

An Attempt at Quantifying Perspective: The Perennial Paradox

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The theme of the Economics online magazine in the first week of October 2016 which discussed the "Tyranny of Quantifying Everything" in which the profound words of Albert Einstein were central to the theme "Not everything that can be measured is important and not everything that is important can be measured".

A recent article in the same online magazine titled "Tyranny of Mathematics and Enslaved by the Wrong Theory: The strange world of modern economics" by Prof. David Wilson who specializes in Biology and Anthropology elaborates on how the field of economics transformed from the axioms defined by Adam Smith (especially the famous "Invisible Hand" theory) to its current metamorphosed version based on complex mathematical equations.

Adam Smith's theory did consider the reality in which even if people transact based on their self-interest, they also cared for their fellow human beings and established a strong sense of right and wrong. This strengthened the paradigm of the famous 'Invisible Hand' which leads to overall success of the economy and society in general. This paradigm also resonated with the modern contemporary theories of Emergence, Self Organization and Complex Adaptive Systems.

In the 20th century the domain of economics was being slowly and radically transformed into a mathematically dominated field. If mathematical equations could unlock the mysteries of planetary motion, atoms/molecules and many other natural phenomena then why not revolutionize economics and social sciences mathematically?

Keeping in mind that even though human beings physically are comprised of atoms and molecules but collectively as a human being or a society their behaviour cannot be exactly described as similar to atoms/molecules. In simple words even if the molecules of glucose and bicarbonate contain carbon, oxygen and hydrogen their inherent properties cannot be easily described by the properties of their constituent atoms. And here we are talking of humans and the eco-systems that sustains us which are far more advanced and complex systems.

The result of transforming economics into a mathematically dominated field inadvertently lead to the elimination of the aforementioned "human side" to economics. The "human side" which actually strengthens the Invisible Hand but it seems that the unintended 'usurping' by mathematics which ultimately reduced human behaviour to a collection of complex equations which focussed only on their self interest which

eventually as many economists now admit has lead to 'Tragedy of the Commons' in the form of 2008 financial crises and its social aftermath which still reverberates across the globe as of today.

It's not that the "human side" of economics was deviously removed but it was left out primarily because the "human side" could not be "grinded through equations" and was not "mathematically tractable" as mentioned by Prof. David Wilson.

This article has no intention to downplay the role of mathematics in any field for that matter but in fact aims to highlight that only focussing on aspects which can be quantifiable in a reductionist manner can lead to more harm than good even if there is a remote degree of predictability.

Furthermore, the contemporary focus towards the application of Big Data (i.e. infinite bytes of data) and the multiple complex equations (or not so appropriate co-relations) are again based on the mathematically dominated economics and sociology to grind every aspect (successfully or unsuccessfully) of human life through equations.

Even though the mantra is "Content is King" (coined by Bill Gates in 1996) but "Context is Kingdom" however the Context may not be easy to mathematically grind as claimed by many even after keeping track of voluminous data/information (but not necessarily knowledge) pertaining to demography, historical trends, circumstances, co-relations and comparisons (Daniel Newman 2014).

The fact of the matter is that as pointed out by Rick Searle who wrote the article "Big Data as Statistical Masturbation" clarifies that Big Data and its statistical prowess are indeed useful tools but not "magical talismans" to predict or define the future because it may not be useful in detecting unpredictable, erratic and rare needles in huge haystacks (Rick Searle 2015). To add further, with massive data sets and analytical tools can lead to either false or weak co-relations just as cutting the four legs of a frog makes it deaf enough to move when ordered to jump!

Likewise, this acknowledgement of the limitations of high volume statistical evaluation is also applicable for much more interventional attempts at altering the climate to combat global warming known as Geo-Engineering. Because scientists and experts are attempting to build scalable models based on limited lab and field experiments which is the reason why it would be extremely difficult if not impossible to determine the negative impacts of a particular geo-engineering attempt (such as spraying particles in upper atmosphere to absorb sunlight) at a certain geographical location would affect the climate in another region especially when there are considerable variations in global weather patterns which are already being affected by global warming (Naomi Klein 2015).

This doesn't conclude that any engineering attempts to save our planet are fundamentally futile but that any engineering intervention should not be used to tamper with substantially complex systems such as our climate or bio-geochemical cycles of which we as a species have limited knowledge.

Now we arrive at the quintessential question: What should be most appropriate or the right approach towards our economics, environment and society for a more stable future?

Obviously, quantification and math indeed have to play an important role and even if we acknowledge that their implementation should be in a more appropriate manner but again the question that arises is How?

The answer indeed lies in opening up our mind and perspectives. Most importantly there are multiple ways of doing so in addition to extensive research with trial and error to build various models (math and non-math based) to direct our future. And those pathways happen to lead to the untapped potential of the human mind (as well as brain) to determine solutions to some of the most enigmatic problems we face (David Frawley, Yoga International).

One of them happens to visions and prophecies that we encounter in our dreams whether it is Kekule's day dreaming in which he saw a snake eating its own tail signifying the cyclical structure of benzene or even Rene Descartes's dream where he realized that our natural world is based on mathematical laws, thus possibly sowing the seeds of quantifying every aspect of our life (Albert Rothenberg 1995, Drake Baer 2016).

On the other hand we all know how dreaming (irrespective of the time) may or may not necessarily be a systematic method to tap the potential of the human mind and its consciousness. Moreover, utilizing deep meditative techniques requires considerable practice with a disciplined lifestyle which could be limiting based on the explorers' environment and circumstances(David Frawley, Yoga International).

Therefore, since a few decades there has been mounting clinical evidence that the controlled use of psychedelics under medical supervision has indeed contributed to creative problem solving of which envisioning the double helix structure is a known example (Nicholas Wade 2006 and K.P.C. Kuypers et al. 2016).

Other examples pertaining to mathematics and conceptual models are mathematical theorems for NOR gates and a conceptual model of a photon. Additionally, engineering-related and technical improvements such as the design of a linear accelerator beam steering device and improvements in the configuration of a magnetic tape recorder only goes to prove that tapping the potential of the human mind via medical intervention and/or meditative techniques can not only offer more appropriate models but even pragmatic solutions (James Fadiman & Willis Harman 2011, James Fadiman 2013).

To reiterate, compared to how Rene Descartes visualized nature driven by mathematical laws many centuries ago, today we find ourselves “hitting a brick wall” in comprehending the universe, as observed in the challenges that the “Theory of Everything” has to surmount (Max Tegmark 2014, Sir Martin Rees 2012). Most importantly, we seem to foolishly quantify every aspect of human life which ultimately, has led to recurring crises in almost every facet of our lives and these crises seem to spill out way beyond the financial crises since 2008 to the undesired environmental and socio-economic impacts. This includes myopic economic measures such as “austerity” to Geo-Engineering which is basically the “deliberate” manipulation of the climate to counter the adverse effects of global warming (Alan Kirman 2010 and Naomi Klein 2015), wherein despite the adoption of mathematical rigor the stakeholders are somehow unable to gain in-depth insight on the imminent dangers that we face as a civilization.

This further proves that even if we come across certain workable solutions with or without psychedelics, our survival only lies in upgrading our solutions every now and then and keeping aside solutions which are not relevant anymore. For instance, in a world of youtube and MP3 players there would be no need to use psychedelics to make design changes in a magnetic tape recorder.!

About the Author Mr. Shantesh D. Hede Phd specializes in Engineering Product Development with a focus on Sustainability and is currently into Quality Assurance for a wide range of industries. In his free time he loves reading and writing short stories which he only keeps to himself.

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