A Prelude to Meta-evolution

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Abstract

Objectives: To propose a single unified theory of evolution of life and of species based on conscious evolutionary urge that works at all levels, from the individual to the cosmic. **Methods**: We review and analyze of all major theories of evolution of life and of species to figure out unanswered questions and to bring forth the possible role of an inherent evolutionary urge in every being and in every species. The evolutionary urge is made operationally active by the proposed fundamental and key role of the cosmic mind. Findings: The cosmic mind as the repository of all mental events of all beings, having as subsets the collective minds of all species, provides an adequate structure to explain evolution of life as well as of species as an effect of the corresponding evolutionary urges inherently present. It stores, regulates and activates the evolutionary urges in beings and species and thus is the source and substratum of all evolution. The morphogenetic field is proposed to play the role of an intermediary between the cosmic mind and the physical world. It is through this morphogenetic field that the urges in individual mind or collective mind or cosmic mind are projected unto the physical world. Many evolutionary isms and paradigms stand unified in the cosmic mind. **Application/Improvements**: The urge-based approach to evolution can explain adaptation and mutation and also points out possible directions of evolution beyond the Homo sapiens.

Keywords: Adaptation, Cosmic Mind, Evolution, Morphogenetic Field, Mutation, Urge

1. Introduction

Evolutionary theory does encompass ideas and evidences regarding life's origins e.g., where it happened, which organic molecules came first, etc. but seems to miss the central focus of evolution. It explains how life changed after its origin, but how and why at all life started in the first place still remains unanswered. The existing explanation for the diversity of living beings is the diversity of environment¹. What created the diversity of environment as well as of living beings? And, what factors triggered the origin of life? What is the purpose of life and of its diversity? Each species has its own way of living and of getting sustenance from its niche. However, there are many other species as well as ecological niche not yet identified². What is the governing mechanism determining an organism's sustenance from its specific niche?

The first comprehensive theory of evolution of species was Lamarckism founded on the doctrine of inheritance of acquired characters, which stresses the role of adaptation in speciation by need-based use and disuse of organs³. It was disproved by Weismann who showed that environmental factors affect only somatic cells and not the germ cells and hence the acquired characters cannot have any role in evolution⁴. Neo-Lamarckism on the other

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hand proves that germ cells are also affected by environmental factors and can carry somatic changes to the next generation⁵⁻⁷.

In Darwinism, a living species responds to the challenges of its own geometrically increasing population as well as intra- and inter-specific competition due to the limited availability of space, food and mate by adaptive "variations" in the struggle for existence, out of which the fittest ones survive by what is termed "natural selection" or survival of the fittest. In this theory, inheritance and accumulation of useful continuous variations lead to speciation¹.

Mutation theory was proposed by Hugo de Vries who experimented on Oenothera lamarckiana plants and observed numerical chromosomal changes leading to speciation in a number of generations by self-pollination⁸. He concluded that evolution occurs by mutation and is discontinuous. Elementary species are produced in large numbers and the same mutants may recur again and again to increase chances of natural selection. Mutations are fundamentally different from fluctuations which are small and directional changes occurring continuously.

Neo-Darwinism or Modern synthetic theory is a synthesis of Darwinism with de Vries theory of mutations⁹. It emphasizes the importance of populations as the units of evolution and the central role of natural selection as the most important mechanism of evolution. Random mutations may occur by chromosomal aberrations (deletion, duplications, translocation and Inversion), numerical chromosomal mutations (euploidy or aneuploidy) and point genetic mutations (deletion, addition and substitution), gene recombination, by hybridization, by physical and chemical mutagens, and by genetic drift. Natural selection in Neo-Darwinism is different from that in Darwinism: Instead of "survival of the fittest" it now operates through differential reproduction and comparative reproductive success, and, finally, on reproductive isolation of a species for preventing harmful hybridization and for helping evolutionary divergence.

The extended modern synthesis is an integration of modern synthetic theory with the other major areas such as epigenetics inheritance¹⁰, organismal development, nich construction, multi level selection, evolvability, and

phenotypic plasticity, evolution on adaptive landscapes, reticulate evolution, evolutionary developmental biology and systems biology¹¹⁻¹³.

Regarding adaptation, apart from abiotic factors like volcanism, tectonic events, asteroid impacts and climate changes, which have been proposed to have played major roles in long term macro-evolution of species by forcing them to adapt, several biotic factors such as competition, predation and other interspecific interactions have also been proposed to have had their roles in evolution viz. van Valen's Red Queen hypothesis¹⁴ and its variants¹⁵.

Genetic drift has been proposed to be a significant mechanism for the differences among organisms. The reason for such drift has been stated to be the adaptive significance of the corresponding trait¹⁶. If such be the case what is fundamentally responsible for such "purposeful" drift? No answer to this question is forth coming.

Changes in Hox gene expressions involved in regulating development have been proposed to play definite roles in the origin of adaptations and divergence of species¹⁷. The question then is what determines the scope and the content of these changes in the Hox gene expressions?

In view of these difficulties and for a consistent explanation of evolution of life, we propose that both the processes viz. mutation and selection are targeted and focused mechanisms to bring about definite variations. If so, can they still be called random variations? Further what are the governing factors in the species and in the environment which together bring about such definite variations? The adaptive changes in the species enable it to accept new opportunity for living or to resist the unfavorable environmental change. But the response may or may not always be successful. What are the factors determining the successful response of the organism?

2. The Factor behind the Factors of Darwinian Evolution

It is well known that the four factors responsible for natural selection are: (1) Variation (2) Inheritance (3) Reproduction and (4) Variation in Survival, which all point to the fact that the key factor is the genetic composition of the responding species at the time of the response which ensures selection, and, lack of successful response may cause the species to become extinct. Now the question is: is it the genetic composition itself that is the reason of such (un) successful response or there are some other factors behind that? Or, could there be a conscious mechanism which is responsible for its response or is it truly a random one? If it is a random one, what is the probability of that random mechanism to click as the successful response? If it is a conscious mechanism then what is that? Where and how does this conscious mechanism act? Is it inside the organism or outside it or both inside and outside? These are some of the most fundamental questions to be answered.

Most forms of life are similar in many respects and the universal biologic similarities are particularly striking in the biochemical dimension, that is, from viruses to man, heredity is coded in just two chemically related substances- DNA and RNA. The genetic codes are universal. There are only four genetic "letters" in DNA: adenine, guanine, thymine and cytosine, with Uracil replacing thymine in RNA. The entire evolutionary development of the living world has taken place by combination of these letters. What actually brings about the various combinations of theses in the living beings? Are they the environmental changes, adaptations and all that is explained in biology or some other subtler factors are there? What is the triggering mechanism behind them? Whether the universal unit of life is the genetic code or something subtler is there, which is still more universal?

Evolutionary biology suggests that these bio-chemicals are biologic universals and life arose from inanimate matter only once in the history of the earth and that all organisms, no matter how diverse in their characteristics, conserve these basic features of the primordial life. As Dobzhansky asks², (without much explanation though), "what if there was no evolution, and every one of the millions of species was created by separate fiat?". What is the meaning of the word "fiat" here? A fiat, by definition, is an order or decree by a person in authority. What is the alternative mechanism to evolution that is being hinted at here in terms of fiat? Is there a supportive mechanism missed so far by evolutionary biology?

3. Breaking New Ground

Biology explains that the new varieties of species with newer traits emerged in different stages of evolution. The valid questions that arise here are: (a) Where were these newer traits before they evolved? (b) Who brought them about and made their existence possible? (c) If there was no such quality in some subtler form, then how could they emerge at all from such a vacuous state? And finally, as Dobzhansky asked², (d) Why would a creator have designed the creation in such a way as to look like evolution to us?

Why is there the struggle for survival? Is not it time to seek more fundamental answers to this question? The struggle in any organism to survive is the manifestation of an inherent urge to survive. What is this urge and where it resides and how it operates to actuate morphological evolution? Is nature itself the manifestation of some urge in the cosmic scale? These then are some of the important questions before us to be answered.

We argue that the goal of Evolutionary biology now should be to break new ground towards a scientific resolution of these unanswered questions asked in the previous paragraphs. Nothing is irrelevant in the context of a question that has arisen. Complexity is the hallmark of higher evolution.

There must be a common conscious background that determines all intra-, inter- and extra- specific interactions. Before delineating the role of the cosmic mind in the evolution of species as well as of life, we focus on some of the major theoretical structures proposed so far in regard to the latter.

4. Hierarchy of 'isms' for the Evolution of Life

Like the many isms for the evolution of species after Lamarck several points of view have emerged in the past 150 years or so of theorizing about evolution of life. We take up the central paradigmatic ones.

4.1 Mechanism

Mechanism is the doctrine that all natural phenomena including life and mind can be explained by taking recourse to purely physical and chemical processes¹⁸. It holds this as possible, because living organisms are material in nature and are not only supported by physical and chemical processes within themselves but also are influenced by physical and chemical stimuli from outside. Its proponents assort that it is possible to create life from chemicals in a test tube because it arose originally from chemical compounds in a primeval broth containing amino acids and other compounds produced by flashes of lightening etc. They argue that all living organisms differ only in degree from viruses lying on the border line between the living and the nonliving can be understood in purely physico chemical terms because they are nothing but complex crystalline aggregates of proteins and nucleic acids. For them living organisms are analogous to machine¹⁹.

4.2 Epiphenomenalism

Epiphenomenalism proposes that the mental processes are the effects of sufficiently complex self-organized living systems and are as such explainable as the collective properties of their material constituents²⁰.

Contrary to this, Grand pierre proposes the existence of a fundamental property of life in the cosmos, which leads to various cosmic life forms in various degrees of complexity²¹.

4.3 Vitalism

Bergson argued, "purposeful structures such as the eye could not have evolved mechanistically simply through a combination of random mutation and natural selection²²." Rejecting the Lamarckian explanation in terms of inheritance of acquired characters and also the idea of goal-directed evolution by some fixed transcendent plan or design, he proposed that the current of life, flowing from generation to generation, was the result of an original 'vital impetus', the *elan vital*.

According to Bergson, this impetus, dividing itself along the lines of evolution, is the fundamental cause of

variations, at least of those accumulating variations that lead to speciation, resulting in accentuation of the divergence among the evolving species. Identical evolution can be then be assumed to be due to existence of a common impetus among such groups of organisms. Thus Bergson used the vital impetus to account for evolutionary creativity, for orthogenesis and for the evolution of very similar organs in closely related groups of organisms. Further he held the impetus itself to be responsible not only for the evolution of form, but also for the evolution of instinct and intelligence. The nature of this elan vital is not clear and it may have something to do with the electromagnetic nature of cellular processes and interactions responsible for the maintenance of life of any organism²³⁻²⁴.

The question is how something which has a fixed transcendent plan and design does not have a goal? What is the origin of the 'vital impetuses? Why and how it is the fundamental cause of variation? What determined the regular passage and accumulation of certain variations? Why at all there is an accentuation in the divergence? Why this impetus worked along the lines of evolution to bring variation if the evolution itself does not have a goal? If there is no goal why impetus revealed itself in evolution of form, in the evolution of instinct and in evolution of intelligence?

4.4 Entelechy

Mechanism was refuted by Driesch by arguing that (a) The phenomenon of regulation is impossible for a purely physicochemical machine²⁵. (b) Inconceivability of a self reproducing physico-chemical machine. (c) Their reducible wholeness of the stimuli and responses in behavior and learning.

He proposed the existence of an ordering principle called 'entelechy' which contains the goal towards which it directs a physico-chemical system in such a tenacious manner that even if the normal course of development is disturbed; it nevertheless achieves the goal by some other course (equifinality). Entelechy was proposed to be a non spatial natural causal factor which nevertheless acted into space to determine the future of physico-chemical processes. Thus, in Driesch's scheme of things, goal-directed evolution finds a place through entelechy but the nature and the mode of action of entelechy remain unexplained.

Butler argued that all life, and not just human life, is teleological and is endowed with consciousness, memor and direction of purpose²⁶. These views match with the observation that living organisms are governed by a greatest action principle implying biological teleology rather than the least action principle of physics for non-living systems²⁷.

4.5 Organicism

Sheldrake argues that mechanistic biology fails to satisfactorily explain phenomena like morphogenesis, instinct and memory in living organisms in terms of purely laws of physics and chemistry¹⁹. Even the vitalism of Bergson and Driesch could not explain these phenomena in any more satisfactory manner. The failure of the vita list mechanist theories led Waddington, Thom and Sheldrake to propose and develop holistic organismic theories²⁸⁻³² basing on the philosophy of Whitehead.

Haldane wrote, "We perceive the organism as a self-regulating entity" every effort to analyze it into components that can be reduced to a mechanical explanation violates this central explanation³³. Supporting organicism, he held that a purely mechanistic interpretation cannot account for the characteristics of life and attempted to show the invalidity of both vita list and mechanist approaches to understand life. What is self-regulation and what is its mechanism?

4.6 Emergentism

Emergent evolution or emergentism proposed first by Morgan holds that in the course of evolution, some entirely new properties, such as mind and consciousness, appear at certain critical points, usually because of an unpredictable rearrangement of the already existing entities³⁴.

This aspect was excluded by Darwin, but Wallace concluded that, "Life itself cannot be understood except by means of a theory that includes an organizing and directive Life-Principle which involves a Creative Power, a directive Mind and finally an ultimate Purpose....if so, life must be antecedent to organization, and can only be conceived as indissolubly connected with spirit and with thought, and with the cause of the directive energy everywhere manifested in the growth of living things ... endowed with the mysterious organizing power we term life"³⁵. It supports the view of Hunter and Owen that "life is the cause, not the consequence" of the organization of matter³⁶. Thus, life precedes matter and when it infuses matter, forms living matter (protoplasm). Thus life as an organizing principle is fundamentally different from matter.

Emergent evolution was revived by Reid, who states that the modern evolutionary synthesis with its emphasis on natural selection is an incomplete picture of evolution, and emergent evolution can explain the origin of genetic variation³⁷⁻³⁸. In our view, the "directive mind" that Wallace hinted at, must be taken seriously to have a complete picture of evolution.

In what follows we focus on the question of how mental factors could be responsible for bringing about morphological evolution.

5. The Evolutionary Role of Mind

Darwin in his notebook-C³⁹ writes about the human being: "he possesses some of the same general instincts and moral feelings as animalsthey on the other hand cannot reason.... but man has reasoning powers in excess. Instead of definite instincts This is a replacement in mental machinery-so analogous to what we see in bodily, that it does not stagger me".

By "analogous mental evolution to the physical", what did Darwin actually mean? Three distinct possibilities arise: (1) The mental and physical evolutions are parallel and independent (2) The mental evolution is caused by physical evolution into higher complexity of brain structure (3) The mental evolution causes the physical evolution of complexity of brain structure. Which of these three Darwin had in mind when he penned the quoted lines on human evolution?

The first alternative is obviously not acceptable in view of the mind-brain connection which precludes an independence of bodily (physical) evolution from mental evolution. The second alternative, of which Darwin and all evolutionary biologists seem to be adherents, requires an explanation for the causative factors behind natural selection itself which led to physical evolution, which in turn would grant it precedence over corresponding mental evolution. We are thus left with the less favored last alternative which implies that all physical evolution may have mental causes since in terms of purely physical causes; morphological speciation can hardly be explained.

As Dobzhanskyargued²: "But what if there was no evolution and every one of the millions of species was created by separate fiat?" He seems to point out that evolution may in some way be an intelligent design, though he did not explain it in details. How could evolution be an intelligent design when intelligence itself is assumed to have evolved much later? If at all a decree was there, by an unknown authority, what was its status and purpose? Was it a physical encoding in DNA or a metaphysical force that worked its way through matter in a manner that ultimately appears explicable by evolution?

Is the fiat for a single species, a portion of the cosmic mind, the metaphysical repository of all thoughts and desires and wishes? Could it be that the existence and evolution of everything is dependent on, and controlled by, the laws of the cosmic mind? If it is about evolution of a single species then it is having a separate plan of evolution in terms of the corresponding fiat. But in addition, we find that many other species also exist and along with them the "rest of the world" or the physical world also exists, each with their independent laws, because their dynamics are largely independent of each other. For example, the absence of snakes in Hawaiian Islands is independent of the dwindling tiger population in India as well as of the melting of Himalayan glaciers or of the lunar and solar eclipses. Intra-specific, inter-specific and extra-specific interactions leading to interdependence are always local in nature and obey local laws only.

In our view, neither the authority was a humanoid person nor was the decree a verbal order or written document. Rather it was the action of a cosmic mind that manifested through the different stages of complexity, order and organization of the nonliving and living in the history of the cosmos for its own purposes by its own laws. The existence of the cosmic mind must be accepted as the governing author of the dynamical evolution of all the species as also of the "rest of the world" and hence, determines the nature of the world in totality. So, the independent evolution of the physical world over that of the species is commensurate with the proposal of the existence of the cosmic mind.

The 'rest of the world' spoken of here is not merely the physical universe but also contains the mental aspects. The existence of a cosmic mind has been proposed in physics and psychology as necessary for an explanation of fundamental processes⁴⁰⁻⁴⁸. Bergson also, in analyzing mechanism, concluded that memory is not material and is not stored physically or chemically within the brain; the brain is not a "reservoir of images"²². This means that mind and mental processes are nonmaterial and hence metaphysical in nature.

This gives us a clue to understanding the metaphysical roots of the process of evolution. The ego of the organism draws onto itself from the surrounding *mind field* (*i.e.* cosmic mind) a portion corresponding to its latent urges and becomes the individual mind. It is through the instrumentality of its individual mind that the organism works in the direction of perpetuating itself by definite modes of interactions with the rest of the world. There have been proposals in the literature that the mind field associated with the individual brain may be a conscious electromagnetic field⁴⁹⁻⁵⁰.

The individual's utilizing a portion of the cosmic mind can be likened to the use of air by an organism for respiration purposes: every individual uses the same atmospheric air for sustaining its life. Similarly also, every individual uses the cosmic mind which is present everywhere for its mentation purposes. The two particular modes in which the individual mind relates itself to the external world are respectively attachment (attraction) and aversion (repulsion) towards those objects, beings and environments that ensure perpetuation of existence and those that jeopardize it. It seeks association with the former and disassociation from the latter. In seeking freedom from the latter, the organism tries to adapt and thereby evolves through the instrumentality of the individual mind.

6. Urge-Propelled Evolution

We propose that the teleological⁵¹ "urge for self-perpetuation" is a more fundamental criterion to understand evolution rather than the mere dogma of "survival of the fittest". This urge is responsible for making an organism fittest by competing against adversities. At a deeper level this urge derives from the notion of its being an individual having the fundamental character of existence "I Exist". This is the first primordial thought-form in an organism that sets it apart from the rest of the world. The recognition of its separate individual existence is coeval with the recognition of the existence of a world outside. These two existences arising out of the sense of a "separatist ego" of the individual now face each other and the individual finds itself severely limited in extent and content, compared to the rest of the world which seems to be infinite and eternal to the point-like localized and short-lived ego of the individual. Thus is born the urge to perpetuate individual existence by definite modes of interaction with the rest of the world, which is, of course, filled with all necessary ingredients for such interaction.

Cosmic mind is the superset of all collective minds (Figure 1). The collective mind for a single phylum/ phenotype/genotype is made up of the corresponding urges for such manifestation via the intermediary of the Morphic field. The archetypal complex in the collective mind projects on to the Morphic field a subtle form, the Morphic form. Individual organisms manifest in gross material form by receiving the impress of the Morphic form further distinguished by different individual urges.

7. Evolution of Species

The evolution of a species can likewise be understood by invoking the existence and operations of a collective mind⁴¹ for the species placed in a particular environment. In Jung's psychological framework, archetypes are innate, universal prototypes for ideas and may be used to interpret observations. A group of memories and interpretations associated with an archetype is a complex. Jung treated the archetypes as psychological organs analogous to physical ones in that both are morphological constructs



Figure 1. Urge-based evolution of species through projection from the archetypes in the cosmic mind.

that arose through evolution. Here Jung echoes Darwin: Jung writes "the archetypes exist in a psychic system of a collective, universal and impersonal nature⁵². Out of this system, the invisible forms can appear in our mind and guide our imagination, perception and thinking". Further, he defines the archetypes as invisible, real and powerful forms having potential to appear in the empirical world and act in it⁵³. On the other hand evolution itself can be considered as an archetypal construct and we can use this idea to explain the entire process of evolution using innumerable archetypes as the primary driving force in the form of their constitutive urges.

The collective mind is again a part of the cosmic mind but is larger in magnitude than any individual mind of a member of the species. As the organism gains experience through definite modes of interaction with its environment, they go to shape up and modify its mental structure which is infused into the Morphic attractor, a specific and appropriate future physiological form carved out of the morphogenetic field⁵⁴ which it desires to grow into.

8. Understanding Adaptation

Repeated common experience by all members of a species likewise gets into the structure of the collective mind of that species. For example, the recognition of a particular prey species even without previous acquaintance in a predator is seen to be quite spontaneous or instinctive. The recognition of a particular curative herb by the carnivorous species for getting rid of ailments is another such instance. Similarly, different kinds of migration in fish species like salmon, shad and eels cannot be explained adequately by taking into account chemical or other environmental cues. This means that deep within the collective psyche of a species, there remain the past experiences of the species, which the individual organism or species can connect to, and bank on for its continued existence and survival.

Similarly any new adaptive requirement felt by an individual or a group of individuals in a species is lodged in the collective psyche of that species to which its future generations are inseparably connected and thus get facilitated for the corresponding adaptation.

The subhuman species are endowed with an instinctive mind only, and therefore, their requirements are all instinctive, which are common to all members of a definite species corresponding to their collective psyche which does not have much structure apart from being made up of those instincts only. Thus due to such resonance, members of such species have an advantage of free communication with their collective psyche for the fulfilment of their adaptive requirements. Any new experience gained or requirement felt by any member goes to enrich the structure of their collective psyche which becomes a common endowment for their future generations and thereby facilitates adaptation.

9. Explanation of Mutation

The fundamental cause behind mutations remains untraced even in the extended evolutionary synthesis, The urge-based evolution proposed here can explain the reasons behind all mutational mechanisms. In this view, the gene responsible for a trait before its material manifestation is in a subtle form in the corresponding Morphic form. The Morphic form is prepared by the projection of the urges on to the morphogenetic field. The urges themselves are lodged in the collective mind which is part and parcel of the cosmic mind.

10. Urge-Coding in DNA

The mechanism of meta-evolution proposed here can indeed be applied to understand Lamarckism. For example, the collective requirement of the giraffe species to have longer neck is ultimately a requirement in each individual Giraffe. But the individual's DNA is already fixed! The requirement of longer neck must somehow be encoded in the DNA to be passed on to the next generation so that they are born with at least progressively slightly longer necks down each succeeding generation. How can such encoding of a requirement be there in the physical substrate of the DNA?

This can be answered if we assume that the "urge" in every individual giraffe for having longer neck gets epigenetically incorporated into the DNA and down the generations this urge gets magnified and finally appears as an acquired trait.

11. Human Evolution

In case of humans the intelligence is much more developed and the collective human psyche (Collective unconscious of Jung) is a complex repository of unimaginable variety of internal experiences (thoughts, feelings, desires) and external experiences of the individuals. Transcending the instinct, the higher evolved human operates in the domain of intellect where rational analysis takes the centre stage. At the same time, its individuality grows into an extremely personalized psyche (ego) with its own set of internal and external experiences. As a result, the human individual finds itself rather alienated from the collective psyche of the species because of being woven out of its own highly structured psyche. Thus, contrary to subhuman species, the human individual is less in free communication with the collective human psyche, which is in general in only one-way communication with the individual human psyche *i.e.* it only receives the individual's entire gamut of experiences, but it cannot freely land itself to be put to good use by the individual in a routine manner as in totally instinctive subhuman species⁵⁵.

Therefore, evolution beyond the individual-centric human status can be achieved only by establishing free communication with the collective psyche or the cosmic mind, since the human stage contains in itself all the preceding stages. The more the human individual sheds its personalized patterns of psychic movement for selfish pursuits, the greater becomes the communication with the cosmic mind. And, ultimately the intellect is transcended into intuition leading to the opening of flood-gates for cosmic knowledge to flow in.

12. Urge for Continuation of Existence

The urge for survival and the urge for self-perpetuation (by reproduction) seen in all organisms can both be interpreted as an inherent urge for existence in every organism. This arises because of an insecurity felt in an organism when it finds itself placed in the enormity of the surrounding world outside and with which it has perforce to interact in definite modes for the continuation of its physical being. All that is there in the outside world becomes automatically classified as factors (1) Favorable (2) Unfavorable and (3) Neutral to its existence. Accordingly, it interacts with the world to have the favorable factors, to be away from the unfavorable ones and to be indifferent to the neutral ones. This is the struggle for survival. It perceives a threat to its existence from the unfavorable factors and thus comes in the grip of continuous insecurity. The urge for existence leads to an urge for freedom from such insecurity and from the unfavorable causative factors. It finds fulfillment of wants and comfortable existence from the favorable factors and thus wants continuously to be in the midst of such factors. Thus the urge for existence leads to the urge for fulfillment.

Clash of urge for survival occurs when the urge for survival of the predator species (Tiger) clashes with the same in the prey species (deer) leading to adaptations in both (due to biotic factors) and the result is the growth and decay of species and sometimes it can lead to the elimination of a species altogether which appears as natural selection of the other species as it survives as the fittest in the circumstances.

Similarly, for adaptations based on a biotic factors, the clash of urges results in hostile conditions in the habitat leading to decay of a species if it fails to adapt sufficiently skillfully, or, to speciation by variation in the case of successful adaptation. For example, decrease of forest cover or pollution of water bodies by humans leads to distinct adaptive strategies (e.g. wild tigers hunting pets and street dogs in nearby townships at night) in the species that have the forest or water bodies as their habitats.

Thus selection or elimination (extinction) can both be seen to be manifestation of the clash of urge for existence in different species. A calamity like an earthquake or a flood or a volcanic eruption is similarly an environmental factor forcing adaptation in concerned species which have their urge for survival pitted against such unfavorable conditions. Are such natural calamities results of some kind of urge in the cosmic mind corresponding to other more expanded beings is not clear, but it cannot be ruled out as altogether absurd.

13. Beyond Biological Evolution

Sooner or later, however it finds that its favorable factors are no longer available in abundance and even if available they fail to serve the purpose due to various reasons and thus turn unfavorable. The joy and fulfillment derived from them can no more be found as the organism attains to old age and nears death. The desires to court the favorable factors and reject the unfavorable ones thus is ultimately linked to the desire for freedom and the desire for unending joy or bliss; freedom from wants and the joy of fulfillment.

Thus, a superhuman urge exists within us which prods us towards supreme freedom. It is only in the highest evolved humans that such recognition of the urges inherent in the being can come after much introspection and this leads one to go beyond the possession or rejection of favorable or unfavorable factors, on to the fundamental urges for existence, freedom and bliss and thus it heralds a new era of evolution of the psyche. It goes without saying that the so called neutral factors, towards which an organism cultivates indifference at some stage, also change their nature with growth of understanding and thus may became favorable or unfavorable as time progresses.

Finally, when it dawns on the individual that the urges for existence, freedom and bliss can't be satisfied permanently by means of possession or rejection of factors external to itself, it searches for ways to quench such urges by turning inward and realizes that the very existence of such urges came from its perception of itself as being a separate entity apart from the world. If it thus identifies this root cause and eradicates it by some means that make it attuned to the cosmic mind and thus paves the way for the dawn of intuition in them, then there ensues the perfection and completion of the whole evolutionary process which started with the recognition of an ego, that gives a sense of a separate identity to itself and thus set it apart from the rest of the world in the first place. Wallace³⁵ refers to the operation of another power called "mind" that utilizes the power of life and is connected with a higher realm than life or matter: "evidence of a foreseeing mind which...so directed and organized that life, in all its myriad forms, as, in the far-off future, to provide all that was most essential for the growth and development of man's spiritual nature...

This completes the process of evolution of an individual organism that had begun in utter ignorance as an individual ego having to interact with the rest of the world purposefully to perpetuate its existence, not knowing that in the annihilation of the same ego only lay the true portal to eternal existence, freedom and joy.

14. Re-Analysis of Weismann Experiment

Weismann⁴ conducted experiments for disproving Lamarckism by cutting off tails of rats for several generations. He assumed that the absence of tails in preceding generations is tantamount to disuse of tails and as per Lamarckism it should lead to atrophy and ultimately to vanishing of tails altogether after a sufficient number of generations. He reportedly found no such effect and concluded that disuse of an organ does not lead to such variations as would ultimately lead to the complete disappearance of that organ in the species.

In view of our model several interesting facts need to be noted in order to reassess the Weismann's conclusions.

The mice did not willfully put their tails to disuse. Rather their tails were cut off by Weismann as an external interference in their organismic wholeness.

Amputation of a limb of an organism has recently been experimentally shown to lead to Phantom limb syndrome, in which the amputee organism continues to maintain a subtle awareness of the presence of the amputated limb and in certain situations even tries to use it as if it were still there.

The tail of a mouse, not being a vestigial organ, its amputation must cause a sense of incompleteness, imperfection and discomfort for the mouse due to which it must have an increased urge for having the tail. This means that the urge for developing a tail would have become more pronounced in such amputee mice, and they might indeed have developed slightly little larger tails with succeeding generations of such forced amputation, contrary to Weismann's expectations.

14.1 Explanation

If, as is being proposed here, urge is the fundamental determinant of evolution then the heightened urge in amputee mice over many generations must lead to development of even longer or thicker tails rather than shorter and thinner ones! This means that any artificial amputational intervention, as in Weismann experiment, would never lead to the kind of effect that he expected to obtain. Rather the very opposite results may well be obtained! Hence the very method of disproving Lamarckism was at fault in this case. It will be argued further (see conclusion) that the evolution of the individual mind of whatever species is always towards the expansive state of the cosmic mind.

15. Discussion

Various epigenetic mechanisms⁵⁶ have been proposed in the literature to account for some discontinuous genetic variations, though the reasons for them are not yet clear. The meta-evolution proposed here may be used to explain such epigenetic variations as being due to operations of the corresponding urges.

The urge in cosmic mind after getting manifested through the collective mind of the species in the form of general traits for that species creates the appropriate morphogenetic form in the morphogenetic field and that Morphic form gets gross form by projecting itself into the material nature. Phenotypic and genotypic variations occur from the differences in other additional urges. For example, preying on deer by tigers, lions and wolfs is a carnivorous urge, common to each of them but the differences among them arise from other subsidiary urges specific to each species. The epigenetic variations occur due to such subsidiary urges during the projection from the Morphic form to the material form through appropriate mechanisms. Thus the whole universe is a physical manifestation of the giant evolutionary force of the cosmic urge using the genes only as the medium of its variegated operations⁵². It is a matter of future research whether this is the hidden message that ReMine intended to highlight by painstakingly bringing to fore certain loopholes in traditional evolutionary arguments⁵⁸.

16. Conclusion

All evolution, be it at the level of individual, species or of the cosmos itself, can be seen to be a manifestation of a corresponding urge in a psychic domain. In particular evolution of species is determined and governed by the collective urge in the collective psyche of the species which through the morphogenetic field gets manifested as the change in form of the evolving species. The collective psyche of a species is part and parcel of the cosmic mind which contains all the urges, desires, motivations as also the blue print for realization by bring into being such physical forms as are needed for the same. The process is facilitated by an intervening morphogenetic field that is the connecting link between the cosmic mind and the cosmos.

17. References

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