



*STATES OF
CONSCIOUSNESS
AND THEIR
APPLICATIONS IN
BWE*

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Part one - Consciousness in the Mandukya Upanishad: A Timeless Perspective

Introduction

The Mandukya Upanishad is one of the shortest but most profound texts in the Upanishadic tradition. It offers a deep exploration of consciousness through the symbolism of Om (AUM), a sacred sound that embodies the entirety of existence. The Upanishad identifies four states of consciousness: Waking (**Vaishvanara**), Dreaming (**Taijasa**), Deep Sleep (**Prajna**), and the Fourth State (**Turiya**). These states represent different levels of awareness and are deeply interconnected with spiritual practices to achieve self-realisation and understand the nature of reality. In modern times, these ancient insights find intriguing parallels in the scientific study of brainwave activity and states of consciousness. This article explores how the Mandukya Upanishad's teachings resonate with and extend beyond contemporary neuroscience.

The Four States of Consciousness in the Mandukya Upanishad

1. Vaishvanara (Waking State)

Description: The **Vaishvanara** state is everyday waking consciousness, where the mind is focused outward and interacting with the physical world through the senses. This state is associated with Om's "A" syllable, symbolising consciousness's beginning. In this state, the individual is engaged with the external environment, perceiving and reacting to sensory stimuli.

- **Modern Parallel:**

- **Brainwave Activity:** Predominantly Beta Waves (13 to 30 Hz). These waves are associated with active thought, problem-solving, and the engagement required for tasks demanding focused attention.

- **Modern Understanding:** In modern psychology and neuroscience, the waking state is characterized by active engagement with the environment. Beta waves dominate this state, signifying alertness and the cognitive processing of daily activities. This aligns with the Upanishadic description of the waking state as the phase where the mind is fully engaged with the material world.

2. Taijasa (Dreaming State)

- **Description:** **Taijasa** is the dreaming state, where consciousness turns inward. In this state, the mind creates and experiences a world within, detached from the physical reality. The dreaming state is symbolized by the "U" syllable of Om, representing the middle or transitional phase of consciousness. Here, the mind is active, but the engagement is with the subconscious rather than the external world.

- **Modern Parallel:**

- **Brainwave Activity:** Theta Waves (4 to 8 Hz) dominate, with mixed **Alpha and Beta Waves** during REM sleep.

- **Modern Understanding:** In modern terms, **Taijasa** corresponds to the REM sleep phase, during which most dreaming occurs. Theta waves, associated with creativity and deep states of relaxation, are prevalent during this phase. The dreaming state in both the Upanishadic and modern perspectives is seen as a bridge between the conscious awareness of the waking state and the unconscious depth of deep sleep. During REM sleep, the brain is highly active, similar to when awake. Still, the body is in paralysis, reflecting the detachment from the physical world described in the Upanishad.

3. Prajna (Deep Sleep State)

- Description: **Prajna** is the state of deep, dreamless sleep. The mind is at rest in this state, and consciousness is undifferentiated. There is no awareness of the external world or internal dreams; it is a state of pure potentiality. The syllable "M" of Om symbolizes this state, marking the end of the conscious journey and the return to the origin.

- **Modern Parallel:**

- **Brainwave Activity:** Delta Waves (0.5 to 4 Hz) dominate during deep sleep.

- **Modern Understanding:** **Prajna** aligns with what modern science identifies as deep or slow-wave sleep. During this phase, delta waves, the slowest brainwaves, are predominant. Delta waves are associated with physical and mental restoration, a time when the body undergoes healing and growth and the brain clears out toxins. In both the Upanishadic view and modern science, this state is crucial for rejuvenation and a profound disconnection from conscious thought, representing a deep, restful state of being.

4. Turiya (heightened states of consciousness)

- **Description:** Turiya, or the "fourth" state, transcends the other three states of consciousness. It is a state of pure awareness, where the self is one with the universal consciousness. Turiya is not merely another state but the ground of all states, representing the ultimate reality and consciousness. It is beyond waking, dreaming, and deep sleep, symbolizing the unmanifested and eternal aspect of consciousness. In the symbolism of Om, Turiya is the silence that follows the sound, indicating the presence beyond expression.

- **Modern Parallel**

- **Brainwave Activity:** Turiya can be categorised with conventional brainwave terminology involving heightened Gamma Waves (30 to 100 Hz), which are associated with high-level information processing and unity of consciousness. It may also represent a state of brain coherence that transcends typical wave patterns.

- **Modern Understanding:** Turiya is often compared to states of mystical or transcendental consciousness described in modern psychology, such as those experienced in deep meditation, spiritual awakening, or peak experiences. In these states, individuals report a sense of unity with the universe, timelessness, and a direct encounter with ultimate reality. Such experiences may correlate with increased gamma wave activity, observed in advanced meditators during deep states of mindfulness or spiritual insight. However, Turiya, as described in the Upanishad, is beyond any measurable state, representing pure consciousness, unbounded by time, space, or thought.

The Significance of Turiya: The Ultimate Reality

The Mandukya Upanishad places great emphasis on Turiya, describing it as the ultimate goal of human existence. While the first three states that every individual experiences daily, Turiya is the transcendental state that underlies all experiences but is not commonly accessed in ordinary life. Turiya is considered the true nature of the self, or Atman, which is identical with **Brahman**, the universal consciousness. This realization is central to the Vedantic philosophy, where understanding the non-dual nature of reality leads to liberation or Moksha.

Modern Neuroscience Meets Ancient Wisdom

Modern neuroscience has provided substantial insights into the functioning of the brain and its relation to consciousness. Brainwave studies have shown that different patterns of electrical activity correlate with various states of awareness, from the focused alertness of Beta waves to the restorative calm of Delta waves. These findings have opened new avenues for understanding how the brain generates our experience of reality and how different practices, such as meditation, can alter our state of consciousness.

The Mandukya Upanishad's exploration of consciousness aligns remarkably well with these scientific findings. The description of the four states of consciousness—waking, dreaming, deep sleep, and Turiya—map onto modern brainwave states, providing a bridge between ancient spiritual wisdom and contemporary scientific inquiry. However, the Upanishad goes beyond the descriptive level, offering a metaphysical framework that challenges the very nature of consciousness.

While modern neuroscience focuses on the observable and measurable aspects of brain activity, the Upanishad delves into consciousness's experiential and transcendental dimensions. Turiya, in particular, represents a state transcending the physical brain and its processes, pointing to a reality beyond empirical observation. This suggests that while science can describe and measure different states of consciousness, aspects of our experience may lie beyond its current reach.

Spiritual Implications of Brainwave States

The convergence of the Upanishadic and modern scientific views on consciousness has significant implications for spiritual practice. Meditation and other contemplative practices have long been used to explore and deepen one's experience of consciousness. The Mandukya Upanishad suggests that these practices are not merely about relaxation or mental clarity but are meant to experience the higher states of consciousness described in the text.

Modern research on meditation has shown that regular practice can lead to significant changes in brainwave activity, increasing the prevalence of Alpha and Theta waves, which are associated with relaxed yet alert states, and even Gamma waves, linked to deep states of mindfulness and spiritual insight. These findings suggest that the states described in the Upanishad are not just theoretical constructs but are attainable through disciplined practice.

Moreover, the Upanishad's focus on Turiya challenges practitioners to look beyond the ordinary states of consciousness and seek a direct experience of the ultimate reality. This pursuit is at the heart of many spiritual traditions, where the goal is to understand consciousness intellectually and experience the truth of one's own being.

Exploring the intersection of modern methods like brainwave entrainment with traditional practices offers a compelling approach to achieving heightened states of consciousness. Here's how these methods can be integrated.

Brainwave Entrainment: Modern Techniques

Brainwave entrainment is a method that uses external stimuli, such as sound or light, to synchronize brainwaves to a desired frequency. Techniques like binaural beats, isochronic tones, and light and sound machines are commonly used.

Types of Brainwave States and Their Uses:

- Delta Waves (0.5-4 Hz): Associated with deep sleep and restorative states. Entrainment to Delta waves can improve sleep quality and aid in deep meditation.
- Theta Waves (4-8 Hz): Linked to deep relaxation, meditation, and creativity. Theta entrainment can enhance access to subconscious material and induce meditative states.
- Alpha Waves (8-13 Hz): Associated with relaxation and light meditation. Alpha entrainment is helpful for stress reduction and enhancing mental/emotional clarity.
- Beta Waves (13-30 Hz): Linked to active thinking and alertness. Beta entrainment can improve focus and cognitive performance.
- Gamma Waves (30-100 Hz): Associated with higher cognitive functions and mystical experiences. Gamma entrainment can aid in peak awareness and spiritual experiences.

Traditional Practices for Consciousness Expansion

1. Meditation:

- Mindfulness Meditation: Focuses on present-moment awareness, often linked to Alpha and Theta brainwaves, promoting relaxation and a deepened sense of self.
- Transcendental Meditation (TM): A technique using a mantra to transcend ordinary consciousness, often leading to experiences of pure awareness, which may correspond to Turiya.
- Loving-kindness meditation (Metta) Cultivates compassion and emotional well-being and is often associated with increased Alpha and Theta waves.

2. Yoga and Pranayama (Breath Control):

- Hatha Yoga: Combines physical postures with breath control to balance energy in the body, often leading to a relaxed, meditative state.
- Pranayama: Different breathing techniques can induce various states of consciousness, such as calming the mind or energizing the body, potentially influencing Alpha and Theta wave activity.

3. Mantra Chanting and Nada Yoga (Yoga of Sound):

- Mantra Chanting: Repetitive chanting of sacred sounds like "Om" can induce a meditative state, often linked with Alpha and Theta waves.
- Nada Yoga: Focuses on internal sounds, or the "inner voice," to deepen meditation and align consciousness with higher states.

4. Visualization and Guided Imagery:

Visualisation Techniques: Guided imagery can help induce specific brainwave states, such as Theta for deep relaxation or Gamma for peak experiences.

Integrating Modern and Traditional Practices

1. Combining Brainwave Entrainment with Meditation:

- Meditation with BWE: Audio/visual entrainment (AVE) programs designed to induce Theta waves while meditating can deepen the experience, making it easier to enter a state of deep relaxation or even access subconscious material.

- Mantra Meditation with AVE: Chanting a mantra while using AVE programs set to Alpha frequencies can enhance focus and relaxation, making it easier to reach a meditative state.

2. Enhancing Pranayama with Brainwave Entrainment:

- Pranayama with Light and Sound Machines: Using light and sound machines set to Alpha or Theta frequencies during Pranayama can amplify the effects, helping practitioners achieve deeper states of consciousness more quickly.

3. Using Gamma Entrainment for Turiya:

- Advanced Meditation with Gamma Entrainment: For those seeking to experience Turiya, Gamma wave entrainment can be used during advanced meditation practices. This can facilitate experiences of non-dual awareness or heightened states of spiritual insight.

4. Combining Visualization with Entrainment:

- Guided Imagery with Theta Waves: Combining guided imagery sessions with Theta wave entrainment can enhance the vividness of the experience, making it easier to access deeper layers of the subconscious mind.

Potential Benefits and Considerations

1. Enhanced Accessibility:

Brainwave entrainment can make traditional practices more accessible, especially for beginners who may struggle to achieve deep meditative states.

2. Deeper Meditation:

- Combining traditional practices with brainwave entrainment can lead to deeper meditation experiences, promoting relaxation, self-awareness, and spiritual growth.

3. Caution and Mindfulness:

- It's essential to approach brainwave entrainment with caution, particularly for those with a history of neurological issues or psychological conditions, as it can sometimes have unexpected effects.

Conclusion

The Mandukya Upanishad offers a timeless and insightful perspective on consciousness that complements modern scientific understandings and extends them into the transcendental realm. By comparing the Upanishad's description of consciousness with contemporary neuroscience, we gain a deeper appreciation of both traditions. The ancient wisdom of the Upanishad provides a spiritual framework that enriches our understanding of the mind. At the same time, modern science offers tools and methods to explore these states in a systematic and empirical way.

By integrating modern methods like brainwave entrainment with traditional practices, individuals can accelerate their journey toward heightened awareness and deeper states of consciousness. This fusion of

ancient wisdom and contemporary science offers a powerful approach to exploring the full spectrum of human consciousness, from everyday awareness to the profound spiritual states described in texts like the Mandukya Upanishad. Through this combination, practitioners can access the benefits of both worlds, deepening their meditation practice and enhancing their overall well-being.

Together, these perspectives invite us to explore the full spectrum of consciousness, from the mundane to the mystical, and to recognise that the journey of self-discovery is not merely a psychological or scientific endeavour but a profoundly spiritual one. The Mandukya Upanishad reminds us that beyond the changing states of consciousness lies a state of pure awareness—Turiya—that is the essence of who we are. Recognising and experiencing this state is the ultimate goal of spiritual practice and human existence.

Part two: The importance of self-awareness or the observer mind during meditation based on Buddhist tradition

In Buddhist tradition, self-awareness, or the development of the "observer mind," is a key aspect of mindfulness meditation. This practice involves cultivating *sati* (mindfulness) and *vipassanā* (insight), where the meditator observes their thoughts, feelings, and sensations without attachment or aversion. The observer mind acts as a detached witness to the flow of experiences, helping practitioners see the impermanence (*anicca*), unsatisfactoriness (*dukkha*), and non-self (*anattā*) in all phenomena.

Self-awareness is critical because it can dismantle habitual reactions. Instead of getting caught in emotional responses or identifying with passing thoughts, the practitioner learns to observe these phenomena from a place of tranquillity. This allows for greater insight into the true nature of existence and reduces suffering caused by attachment and craving. In this sense, the observer's mind helps break the cycle of *samsara* (the cycle of birth, death, and rebirth) by fostering wisdom and compassion.

The *Satipatthana Sutta* (The Discourse on the Foundations of Mindfulness) is a classic Buddhist text that explores these themes. It is one of the most important teachings on mindfulness, guiding practitioners in developing awareness of the body, feelings, mind, and mental objects.

For a deeper exploration, you can refer to books like *The Heart of Buddhist Meditation* by Nyanaponika Thera, which delves into the *Satipatthana Sutta* and the cultivation of the observer mind in mindfulness practice.

In our earlier discussion about brainwave categories and states of consciousness, we touched on how different brainwave frequencies (like delta, theta, alpha, beta, and gamma) are associated with varying levels of awareness, ranging from deep sleep to heightened focus. These brainwave states correspond to different stages of consciousness, and practices like meditation can help shift the brain into more optimal states for certain goals, such as relaxation or deep awareness.

Now, relating this to the concept of the observer mind from Buddhist meditation, the ability to maintain a detached awareness while observing thoughts and feelings can actively influence which brainwave states are dominant. For example:

- Alpha waves (8-12 Hz): Associated with calm, relaxed awareness, typical of light meditation and states of mindfulness where the observer mind is present but not deeply engaged in thought.
- Theta waves (4-8 Hz): Present in deeper meditation and states of intuition or creativity. In this state, the observer mind is crucial for maintaining awareness while letting go of the conscious, ego-driven mind.

- Delta waves (0.5-4 Hz): Associated with deep, dreamless sleep but can also be accessed in deep states of meditation and transcendence.
- Gamma waves (30-100 Hz): These are related to heightened cognitive functioning and deep states of awareness, possibly linked to moments of insight or mystical experiences.

Observer Mind and Turiya (Super-Consciousness)

Turiya, in yogic and Vedantic traditions, is the fourth state of consciousness, beyond waking (jagrat), dreaming (svapna), and deep sleep (sushupti). It is a state of pure awareness or super-consciousness, where the observer mind is fully realized and transcends all forms of duality.

The observer mind, as cultivated in meditation, is essential for reaching turiya because it helps dissolve the illusion of a separate self and allows for a direct experience of the fundamental nature of reality. In this state:

1. Detachment from thoughts and sensations: The observer mind becomes more prominent in deeper states of meditation (e.g., alpha and theta waves). In these states, you are not identified with the content of your thoughts or emotions but instead, observe them as transient phenomena. This detachment is a prerequisite for reaching turiya, where identification with the mind or ego is completely dissolved.
2. Brainwave entrainment: When brainwaves slow down into deeper frequencies (e.g., theta or delta), the mind becomes more attuned to subtle realities. The observer mind helps maintain self-awareness, even in these altered states of consciousness. Over time, this can lead to samadhi (absorption), a state that is necessary for reaching turiya.
3. Super-consciousness or turiya and beyond: In turiya, the brain may show patterns that are difficult to classify in typical brainwave categories because this state represents a transcendence of dualistic experience. The observer mind has already helped navigate the lower brainwave states by keeping awareness present through the shifts in consciousness. In turiya, the observer merges with pure consciousness, achieving a state of unity and non-duality.

In essence, by training the observer mind to detach from the distractions of the waking state and guiding it through different brainwave frequencies (as seen in deeper meditative states), one can gradually transcend the mind's usual limitations and approach turiya or super-consciousness.

Method for maintaining self-awareness during brainwave entrainment with Enkidu light machine:

Enkidu Light AVE devices are audio-visual entrainment (AVE) tools that use light and sound to guide the brain into specific brainwave states. These devices are designed to enhance mental clarity, relaxation, focus, or altered states of consciousness. By syncing visual and auditory stimuli, they aim to stimulate brainwave frequencies like alpha, theta, and delta, which can help users achieve deep meditative or even transcendental states.

How Enkidu Light AVE Devices Work:

Audio-Visual Stimulation: Enkidu devices typically combine binaural beats (or other sound frequencies) with flashing lights at specific frequencies. The brain's natural tendency to follow these rhythms is called the frequency-following response, which helps entrain the brain into a desired state.

- Brainwave States: These devices target different brainwave states depending on the session chosen. For example:

- Alpha waves (8-12 Hz): Relaxation, calmness, light meditation.
- Theta waves (4-8 Hz): Deep meditation, creativity, intuition.
- Delta waves (0.5-4 Hz): Deep sleep or deep trance-like states.
- Gamma waves (30-100 Hz): Heightened awareness, super-consciousness.

How to Use Enkidu Light AVE Devices for Self-Awareness and Altered States of Consciousness:

1. Choose the Right Session:

- Before using the device, select a session that matches your intention. Enkidu devices typically offer pre-programmed settings for relaxation, meditation, focus, or sleep.

For meditation and self-awareness, choose a program that targets alpha or theta brainwaves, as these are most associated with mindful, meditative states. For deeper exploration, delta programs might be used, but first, ensure that you're well-practiced in maintaining self-awareness in lighter states.

2. Create a Comfortable, Focused Environment:

- Find a quiet, distraction-free space to use the device. Sit in an upright posture, a comfortable position that promotes alertness, to avoid dozing off.

- Dim the room's lighting to allow the flashing lights from the device to stand out without overwhelming your senses. Cool, fresh air can also help keep you alert during the session.

3. Focus on the Visual and Auditory Stimuli:

- As the light and sound patterns begin, anchor your awareness on the experience. You can focus on the visual flickering of the lights or the rhythm of the auditory beats. Let the stimuli become the object of your attention, similar to how you would focus on the breath during traditional meditation.

- Be mindful of any mental shifts as the device entrains your brainwaves. Notice when your mind starts to quiet or when you feel more relaxed, but maintain your self-awareness as an observer of these changes.

4. Engage the Observer Mind:

- Cultivate the observer's mind as you would in traditional meditation. Watch your thoughts and feelings fluctuations as your brainwaves change in response to the entrainment. Instead of becoming absorbed in the thoughts or drifting into unconsciousness, stay present and aware.

- The flickering lights and rhythmic sounds will guide your brainwaves, but your self-awareness keeps you from getting lost in the experience. You become an observer of both the external stimuli and your internal reactions.

5. Prevent Drowsiness:

- If you're using a deep relaxation or theta/delta program, it can be easy to drift toward sleep or lose conscious awareness. To avoid this, incorporate small techniques like mindful breathing or body awareness throughout the session. For example, you can mentally note "I am aware" or periodically perform a body scan.

- You can also try shorter sessions (10-20 minutes) when starting out to build up the ability to maintain awareness in these deeper states before gradually increasing the session length.

6. Combine with Breathing Exercises:

- Breathing techniques can enhance the effects of AVE devices and keep you grounded. While the device entrains your brain, practice deep, mindful breathing to bring more oxygen into your system and help sustain your awareness.

- Inhalations can serve as an energizing force, while longer exhalations can deepen relaxation without leading to unconsciousness.

7. After the Session: Reflect and Integrate:

- Once your session is complete, take a few minutes to reflect on the experience. Journaling any insights, sensations, or shifts in consciousness can help reinforce the self-awareness gained during the session.

- This post-session reflection is particularly useful when aiming to achieve altered states of consciousness, as it helps integrate the insights and experiences gained during entrainment.

Recommendations for Specific Enkidu Light AVE Devices:

1. Enkidu AVE Mind Synchronizer:

- Use the “Mindfulness” or “Deep Meditation” programs to explore meditative states. These programs typically work in the alpha and theta range, making them ideal for practising self-awareness while entering altered states.

- Focus on the subtle changes in your mental state while the device entrains your brainwaves, staying present with the experience throughout the session

2. Enkidu Deep Relaxation AVE:

- For relaxation sessions, particularly those targeting **delta** waves, ensure you balance relaxation with alertness. If you find yourself drifting into sleep, try opening your eyes briefly or focusing on an energizing breathing pattern.

- This device can be helpful in practicing body scans or sensory awareness exercises to maintain mindfulness in deeply relaxed states.

3. Enkidu Cognitive Enhancement AVE:

- If you're using the device for focus or cognitive enhancement (typically targeting beta or gamma waves), maintain awareness by focusing on the rhythm of the sound and visual stimuli. This device improves concentration and mental clarity while cultivating the observer's mind.

By following these techniques, you can use Enkidu AVE devices to enter altered states of consciousness and maintain a high degree of self-awareness throughout the experience. This combination of technology and mindfulness can help you achieve more profound insights, heightened focus, and even transcendental states of awareness similar to what you'd experience in traditional meditation.

How the Observer Mind Supports Brainwave Entrainment

Just like in traditional meditation, the observer's mind plays a vital role in brainwave entrainment by acting as a stabilising force. When your brain shifts into different frequencies (alpha, theta, or even delta), it can easily lose conscious awareness. By training the observer mind to stay active and present, you can consciously experience altered states of consciousness, such as deep relaxation or heightened awareness, without drifting into unconsciousness or sleep.

This practice also helps develop the ability to transition smoothly between brainwave states, allowing you to explore more subtle or expanded states of consciousness, such as those associated with gamma waves (which are linked to moments of insight and super-consciousness, like turiya).

Recommended Devices and Apps for Brainwave Entrainment

Here are a few alternative modern AVE devices and apps that support self-awareness practices:

1. **Muse Headband:** Muse uses EEG technology to provide real-time feedback on your brainwaves. While it is primarily designed for meditation, you can use it with your AVE device to track your brainwave state and stay more aware during the AVE sessions.
2. **NeuroProgrammer:** This software allows you to create custom brainwave entrainment sessions with various settings (binaural beats, isochronic tones) to help induce altered states while keeping awareness.
3. **Brain.fm:** This app uses AI-generated music combined with entrainment principles to help guide the brain into specific states like focus, relaxation, or sleep. It can be used to maintain self-awareness while engaging with auditory stimuli.

By following these practices and using these devices mindfully, you can cultivate self-awareness during brainwave entrainment sessions, making exploring altered states of consciousness easier without losing presence.

Primary Sources and Texts:

1. Mandukya Upanishad - This ancient text is the primary source for the discussion on the four states of consciousness (Jagrat, Svapna, Sushupti, and Turiya).

- Translation and Commentary by Swami Nikhilananda (1949). "The Mandukya Upanishad with Gaudapada's Karika and Shankara's Commentary."

- Translation and Commentary by Swami Prabhavananda and Frederick Manchester (1947). "The Upanishads: Breath of the Eternal."*

Books on Consciousness and Neuroscience:

2. "The Biology of Belief: Unleashing the Power of Consciousness, Matter & Miracles" by Bruce H. Lipton (2005).

- Explores the relationship between consciousness and biology, including discussions on brainwaves and their impact on health and perception.

3. "The Neuroscience of Mindfulness Meditation" by Yi-Yuan Tang, Britta K. Hölzel, and Michael I. Posner (2015).

- Provides an overview of how meditation practices influence brain activity, including the role of different brainwave patterns.

4. "The Upanishads" translated by Eknath Easwaran (1987).

- A modern translation that makes the Upanishads accessible to contemporary readers, including insights into the spiritual significance of the states described in the Mandukya Upanishad.

Academic Articles and Research Papers:

5. "Brain Wave Entrainment: Implications for Stress Reduction and Cognitive Function" by Tina L. Huang and Christine Charyton (2008). *Alternative Therapies in Health and Medicine*.

- Discusses how different brainwave states correspond to various cognitive and emotional functions, with implications for practices like meditation.

6. "Gamma Band Activity in Meditation" by Antoine Lutz, Lawrence L. Greischar, Nancy B. Rawlings, Matthieu Ricard, and Richard J. Davidson (2004). *Proceedings of the National Academy of Sciences*.

- This study shows how advanced meditation practitioners exhibit heightened Gamma wave activity, linking this to states of deep mindfulness or mystical experiences.

7. "Neural Correlates of Consciousness" by Christof Koch (2004).

- A comprehensive review of the neuroscience of consciousness, discussing how different brainwave patterns are associated with various levels of awareness.

Spiritual and Philosophical Interpretations:

8. "The Tao of Physics: An Exploration of the Parallels Between Modern Physics and Eastern Mysticism" by Fritjof Capra (1975).

- Examines the parallels between Eastern spiritual philosophies, including the Upanishadic view of consciousness and modern scientific understanding.

9. "Consciousness Explained" by Daniel C. Dennett (1991).

- Although from a more worldly perspective, this book offers insights into how consciousness is understood in modern science, contrasting spiritual views.

10. "Waking, Dreaming, Being: Self and Consciousness in Neuroscience, Meditation, and Philosophy" by Evan Thompson (2014).

- Integrates insights from neuroscience, meditation, and philosophy to explore the nature of consciousness, with references to Upanishadic teachings.

These sources provide a well-rounded foundation for understanding the topics discussed in the articles, blending ancient wisdom with contemporary scientific insights.

1 AUM stands for the supreme Reality.
It is a symbol for what was, what is,
And what shall be. AUM represents also
What lies beyond past, present, and future.

2 Brahman is all, and the Self is Brahman.
This Self has four states of consciousness.

3 The first is called Vaishvanara, in which
One lives with all the senses turned outward,
Aware only of the external world.

4 Taijasa is the name of the second,
The dreaming state in which, with the senses
Turned inward, one enacts the impressions
Of past deeds and present desires.

5 The third state is called Prajna, of deep sleep,
In which one neither dreams nor desires.
There is no mind in Prajna, there is no
Separateness; but the sleeper is not
Conscious of this. Let him become conscious
In Prajna and it will open the door
To the state of abiding joy.

6 Prajna, all-powerful and all-knowing,
Dwells in the hearts of all as the ruler.
Prajna is the source and end of all.

7 The fourth is the superconscious state called

Turiya, neither inward nor outward,
Beyond the senses and the intellect,
In which there is none other than the Lord.
He is the supreme goal of life. He is
Infinite peace and love. Realize him!

8 Turiya is represented by AUM.
Though indivisible, it has three sounds.

9 A stands for Vaishvanara. Those who know this,
Through mastery of the senses, obtain
The fruit of their desires and attain greatness.

10 U indicates Taijasa. Those who know this,
By mastering even their dreams, become
Established in wisdom. In their family
Everyone leads the spiritual life.

11 M corresponds to Prajna. Those who know this,
By stilling the mind, find their true stature
And inspire everyone around to grow.

12 The mantram AUM stands for the supreme state
Of turiya, without parts, beyond birth
And death, symbol of everlasting joy.
Those who know AUM as the Self become the Self;
Truly they become the Self.
OM shanti shanti shanti