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New Holistic Science for Transformed Humanity: Problems of Current Status Quo

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The current article proposes that the practice and cultivation of Science is at cross roads. We observe, on one hand, the mind-boggling rise of technocracy, computation, and AI, but on the other hand, disbelief in science, research misconduct is becoming a real issue across countries. The current year is rightly celebrated as the Quantum year, for celebrating quantum physics as one of the greatest human achievements. But are we in true sense the torch bearers of legacies, like that of Bose-Einstein?

Multiple critiques have recently been launched from within the science community against different stagnating features. Noted scientists, for example, Sabine Hossenfelder to Eric Weinstein, have repeatedly mentioned that not only scientific misconduct has accelerated, but that within the science community itself, there have been hubris, or unnecessary (may be market driven even?) barriers and lobbies which have curbed motivations for pursuing foundational thinking. Science had different inner meaning in the age of the 1930s at least, when quantum mechanics, particularly the Copenhagen interpretation camp of the same, was on the rise. Einstein, Bohr, Schrödinger, and even Satyendra Nath Bose in India were not only key contributors to groundbreaking theories like relativity and quantum mechanics, but also deeply engaged in reflecting on the nature and purpose of science itself. How quantum mechanics relates to reality? How science as a whole relates to harmony and peace building? In a recent book we find Einstein's deep spiritual nature. A spirituality not biased by blind religious beliefs, but devoted in the pursuit of unifying harmony across all domains, mind and matter. Einstein's spirituality was apparently inspired by Baruch Spinoza, but it didn't fail to draw

inspirations from across world cultures, from Upanishads in Vedic world, to Chinese philosophies. We can remind ourselves of the celebrated collaboration between maverick physicist Wolfgang Pauli, and the psychologist Carl Jung, who together tried to marry science with wisdom thinking. Pauli even tried to draw inherent lessons from his dreams for his physics research, a true example of mind inferring matter. Later, we also see profound exchanges between scientific and philosophical or secular spiritual thought — most notably in the conversations between physicist David Bohm and philosopher Jiddu Krishnamurti.

The current author does not claim that such exemplary harmonizing and interdisciplinary approaches has altogether dried up, but the claim is that such attempts have been so much discouraged over years in a systematic manner, that now science research has turned too technocratic, leaving little scope to step back and reflect on whether the science we pursue today truly serves to transform humanity for a greater purpose. The current author believes its high time we introspect. First, we have to recognize that the practice of science or cultivation of science in larger society is a multilayered process. On one hand, we need immense computational power to analyze real scientific problems, as seen in large-scale particle accelerators across the world (such as CERN). On the other hand, it is equally important to ask foundational and philosophical questions that are deeply tied to humanity's collective well-being.

Here by global I mean an entangled social-ecological world view, metaphorically linked to Gaia hypothesis where the entire biosphere can be thought as living and as our home, where intelligence is not individualistic, but collective at the largest scale. Recently, a few Nobel-winning scientists (minority group) like Karen O' Brien, have initiated a movement called *Quantum Social Change.* However, to launch such movements at larger scales, we need to step back and explore our deep fault-lines, as human beings and societies at large. Below, I try to list some central features and shifts in science thinking, which we need to re-think.

Practice of Science is Not Value-Free

A false value free assumption of science research has led us into illusion over time. A recent work by Christopher Schuringa has shed much light on the very illusion. Christopher has explored that the dominant, and now ailing, tradition

of value free analytic philosophy have always been politically and culturally motivated, particularly by capitalism and liberalism. One has to recognize these biases underneath doing any kind of science. I don't claim that such biases are always evil, but history has repeatedly demonstrated that hidden intentions and false beliefs could turn science research monstrous. False belief of racial superiority created eugenics research in WWII Germany and other places, which served as a grave crime against humanity, as well as slowed true development of genetics research. Not to mention the propagandist science of communist regimes, like that in Soviet Russia till the melting of the iron curtain. Another modern example of value-free illusion is the practice of mainstream economics, which is deeply biased by multiple factors, from oversimplified reductionist assumptions of classical physics, to political patronage it has secured from neo- liberal capitalist regimes. Hence understanding or admission of hidden biases is the first step towards pursuing good science.

Foundational Shift in the Practice of Science Since WWII

Atom bombs on Hiroshima and Nagasaki were, on one hand the gravest injustice on humanity since antiquity, and on the other hand a structural shift in practice and thinking of science. Undoubtedly the center of excellence in science, particularly in physics, shifted to the USA after WWII. Certainly, in different domains, for example in particle physics research, there was unprecedented progress led by US scientists. Later when Stephen Hawkins visited the US, he was amazed by the positive spirit of doing science there. No doubt that the USA gifted the world with geniuses like Richard Feynman, a house-hold name for any physics graduate till date. However, this shift in power dynamics was not a simple process, it was inevitably intertwined with rising neo-liberalism (referring to both Regan and Thatcher's regimes), and the insatiable demands of world markets. Certainly, the market dynamics have created various efficiency measures of doing science, which has become the creative destruction of industries like micro-chips to AI, but at what cost?

"Shut Up and Calculate" Dictum

When science and technology began to be guided by political and market dynamics, a deeper wound was generated, which was captured in a slogan within the physics community of post WWII, 'shut up and calculate'. Don't ask

foundational questions. Don't ask how science can bring greater harmony. But just invest in greater power of computation. True, there were always rebels, but systematically such alternative thinkers were discouraged. Funding cuts to job insecurity were responses to dare to not follow the trend. It is at least good that recently many top scientists (Carlo Rovelli for example) have dared to speak up, and create public awareness on how foundational thinking is oxygen for sustainability of science itself.

Since the global financial crisis of 2007 onwards (and recent pandemic with hugely asymmetric impact on different strata of societies), there is a thinking, not totally unfounded, that extreme stretch of neo-liberal thinking has backfired. Thomas Picketty, famously has argued how most of promises by neo-liberal capitalism have been subverted over decades. For example, mobility of free capital and talent, or even rise of merit in contrast to inherited wealth. Even philosophers like Michael Sandal have argued against advanced societies like the US being obsessed with meritocracy, which has then backfired. Also, the rise of general disbelief in science, that science is too esoteric, and remote for public life, is a result of such combined emergencies. Such estranged views on science, and its control for benefitting mega corporates, have been very visible worldwide. In the last pandemic, on one hand we have witnessed disbelief over efficacy of vaccination, and alongside we have also heard claims of profiteering from hasty vaccination programs which may have further created health hazards.

Quo Vadis?

In this post truth world then, what remains of science? So goes the immortal hymn '*asotoma sadgamaya tamosoma jyotirgamaya'* that leads me from darkness to light! But who will lead us? I don't think that free will is an illusion, but even if we think so, the best hedging strategy on earth is believing in individual and collective agency. A greater sense of history, and large-scale public awareness of true science is the need of the hour.

It is at this crucial juncture that Indic and Eastern wisdom systems, or philosophies, can contribute. Since in most of the Eastern philosophies the central approach to understanding life has been complex adaptive, or holism, rather than reductionist and utilitarian. In Indic knowledge systems for example, whether in Advaita and different subcategories of the same, or Jain Anekantavada, or middle path Buddhism, we find a holism in understanding the

existence. It is not the wild temptation to control nature for deriving anthropocentric utilities, but an adaptive co-evolution which has been emphasized throughout. Even in Indigenous tribal knowledge systems, we find an inseparable relationship between nature and humankind. Many recent movements, for example, Chipko movement, tells the same story of eternal bondage between us and nature, which challenges the very core of standard anthropocentric world view.

Some of our Ongoing Works

Some of the doctoral studies which are undertaken by students with some of us delves into new methodologies like complex adaptive systems, quantum-like frameworks, but also then try to approach wicked problems of modern world or policy making from a wisdom theoretic lens. One PhD project is looking into how spiritual traditions in the Himalayan regions can provide a new comprehensive thinking about transforming the school education system. We are aware of the new education policy debates ongoing. Any fruitful integration of NEP with wisdom thinking traditions (including indigenous tribal knowledge systems) is urgently needed. It is only through a transformation in the approach to science, and our relationship with nature, that we can evolve out of this dark unstable phase.

Author Biography

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