habits such as daytime sleeping or staying awake at night.
- *Prasakta Samrodhana* - prolonged or excessive crying.
- *Kopa* - intense anger.
- *Shoka* - grief or sorrow.
- *Klesha* - physical and mental exhaustion or suffering.
- *Bhashpa Grahatha* - suppression of tears.

In Ayurveda, these are attributed to disturbances in *Rajas* and *Tamas*, which impair the balance of *Manas* and *Indriyas*. Modern medicine parallels this by associating chronic stress with hypothalamic-pituitary-adrenal (HPA) axis hyperactivity and neuroendocrine dysfunction, both of which adversely affect ocular circulation, intra ocular pressure, and neural processing. Thus, both Ayurveda and modern science converge on the understanding that psychological stress is one of the major factor in the pathogenesis of visual disorders, reinforcing the need for integrative approaches to prevention and therapy.

Conclusion

Chaksu Mana Samyoga embodies Ayurveda's holistic vision model, wherein ocular health is intrinsically linked with the coordinated functioning of *Manas, Indriya,* and *Buddhi*. Both Ayurvedic philosophy and modern neuroscience concur that vision is not merely an ocular process but a psychoneural phenomenon requiring attention, cognition, and emotional regulation. Disruption of this integration predisposes individuals to psychosomatic visual disorders. Ayurvedic interventions such as *Nasya, Netra Tarpana, Sirodhara, Medhya Rasayana,* and *Satvavajaya Cikitsa*, when complemented with Yogic practices, provide comprehensive strategies to restore balance and preserve visual health[25]. This synthesis of *Salakya Tantra* and contemporary neuro-ophthalmology offers a promising interdisciplinary framework for understanding and managing disorders at the interface of vision and mind.

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