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EXPERT COMMENTARY

How Wisdom Traditions Can Define New Science and India's Possible Leadership Role

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So goes the anecdotal story: once, a renowned Quantum Physicist embarked on a world tour, captivating lecture halls (mostly European audiences) with the wonders of quantum physics and the anti-intuitive worldview it presents. However, upon arriving in a South East Asian nation, the scientist was intrigued to find that the audience's reaction was not as astonished as usual. This experience seemed to challenge Niels Bohr's dictum that if you haven't been surprised by quantum mechanics, then you haven't understood it. Later, feeling quite embarrassed, the ace thinker found that the Eastern audience hailed from a very different culture and philosophy where life transcends standard binary thinking. Consequently, the non-intuitive aspects of quantum physics did not shock them as much. It was later remarked that they were 'not spoiled by Aristotelian logic.' While quantum physics, with its strange features of non-locality, uncertainty, and superposition principles, may pose a profound challenge to the realist Newtonian worldview, these extraordinary principles are well assimilated in various Eastern philosophies, particularly those of Indic origins.

No surprise, then, that many fine minds and founders of modern physics, namely, Erwin Schrodinger, Werner Heisenberg, David Bohm, to recent scientists like Carlo Rovelli, have been motivated by different Indic philosophies. Schrodinger, one of the founders of quantum mechanics, put into written words that consciousness is one and has a fundamental place in the entire creation. This view, directly influenced by Advaita Vedanta, stands in sharp contrast to the Newtonian worldview, which holds no place for consciousness, or at the most, renders it as an epiphenomenon. Since the time

Galileo turned his telescope to the heavens, an objectivist worldview was born in the West (certainly the dominant one at least), based on a sharp separation between the observer and the objective observed world, where the fundamental experiences of the observers were rendered unimportant for understanding a fundamentally physical world. Everything else, from life itself to experiences to social realities, is just seen as having emerged out of matter, albeit in complex ways. This is often known as the causal closure principle of physics, which would mean that all processes, however complex, can be reduced to some physical mechanism. However, it is also true that founders of this particular scientific thinking, notably Rene Descartes, were always disturbed by mind-matter dualism. Is mind fundamentally different from matter? Or is it just a shadow of matter, an emergence?

Since the Second World War, mainstream positivist science has taken an even more intense turn in the pursuit of ever greater computational power, resulting in the creation of technological wonders. However, foundational questions about our true self and nature have largely been ignored or deemed too philosophical. This situation has become increasingly strange: on one hand, there has been an exponential rise in technology, from microchips to Artificial Intelligence; on the other hand, scientists themselves have expressed deep frustration at their inability to tackle the ultimate questions, often resorting to a “shut up and calculate” approach.Top of Form

Decades of objective realist mechanistic thinking have, sadly, not brought us any closer to understanding the fundamental nature of reality. It is no surprise then that some physicists and neuroscientists are turning to Indic wisdom for insight into truth. The traditions of Indic wisdom constitute a vast ocean of knowledge, encompassing a spectrum of depth and breadth. Pluralism lies at the heart of these traditions, ranging from monism (of Advaita Vedanta), qualified monism (of Visishtha Advaita Vedanta), dualism (of Dvaita Vedanta), to Anekantavada (literally pluri-perspectives) or Syadvada in Jaina philosophy (which holds that reality is contextual; rejecting an objective binary world out there, outside consciousness), to various perspectives within Buddhist philosophy, and even to the outright rejection of Vedic knowledge in the Charvaka school of thought. Indic wisdom traditions can guide us in two interconnected directions. Firstly, they can provide thought leadership in reimagining science, placing our true nature of pure consciousness (as in Advaita’s ‘sat-chit-ananda’, where ‘sat’ represents pure existence, ‘chit’ represents pure consciousness, and ‘ananda’ represents pure bliss) at the core

of any scientific pursuit. Secondly, they can address the pressing practical need for a new paradigmatic shift in thinking, helping us navigate the numerous crises we currently face.

Before delving into practical applications, it is notable that the philosophical underpinnings of modern science are increasingly influenced by Indic wisdom traditions. Here are some emerging works in brief:

a. Frontier neuroscientists like Donald Hoffman are exploring concrete scientific frameworks where consciousness is fundamental rather than an emergent property of complex interactions between matter. For example, billions of neuron firings in human brain. They propose that material reality is embedded within fundamental consciousness;

b. Quantum physicists such as Carlo Rovelli draw inspiration from the philosophical standpoints of the Madhyamaka path of Buddhism. This perspective rejects an objectivist realist view in favour of co-dependent arising, where every process gains meaning only in relation to others. In this worldview, relational properties define the essence of reality, reflecting a relational ontology;

c. There is a growing body of scientific literature focused on complex adaptive systems thinking, deep ecology, and socio-ecological system thinking, which views intelligence as an ecological phenomenon rather than an isolated, individualistic concept. These frameworks align well with Indic wisdom, emphasizing interconnectedness and interdependence;

d. Some of us at the Jindal India Institute (JII) and research centres such as Centre for Complexity Economics, Applied Spirituality and Public Policy (CEASP) at O.P. Jindal Global University (JGU) are actively involved in constructing concrete frameworks based on Indic wisdom traditions to reconstruct modern scientific ideas. For example, applying Syadvada logic system to reconstruct quantum physics and cognitive science as deeply contextual, where along with true false binaries, 'Avyaktam' or 'Unmanifest' is also ontologically real, offering a more expanded vision of reality (Ghose & Patra, 2023, 2024; Kauffman & Patra, 2023; Patra & Kafatos, 2023).

Policy Applications and India's Leadership Opportunity

The Human Development Report 2021-22 claimed that we are embedded in complexity of crises, in uncertain times with unsettled lives. Certainly, there is a recognition of the necessity to abandon the selfish utilitarian path of standard economic thinking when addressing 'wicked' policy problems or social-ecological issues like the climate crisis. The report dives into details of how we may harness knowledge from several new sciences. For example, complexity science, cognitive science, behavioural science, etc. However, some of us believe that the central point is still missing. Where is our true nature, and the relational ecological view in this equation? Without directly incorporating a consciousness-led 'entangled' worldview into policy thinking, we risk wandering aimlessly, achieving little. Therefore, our suggestion is to develop an integral public policy framework where wisdom traditions play a central role. We propose pursuing comprehensive policy thinking grounded in a well-defined framework like Ken Wilber's integral Meta-theory. Recognizing that theoretical foundations are crucial for initiating new paradigmatic thinking; India, with its vast cultural heritage, should take the lead. Hence, the current government's emphasis on Indic knowledge systems is more than welcome, it is urgent. Institutions like JII and CEASP can lead by hosting rigorous academic programs, seminars, and conferences to foster a critical mindset. At CEASP, we have initiated a network at the intersection of science, spirituality, and public policy, drawing upon experts from all walks of life, from academicians to social reformers. Local actionable projects, alongside government initiatives on a larger scale, are crucial. Our view also draws from complex adaptive systems approach, where only networks between such local action groups can foster the emergence of a holistic ecological awareness. India's leadership in the G20 is a bright ray of hope, provided we continue on the trajectories already initiated and collectively strive to be the change needed, echoing the words of Gandhi.

In policy thinking, there is a growing recognition of the importance of incorporating emerging new sciences, namely complexity science, behavioural science, and cognitive science. Complexity science applications in economic theory (Farmer, 2024; Chakraborti, Haven, Patra, & Singh, eds., 2023) has led to breakthroughs in understanding endogenously created system-wide crises, such as the 2007-09 financial crisis or the complex impacts of COVID-19 on real economies. Complexity science views the economy as a complex adaptive system rather than a mechanical equilibrating system. It acknowledges that real people and institutions with diverse preferences and beliefs provide

central force for self-organization and emergence, which is impossible to understand using standard neoclassical models. Even more radically, research works in the area of quantum-like framework/ quantum cognition (which is an emerging interface between quantum computation/information science frameworks and human decision making, or even machine learning), is providing profound insights into areas of radical uncertainty in the economy/social-ecology. These insights, which cannot be captured by standard Bayesian statistical models, hold potential for integration into policymaking, as attempted in our aforementioned paper.

It is promising to note that the Indian Government recently (NITI Aayog in particular), has been adopting views from complexity science in policy implementations, particularly in process appraisals and evaluations. Building on these developments, we further call for the integration of such scientific perspectives based on Eastern Wisdom principles such as Holism, pluralism (exemplified by Anekantavada, for instance), and Ahimsa, among others (which have existed for millennia) to challenge the false separation between humanity and nature (Singh and Bhatnagar, eds., 2023).

Long ago, when celebration of man landing on the moon was on its way, the dissenting philosopher Hannah Arendt cautioned us against the vast enterprise of science and technology, built upon the idea of separation between humanity and nature. She warned that the hubris of knowledge and the madness of trying to control nature for selfish utility maximization might doom us. Today's ongoing crises serve as testaments to her thesis, underlining the urgent need for science-technology and policy design grounded in wisdom principles. In the last century, two great minds, Einstein and Tagore, engaged in brief but significant conversations, now largely forgotten. While the grand old man of the theory of relativity, held firm to the belief in an objective world independent of the mind with its beautiful hidden symmetries (albeit recognizing this as a subjective idea), the poet-sage from India remained unconvinced. He advocated for an expanded worldview akin to a Möbius strip, where mind and matter are intricately intertwined. As we potentially enter 'India's century', we have the opportunity to revive such dialogues and directly incorporate them into educational curricula.

Author Biography

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