Laws of Physical Nature

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Limitation of the Term "Laws of Physics"

Humans see patterns. If these patterns are unbreakable, then we accord to them the term "law". For a law, there must be no evidence against it; all evidence must be for it; it must not be reducible to other factors, as they themselves would then become the laws. Supposition, speculation, assertion, hypothesis, theory, postulate, thinking: all of these words denote uncertainty and thus indicate that while there may be sufficient knowledge to warrant safe action, there is not the unappealable finality that the term 'law' implies.

In legal terms, the West began to see human patterns and established guidelines for action with the Hammurabi and Noahide Laws early examples. Perhaps the basis was divine or pragmatic, but these cited laws remain in force to this day, for the most part. One may correctly assert that without community law, sustained human life would not be possible.

However, when discussing metaphysics, as understood as what precedes and allows for physics, then we enter into a question of the basis for coherence of the universe, irrespective of the actions of any individual or group of humans. To establish this basis, we appeal to as unimpeachable evidence as we may find, as well as the use of thought experiments, and in this way we seek to gain input on the structural features that, at least according to human understanding, are essential for there to be earth, our world/universe, and our Field of Experience.

Laws of Physics

Unimpeachable evidence is a relatively new phenomenon, arriving into the West via Francis Bacon in the 16th century as findings of Modern Scientific experiments of the Scientific Method. These findings are repeatable, falsifiable, measurable, and intersubjectively verifiable and provide extremely accurate predictability and

power that has, for good and bad, catapulted modern physics, modern chemistry and modern biology to unheard of positions of trust. These disciplines in their ancient forms were no less science, but lacked the rigor and explanatory power that has resulted in the modern technological revolutions over the past 500 years.

Modern physics investigations involve experimentation and this leads to great understanding within the physical laws of: *Materiality*, *Spatiality*, *Entanglement*, *Gravity*, and *Electromagnetism*. This list comprises the traditional laws of physics, and we may rightly contest that no universe would be able to exist without these features and that it is the job of modern science to unravel and explain these features. For example, if it is tangible, then it is subject to gravity. If it has effect on tangible reality – such as a force, then that force has a material source.

These are counted as physical as they are matter or, as forces, directly arise out of matter. Modern scientific investigations also reveal universal structural features such as the collapse of a wave-function into a particle, *overhang of pre-time*, and Lorenz Attractors/Repellers. While some of biology is open for modern experimentation, other parts are taxonomic, and the issue of the *Translation of Genotype to Phenotype* remains an insoluble mystery, and thus should be placed into the other mysteries in the complete Laws of Physical Nature.

LAWS OF PHYSICAL NATURE

Modern physics reaches an experimental impasse when we go beyond the laws of physics into the more difficult but no less universal and simple features of our universe. While we could not imagine a universe without the *Time*, *Consciousness*, *Causality*, or the *Connectedness of the Laws of Physical Nature*, modern physics is unable to create tests according to the scientific method to unveil the mysteries of these laws. Thus we include these, with the *Translation of Genotype to Phenotype* above, and all the traditional laws of physics into the more complete listing referred to as the Laws of Physical Nature. This provides a comprehensive framework for discussion of metaphysics.

We should remark here that a Law of Physical Nature, as it was with the laws of physics, are those features of the world that cannot be cut or divided and moved, they remain both simple and self-contained. For example

we cannot imagine “cutting a portion of space” from the surrounding space and moving it somewhere. The same is true of time, or indeed any of the Laws of Physical Nature.

LAWS OF PHYSICAL NATURE AND METAPHYSICS

Yet, as some of these necessary elements for our universe are not subject to modern scientific experimental investigation by modern physicists, for these feature we remain ever outside the scope of that most effective and important of studies. We are solidly in the scope of metaphysics.

As a critical note, the recent fact of having modern physics be so trusted in giving such unimpeachable information about our universe has unfortunately resulted in scientism, where modern physicists conflate theory with findings and speak as if that theory is just another example of unimpeachable evidence when it is not. Further, non-modern sciences, that is non-experimental sciences have coat-tailed onto the trust and certainty of the modern sciences, and this has lead both modern physicists and non-modern physicists astray. Output from observational, statistical or other less predictive and certain sciences are not suitable for unimpeachable input into metaphysical discussions, and simply must not ever override the findings of modern scientific experiments.

Metaphysics must address all findings of modern science before setting out to describe *how it is that there is something rather than nothing*. In attempting to situate and understand the Laws of Physical Nature, issues of epistemology and semiotics are introduced as how do we know that humans are “correctly” describing the Laws of Physical Nature, that is, humans can only describe these Laws of Physical Nature 1) from within the confines of a universe subject to these Laws of Physical Nature, and 2) using symbols/language generated via these Laws of Physical Nature as also formative of human intellect. Discussion on resolving this issue takes place in the chapter on Truth, but in short, humans do have great success in this description of the Laws of Physical Nature as humans are able to sustain themselves quite well within the universe: so obviously, any such description of the Laws of Physical Nature are at least adequate, whether or not such descriptions at times suffer some minor or even major defect.

In closing this section, while great expectations have been placed upon modern scientists, especially modern physicists, to unravel the metaphysical question, their restricted list of the laws of physics prevents modern scientists from grasping the whole picture, the wholly lived life, the universe in both its material and non-material aspects. Certainly there has been in the Wider Western Civilization a great amount of magical metaphysics with language that is frankly uninformative and opaque, and the reaction against this notably by

the logical atomists at the start of the 20th century has been well-taken. But as we all agree on *Time* as non-material, we must also for consistency's sake, recognize and move beyond the limitations that modern experimental science places upon the metaphysical pursuit.

An honest appraisal of astronomy as a non-modern science would both help modern physicists and remove a new priesthood from emerging, replete with their magical faith-based jargon of dark matter, dark energy and big bang. It is past due for modern physicists to admit that such past events as the big bang are not subject to modern experimental methods and cannot rise to the unimpeachable criterion standard of modern science.

Further, since the time of Parmenides nearly 3,000 years ago, we may place his logical/experiential prism that "nothing comes from nothing" to merely ask *what were the conditions that allowed for or caused the big bang*. The faithful will reply with faith that there is a materialist explanation that needs more time or make some appeal to the eternal existence of a "gravitational singularity/physical universe" pulsation. The last of which we may rightly ask *how did this gravitational singularity/physical universe source arise*; and the naïve materialists and others merely return us to either magical or faith based, and thus ungrounded, assertions. It is time to end the charade of treating speculations as findings of modern scientific experimentation. It is time to return to metaphysics as its rightful place as the all-encompassing science.

THE SIMPLICITY OF THE LAWS OF PHYSICAL NATURE

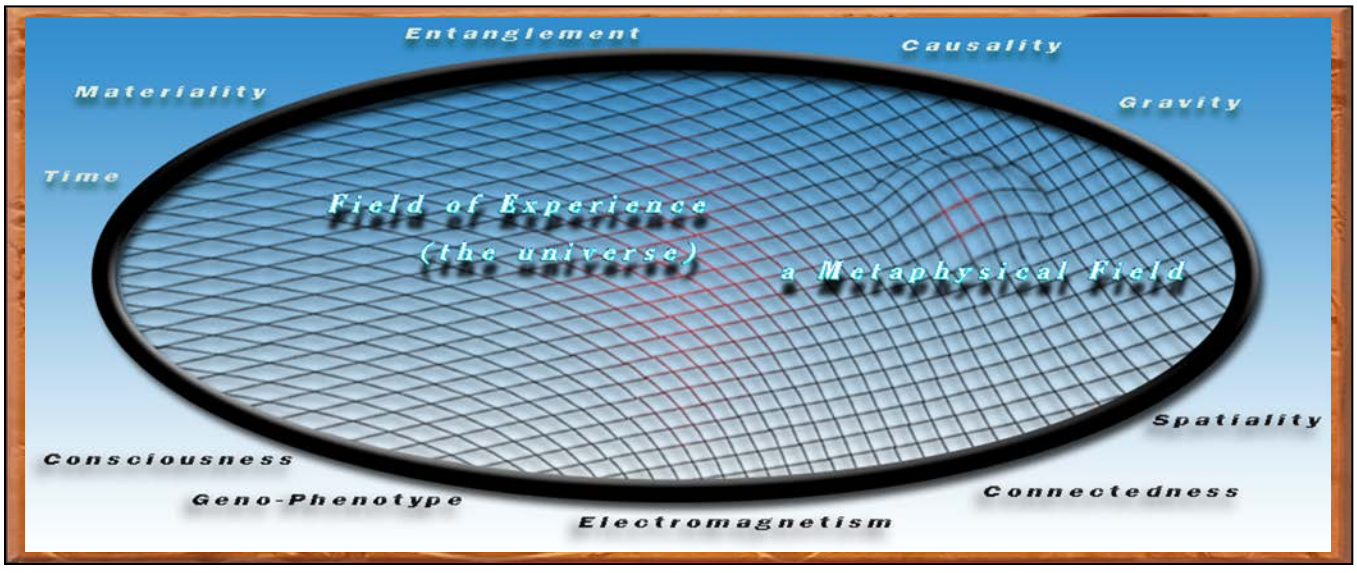
One feature of the Laws of Physical Nature is their self-contained nature, that is, their simplicity. Each of the Laws do not require any "support" in their functioning by any other of the Laws of Physical Nature. We may take and extend Heidegger's idea of equi-primordiality and apply this to the Laws. Time does not "require" causality to explain what causes one moment in time to be after another. This feature of time is inherent in time itself and no appeal to another factor or Law is or can be useful to explain the workings of time. Time does not need any "input" from causality for its functioning: that is just the way that time is.

The same can be said of entanglement, where the current issue is that in pairs of separated entangled electrons, one electron changes its direction of spin and at any distance the entangled electron immediately also changes. It is as incorrect to ask *what causes the second electron to change direction* as it is to ask *how does the second election know that it needs to change*. The *Law of Physical Nature Entanglement* requires neither the involvement of the *Causality* or *Consciousness* but is simple and self-contained and operates the way that it

should. This equi-primordial feature applies to all Laws of Physical Nature and to the interplay of such Laws within the Field of Experience, including to all the features of Law of Physical Nature Consciousness.

We may raise a contentious, or rather merely difficult, point to absorb. Namely, the Laws of Physical Nature do not "exist" within the universe. As mentioned above, the Laws of Physical Nature are indivisible, unlike any "thing" experienced in the world: as both matter and the material cause of a force may readily be divided. Thus, as we cannot access any singular part of these Laws of Physical Nature from within this universe we must state that they are not "in" the universe, but "of" the universe. The Laws of Physical Nature surround and encompass the universe, allowing action and experience to occur while remaining separate from and unaffected by any and all of the actions taking place within the universe.

Certainly, the effects of having the Laws of Physical Nature exist within the world, in fact, that is likely the very definition of the world. Thus we seek to introduce the term Field of Experience to indicate the universe proper plus the structural framework of the Laws of Physical Nature, whose interplay structures the universe at every moment in time and at every point in space and at every juncture which requires the facilitation of a Law of Physical Nature in order to present the world as sustainable world.



COGNITIVE STRUCTURES AND HUMAN EQUAL ACCESS

Thus we may say that a conscious creature cannot be conscious of or understand the Laws of Physical Nature without having epistemological/cognitive structures to allow for this. These structures likely mirror the Laws of Physical Nature, with Immanuel Kant's Categories of Thought describing some in detail such as materiality and causality. It should also be remarked that in order to have an originary collapse of a universal wave-function, there must be an individuated conscious creature; thus, we may speculate that there is a need to have some threshold concordance between the Laws of Physical Nature and the cognitive structures in order to allow for sustainable living.

We will state here that the human understanding of the Laws of Physical Nature, given our particular human cognitive structures, does not suffer from any lack of accuracy or priority, granting that other sentient creatures' cognitive structures may provide drastically different understanding of our shared universe. That is, there is no privileged stance to adjudicate a universe-in-itself: there is no thing-in-itself as all things arise within the interplay of all Laws of Physical Nature, including the necessity for an individuated conscious/sentient creature as one required element. Regardless that a particular member of the Demiurge species is that sentient creature who collapsed the originary universal wave-function, all subsequent sentient life forms have equal access to experience, neither subservient or debased from a sustainable and rich experience of life: the child has its own mind apart from that of the parents, despite that for some moments at birth, the child is truly a product of and dependent on its parents for all.

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