

# The Soma Code, Part I: Luminous Visions in the Rig Veda

Philip T. Nicholson

## ABSTRACT

The meanings of many metaphors used to describe luminous visions in the Rig Veda (RV) remain elusive or ambiguous despite years of expert hermeneutical exegesis. In this series of papers, we classify the metaphors used to describe luminous visions into sets based on certain abstract characteristics (shapes, colors, movements, order of appearance), then show how these metaphor-sets can be matched with remarkable precision, image by image, to a sequence of internally-generated light sensations ('phosphenes') induced by meditation. These meditation-induced phosphenes can also evolve in longer and more elaborate sequences if the subjects practice meditation while in a sleep-deprived condition. A sleep deficit increases the risk of subclinical seizures emerging at sleep onset - and the paroxysmal activity generates further evolution of the phosphene imagery. In the first paper of this three-part series, we document the parallels between the meditation-induced phosphenes and two types of luminous visions described in the RV - the Asvins' radiant, three-wheeled chariot and the flame-arrows of Agni. In the second paper, we analyze metaphors used to describe the visions of Soma and Indra and show that there is a close match between these luminous visions and paroxysmal phosphenes. Based on the extensive parallels revealed by our comparison, we conclude that the metaphors for luminous visions in the RV were meant to refer to the same visual content as appears in the meditation-induced visions described by the author, and that, despite years of poetic embellishment, the eulogists' choice of metaphors suggests a much more empirically-oriented attempt to describe visionary experience than has hitherto been suspected. This hypothesis about the meaning of luminous visions in the RV has important implications for several issues debated by Vedic scholars, including: (1) the identity of the original soma plant; (2) the influence of shamanic practices in the creation of the Vedic myths, and (3) the extent of the continuities between the visionary experiences described in the RV and those described in the Upanishads and in the many yoga meditation texts in the Hindu, Tantric, and Tibetan-Buddhist traditions.

## Luminous Visions in the RV: Gonda's Legacy

The importance of luminous visions in the Rig Veda (RV) has been well-documented by Gonda [1963] in his monograph, *Vision and the Vedic Poets*. He points out that Agni, the Vedic god of fire, can manifest in inner visions that inspire the poet-seers to compose hymns to the gods [pp. 17-18], that these luminous visions of Agni (*dhitayah*) are like "lightnings and flame-arrows" that "begin to glow spontaneously in a secret place," and that the visions arrive "in front of (or ahead of; on the surface of) the

## THE SOMA CODE

*vipah*, i.e. the inspired words of the seer-eulogists [Ibid., pp. 172-3]." The eulogists compare the visions of Agni "to a hole in the ground abounding in water from which one may draw the desirable liquid," and also to "a stream or 'fountain' of transcendental truth (*dhara rtasya*) [Ibid., p. 172]." The source from which these luminous visions flow is "beyond human reach, knowledge and understanding, and those who receive them may be said to glow or shine themselves," as in verse 8.6.8, which states that "When the visions which are concealed glow spontaneously, the Kanvas (begin to glow) by the stream of *rta* [Ibid., p. 172]." The basic idea is that there can be a "breaking through of a stream of the great and fundamental power called *rta*-, of a sudden influx of sacredness, of an extraordinary insight into the reality beyond the phenomena of this world [Ibid., p.172]." But, even though the streams of *rta* can break into consciousness, "the man to whom *dhitayah* come is not idle" since it is "expressly stated that he must fashion them, give them a definite form. This activity is compared to the carpenter or cartwright [Ibid., p. 184]."

Gonda also notes that the eulogists of the RV sometimes describe Soma as a type of *dhiyah*, or "vision-producing-insight," in addition to its manifestations as a plant, a drink, and a god. As a vision, Soma displays a "bright or pure shape or form (*sukram varnum*)" which can be described as "light (*jyotih*)" or "radiance (*socih*)" or simply as "eye" (*caksuh*), a single word that refers to an inner faculty of vision, a faculty distinct from the observable, physical eye, which can directly perceive the inspirational visions of *rta* [Gonda, op. cit., p. 167]. Another sign that the eulogists regarded Soma as a type of luminous vision is that they often use the word, *manisa*, which Gonda translates as an intuition of truth received in a flash of light. See, for example, verses 9.72.6 ("the inspired sages, who are skillful in their art and possessed of *manisa*"), 9.79.4 ("the *manisa*-ones ignite thee"), and 10.114.6 ("the sages, having produced, by means of higher wisdom [*manisa*]") [Ibid., p. 53]. Also, the eulogists often claim that their songs "make[s] the *dhih* swell like a milk-giving mare (1.34.6)," and, similarly, in 8.6.43, that ". . . it is not the gods but rather men - the *rishis*, the Kanvas - who appear to be able to make the *dhih* swell and increase; they achieve that by their liturgical words [Ibid., p. 124]." The 'swelling' metaphor will be particularly important in our discussion of the Soma visions in Part II.

### The Need For a New Approach

While Gonda's exegesis documents the types of metaphors the eulogists use to describe luminous visions, these metaphors are so ambiguous and so opaque to modern sensibilities that it is difficult to interpret what the composers meant to communicate when they chose those words and phrases. The obstacles faced by scholars are particularly formidable in the ninth book of the RV which contains most of the hymns written to Soma. Keith [1925] complains about the "chaos of the ideas [Ibid., p. 171]" and the "obscurity in detail [Ibid., p. 167];" MacDonell [1971] writes that the descriptions of Soma are "overlaid with the most varied and chaotic imagery and with mystical fantasies often incapable of certain interpretation [Ibid., p. 104]." In her introduction to a translation of selected hymns from the RV, O'Flaherty [1981] points out that problems of interpretation are complicated by language that is "intrinsically difficult (dense,

## Ph. T. Nicholson

complex, and esoteric even for the people of its own time), or difficult to people of another time (because of archaisms, *hapax legomena*, discontinued usages), or difficult because we have lost the thread of the underlying idiom [Ibid., p.14]." Even if experts agree on the literal meaning of the Sanskrit words, they still might not be able to interpret what those words were intended to mean, not least because the RV "is written out of a mythology that we can only try to reconstruct from the Rig Vedic jumble of paradoxes heaped on paradoxes, tropes heaped on tropes [Ibid., p. 18]."

In this paper we show that the range of meanings that can be reasonably attributed to the metaphors used to describe luminous visions can be bracketed within relatively narrow parameters if the metaphors are classified into sets based on certain abstract characteristics, specifically, shape, color, movement, and order of appearance as described in the RV. To define which abstract characteristics are important for this classification, we have imported a new, independently-derived, and non-textual source of information of the sort not usually consulted in the interpretation of Vedic texts.

New research in the neuroscience of vision, sleep, and epilepsy - and the application of those research findings to the subject of mystical visions - now makes it possible to propose theories that explain in great detail how the brain mechanisms that are normally associated with slow wave sleep can also be activated by behaviors that simulate sleep, such as meditation in which the subject combines deep physical relaxation with an inwardly-orientation and fixation of visual attention on the center of an empty visual field. A meditation-induced activation of the brain's sleep rhythm oscillators can generate epiphenomenal sensations of light devoid of any figurative content ('phosphenes') that display distinctive, predictable shapes, colors, movements, and temporal sequences [Nicholson, 1996a,b; 2002a,b].

Research also shows that a transition from waking to slow wave sleep can be destabilized with surprising ease in a series of smooth, fast, incremental steps, a destabilization that is most likely to occur if, at the time the transition to slow wave sleep begins, the subject's cortical neurons are already abnormally excitable - a condition that can be induced by many different kinds of events, including sleep loss. If the brain mechanisms that govern the transition to slow wave sleep become destabilized because cortical neurons are hyperexcitable, some regions of the brain break out in paroxysmal firing. In effect, this constitutes an epileptiform seizure, but these kinds of seizures often do not trigger dramatic symptoms that would signal a problem to an untrained observer. These new research findings about rapid shifts to paroxysmal activity upon activation of sleep rhythm oscillators can be used to explain why a meditator who is attempting to induce phosphene visions might experience the outbreak of a seizure and to explain how this outbreak of paroxysmal activity shapes the further evolution of the original, sleep-onset phosphene images [Nicholson, 1999; 2002a,b]. In this paper we reproduce a series of drawings from the sources just cited to illustrate the shapes, colors, movements, and ordinal progressions of the meditation-induced, sleep-onset phosphenes and their further elaboration after the outbreak of paroxysmal brain waves. (A more detailed exposition of the underlying neurophysiology is available in the sources cited [See Note 1].)

Before attempting to compare the meditation-induced phosphene sequences with luminous visions in the RV, we collect examples of the different types of metaphors

## THE SOMA CODE

used to describe these visions and classify them into metaphor-sets based on abstract characteristics like shape, color, movement, or location. For example, one of the more important sets contains a wide range of metaphors used to describe the vision of newborn Soma and enrolled in the set based on their having a 'bulbous' shape. The metaphors in this set are words like "udder," "stalk (*amsu*)," "navel," "bull's horn," "penis," "pot," "stormcloud," "waterskin," "heaven's head," and "filter of sheep's wool." Using this classification system, it becomes less important which particular word a translator chooses for the Sanskrit or which language is being used for translation: fine-tuning the choice of the individual word - the essence of good translation - is largely irrelevant for our purposes, which is to define a metaphor-set, find out where the members of that set appear in the RV, and how the set functions in relation to the other metaphors for luminous vision. We can then compare the characteristics of each metaphor-set (and the sequencing of the metaphor-sets) against a standard template, namely, the drawings of the meditation-induced phosphenes described by the author. If we can show that the parallels between these two sets of visual images are sufficiently detailed and comprehensive, this demonstration supports the inference that the metaphors used to describe luminous vision in the RV refer to the same kind of visual contents as a meditation-induced phosphene sequence.

Human neurophysiology has not changed significantly since the Vedic era, so if we believe (1) that luminous visions in the RV contain essentially the same content as the meditation-induced phosphene sequence, (2) that the brain mechanisms responsible for generating these phosphene images operate within predictable parameters, and, (3) that this underlying neurophysiology imposes significant constraints on the what kinds of images can appear in a sequence of meditation-induced phosphenes, then we should be able to apply those same constraints to bracket the range of meanings assigned to luminous vision metaphors in the RV so that they fall within very narrow parameters.

Before we begin our analysis, it is important to address a methodological problem. The author is not an expert in Sanskrit or Vedic Studies, nor does he have sufficient command of German, French, or Russian to read the most recent translations of the RV which appear in those languages, so this study is based on English translations. There are a number of recent English translations of selected verses [e.g., see Gonda, 1963; Bhawe as cited in Wasson, 1971; O'Flaherty, 1981; Dange, 1992], and, whenever possible, we use them, but we have also found it necessary to make use of older translations [e.g., Wilson, 1888; Griffith, 1889], even though some contemporary scholars find them unreliable [e.g., O'Flaherty, 1981]. Given the author's deficiencies, readers might be concerned that this investigation is seriously compromised at the outset, and certainly this concern would seem to be warranted if our goal were to make yet another hermeneutical exegesis of the RV. The formidable difficulties that face anyone who wants to get "inside the Vedic mind" in order to better translate Vedic texts have been aptly summarized by Witzel [1996], and the prerequisites he mentions are not met in this case. Why, then, do we feel justified in pursuing this investigation, despite these major drawbacks?

Our goal is a systematic classification of metaphors based on certain abstract characteristics that have not been explored by others scholars, and, to make those

## Ph. T. Nicholson

classifications, we rely on a standard that is external to the hymns themselves and derived from our familiarity with current scientific research in the neuroscience of sleep, vision, and epilepsy. In effect, we propose to use the drawings of meditation-induced phosphene visions experienced by the author and reproduced here as *predictions* of the kinds of abstract characteristics that visions in the RV are likely to have if they were also induced by meditation (and destabilization of meditation). Because the metaphor-sets as we have defined them are so general, it seems unlikely that completely new kinds of words will come to light that cannot be placed within one set or another, whatever the language of origin.

The parallels between the luminous vision metaphors of the RV and the meditation-induced visions turn out to be so extensive, so detailed, and so comprehensive that we believe it is reasonable to conclude that both sequences refer to the same kind of visual content, and, therefore, to the same kinds of generating mechanisms. In this view, the meditation-induced phosphene sequence is a template that decodes the meanings of luminous visions in the RV in much the same way that the Rosetta Stone enabled scholars of an earlier age to decipher Egyptian hieroglyphics by comparing the hieroglyphics text with the same message carved in Greek and Aramaic.

### **A Sequence of Meditation-Induced Phosphene Visions**

The author, a medical writer with no history of drug or alcohol abuse, no family or personal history of epileptic symptoms, and no sectarian affiliation, practices self-hypnosis or meditation to relax, to generate new ideas for his writing by free association, to dissipate muscle tension headaches, and to divert attention during minor surgical or dental procedures. He learned to meditate by imaging mental images while in graduate school, then later, after attending a course on Buddhist meditation, learned how to meditate without mental imagery. During this class, the author began to see sensations of light generated by internal processes, called 'phosphenes'.

The author's phosphene-inducing meditation phosphene technique is as follows: he lies on his back, closes his eyes, takes slow, deep, rhythmic breaths, keeps his eyes converged and slightly depressed, and keeps his attention fixated on the center of the visual field. The eye convergence is sustained with enough forcefulness to elicit a sensation of "fullness" or "pressure" in the eyeball, and the fixation of attention is forceful enough to evoke a sensation of 'locking in'. The concentration of attention also produces auditory feedback - a characteristic buzzing that is part sound, part vibration, that originates inside the lower rim of the skull, and that feels as if it radiates upward on both sides. To keep his level of arousal low and his mental field free of distraction, the author maintains a passive, indifferent attitude, allowing stimuli that might be potentially distracting to drift in and out of consciousness without any attempt at suppression. During this behavioral state of calm, inward orientation and fixation on the as-yet undifferentiated visual field, the author begins to see waves of brightly-colored phosphene annuli that follow a predictable sequence.

The phosphene sequence induced by meditation also appears spontaneously when the author is lying in bed and waiting to fall asleep, in which case no induction behaviors are needed; the only prerequisite is keeping the eyes fixed straight forward and keeping the attention focused on the center of the visual field.

## THE SOMA CODE

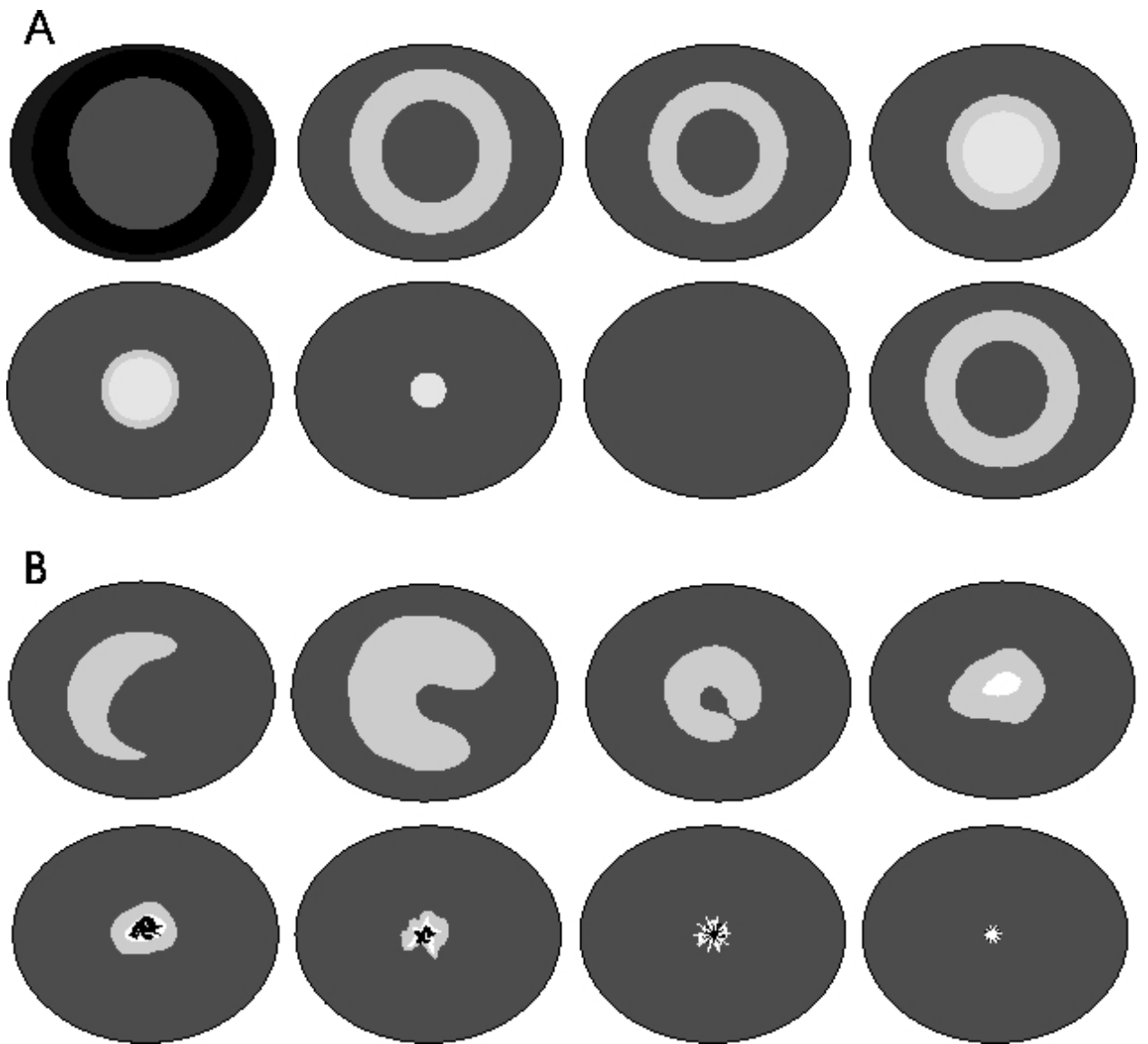


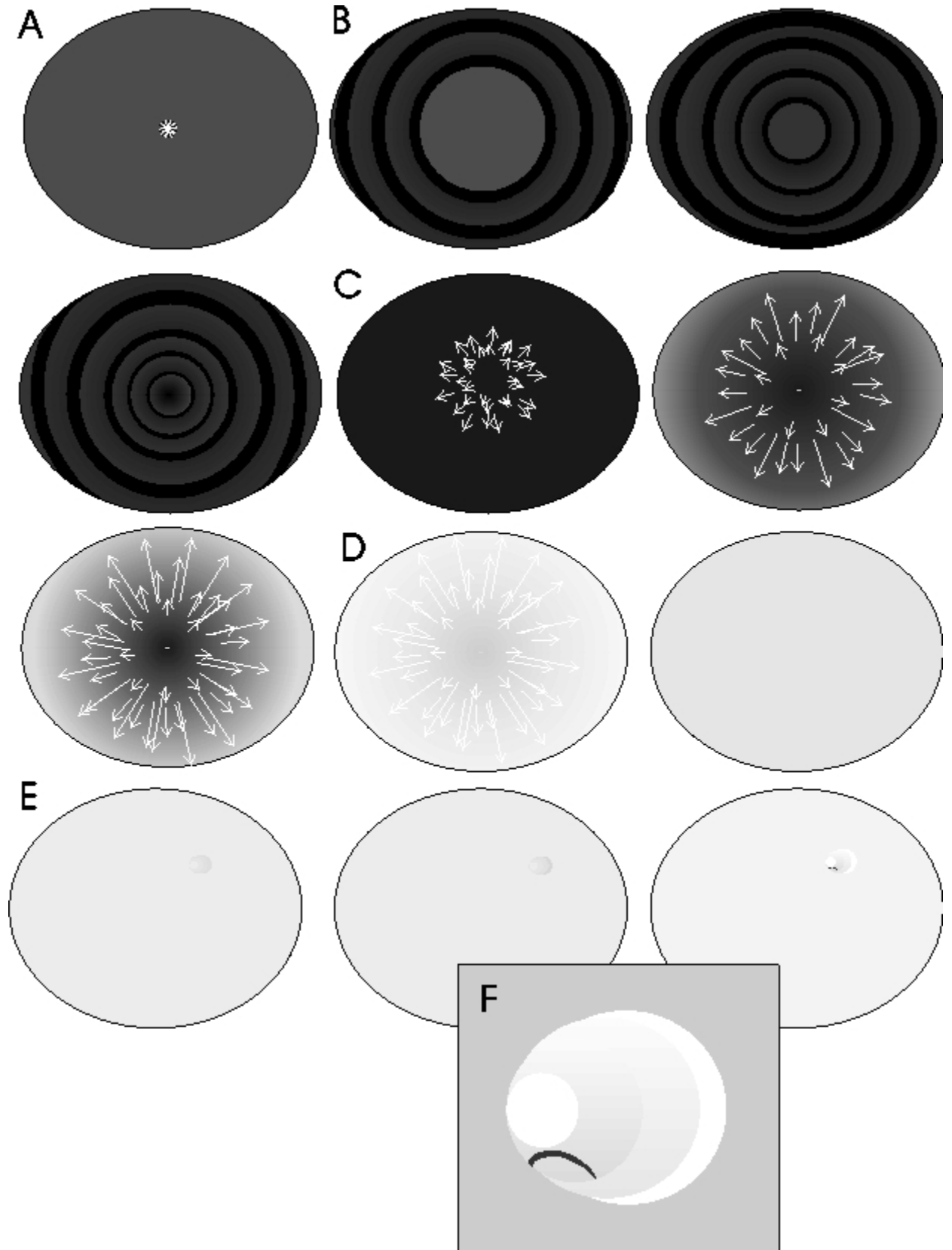
Figure 1.1. The sequence of phosphene images that can be induced by meditation or activated spontaneously at sleep onset. **A.** One 5-second cycle of a 'receding annuli' sequence. Initially the author sees a dark, barely-perceptible wave - a sensation of movement - that flows inward from the 360° perimeter of vision, then sees a bright yellowish-green phosphene annulus illuminate in the visual field at about 80° of isoecentricity. The annulus continues to shrink in diameter at a constant rate, preserving its symmetry throughout, and disappears into the center of vision after 4 seconds (as estimated by the author's count of "1001 . . . 1002."). The shrinking

### Ph. T. Nicholson

generates an illusion that the annulus is 'receding' in 3D space. A new annulus appears every 5 seconds (0.2 Hz) until the sequence terminates automatically after a total of 4 to 5 cycles. About halfway through the trajectory, the annulus fills in with a phosphene disk. During the early years of phosphene induction, the color of the fill-disk was a brighter, more opaque green than the annulus itself, but after several years of phosphene induction, the color of the fill-disk changed to dark blue. **B.** Typical amorphous waves of expanding and contracting phosphene with a 'mist-like' texture. The first row shows an amorphous wave of yellowish-green phosphene - dark blue after the change noted above - which sometimes has a vaguely-defined crescent shape, as shown here. The amorphous wave illuminates upon reaching 80° of isoecentricity, like the annuli. The waves enter from either the right or the left perimeter and sweep across the visual field with an expanding and enveloping motion. Meanwhile, behind the leading edge, the phosphene begins to dissipate, so that the rear of the wave is shrinking inward at the same time that the forward edge continues to expand into as yet untouched regions. Within a few seconds, all of the remaining phosphene shrinks into the center of vision, like the receding annuli. After a prolonged session of phosphene induction, the amorphous expanding clouds often last longer and develop a brighter, more finely-grained, opaque, and iridescent phosphene at the core. This bright central core keeps ebbing back from the fixation point and then filling back in, producing an image resembles a disembodied 'eye' with a bright 'iris' and a dark inner 'pupil'. On the morning of the seizure, the central, 'eye-like' phosphene gradually condensed into a tiny, 'star-like' cluster of thin, flashing filaments of white and blue phosphene, in effect, a dot or 'bindu'. [From Nicholson, 2002a]

The meditation-induced, sleep-onset phosphenes are illustrated by the author's computer-generated drawings in Figure 1.1, with a detailed description in the adjacent legend for easy reference. There are four different kinds of phosphene images in this sequence: (1) RINGS that flow in from the periphery of the visual field and shrink steadily in diameter, creating an illusion that they are 'receding' in 3-D space; (2) SWIRLING MISTS, amorphous in shape, that sweep across the visual field and then contract, disappearing into the centerpoint; (3) the amorphous phosphene mist eventually acquires a brighter node of phosphene that hovers at the center of the visual field and that has a dark space within it, creating the illusion of an EYE-LIKE IMAGE with a bright phosphene 'iris' that pulls back to reveal a dark, empty, 'pupil' space, then fills in, then pulls back again, and so on; (4) a STAR-LIKE IMAGE of tiny, twinkling, phosphene filaments seems to 'condense' at the center of the visual field.

THE SOMA CODE



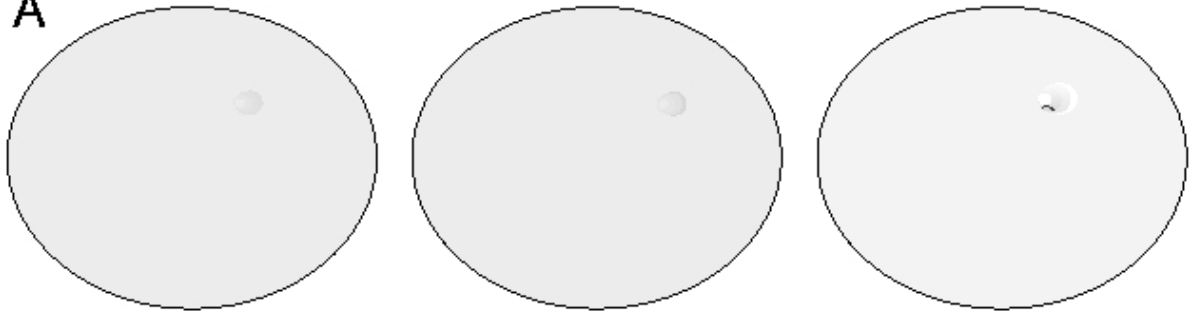


## Ph. T. Nicholson

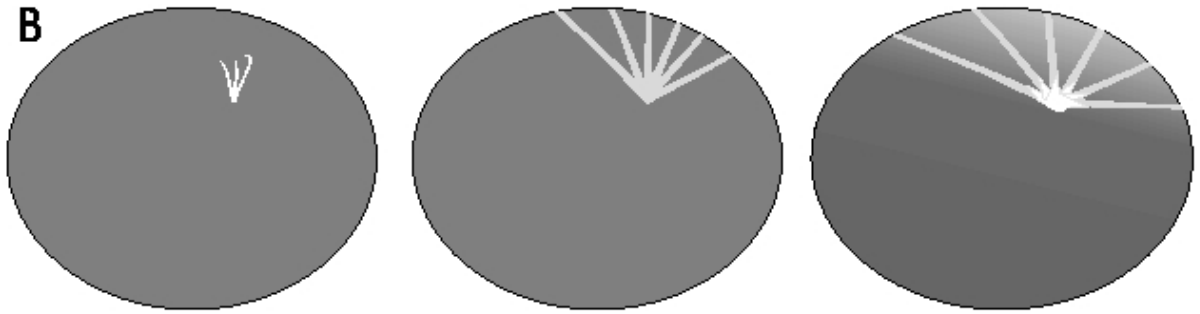
Figure 1.2. Transition to paroxysmal phosphene images. **A.** The familiar, 'star' or 'bindu' image of thin, flashing filaments of white and blue phosphene, the culmination of amorphous wave activity seen in Figure 1. **B.** A stream of dark, barely-perceptible 'receding annuli' that entered the visual field at a rate of more than one per second ( $\geq 2$  Hz), never illuminating as colored phosphene. The influx of dark waves generated an illusion of movement through a dark, 'tunnel-like,' 3D space. After a few seconds, the flood of dark annuli stopped abruptly, eclipsed by onset of the next visual image. **C.** A radiating spray of phosphene 'mist' interspersed with many beige-colored 'flecks' replaced the 'tunnel' of dark annuli. The spray seemed to radiate toward the viewer along a conical trajectory through 3D space and to 'strike' the forehead, so that the subject felt compelled to pull his head back against the pillow and arch his back. There were also muscle tremors in the face and extremities. **D.** A gradual brightening and bluing of the visual field. This effect slowly but steadily obscured more and more of the radiating spray until it was the only visual sensation present. The approximate hue of blue, based on the author's comparison of color swatches from a CMYK Process Color Chart, is 40% Cyan without any Magenta, Yellow, or Black - a color similar to the blue of the sky on a clear, dry day in the summer or autumn. **E.** The appearance of a bulbous, hollow, translucent white phosphene that seemed to 'protrude' through the bright blue visual field, as if there were 3D 'depth' in the visual field. At first the bulbous image appeared as a faint glow, but when the author focused his attention on it, the glow became brighter, revealing a bulbous nose. As the phosphene glowed even more brightly, it revealed more caudal extension. This change created an illusion that the figure had just 'moved' forward in 3D space, and, conversely, as attention waned, the phosphene dimmed so that its caudal extension shortened, making it seem to 'recede'. Beneath the anterior pole of the bulbous image was a thin line or shadow, shaped like an inverted crescent. After many successive 'protrusions' and 'recessions,' the bulbous image suddenly glowed brightly - so much so that it looked as if it the bulb had 'lurched' toward the vertical meridian - and, in the same moment, it disappeared and its former site was occupied by a cluster of three thin, white, phosphene rays (Figure 3B). These rapid movements created an illusion that the bulb had somehow 'ruptured' and that this 'released' the phosphene rays. [From Nicholson, 2002a

# THE SOMA CODE

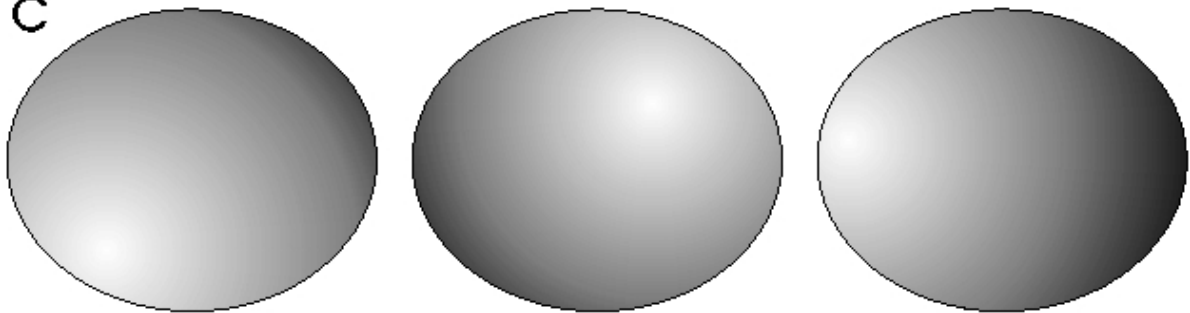
**A**



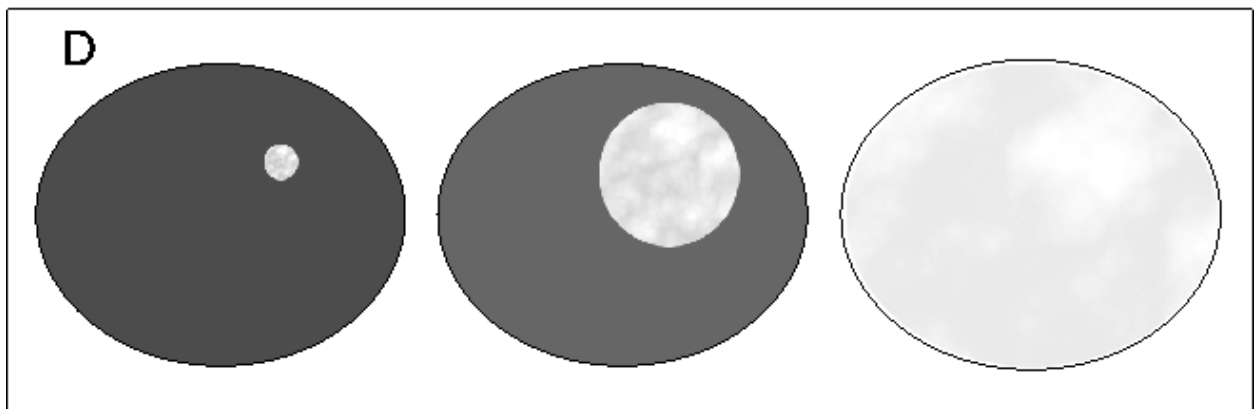
**B**



**C**



**D**



## Ph. T. Nicholson

Figure 1.3. The final transition to photoparoxysmal phosphenes. **A.** The white phosphene bulbous image. **B.** When the bulbous image disappeared, it was replaced instantly by three thin white phosphene rays, and, at the same time, the bright blue background disappeared, leaving the rays silhouetted against the normal, charcoal-colored visual field (eigengrau). In the first presentation, the three white rays extended less than halfway to the perimeter of vision, and the tallest ray had a distinctive 90° bend to the left at the tip. One second later, the rays reappeared, now in a new, realigned version in which the rays had doubled in number (from 3 to 6), had lengthened so as to extend all the way to the peripheral rim of vision, and had fanned farther apart at the tops. In the next second, the author observed a third transformation: he saw the rays fan much farther apart, a movement that resembled the petals on a flower wilting in the heat. In this third display, the bases of the rays had tiny, shard-like triangles of bright, opaque white phosphene superimposed. The third display of the rays was the final one, and it persisted in the visual field for about 10 to 12 seconds. There were no auditory or sensorimotor symptoms accompanying any of the transformations of the rays. **C.** Serial flashes ('explosions') of dull white phosphene, appearing in either the right or left hemifield. Single flashes never occupied more than about a third of the visual field and seemed to alternate between the right and left side in a non-rhythmical pattern. The experience felt like being inside a dark stormcloud when it was illuminated from within by flashes of sheet lightning. The photoparoxysm was accompanied by loud, crackling sounds, sensorimotor sensations of bilateral polymyoclonus that seemed to involve an 'ascending current of energy,' an orgasmic sensation diffused throughout the body, and psychic symptoms of euphoria and awe mixed with fear. **D.** Postictal visual symptoms. For several weeks after the initial photoparoxysm, whenever the subject went to bed and closed his eyes, a white glow appeared in the same place where the bulb and rays appeared earlier. When he focused attention on this glow, it began to expand as if billowing out toward the viewer in 3D space. The surface of the expanding phosphene presented a fractal-like pattern resembling the surface of a cauliflower, a billowing cumulus cloud, or a froth of soap bubbles. After a few days, the glow still appeared, but now it expanded with a surface that presented an undifferentiated, fog-like whiteness. Once the wave expanded, the entire visual field appeared white, as if the viewer were enveloped by fog or a snow 'whiteout'. If the author kept his attention focused, the field remained white for a relatively long amount of time, sometimes for more than several seconds. While this whiteness was present, the author experienced a weaker version of the seizure-related sensorimotor and psychic symptoms. [From Nicholson, 2002a]

These meditation-induced, sleep-onset phosphene images can evolve into a more elaborate sequence if the sleep rhythm oscillators are destabilized, triggering paroxysmal activity in the brain. This happened to the author on one occasion in which he tried to relax himself to sleep using his familiar technique of meditation in

## THE SOMA CODE

circumstances that were highly unusual: having slept only four of the preceding thirty-six hours because of 'jet-lag' insomnia, he went to bed at 4 o'clock in the morning and began to meditate. The familiar meditation-induced phosphenes began to appear almost immediately and manifested with unusual intensity and speed, then, instead of concluding with the familiar image of a star-like phosphene dot, the phosphene sequence evolved the new images illustrated in Figures 1.2 and 1.3: (5) THIN BLACK RINGS suddenly began to flow inward, shrinking in diameter like the sleep-onset phosphene rings but at an abnormally fast rate of two or more per second, creating the illusion of a dark, moving tunnel; (6) a SPRAY of beige-colored phosphene 'flecks' that seem to radiate out toward the viewer, suddenly replaced the inward-moving black rings; (7) a UNIFORM BLUE BACKGROUND began to gradually become brighter, causing the image of radiating spray to fade out; (8) a BULBOUS GLOW appeared in the upper right quadrant of the visual field and waxed and waned in brightness, creating the illusion of its moving forward or receding, depending on the intensity of the attention focused on it; (9) A FAN OF THREE WHITE RAYS suddenly replaced the bulb image, with the rays in this first display extending less than halfway to the perimeter of vision; (10) A FAN OF SIX WHITE RAYS suddenly replaced the three rays after a delay of one second, with the rays now extended to the perimeter of vision; (11) A FANNING APART OF THE SIX RAYS occurred after another delay of one second, creating the impression the rays were 'drooping' or 'wilting'; (11) SERIAL FLASHES of dull white phosphene that filled large expanses of the visual field began after a twelve seconds delay, an image that looked exactly like sheet lightning illuminating a dark stormcloud from within. This final image in the paroxysmal sequence was accompanied by loud, sizzling, 'electric' crackling sounds, spasms of many different muscle groups, an illusion of a 'current' flowing upward through the body, quasi-orgasmic sensations, and an emotional mix of fear, awe, and euphoria. At this point the author stopped the flashes by diverting his attention and getting up to walk around.

After the episode of paroxysmal activity, the author found that, whenever he laid down to go to sleep and closed his eyes, he saw (12) a POST-PAROXYSMAL WHITE GLOW at the same location in the visual field where the bulbous image and the rays had once appeared (see Figure 1.3D). If he looked at the glow and did not try to distract himself, this staring would cause the small white glow to expand as a cloud of white phosphene that seemed to be radiating out toward the viewer as it expanded. For several days after the paroxysmal episode, the surface of this expanding whiteness presented a distinctive cauliflower-like pattern, like the billowing surface of a cumulus cloud buffeted by explosive pressures within, or like a foam of soap bubbles rising in the sink in response to water streaming down from the faucet. After that, the phenomenon of the expanding glow continued, but there was no longer a multi-faceted surface but rather an undifferentiated whiteness - like being surrounded by dense fog.

## Ph. T. Nicholson

### Sequences of Meditation-Induced Phosphenes Reported By Other Observors

Are the experiences described by the author ideosyncratic or are similar phenomena reported by other observors as well? This is not as easy a question to answer as it may appear at first glance. Many mystics who write autobiographical narratives describe visions using language that is abstract, 'experience-distant,' and metaphysical; often these writers simply repeat phrases they learned from reading the authoritative texts of their tradition, suggesting that the primary intent in these cases is to portray the experience as authentic by showing that it fits squarely within the conventions of the tradition and thus that it is worthy of validation by one's peers. There are, however, a few exceptions.

Table 1.1. Autobiographical Descriptions of Light Vision Sequences by Hindu Mystics

	Gopi Krishna	Muktananda	Lahiri Mahasay
CIRCLES OR RINGS	I sat breathing slowly and rhythmically, my attention drawn towards the crown of my head, contemplating an imaginary lotus in full bloom, radiating light. [p. 11]	Next, the pupils of both my eyes became centered together. I began to see one thing with two eyes. . . . After this happened, a blue light arose in my eyes [p. 125].	To practice pranayam at 4 o'clock in the morning is good [p. 93]
MISTS OR CLOUDS	I never practiced yoga by Tantric methods. . . . If I had done so with a firm belief in the existence of the lotuses, I might well have mistaken the luminous formations and the glowing discs of light at the various nerve junctions along the spinal cord for lotuses, and . . . might even have been led to perceive the letters and the presiding deities . . . suggested by the pictures already present in my mind. [p. 174]	[A] light came in meditation, like a candle flame without a wick . . . the two-petaled lotus between the eyebrows [p. 128].	[Hand-drawn outline of a thick ring with wavy lines filling the central disk (p. 103) & of rings-within-rings, p. 104]
CLOUDS WITH BRIGHT CENTRAL NODES		The blue akasha, an expansion of blue color, began to appear, and with it, the neela bindu, the Pearl of infinite power. As I watched it, I felt as if my eyes were going to burst. . . . I was completely entranced . . . [p. 135]	When the air of breath is held tranquil, the six centers are seen in bright Light but it does not stop at the centers. [p. 108]
			OM is radiant Light. When this Light is spread throughout the body, all is seen . . . [p. 208]
			I saw a blue color in the light; in the blue, I saw a white spot; and in the white spot, I saw a man . . . [p.211]
STAR-LIKE POINT		It was not the Blue Light or the Blue Pearl, but a blue star. Though it looked small, it was large enough to contain me . . . [p. 149]	Beyond the five senses there is mind . . . ; beyond the mind there is buddhi, that is bindu, or spot; beyond the bindu, Brahma . . . the Pure Void [p.212]
SPRAY OF SPARKS RADIATES	[I]t seemed as if a jet of molten copper . . . dashed against my crown and fell in a scintillating shower of vast dimensions all around me. . . . a fireworks display of great magnitude . . . a brilliant shower or a glowing pool of light [p. 50]."	[T]he blue star passed within me into my sahasrara and exploded. Its fragments spread throughout the vast spaces of the sahasrara. There was no star in front of me now, but just an ambrosial white light. [p. 150]	

## THE SOMA CODE

BRIGHT & BLUE LIKE THE SKY	[A] glowing pool of light [p. 50]	There was no star in front of me now, but just an ambrosial white light. [p. 150]	
BULBOUS IMAGE APPEARS		Sometimes I would have a new movement in the heart, in which an egg-shaped ball of radiance would come into view. This is the vision of the radiant thumb-sized Being, who is described . . . in the Shvetashvatara Upanishad: . . . "The inner soul always dwells in the heart of all men as a thumb-sized being." [p. 136]."	It seems there is another uvula above the uvula. [p. 99]  First the dazzling sign or penis (Jyotir Lingam) is seen, then it disappears into Voidness or Silence. . . . [Includes a hand-drawn outline of a thumb-like shape (p. 108)].
RAYS RISE & FAN			
BRIGHT WHITE LIGHT	I kept my attention centered around the lotus. Suddenly, with a roar like a waterfall, I felt a stream of liquid light entering my brain. . . / . . . I felt the point of consciousness that was myself growing wider, surrounded by waves of light . . . immersed in a sea of light. [p. 12-13]	"One day it opened up and its light was released, and the brilliance of not one or two thousand but millions of suns blazed all around. The light was so fierce that I could not stand it . . . That brilliance had drawn me toward itself, and as I gazed at it, I lost consciousness. . . [p. 175-6]	The sun is the form of OM. [p.111]  The sun is Kali, I myself am Kali. Thinking about Kali I become Kali.[p. 210]  I am Mahapursusa. In the sun I saw that I myself am Brahma, the ultimate Self. [p. 210]

## Ph. T. Nicholson

Table 1.2. Autobiographical Descriptions of Lights Seen By Non-Hindu Mystics

	Ignatius Loyola	John of the Cross	Najmoddin Kobra
CIRCLES OR RINGS	While living in this hospital it many times happened that in full daylight he saw a form in the air near him and this form gave him much consolation because it was exceedingly beautiful. He did not understand what it really was, but it somehow seemed to have the shape of a serpent and had many things that shone like eyes, but were not eyes. 3.19 [p. 29]	The soul puts on the white robe of faith on its going forth on this dark night . . . . Over the white robe of faith the soul puts on forthwith that [disguise] of the second color, a green almilda [a shoulder mantle with a neck hole], emblem of the virtue of hope . . . [DNS, p. 180]	Ours is a method of alchemy. It involves extracting the subtle organism of light from beneath the mountains under which it lies imprisoned. VS #12 [p. 77]
MISTS OR CLOUDS			It may happen that you visualize yourself as lying at the bottom of a well and the well seemingly in lively downward movement. In reality, it is you who are moving upward. VS #12 [p. 76]
CLOUDS WITH BRIGHT CENTRAL NODES	But often when he went to bed, great spiritual lights came to him, as did wonderful consolations, so that they took up most of the time that he had set aside for sleep, which was not much. 3.26 [p. 34]	S. Paul calls hope the helmet of salvation. Now a helmet is armor which protects and covers the whole head, and has no opening except in one place, where the eyes may look through. Hope is such a helmet . . . It has one loophole through which the eyes may look upwards only . . . [DNS, p. 180]	[W]hen you see above you a great wide space . . . and you perceive on the far horizon the colors green, red, yellow, and blue, know that you are about to pass, borne aloft through the air, to the field of these colors. The colors are those of the spiritual states experienced inwardly. VS #13 [p. 77]
STAR OR DOT			
SPRAY OF SPARKS RADIATES			[I]t effuses lights as a spring pours forth its water, so that the mystic has a sensory perception . . . that these lights are gushing forth to irradiate his face. This outpouring takes place between the two eyes and . . . it spreads to cover the whole face. VS #66 [p. 85]
BRIGHT & BLUE LIKE THE SKY			[I]t spreads to cover the whole face. At that moment, before you, before your face, there is another Face, also of light, irradiating lights, . . . [resembling a] diaphanous veil . . . VS #66 [p. 85]
BULBOUS IMAGE APPEARS	During prayer he often, and for an extended time, saw with inward eyes . . . a white body, neither very large nor very small; nor did he see any differentiation of members. 3.29 [p.38]		[B]ehind its diaphanous veil, a sun becomes visible, seemingly animated by a movement to and fro. In reality . . . this sun is the sun of the spirit that goes to and fro in your body. VS #66 [p. 85]
RAYS RISE AND FAN			

## THE SOMA CODE

BRIGHT WHITE LIGHT	And it is at times as though a door were opened before it into a great brightness, through which the soul sees a light, after the manner of a lightning flash, which, on a dark night, reveals things suddenly, and causes them to be clearly and distinctly seen, and then leaves them in darkness . . . [AMC, p. 220]	Its fire does not cease to blaze, its lights no longer disappear. Without interruption you see lights rising and lights descending. The flames of the fire are all around you - very pure, very ardent, and very strong. VS #51 [p. 76]
--------------------------	---	---

In Table 1.1, we list excerpts from the autobiographical writings of three Hindu mystics: (1) Shyama Charan Lahiri Mahasay (c. 1828 - 1895), a clerk in the Bengali Military Engineering Service who practiced meditating before dawn for many years and experienced Self-Realization in 1861 under the tutelage of a Swami Babaji [Satyeswarananda Giri, 1991]; (2) Gopi Krishna (1903 - 1984), a Kashmiri clerk working for the Directory of Education who, like Lahiri Mahasay, also practiced meditating before dawn, and who experienced a sudden, unexpected 'rising of kundalini' during a meditation session in 1937, an experience which led him to write extensively on the subject [Krishna, 1971, 1988]; and (3) Muktananda (1908 - 1982), son of a wealthy family in Mangalore who began the life of a wandering seeker at age 15, was initiated into the Siddha tradition by a Swami Nityananda at age 39, and who achieved Self-Realization after nine years of rigorous meditation [Muktananda, 1978].

In Table 1.2, we list excerpts from the autobiographical writings of three non-Hindu mystics: (1) Ignatius of Loyola (1492 - 1556), a Basque knight who, after recovering from severe leg wounds, committed himself to a program of rigorous self-mortification and sustained prayer vigils, thereby inducing a series of visions that inspired him to begin the work that eventually led to his founding the Jesuit Order [Tylenda, 1985; Messner, 1992]; (2) John of the Cross (1542 - 1591), a Spanish Carmelite monk who, while imprisoned in solitary confinement and tortured for six months by monks in a hostile monastery, experienced the mystical raptures described in his religious poems and in his commentaries on the poems (written with great caution to avoid the Inquisition) [Zimmerman, 1973; Kavanaugh, 1987]; and, finally, (3) Najmoddin Kobra (1145 - 1220), a Muslim Sufi mystic from northern Iran, the first Sufi to describe his experiences of the inner lights, or "colored photisms," in great detail and to interpret the significance of these lights as signs of spiritual progress [Corbin, 1971].

Although none of these accounts replicates all of the phosphenes described by the author, but there are many striking resemblances. Particularly interesting are the explicit references to a small white glow with a bulbous shape, the hallmark of newborn Soma as described in the RV and discussed in the next paper (Part II). There are other sources to which we might refer to corroborate the author's descriptions of light images - especially interesting in this regard are the Upanishads and yoga meditation texts composed long after the RV - but it would be anachronistic to import material from these sources for the purpose of interpreting passages from the RV. Therefore, we will



## Ph. T. Nicholson

postpone presenting this material until the final paper (Part III) where we will use it to demonstrate the essential continuity between Vedic and Post-Vedic visionary experiences.

\* \* \*

### Harbingers of Soma: 'Receding Rings' and the Asvins' Three-Wheeled Chariot

In the meditation-induced sequence of phosphenes, the first image is a stereotyped progression in which, one after another at 5 second intervals, yellowish-green rings (annuli) sweep in from the perimeter of the vision field and shrink steadily in diameter, creating the illusion that the ring is 'receding' in a 3-D space until it disappears into the centerpoint (See Figure 1.1). Are there metaphors in the RV that refer to visions of ring-like light that seems to move away from the viewer? If so, this would be an important clue that the eulogists of the RV were referring to visions that were seen by someone during meditation.

The hymns refer to a group of deities called the Rbhus who are described as using "mental mediation" to build a special chariot for the use of other deities, the Asvins [Gonda, op. cit., p. 168]. The Asvins' chariot is said to have three wheels, which signals that this is not a reference to the two-wheeled war chariots that were used in Vedic times. In these verses, Gonda interprets the Asvins' chariot as a "bright" vision (*dhih*) that moves away from the seer [*italics added for emphasis*]:

[T]ogether with this eulogy, O Asvins, *with the bright dhih, you drive, O you travellers in a radiant chariot* 8.26.19 [GON, p. 168]

[T]he *pure or bright* [sukra], divine materialized inspiration [manisa] *must depart (appear, start) from me, like a well-fashioned chariot* which is to win vajah. 7.34.1 [GON, p. 165]

Gonda also points out that, in 8.97.12, the wise men are said to use their minds to "bend" the vision of a "felly," i.e., the rim of a wheel: "[T]he poets are said to make the god favourably disposed merely by means of their faculty of sight: the image used is that of the felly which is bent; they 'see' this felly with their inner 'eye' and thereby they bend it, i.e. they exert their influence upon the god (*nemim namanti caksasa*) [Gonda, *Ibid.*, p. 33]."

Other verses emphasize that the chariot has no horses and no reins, that it is "radiant with (glowing) wheels," and that it "follows the track of the waters:"

[T]hat *chariot which is clothed in radiance*, and which, when harnessed, *traverses its appointed road.* 7.69.5 [WIL]

The glorious *three-wheeled car* (of the Asvins, made, Rbhus, by you), *traverses the firmament without horses, without reins: . . . We invoke you respectfully, Vajas and Rbhus . . . for you are the wise sages who, by mental mediation, made the well-constructed undeviating car* (of the Asvins). 4.36.1-2 [WIL]

May your *golden chariot . . . come to us, following the track of the waters, radiant with (glowing) wheels, . . .* 7.69.1 [WIL]

## THE SOMA CODE

The *brilliant* chariot, *diffusing splendor*, rolling *lightly* on its *three wheels* . . . Vala 10.3 [WIL]

Some verses identify the third wheel of the chariot as being the most efficacious, noting that it is "concealed" to all but the "sages who know it:"

*One* of your chariot wheels is moving swiftly round, *one speeds for you its onward course* . . . . 8.22.4 [GRF]

*For wonder you have fixed the (additional) one wheel for the chariot, as it was moving* (with the other wheels) - a miracle! You *fly* . . . . 5.73.3 [DNG, p. 135]

The *single wheel that is concealed*, the sages know it also . . . . 10.85.16 [GRF]

The Asvins' radiant chariot is identified as a harbinger of Soma and also of the dawn that precedes the arrival of Soma:

Come hither, Asvins, on your car of triple form and triple seat, to drink the savory Soma juice . . . 8.75.8 [GRF]

May this desirable and gratifying Soma expressed by the stones be, Indra, for thee: ascend the *verdant chariot*, and with thy tawny (steeds) come to us; *Desiring (the Soma), thou honorest the dawn* . . . 3.44.1-2 [WIL]

Another important detail about the vision of the radiant chariot is that the Asvins are described as hearing a tell-tale buzzing sound - like the sound of a fly or bee (*maksika*) - and that this buzzing serves to reassure them that their chariot is following the path that leads to Soma: "To you, O Asvins, that *maksika* betrayed the Soma 1.119.9 [WIL]." This recalls the author's report of hearing a characteristic sound whenever he begins to meditate for the purpose of inducing phosphenes.

### The Amorphous Phosphene Waves and 'Flame-Arrows' of Agni and Apam Napat

The amorphous expanding phosphene mists described by the author can be compared to the "flame-arrows" of Agni (*dhitayah*) which are described in the RV, based on Gonda's translations, as "many-colored" (10.91.5) and "smoke-like" (1.27.11; 5.11.3; 7.2.1; 1.3.3), as flowing like a stream or a fountain (1.67.7; 3.10.5), and as "assembl[ing] like the streams of water into holes (10.25.4) [Gonda, op.cit., p. 173]." This last metaphor of water-draining-into-holes is a particularly apt description of the amorphous phosphene waves with their swirling expansion across the visual field and then their subsequent contraction into the center (Figure 1.1).

Agni's flame-arrows are described in the hymns as originating in "The Waters," a metaphor that is usually interpreted as referring to natural events in which fire is combined with water, as, for example, when lightning illumines a raincloud, or Agni's flame-arrows that shine forth in the dark depths of consciousness that wise men enter when they meditate. In this incarnation as a light shining amid dark waters, Agni is called "Child of the Waters" (Apam Napat), and the task assigned him while he plumbs these depths is to animate the streams of cosmic order (*rta*) so that they flow more quickly toward the ultimate confluence that will bring into being the visions of Soma and Indra [Dange, 1992, pp. 43-59]. Pursuing this task, Agni is not only Apam Napat

## Ph. T. Nicholson

but also undergoes many transformations, which accounts for why he is evoked in eulogies dedicated to other Vedic deities who manifest themselves at later stages in the evolution of the rta:

Kindled in many a spot, *One is Agni; Surya is One*, though high o'er all he shineth.  
Illumining this All, still *One is Ushas*. *That which is One hath into All developed*  
Vala 10.2 [GRF]

He is first engendered in the habitations (of the sacrificers); then upon his station,  
(the altar), the base of the vast firmament; *without feet, without head, concealing his*  
*extremities, combining with smoke in the nest of the raincloud.* / *Radiance has first*  
*proceeded to thee, (Agni), . . . in the womb of the water, in the nest of the raincloud . . .*  
4.1.11-12 [WIL]

*Agni is head and height of heaven . . . he quickeneth the waters seed.* / Upward, O Agni,  
rise thy flames, pure and resplendent, blazing high, thy lustres, fair effulgences  
8.40.11-12 [GRF]

*I have sought the waters today; we have joined with their sap.* O Agni full of moisture, come  
and flood me with splendor. 10.9.9 [OFL].

This analysis of Agni as the god who helps the wise men see visions of light that evolve through many stages until they eventually manifest as Soma and Indra helps clarify the meaning of a verse like the one cited below. Here Agni is the "cowherd who never tires," the one who disguises himself in visions of light like the receding rings and the amorphous waves "that move towards the same center but spread apart," and with Agni's help the "wise see in their heart . . . the bird annointed with the magic of the Asura," and the flight of this bird brings with the vision of Indra, "the revelation that shines like the sun:"

*The wise see in their heart, in their spirit, the bird annointed with the magic of the Asura.*  
*The poets see him inside the ocean; the sages seek the footprints of his rays.* / The bird  
carries in his heart Speech that the divine youth spoke of inside the womb. The  
poets guard *this revelation that shines like the sun in the footprint of Order [rta].* / *I have*  
*seen the cowherd who never tires, moving to and fro along the paths. Clothing himself in*  
*those that move towards the same center but spread apart, he rolls on and on inside the*  
worlds. 10.177.1-3 [OFL]

### Conclusion, Part I

In this paper we have shown that the visions of a radiant, three-wheeled chariot and the flame-arrows of Agni closely match the phosphene images that appear during the early stages of meditation, that is, the threshold image of a succession of three to five 'receding rings,' followed by the waves of amorphous, swirling phosphene mist. The eulogists of the RV describe these visions as propitious signs that one has entered on the path that leads to Soma and Indra. This is the subject we address in our next paper (Part II).

## THE SOMA CODE

### ACKNOWLEDGMENT

The author would like to acknowledge Dr. Michael Witzel's many important contributions during the research and writing of this article - his generous commitment of time spent in discussions of background information about proto-Indo-Iranian migrations and Sanskrit etymologies, his recommendation of source materials that had been overlooked by the author, and, finally, his insight that the hypothesis proposed here would be relevant to the debate about the identity of the original Soma plant.

### NOTES

Copies of the author's articles on the neuroscience of meditation-induced visions can be ordered from the publisher: The International Society for the Study of Subtle Energies and Energy Medicine, 11005 Ralston Road, Suite 100D, Arvada, CO 80004 USA; telephone (303-425-4625); email <issseem@compuserve.com>; website: www.issseem.org. Also, the author is preparing an anthology of articles on these topics for publication in book format, which should be available by October, 2002. Interested readers can contact (1) the author directly (tele: 617-566-7429; fax: 627-738-7634; email: [nicholson@us.inter.net](mailto:nicholson@us.inter.net)) (2) the publisher (tele: 1-888-795-4274; fax: 215-923-4685; email: <info@xlibris.com>; or via the web at [www.xlibris.com](http://www.xlibris.com)); or, (3) local or web book retailers, searching under the author's name or under the subject headings of "kundalini," "visions," "neurophysiology of kundalini," or "meditation."

### ABBREVIATIONS FOR ENGLISH TRANSLATIONS

- BH/W Bhawe, S. S.. 1957, 1960, 1962. *The Soma Hymns of the Rig Veda, Parts I - III*, as quoted in Wasson, R. G., *Soma: Divine Mushroom of Immortality* (Harcourt Brace Jovanovich: New York, 1971).
- DNG Dange, S. A.. 1992. *Divine Hymns and Ancient Thought, Vol. I: RgVeda Hymns and Ancient Thought* (N. Singal, NAVRANG: New Delhi,).
- GRF Griffith, R. T. H.. 1971 [1889]. *The Hymns of the RgVeda, Vol. I - II* (Chowkhamba Sanskrit Series: Varanasi,).
- OFL O'Flaherty, W. D.. 1971. *The Rig Veda: An Anthology* (Penguin Books: London).
- WIL Wilson, H. H.. 1888. *Rig-Veda Sanhita: A Collection of Ancient Hindu Hymns, Vol. I - VI* (Trubner & Company: London,).

## Ph. T. Nicholson

GON Gonda, J. 1963. *The Vision of the Vedic Poets* (Mouton & Co.: The Hague, Netherlands).

## REFERENCES

- Bhawe, S. S.. 1957, 1960, 1962. *The Soma Hymns of the Rig Veda, Parts I - III*, as quoted in Wasson, R. G.. 1971. *Soma: Divine Mushroom of Immortality* (Harcourt Brace Jovanovich: New York).
- Dange, S. A. *Divine Hymns and Ancient Thought, Vol. I: RgVeda Hymns and Ancient Thought* (N. Singal, NAVRANG: New Delhi, 1992.).
- Corbin, H. 1971. *The Man of Light in Iranian Sufism* (Omega Publications: New Lebanon, NY).
- Gonda, J. 1963. *The Vision of the Vedic Poets* (Mouton & Co.: The Hague, Netherlands).
- Gopi Krishna. 1971 [1967]. *Kundalini: The Evolutionary Energy in Man, 2nd edition* (Shambhala Publications: Boulder, CO).
- Griffith, R. T. H.. 1971 [1889]. *The Hymns of the RgVeda, Vol. I - II* (Chowkhamba Sanskrit Series: Varanasi).
- John of the Cross. 1973 Reprint of 3rd Edition (1903). *The Dark Night of the Soul* (Attic Press: Greenwood, SC)
- John of the Cross. 1958 Edition. *Ascent of Mount Carmel* (Doubleday Image Books, NY)
- Kavanaugh, K., Ed.. 1987. *John of the Cross: Selected Writings* (Paulist Press, NY)
- Kieffer, G.. 1988. *Kundalini for the New Age: Selected Writings by Gopi Krishna* (Bantam Books: NY).
- Meissner, W.W.. 1992. *Ignatius of Loyola: The Psychology of a Saint* (Yale University Press, New Haven).
- Muktananda. 1988 [1978]. *Play of Consciousness, 4th edition* (SYDA Foundation: South Fallsburg, NY).
- Nicholson, P. T. 1996a. Phosphene images of thalamic sleep rhythms induced by self-hypnosis, *Subtle Energies and Energy Medicine* 7(2): 111 - 148.
- Nicholson, P. T. 1996b. Dialogue: Phosphene images of thalamic sleep rhythms induced by self-hypnosis, *Subtle Energies and Energy Medicine* 7(3): 273 - 283.
- Nicholson, P. T. 1999. "Phosphene Epiphenomena of Hypersynchronous Activity Emerging in Thalamocortical Circuits and Triggering a Hippocampal Seizure," *Epilepsia* 40 [Supplement 2]: 27, 203
- Nicholson, P. T. 2002a (In press) "Meditation, Slow Wave Sleep, and Ecstatic Seizures: The Etiology of Kundalini Visions," *Journal of Subtle Energies and Energy Medicine*, Vol. 12, No. 3.
- Nicholson, P. T. 2002b (In press) "Empirical Studies of Meditation: Does a Sleep Rhythm Hypothesis Explain the Data?" *Journal of Subtle Energies and Energy Medicine*, Vol. 12, No.3.

## THE SOMA CODE

- O'Flaherty, W. D. 1971. *The Rig Veda: An Anthology* (Penguin Books: London).
- Satyewarananda Giri. 1991 [1983] *Babaji, Vol. 2: Lahiri Mahasay, 3rd edition* (The Sanskrit Classics: P.O. Box 5368, San Diego, California).
- Tylenda, J. N., Ed.. 1985. *A Pilgrim's Journey: The Autobiography of Ignatius of Loyola* (Michael Glazer: Wilmington, DL).
- Wasson, R. G. 1971 *Soma: Divine Mushroom of Immortality* (Harcourt Brace Jovanovich: New York).
- Wilson, H. H.. 1888. *Rig-Veda Sanhita: A Collection of Ancient Hindu Hymns, Vol. I - VI* (Trubner & Company: London).
- Witzel, M. 1996. "How to Enter the Vedic Mind? Strategies in Translating a Brahmana Text," *Translating, Translations, and Translators: From India to the West* ed. by E. Garzilli. Harvard Oriental Series, Opera Minora I. Cambridge: Department of Sanskrit and Indian Studies, Harvard University.