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Continuity of Consciousness Knowledge and Communication in Indian Civilization

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ABSTRACT

Before the advent of script-based communication, the Vedic civilization developed a highly sophisticated oral system in which sabda (sound), disciplined cognition, and embodied practice functioned together as a reliable medium for the preservation and transmission of knowledge. This study explores the Indian Gyan Parampara as a consciousness-centric communicative tradition rooted in the inquiry into ultimate knowledge—Brahman or the one universal consciousness—and examines how this tradition has sustained itself across millennia, both within and beyond India.

Drawing upon Vedantic epistemology, the study argues that Indian Knowledge Systems (IKS) conceptualize communication not as the transfer of information between discrete agents, but as the evocation and realization of knowledge through awakened cognition. Knowledge (vidya) in this paradigm is inseparable from being and cannot be reduced to neutral data exchange. Instead, it unfolds through radiative transmission from a central source of intelligence, reflected in the correspondence between macrocosm and microcosm. This communicative logic shaped ancient pedagogical institutions that integrated oral transmission, ritual discipline, aesthetic forms, and symbolic structures to maintain continuity with consciousness.

Engaging the thought of Sri Aurobindo, the paper highlights how True Knowledge and its Communication operate as condensed crystallizations of consciousness, capable of arresting the discursive mind and opening a direct channel to aesthesis, the pre-reflective mode of knowing.

"Education is the Manifestation of the Perfection already in men" -Swami Vivekananda

In alignment with Swami Vivekananda's vision of education as the manifestation of inherent perfection, the paper contrasts this holistic communicative ecology with modern Western models characterized by fragmentation, specialization, and point-to-point information exchange.

The study concludes that Indian Knowledge Systems preserve not merely cultural expressions or doctrinal content, but a living mode of communication that safeguards a civilizational way of knowing. Through aesthetic and cognitive forms, civilizations encode their highest realizations of truth in ways that transcend time, language, and doctrinal decay, offering a continuous invitation to knowledge as realization rather than accumulation.

KEYWORDS

Cultural Heritage Science, Consciousness-centric Communication, Documentation, Conservation Engineering, Evocation of knowledge, Virtual Heritage, Immersive Experience, Holistic Knowledge, Manifestation of Supreme, Knowledge vs information, Ontological knowing, Consciousness as medium, Aesthetic epistemology, Entropy

INTRODUCTION

Indian knowledge System is fundamentally grounded in a consciousness-centric model of communication, wherein mind precedes matter and consciousness constitutes the substratum of both the macrocosm and the microcosm. This foundational consciousness—understood as the Universal Soul or the silent unity underlying all diversity—functions as the primordial medium of communication in the cosmos. From this single fulcrum, expression unfolds continuously, expanding from the subtle seed state to the gross material plane, ensuring coherence across all levels of existence.

Holistic knowledge emerges from top-down principles, as purely bottom-up approaches often overlook the wider informational and contextual fields, leading to fragmentation and limitations in the apprehension of truth. Accordingly, the Ancient Indian Knowledge System begins with consciousness as the primary principle, from which meaning, order, and understanding progressively unfold.

Unlike modern Western paradigms that treat communication as point-to-point information transfer and knowledge as an accumulative, siloed construct, Indian epistemic traditions conceive communication as radiation from a central source of intelligence. Consequently, pedagogy, knowledge transmission, and preservation were historically institutionalized through integrated structures—rituals, symbols, oral traditions, art forms, and disciplined practices—designed to keep the communicative link with consciousness intact. Knowledge, in this view, is not merely stored or transmitted but continuously awakened and sustained through participatory cognition.

Communication and the preservation of knowledge are thus inseparable from cognition itself—the expansion, refinement, and regulation of the mind. While technological advancements have provided powerful external supports for codifying and processing information, ancient Indian systems placed primary emphasis on developing the internal cognitive apparatus of the individual and the collective. Rooted in Vedantic principles, this approach aligns the evolution of human cognition with the cosmic correspondence between the macrocosm and the microcosm, both emerging from the first principle of intelligence.

This study aims to examine:

- Evaluate from the point of knowledge authenticity, its communication and preservation -its primary objective is to highlight the conflict of narratives by examining the knowledge contained between traditional Vedic Indian Knowledge Systems and Modern Scientific Systems, and to propose a pragmatic view of existence that bridges the temporal and the timeless. This integrative approach aspires to foster deeper insights and transformative progress in both philosophy and science.
- Comparing Patanjali's Communicative Paradigm with the Shannon-Weaver Model - From Consciousness to Information
- A comparative study of Rishi Kanada, Sir Issac Newton-- While both thinkers sought to explain the fundamental structure of reality through atomistic principles, Kanada's approach reflects a consciousness-inclusive and integrative attitude toward knowledge, whereas Newton's science embodies a reductionist and object-centric epistemology.

LITERATURE REVIEW

This study adopts a descriptive methodology, utilizing secondary data from books.

First Case Study

The Yoga Sutra of Patanjali, is a foundational classical text of Yoga philosophy, systematizing yogic practice as a disciplined path toward cessation of mental fluctuations and realization of the true nature of consciousness. Maharshi Patanjali was a renowned philosopher. The book Yoga Sutra teaches body mind communication and transcending system from the physical to astral to the spiritual level consciousness unto liberation. This is authentic and universally applicable consciousness-based methods of communication and preservation, He founded three great knowledge streams: **Yoga** (Yoga Sutra), **Vyakarana** (grammar – Mahabhasya, traditionally attributed) and **Ayurveda** (sometimes symbolically linked)

The Mathematical Theory of Communication by Claude Shannon and Warren Weaver, 1949 presents a linear model of communication and a mathematical framework for message transmission efficiency. The theory focuses on technical aspects such as noise and redundancy to ensure accurate communication. This book is considered as the mother of information theory.

- Claude Elwood Shannon (1916–2001) is considered as the Founder of Information Theory. He was a Mathematician, Engineer and an Abstract thinker.
- Warren Weaver (1894–1978) was a Scientist, Administrator, and Philosopher of Science. He was also trained in Mathematics but he had deep interest in various other subjects.

Second Case Study

It highlights two prominent figures of the Vaisheshika school: Rishi Kanada, the propounder of the Vaisheshika philosophy and the author of the Vaisheshika Sutra, and other related books. Rishi Kanada, who is believed to have lived around 600 BCE, introduced the revolutionary concept of atomism with an additional essence of causal relationship. Rishi Kanada's Vaisheshika Sutra, a cornerstone of the six Indian Astika philosophies (shat darshan), lays the foundation for the philosophy of atomistic pluralism offering a framework that bridges metaphysical inquiry with practical perception. This progression marks the beginning of a deeper journey in Indian thought, emphasizing the qualitative evolution of consciousness.

Sir Isaac Newton's *Philosophiae Naturalis Principia Mathematica* (commonly referred to as the *Principia*) was first published in 1687 and is considered one of the most influential works in the history of science. This groundbreaking treatise laid the foundation for classical mechanics, providing a comprehensive mathematical framework for understanding motion and gravitation. It marked the culmination of the scientific revolution and profoundly shaped the course of physics, astronomy, and mathematics. The publication of the *Principia* not only solidified Newton's reputation as one of the greatest scientists of all time but also profoundly influenced the development of science. It provided a unified framework that explained a wide range of natural phenomena and inspired generations of scientists.

METHODOLOGY

Two case studies are examined to demonstrate how differing communicative frameworks shape understandings of reality and consciousness, and how their integration can contribute to a deeper convergence of science and metaphysics. The second case has been included to substantiate that the 600 BCE Vaisheshika Sutra, a profoundly atomistic in nature, similar to the Newton's theory, also includes consciousness in the core.

- Case-1. The Institution of Communication:** Maharshi Patanjali's - an ancient Indian sage and father of renowned classical yoga philosophy - Indian philosophical science and the Western science with special focus on Claude Elwood Shannon and Warren Weaver who are considered as the Founder of Information Theory. They were Mathematician, Engineer/Scientist and Abstract thinkers.
- Case-2. The Institution of Knowledge:** Rishi Kanada's - arguably one of the earliest and most profound physicists of antiquity - Indian philosophical science and the Western science with special focus on Sir Issac Newton, the father of classical Physics who was instrumental in shaping the modern science with his groundbreaking laws of motion and universal gravitation that formed the foundation of mechanics.

Case 1

Ontological and Epistemic Foundations

The Institution of Communication - The structural contrast between Vedic consciousness-based communication and Shannon–Weaver information theory – This is not at the surface (signal vs silence), but at the level of ontology, epistemology, causality, and completion conditions. This case includes both Communication and Preservation of knowledge.

Indian Philosophical Science

A. Sruti, Smriti and Samvada – Memory Training

The Vedic system of mantra chanting, supported by rigorous mnemonic training, preserved the entire body in its original form across generations, ensuring communication without distortion or dilution till date. In the memory training system, Sruti (heard or read) preserves knowledge, Smriti (remembered, human transmission) interprets it, and Samvada (dialogue) realizes it—together forming a consciousness-based memory training system unparalleled in human history.

Mantra memory:

- Each recall reconfigures attention and cognition
- Memory strengthens *the knower*, not just the data
- Non-Linear, Recursive System: Sound ↔ Body ↔ Mind ↔ Attention ↔ Sound
- The receiver is not independent of the message so, becomes part of the encoding loop
- Involves phonetic invariance, cognitive-affective coupling, not paraphraser text

Mantrapatha is a process of converting and controlling higher entropy to lower

- Reduces entropy locally (noise, distraction, variability)
- Creates negentropy globally (order, coherence, transmissibility)

Mantrapatha actively generates negentropy in cognitive, cultural, and epistemic systems.

Western Science

Shannon memory:

- Linear system. Store → retrieve → unchanged system
- Shannon–Weaver theory rests on these non-negotiable axioms:
 - Communication is linear - Source → Encoder- Channel -Decoder → Receiver
 - Information is symbolic - Sequences of symbols from a finite alphabet.
 - Meaning is irrelevant - Semantics are explicitly excluded
 - Noise is external - Errors arise from channel disturbance
 - Memory is passive storage - Recall = reproduction of symbols.

Shannon Entropy (Information Theory)

While Shannon entropy quantifies uncertainty in symbolic message ensembles, thermodynamic entropy quantifies the physical multiplicity of microstates

Formula

$$H = - \sum_{i=1}^n p_i \log_2 p_i$$

Where:

- p_i = probability of the i -th symbol/message
- H = entropy in bits

What it measures

- Uncertainty in a message source
- Average information content
- Unpredictability of symbols before reception

Key properties

- Maximum when all symbols are equally likely
- Zero when the message is perfectly predictable
- Observer-dependent (depends on probability model)

B. Patanjali Yoga Sutra Science

Indian Knowledge Systems → Vedic Epistemology → Consciousness-Based Communication

Authentic and universally applicable consciousness-based methods of communication and preservation, exemplified in Indic traditions (Vedic, Upanishadic, Yogic, and Buddhist), reflect the Indian epistemic principle that effective knowledge transmission depends upon the purity and preparedness of the cognitive instrument, rather than by the efficiency of information transfer alone.

योगेन चित्तस्य पदेन वाचा मलं शरीरस्य च वैद्यकेन ।
योऽपाकरोत्तं प्रवरं मुनीनां पतञ्जलिं प्राञ्जलिरानतोऽस्मि ॥

Meaning

With Yoga (Chitta-suddhi), he purified the impurities of the mind - stopped the mind from being distracted by thoughts, desires, and anxieties, allowing one to experience their true Self. with Grammar (Vyākaraṇa), those of speech - Vak-suddhi with Medicine (Ayurveda), those of the body - Sarira-suddhi To that foremost among sages, Patañjali, I bow with folded hands.

Why this verse matters (philosophically) as it presents a threefold purification model: योगश्चित्तवृत्तिनिरोधः

Yogas (Yogaḥ): Union, discipline, or Yoking.

Chitta: Mind-stuff, consciousness, or the mental field.

Vṛtti: Modifications, fluctuations, or waves of thought.

Nirodhaḥ: Stillness, control, cessation, or restraint.

The foundation for post-Sankara Advaita pedagogy is elaborated from the very famous Advaita Sloka from Sri Sankaracarya's Vivekacūḍamaṇi:

श्रवणं तु गुरोर्वाक्ये मननं तु तदर्थतः ।
निदिध्यासनं तु तदैक्ये ब्रह्मात्मैक्यविचक्षणम् ॥

Shravana: Listening is to the words of the Guru; Manana: reflection is inquiry into their meaning; Nididhyasana: deep contemplation is abiding in their identity - the discernment of the oneness of Brahman (Consciousness) and the Self.

K = Knowledge

T = Truth: Self-existent, self-revealing Satya, not produced, encoded or probabilistic

C = Chitta: Cognitive Instrument, Capable of distortion (mala, vikṣepa), not a processor, but a reflector'

S = Sabda: Testimony from authentic source, operates within Pramana, not a signal or symbol

A = Adhikara: Preparedness or maturity of the knower, ethical, cognitive, determines efficacy of Sabda

S is effective only when Source ↔ C are aligned

Fundamental epistemic relation (non-algorithmic)

Knowledge does not arise via a function:

$K = f(\text{input, rules})$

Instead, knowledge is an event of recognition:

$K \equiv T$ becoming evident when C is aligned with S under A

Formally: K occurs if (C is non-distortive) \wedge (S is valid) \wedge (A is sufficient)

Western Science

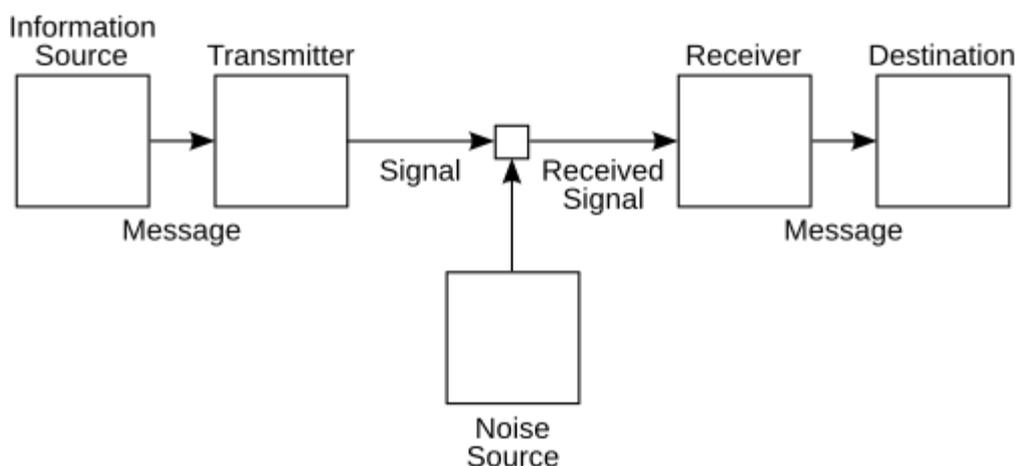
The Shannon–Weaver model Ontological assumptions - minimalist, physicalist ontology

Shannon's article laid out the basic elements of communication:

- An information source that produces a message (M - a sequence of symbols) which is formal structures and not meanings.
- A transmitter that operates on the message to create a signal (S- a physical instantiation of the message, subject to distortion) which can be sent through a channel.
- A channel (C), which is the medium over which the signal, carrying the information that composes the message, is sent
- A noise (N), which is the random perturbations affecting the signal
- A receiver, which transforms the signal back into the message intended for delivery
- A destination, which can be a person or a machine, for whom or which the message is intended. It reconstructs the symbol sequence.

Core mechanism

Source → Encoder → Channel (+ Noise) → Decoder → Destination



Ontological status of information

In this framework information is: **Quantifiable, Abstract, Context-independent**, Defined purely in terms of **probability distributions**

Thus:

Information \neq knowledge

Information \neq meaning

Information \neq truth

It is an **objective measure of uncertainty**, not of understanding.

Epistemic assumptions and goal

The epistemic goal is **faithful reproduction of symbol sequences** at the destination.

Success criterion:

The received message matches the transmitted message within an acceptable error rate.

This is an **engineering epistemology**, not a cognitive one.

Knowledge model

Implicit epistemic commitments:

- Knowledge is **externalized**
- Cognition is **post-communicative**
- Understanding is **outside the system boundary**
- Errors arise from **noise**
- Preservation is achieved by:
 - Redundancy
 - Error-correcting codes
 - Compression algorithms

Thus, preservation = **structural fidelity over time**, not semantic continuity.

Case 2

Ontological and Epistemic Foundations

Traditional Indian (Top-down) and Western knowledge (Bottom-up) systems and the conflict of narratives between them. Thus, proposes to establish a truthful narrative that encompasses the full spectrum of perspectives, ranging from realism to idealism. Idealism and realism address the relationship between the mind and the external world.

Ontology of Vaisheshika

The Vaisheshika ontology emphasizes a pluralistic and atomistic view of the universe, with ultimate reality grounded in eternal and indivisible atoms (paramanus). It provides Newton's laws of motion blending physical and metaphysical nature of philosophy, seeking to understand causality, substance, and the interplay of permanence and change. Vaisheshika includes **Observer's Role**: Reality is perceived subjectively, influenced by the consciousness of the observer. Vaisheshika Sutra used **Adrsta** - unseen causal force.

Ontology of Newtonian Science

Newtonian science, rooted in Isaac Newton's principles, provides a mechanistic and mathematical framework for understanding the physical universe. Its ontology is grounded in the following key concepts: Matter (occupies space), Force (The interaction that causes changes in motion, governed by Newton's three laws of motion), Deterministic Universe (Physical Universe-fixed laws, predictability on mathematical relationship).

Newtonian science provides a dual focus on empirical observation and mathematical formalism, emphasizing measurable quantities such as velocity, acceleration, and force. Its ontology is fundamentally materialist, with matter and energy as primary components of reality.

Epistemology

GRAVITY - Rishi Kanada and also Sir Issac Newton - Observed (Pratyaksha) - they self experienced by observing fall of fruits from the tree:

Vaisheshika Sutra –

संयोगाभावे गुरुत्वात् पतनम्

In the absence of conjunction, falling [results from] Gravity.

In the case of fruit, possessing gravity, the impediment is conjunction. By the term, ‘conjunction,’ every kind of impediment is indicated.

Modern Science (Newton's Laws of Gravity) – Any particle of matter in the universe attracts any other with a force varying directly as the product of the masses and inversely as the square of the distance between them.

LAWS OF MOTION - The pratigya or the aim of examining the knowledge of the Laws of Motion from the perspective of the propounders:

Vaisheshika Sutra – The following slokas are taken from the Prashastapada Bhashya (Prashastapada’s commentary on the Vaisheshika Sutras). These shlokas are literal equivalents of Newton’s Laws of Motion. The Prashastapada Bhashya shloka (at Sanskaranirupan Chapter) from where all the three slokas of motion are derived is:

वेगो पञ्चसु द्रव्येषु निमित्त-विशेषापेक्षात् कर्मणो जायते नियतदिक् क्रिया प्रबंध हेतुः स्पर्शवद् द्रव्यसंयोग विशेष विरोधी क्वचित् कारण गुण पूर्ण क्रमेणोत्पद्यते।

First Sutra

वेगः निमित्तविशेषात् कर्मणो जायते।

Change of motion is due to impressed force.

Newton’s First Law: An object at rest remains at rest, and an object in motion remains in motion at constant speed and in a straight line unless acted on by an external force.

Second Sutra

वेगः निमित्तापेक्षात् कर्मणो जायते नियतदिक् क्रियाप्रबन्धहेतुः।

Change of motion is proportional to the impressed force and is in the direction of the force.

Newton’s Second Law: The rate of change of momentum of a body is directly proportional to the force applied, and this change in momentum takes place in the direction of the applied force.

Third Sutra

वेगः संयोगविशेषविरोधी।

Action and reaction are equal and opposite.

Newton’s Third Law: To every action there is always an equal and opposite reaction.

The Vaisheshika Sutra introduces the concept of *Adrṣṭa*—an unseen causal principle invoked to account for effects that cannot be explained through immediately observable or material causes. *Adrṣṭa* serves to preserve **causal continuity** in the cosmos, ensuring that every effect remains grounded in an ordered principle, even when the mechanism is not directly visible. This approach contrasts with strands of Western scientific thought that historically accepted **uncertainty, probabilistic behaviour, or explanatory limits** as inherent features of nature.

मणिगमनं सूच्यभिसर्पणमदृष्टकारणम्

The movement of a jewel and the approach of the needle (towards magnet) have **adrṣṭa** as their cause. Similarly, grass growing upward violating **gravity**.

FINDINGS/DISCUSSIONS

BRIDGING SCIENTIFIC REALISM AND IDEALISM -INDIAN AND WESTERN

Although the divide between realist and idealist perspectives may often appear irreconcilable, insights from physics—particularly quantum mechanics and its various philosophical interpretations—offer a potential bridge, integrating these seemingly divergent frameworks within the context of Dharma of Vaisheshika and modern scientific inquiry.

Feature	Quantum System	Shannon System	Vaisheshika System
Uses probability?	Yes (wavefunction amplitudes)	Yes (symbol probabilities)	Sutra 9.2.10 talks about Vishva Chaitanya (Consciousness)
Deals with uncertainty?	Yes (measurement outcomes)	Yes (message selection)	No uncertainty (Only one Consciousness, rest is Maya)
Uses entropy?	Von Neumann entropy	Shannon entropy	No-dual (defined within system)
Nature of uncertainty	Ontological (reality itself indeterminate)	Epistemic/statistical (we don't know which symbol)	Empirical world - Changing, Mind and senses are limited instruments. Absolute Reality- Non-dual.
Role of observer	Participatory (measurement affects state)	Passive (receiver does not alter message)	Consciousness and Mind. Solely Sakshi Chaitanya

Shannon–Weaver communication is linear but Mantra Path communication is Non-Linear, Recursive System. Mantra memory violates Shannon theory because it is not a system for transmitting symbols across a channel, but a closed-loop, consciousness-coupled, negentropic training system where sound, memory, and cognition are inseparable: **the holistic science**.

Whereas the Shannon–Weaver framework optimizes the preservation of symbols across channels, Indic epistemic systems optimize the preservation of realization across purified instruments. Comparison with modern non-computational theories the closest modern parallels are:

- Enactivism (brain and body actively enact) → lacks ontological Satya
- Ecological perception (Gibson) → lacks Shabda
- Phenomenology (Husserl) → lacks Pramana discipline

A modern scientific atomist might argue that sense experience can be reduced to eternally real and indestructible particles. In contrast, the Vaisheshika Sutra and early Buddhist texts highlight the impermanence of the sense organ, sense consciousness, and sense object, which disintegrate as easily

as they come together. This transient nature—akin to the decay of the Higgs Boson, once considered the fundamental "God Particle" from which mass and all else arise—suggests a lack of inherent substance. Similarly, experimental physics often reveals that the observer and their conscious perception interact with quantum objects, influencing the emergence of classical observables during physical measurements. This interplay aligns with the Vaisheshika perspective, where the principle of atomism integrates with the concept of consciousness, offering a framework to analytically reconcile the particle-wave paradox.

2022 Nobel Prize in Physics: Alan Aspect, John F. Clauser and Anton Zeilinger, outlines:

- The world is not real (Similar to the Vedantic concept – Maya – Non eternal world)
- Quantum Mechanics shows existence of Objective Reality is only there with respect to conscious observer. Sakshi Chaitanya - Observer brings the world into existence – consciousness creates the universe.

Recent research has proved that this communication system of ancient Indian Rishis, chanting mantras in a systematic principle and memorizing, increases the section of the brain that are associated with the cognitive function. James Hartzell of Trento university, Italy said: What we discovered from the MRI scanning was remarkable. Numerous regions in the brains of the Pandits (Rishis) were dramatically larger than those of controls, with over 10% more grey matter across both cerebral hemisphere, and substantial increases in cortical thickness. Increases in these metrics consistently correlate with enhance cognition function.

CONCLUSIONS

The evolution of knowledge reflects humanity's growing ability to look beyond the immediate and mutable aspects of life to uncover universal truths. This journey is not a rejection of the sentient world but rather an effort to integrate it with a deeper understanding of the eternal, offering a holistic view of existence that bridges the temporal and the timeless.

Shannon–Weaver model and Patanjali's communication in respect of role of the receiver marks a decisive difference. In the Shannon–Weaver system, the receiver is a decoding mechanism whose success depends on technical fidelity and redundancy control. In Patanjali's system, the "receiver" is the mind–intellect complex, whose capacity to grasp truth depends on its purity, stability, and freedom from conditioning. Miscommunication, therefore, is not merely signal loss but a consequence of psychological turbulence and ignorance. Communication becomes an epistemic process, not just a mechanical one. Just as relativity and quantum theory reshaped modern science, information theory introduced a radical shift in scientific understanding by formally defining the bit, which continues to serve as the theoretical foundation of information science.

Noise, a central concern in Shannon's theory, is external and statistical; it is something to be minimized through engineering solutions. In Patanjali's framework, the primary "noise" is internal—mental distraction, emotional disturbance, and misidentification of the self with mental activity. The solution is not increased redundancy or bandwidth, but yogic discipline that stills the fluctuations of consciousness. Where Shannon reduces uncertainty through coding theory, Patanjali reduces existential uncertainty through meditative cognition.

Science, with its focus on exploring the sentient field and operating within compartmentalized disciplines, has progressed within well-defined boundaries. This approach has led to advancements from atomistic physics to classical mechanics, relativistic physics, quantum mechanics, and, most recently, quantum field theory. A holistic view between the modern science and philosophy of science would always bridge a persistent gap that remains between epistemology (the study of knowledge) and ontology (the study of being).

Vaisheshika explores the nature of reality, blending objective (realist) and subjective (idealist) views. Real truth, or Scientific Idealism, emerges when the ever-changing objects of the world merges with

the unchanging ultimate reality. This aligns with modern physics, where classical determinism meets quantum indeterminacy, raising questions about observation, measurement, and the nature of existence.

This study provides dialectical philosophical and scientific insights that contribute to a deeper understanding of Vaisheshika -Science, fostering the development of hypotheses for future philosophical and scientific research.

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