

The Quantum Mechanics of Mythological Paradigms

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Throughout time, parallel structures arise in multitudes of recorded storytelling. Some say that similarities in thought have disseminated throughout different cultures as a result of communicatory migration in human history, however it seems to be an intrinsic aspect of our nature and an autochthonous quality of being.¹ Mythologems in the form of legendary tales and motifs echo thematic connections, shedding light on the inherent presence of these self similar structural configurations as they propagate through time². A potential framework through which possibilities can matriculate themselves, much like the natural laws that articulate the limitations of chaos in the universe, behold a probabilistic array of reactive behaviors to enact within it; “they concentrate universally human modes of behavior into images, or perceivable patterns.” which “have taken on innumerable forms”³. These archetypes represented in scientific models and processes can better quantify exactly how imbued in the fabric of existence is the will of conscious imposition.⁴

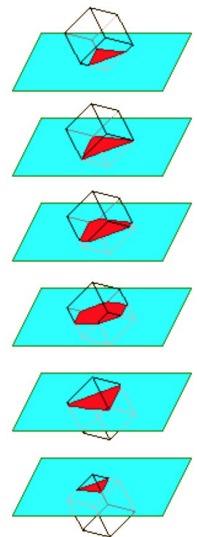
Observing how elements of these archetypes are arranged in a sense of hierarchy and the specific ways in which they interact, in order to identify and recognize these patterns in science, can illuminate the origins of this primordial psychological inclination. Pattern recognition is the link between the microcosm and the macrocosm, which indicates the connection to quantum mechanics, which is in sense, a tiny window into the bigger picture. Patterns in interactions and arrangements of subatomic particles and other phenomena in quantum mechanics can indicate underlying proclivities to certain action.

This is an attempt to utilize the the smallest known quanta, which are the literal building blocks of the universe, as the hypothetical and symbolic building blocks of these archetypes, in order to try to recognize these pertinent patterns in this microscopic yet isomorphically cosmic sample, to peer into Indra's Net of Jewels, in which the smallest fragment displays the whole in a type of infinite regression. John E. Conway and Simon B. Kochen's Free Will Theorem in physics postulates that if humans have free will, in the sense that our choices are not a function of the past, then, subject to certain assumptions, so must some elementary particles.⁵ My point is to prove this in the reverse, that the degree of freedom of choice evident in elementary particles is reflective of, in actuality, the degree to which our freedom of choice exerts itself.

Diving deeper into quantum field theory, physicists today are realizing that it is becoming more and more difficult to avoid the philosopher's topic of consciousness in their cosmogony and search for the unified theory that accounts for all phenomena. Aside from subatomic particles, even smaller quanta exist, in fact the smallest quantum possible, this is called the Planck scale. The Planck length, which is about 10^{-20} times the size of a proton, is the smallest possible unit of space, and the Planck time, which is the time it would take a photon travelling at the speed of light to cover the distance of the Planck length, or more precisely 5.39×10^{-44} seconds. Werner Heisenberg argued that the universal substrate is not continuous but discrete, organized in a grid of these Planck scale "pixels", using the existence of the size limit as evidence for its purpose.^{6,11}

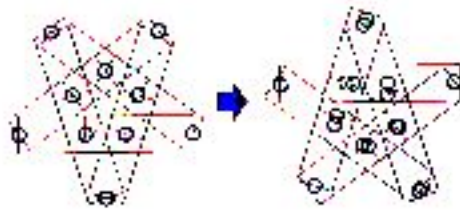
It is widely agreed upon in physics that, to some degree, the universe is made of information qubits. The Neoplatonists were right, but physics doesn't accept that information is the primordial stuff because it just is. The meddling of consciousness into empirical quantum physics begins here. In explicitly defining information, it's delineated that information is meaning generated via observation, and in turn meaning is imparted through information which is conveyed through symbols. Information needs an actualizer in order to make the associations, in physics, the part of the observer is imperative to a system within which there is information. It also raises the point that there must be a code of how the information is expressed through symbols; according to the Principle of Efficient Language and the Principle of Least Computational Action, this code of nature is likely the most efficient code.^{6,7,8} More thorough studies into the nature of the code itself reveal it has a deep connection to the Golden Ratio, as it appears in black hole phenomena which is the intersection of quantum mechanics and relativity.⁹

Structural patterns that arise in various disciplines in physics can be in part characterized by their periodicity, or rate of the self similar configurations recurrence. In order for a structure to be able to be defined as crystalline it must exhibit patterns that are periodic in either space, time or both. Quasicrystalline structures are projections of higher dimensional crystal structures, much like shadows of slices, meaning they entail innumerable interpretations that demonstrate pieces of the whole, like a cube passing through Flatland. The amount of possible shadows underlies the amount of possible language configurations of the code and resultant patterns.



Additionally, the substructural components of quasicrystals exhibit structural patterns through time and space due to their inherent degrees of freedom to oscillate locally and tunnel non-locally within the possibility grid space at a higher probability with the increase of empty space in the structure, or wiggle-room. 10

Code theoretically, this is the non-zero limit of freedom of the spatio-temporal letters of the spatiotemporal code.



Quasicrystals are examples of the previously mentioned code because it is a system with a fixed grid containing parts much like coded tiles that interact, move and assimilate according to the laws of phason dynamics but also according to some degree of imposition, or choice. And as physics has come up with exactly zero evidence of randomness in nature, the observer of information comes into play yet again as the chooser or the “mathematical operator”. Equipped with a language of geometric symbols and a space filled with hypothetical ones and zeroes, a network in which there are binary degrees of syntactical freedom with which to exhibit probabilistic but non-deterministic behavior or result. An actual crystal, on the other hand, is locked in, determined. This is the non-deterministic view of the code as an integral aspect of reality as meaning generated by syntactical choices within a geometric code. Free will and some poorly understood notion of “consciousness” must exist as a fundamental mathematical operator.¹⁰

Non-determinism in this case is relief in what sense? That we are essentially locked in to a substrate with nominal syntactic movement, which is now synonymous with free will. Crystal has no code because it has no syntactic movement, free will, it is deterministic but is non-deterministic if there is two or more degrees of freedom. Syntactical options within code have been described as a two dimensional chess board with each piece having several possibilities, if the pieces couldn't go anywhere it wouldn't be a game. With these assumptions, we are left with a non-deterministic syntactical language and a "consciousness" that operates this language. Accepting that as an aspect of quantum mechanics is essentially baffling and physicists believe that until there is a scientific definition of consciousness, further understanding will be massively inhibited.⁶

Probabilistic but unpredictable arrays of innumerable possibilities arise from this code or language and the conclusion is that archetypes are a type behavioral crystal; archetypes, as they propagate and recur throughout space and time, are the shadows indicating the presence of this crystalline periodicity pattern which is isomorphic in a way that permeates all action wherein. The wave echos through us like the microcosmic resonance.

Sources:

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