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The Indomitable Force of Instinctive Urge in Competitive Success, Stress Response and Evolution

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ABSTRACT

Drawing upon Darwin's important observations on the fundamental role of instincts in evolution of individuals and species we make an analysis of them, classify them and also study their origin and evolution. We find that there are four major primordial instincts, namely, perpetuation, Lordship, survival and Mother instinct which give rise to all the diverse instincts observed in animals and plants. The perpetuation instinct turns out to be the root of all instincts and the most powerful one. Its origins too can be traced back to the level of self-replication in biomolecules even before the emergence of unicellular life forms. The definite urges following from the instincts drive the organism to specific activities through which it seeks to fulfill the urges. In the process, competition comes in generating stress and adaptation as a necessary consequence thereby paving way for evolution through epigenetic changes that get translated into mutations down the succeeding generations.

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INTRODUCTION

Living organisms engage in activities leading to experiences which get encoded in their psyche as impressions. The impressions when awakened manifest as instincts. Activated instincts are the corresponding urges which propel the organism to engage in activities towards their fulfilment. Thus instincts are innate in an organism that lead to corresponding urges for specific activities. An Instinct is an urgent force which compels the organism to act and direct its course of action with the infallible "wisdom of nature". The urge is thus a drive ensuing from the instinct in the direction of its fulfilment. However, some changes into the instinctive activities continue to occur because of the learning process but the hierarchy of the intensity of instinctive urges remains unchanged[1,2,3]. To fulfill the instinctive urge, the organism adapts through learning which contributes to its pattern of behavior. For example, cat killing mice is presumed to be instinctive behavior, which is learned by the kitten by seeing the adult cats killing mice. But, when kitten are reared with mice they rarely kill them. As another example, if a Chaffinch is reared in isolated manner from its kinds, it sings differently compared to those reared with the adult birds of its kind and it may so happen that it can never learn the full song of the species, if kept isolated from its kind from the beginning[4].

Instinctive behavior is inherited and is very deeply ingrained in an organism but can be influenced. The urge to perform instinctive acts being very forceful makes Instinctive behaviors the most dominant, if not interfered with by inhibitory artificial factors that force a change in one's habit and/or habitat etc. Instincts automatically get triggered in the natural environment. Darwin devoted an entire chapter titled "Instincts" to them but avoided defining or going into the origins of instincts but admitted that they were "primary mental powers" and feared that the hive-making instinct in bees might overthrow his theory[5]!

"... ...so wonderful an instinct as that of the hive-bee making its cells will probably have occurred to many readers, as a difficulty sufficient to over-throw my whole theory. I must premise, that I have nothing to do with the origin of the primary mental powers, any more than I have with that of life itself. We are concerned only with the diversities of instinct and of the other mental qualities of animals within the same class. I will not attempt any definition of instinct....."

For the sake of clarity, we note only the most important points here from the master:

1) The instincts hold sufficient difficulty to overthrow evolution theory
2) Instincts are primary mental powers
3) There are other mental qualities in addition to instincts
4) These mental qualities including instincts have diversity within the same class of animals
5) He did not attempt to define instincts (presumably because it is difficult to do so).

In this and subsequent works we will try to address these issues in greater detail and show that evolution theory is not in peril but is in dire need of augmentation if instincts are to be incorporated as key players in evolution.

THE FOUR PRIMORDIAL INSTINCTS

An instinct powerfully manifests as urge in the psyche to run towards the corresponding activity with the objects. An activity generates an experience and gets deposited as an impression and goes to memory for storage. Repetition of the same makes the impression deeper still, and the corresponding instinct more forceful and the urge more overpowering.

Freud classified the instincts broadly into two classes: ***Eros*** or life instinct and ***Thanatoes*** or Death Instinct[6]. The major primordial instincts and their corresponding urges and activities are as given in table-1 below.

TABLE: 1 The major primordial instincts and their corresponding urges and activities

Sl. No.	Instinct	Urge	Activities
1	Perpetuation	Reproduction	Mitosis, Meiosis, Conjugation, Pollination, Copulation.
2	Lordship	Possession	Demarcation, Fighting, Grouping, Leadership, Exploitation.
3	Survival	Food	Hunting, Gathering, Preservation, Cultivation, Symbiosis, Escape.
4	Mother	Nurture	Nesting, Care, Love, Sacrifice.

The evolutionary urge, proceeding from the cosmic mind full of all impressions, manifests as life, and from then on, it is only learned behavior in the organism all the way through purposive association in the direction of evolution to higher and higher layers of life[7]. In the process, the ubiquitous prey-predator relationship can be seen to be a universal mechanism for survival and perpetuation[8]. Prey recognition as a learned behavior, concerns the ability to cognize the food for a species as opposed to that which is not its food *i.e.* non-food. It has to be admitted that in prey recognition there is a genetic as well as a behavioral (learned) component[9]. The latter depends on the interaction of the species/individual with its environment. In particular, as part of the parental nurture process, the offspring learn to recognize and differentiate between the food and the non-food. Carnivores reared in captivity without exposure to any kind of animal diet have been seen to have turned completely vegetarian with milk and milk products for their protein supplement. They even lose their brutal instincts when they are nurtured with the prey species in the same environment. In such cases of peaceful prey-predator cohabitation, only chance predation may occur rarely as part of instinct for survival or defense against fatal attack[10]. It seems, if the hunger instinct is quenched by some food, then a predator may not find the necessity to prey, even if they are together. Instinct for survival is manifest as the dominant urge for food. However, deviation in food selection can occur

when food is unavailable and the urge for food becomes most powerful. This dominant urge for food, is sometimes, temporarily though, seen to be overpowered by the urge for ensuring immediate physical survival *e. g.* to escape from another predator or withstand a natural calamity.

The primordial instincts are ingrained in the animal as well as plant species which keep manifesting generation to generation through self-perpetuation. Even when there is an unusual prey-predator relationship, it is this instinct for self-perpetuation only which overpowers the usual law of prey-predator relationship[8,11].

ORIGIN AND EVOLUTION OF THE PERPETUATION INSTINCT AND URGE FOR REPRODUCTION

An instinct is an involuntary impetus arising from deep within the psyche and having the potential to drive an organism towards fulfillment of the corresponding urge. The instinct of self perpetuation ranks as the deepest and the most powerful among all the instincts. Its origins can be traced even to the level of biomolecules themselves before even cellular life as such came into being! The evolution of life through non-living ingredients was possible by the action of a cosmic evolutionary force which led at first to the formation of atoms and molecules, and then on to the formation of larger aggregates such as self replicating bio-molecules[7,8,12]. This property of self-replication in bio-molecules can be explained as the result of an "urge" for self-perpetuation of the form and structure. These self-replicating bio-molecules became the substrate for the evolution of unicellular organisms in which the replication of these bio-molecules was guaranteed in a programmed manner by the operation of life processes in the cell. These processes included definite interactions with the environment so that the bio-molecules can be replicated within the cell by exchange of matter, energy and order with the surrounding. This leads to cell growth and cell division whereby a unicellular organism replicates itself, achieving the goal of self perpetuation as a complex aggregate of wholeness.

This process of multiplication by successive cell divisions forms the basis of the emergence of the multicellular organisms with progressively higher levels of complexity. The instinct for self perpetuation continues to operate through different modes of reproduction in plants and animals resulting in diversification and speciation. The requirement of genetic variations for the perpetuation of species led to the evolution of the mode of sexual reproduction from its predecessor, the asexual mode, wherein physiological replication was shared, leading to diversification which enables the species to thrive in unfavorable environments, even if the unfit among them get readily eliminated. Thus this strongest instinct of self-perpetuation manifests as the urge for reproduction, which ranks uppermost among all the urges characterizing individuals and species. The next in order is the

instinct for Lordship or power, for which organisms are seen to put even their survival itself at stake. These more powerful instincts don't seem to care for individual physiological survival at all!

INSTINCT FOR LORDSHIP AND URGE TO GRAB:

The impulse for self-perpetuation resides in the bio-molecules as the "urge" for self-replication and takes the form of an electrical potential due to unsaturated and dangling bonds through the functional groups and cofactors that look out for ligand-receptor bonding with the appropriate radical that would ensure their self replication[13]. This potential drives all cellular activity for growth and cell division in unicellular organism as well as in every cell of a multi-cellular organism. This potential to grab the necessary ingredients for self replication at the cellular level appears as the instinct of power in an organism to grab such materials as would ensure its growth by continuous cell division. Thus the instinct of perpetuation functions though the instinct of power to successfully occupy an appropriate niche where it can collect all the ingredients for multiplication. Cell growth and cell division require material objects from the surrounding which are to be taken in by the organism to support such processes.

INSTINCT FOR SURVIVAL AND URGE FOR FOOD

Self-perpetuation requires grabbing of appropriate material from surrounding at the level of cells, which gives rise to the instinct for power. The continuous demand for the consumption of materials by the cell through metabolic processes manifests as hunger in the organism for the quenching of which it searches for food. This is the instinct for survival which is a functional aspect of the instinct for Lordship.

The key observation of the myriad ramifications of the single instinct of self perpetuation through the various means and methods of survival and reproduction that the organisms adopt, confirms us of its being the "only" real fundamental instinct. It acts through each individual organism as a tremendous impetus to perpetuate itself even without any notion in the organism at all either of the self or of the possible methods of perpetuation. It acted vigorously all along to bring into existence the self replicating bio-molecules. It acted in and through all the forms of life from unicellular archae-bacteria to the complex *homo sapiens* and is certain to keep operating beyond into the yet unknown forms that life is to take in future.

DOMINANCE OF PERPETUATION INSTINCT

The primordial instinct of self perpetuation is the only fundamental driving force for genesis and evolution of universes even beyond the plane of human imagination. Origin of this fundamental force as well as its ultimate goal both are perhaps rooted in an eternal existence which has neither

form nor structure nor any definite denomination but its existence has to be admitted if we are to satisfactorily answer the whys and the wherefores of this continuously evolving universe of ours. So many galaxies are waiting to be formed out of cosmic dust clouds; so many stars are devoid of any planetary system; so many planets are devoid of life-supporting factors, and, in the only planet where we know life has certainly evolved to a stage where intelligence has manifested to an extent that these questions can be dwelt upon, there also, so many life forms have become extinct and many more are to face extinction in near future! Such is the saga of this primordial instinct of self-perpetuation which incessantly drives all individual existences forward to realize their perpetual self-existence. It seems that particular forms, substances and the processes are immaterial as long as they serve the purpose of self-perpetuation.

It is only as a part of its powerful ubiquitous operations that it generates, sustains and destroys molecules in cells, cells in an organism, organisms in species, species in the community of life, life in the biosphere of a planet, planet in stars, stars in galaxies and galaxies in the universe and ultimately universes in the multiverse. It utilizes matter, energy, order and morphic field to operate upon them in the process of its movement from eternity to eternity. The entire universe of the phenomenal existence thus owes its origin, sustenance and dissolution to this fundamental force of the instinct of self-perpetuation.

INSTINCTIVE COMPETITION

Every organism finds itself in a niche where it is naturally placed in the midst of a variety of biotic and abiotic factors. It is forced by the very nature of circumstances to enter into various modes of competition with other organisms, be they of its own species or of other species. To survive it needs to compete for food, to perpetuate by reproduction it competes for mate and so on for other factors too which make competition the central factor determining its success in the struggle for survival. The more it competes the more it experiences the competitive stress which helps it to adapt and evolve. The stress of competition is however due to a threat to its survival in its niche at a desirable level of comfort, convenience, assurance, security and freedom. The stress of competition mars these aspects of its niche and therefore it does not want competition to be there at all. However, competition is inherent in the scheme of nature and any avoidance of it only leads to stagnation, or worse still, degradation. Absence of competition leads to inertia, sloth, inactivity, lack of zeal and ignorance of fundamental facts within and without which all lead to a wholesale degeneration of life. Therefore competition has been given to all organisms without exception as the only necessary means of evolution to higher states of life. Competition at different grades leads to different levels of stress and thus creates variations in the rates of adaptive evolution in individuals and in species.

No niche is competition-free at all times, from all corners and an organism has to continuously guard the frontiers and the overlaps against possible incursions, encroachment from competitors.

COMPETITIVE STRESS RESPONSE AND EVOLUTION

Stress in general terms can be characterized as any factor, biotic and abiotic, that potentially threatens the niche of the living organism[14,15]. There are several types of stresses. The stress which is induced by biotic factors results from competition that is either intra-specific or inter-specific or both. In the long ecological time scale, the dynamics of evolutionary stress and evolutionary dynamics of stress cannot have patent evidence because in the course of time, the habit and the habitat of the organism and the adaptive factors have all changed. When there is stress due to competition, the organism may tolerate stress or avoid stress. The one which tolerates stress, adapts by developing adaptive skills while the one that avoids stress also finally has to tolerate a different kind of stress in order to survive and thus develops adaptive skills for a corresponding stress tolerance.

The stresses have been related to hormonal changes in the endocrine system in humans and their epigenetic impact have been studied[16]. All competitive stress can similarly be assumed to be recorded continuously through epigenetic mechanisms in every organism[17-20].

Not all organisms show group behavior and therefore evolution must be an individual affair. Though similar organisms undergoing similar competitive stress are bound to undergo similar evolutionary changes and therefore evolution can be only loosely spoken of as occurring in the species. The fact that the competitive stress and the response in an organism determine the corresponding adaptations leads us to conclude that the modification of any trait is in accordance with the corresponding stress. Not all stress come under competitive stress at a particular epoch. In particular, the traits that do not come under any competitive stress are bound to continue to exist as they are through generations. This stress, the urge to adapt and the actual method of adaptation- all exist and function at the level of the individual psyche functioning through the physiological apparatus of the body of the organism through stresses, responses and the adaptive mechanisms till the organism dies. What happens to the struggling psyche at death? Does it perish along with the dissolution of the body of the organism or does it pass out of it in some subtle inscrutable form made up of the bundle of impressions to be stored into a different realm of the cosmic mind?

Our thesis of meta-evolution holds the cosmic mind as the repository of all minds[7]. The electromagnetic nature of the psyche grants it a metaphysical existence beyond the physical world of matter and hence of the physical bodies. Once its existence is accepted to be in continuation after the

physical body drops, it is not far to endow it with the necessary structure and patterns corresponding to the various struggles, stresses and experiences which grant it a complex configuration that has the potential to take up a fresh physical form appropriate to that complex configuration with the help of the morphic field[21-23]. The morphic field contains the essential morphological form of the organism containing all ingredients of its psyche. Whichever form it seeks to take up, the corresponding psychical form enters into the zygote to activate and express the corresponding genes in the DNA. The struggles and the stresses, the adaptive mechanisms and the experiences thus manifest as new members of the species, carrying forward those very struggles and stresses in a more intensified manner as per the demands of the prevailing biotic and abiotic environment, having carried with them the previously generated epigenetic marks and mutations for future progress in the path of evolution and to successfully generate or obliterate traits leading to speciation.

Speciation does not become manifest as long as majority of the most fundamental physiological traits remain intact because of the absence of the corresponding competitive stresses for such modifications. However, the minor modifications to smaller groups of traits may lead to sibling species, and at a finer level, to individual differences within the sibling species.

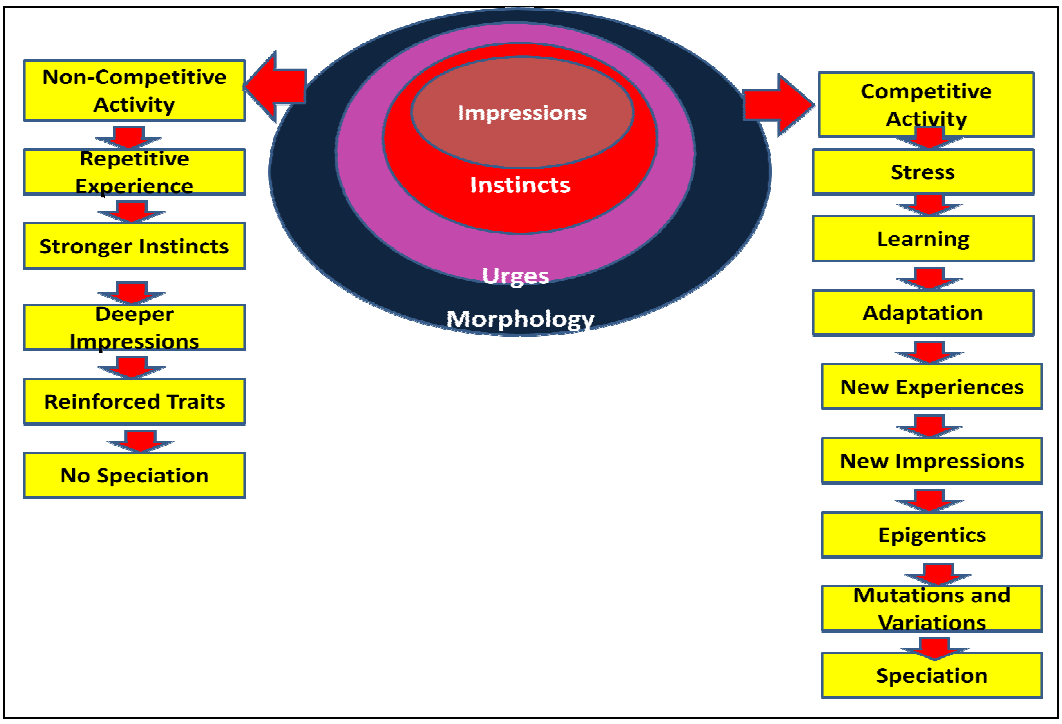
For example, four-footedness is common to mammalian prey as well as predator species in the forest ecology. It is a common but major trait, which they have carried unmodified from their previous stages though the structure and the function of the four feet have become drastically different in different species. Similarly homo-erectus onwards the erect vertebral column is a common major trait that we (homo sapiens) now possess to our advantage. Therefore it will continue till such stress becomes intense so as to call for a modification to be undergone by the species through the psyche of every human individual. Such major traits as the structure of the vertebral column are therefore carried forward from one human morphic form to another and so on through the instrument of a psyche that does not have any necessity for a change in its spinal structure. It is only when a particular trait causes sufficient discomfort leading to stressful distress that any modification thereof becomes a necessity and the organism strives for the same with some adaptive mechanism. Thus trait modification is as continuous as stress itself.

We conjecture that typical stressful deformities like small curvature bends in the erect spine may continue through generations without getting modified because of continuation in the corresponding genes responsible for it. Obesity is another example of a major trait which continues unmodified generation after generation through genetic inheritance.

PSYCHOLOGICAL INSTINCTS IN PHYSICAL BODY:

The individual organism is the morphology that has been structured out of the urges for fulfilling themselves through their respective organs by acquiring the desired objects. The urges are the activated forms of the instincts which are wakened impressions in the psyche, much like the process of gene expression *i.e.* the impressions remain dormant till their awakening into instincts. The urges may land the organism in competition-free or competitive activity. In competition-free activity, the urge is fulfilled easily by the existing means and the corresponding instinct becomes stronger and the impression deeper. In this way only the corresponding traits become more pronounced and mutations to that extent do occur, but no evolution as such occurs in the organism. In case of competitive activity, stress is generated and the organism responds by adaptation and newer experiences are generated. These lead to newer impressions that are stored in the psyche. They modify the instincts and lead to epigenetic changes which percolate to the genetic level as mutations. Thus evolution is achieved. These processes are depicted in figure-1 below.

Figure-1 The Process of Evolution



The urge for survival pertains to maintenance of the physical body providing the physiological requirements as well as protection from environmental factors and threats from other organisms. The instinctive mind works with the vital forces to keep up continuity of the healthy functioning of the physiological system. In addition, it also engages the organism in finding food, shelter and other requirement for safety and security. These requirements continuously engage the

attention of the instinctive mind upon the physical body in all animals and in most human beings also. Survival is thus an attempt at a purely physical perpetuation of the existence of the body.

The urge for reproduction can be seen to be a powerful urge for survival beyond the bodily physical existence by which it seeks to perpetuate itself down the generations as if searching for eternalizing its psychic level existence through reproduction. It passes its basic genetic material for creating newer forms in its own image and likeness, at least partially. In these progeny, it gets the satisfaction of having perpetuated itself for at least one more generation. The different forms that reproduction takes in plants and animals bear testimony to the fact of its being a central urge in all living creatures as though everything that an organism does were directed only towards that end! This includes the bodily survival itself. For satisfying the reproductive urge only, gory fights ensue among competing parties often leading to death, permanent deformity or exclusion from the niche, thereby endangering physical survival.

The reason for this is that reproductive success guarantees perpetuation beyond the physical survival of the individual organism. All organisms without exception undergo the sequence of birth, growth, maturity, reproduction, decay and death as a serial unfoldment in time. Death marks the physiological culmination of the organism. Out of these, only reproduction provides a death-defying window to perpetuation through the progeny, beyond the compulsory sequence. Surprisingly enough, the replication by reproduction is not a total copying out of the genetic material even in asexual reproduction or vegetative propagation because of the existence of mutation. It means that the urge for reproduction is driven by some subtler evolutionary force which needs diversification and speciation and it only uses the organisms for its purpose.

In both these modes of perpetuation the focus is somehow on the physical body and the vital forces that drive all the instinctive functions for survival and reproduction and are accordingly driven by the instinctive mind. In every species the reproductive age roughly lasts for about fifty percent of the total life span. The organism grows to maturity, attains the reproductive age and then after it survives only for decay and death for the rest of its life, which may be roughly one fourth or even less of the total life span.

From an evolutionary genetics perspective, the contribution of an organism to the evolution of its species is in acquiring and passing on its genes along with the mutations. The centrality of the role of the perpetuation instinct is somewhat undermined only in the case of the large number of working members in species like bees and ants which show group behavior and also in some highly monogamous species in case of death of the partner. Even in such cases, the workers work tirelessly only in the direction of helping the perpetuation of the species through reproduction by the queen, as

if they have subjugated their individual instinct for perpetuation which is called forth into action only in emergency or through parthenogenesis for creating further workers.

This means that organisms survive to grow in order to reproduce while in the physical body and they reproduce to survive beyond the decay and death of the physical body in and through the newer generation thereby fulfilling the urge for self perpetuation. So much for animals as also for humans bound to instinctive based bodily existence.

WHAT IS THE SELF THAT IS SOUGHT TO BE PERPETUATED?

The reproductive fulfillment of the instinct for self perpetuation has advantages for the species but entails some serious disadvantages for the organism itself in the sense that decay and death follow as a sequel to it. The body bound focus of the instinctive mind drives the vital forces to heightened activity so that degeneration sets in as a matter of fact. As long as the processes of regeneration successfully replenish the vitality and the physiological system, the organism can continue with reproductive activity, but the consequent undercurrent of degeneration continues till the physical death of the organism.

Reproduction as a strategy for perpetuation against the inevitable physical death of the organism evolved because of the operation of the instinctive urge for perpetuation of self existence but without a clear cut notion of what the 'self' actually is. What is perpetuated through reproduction is but a mutating framework of genetic material which encodes all the characteristics of the organism till the instant of reproduction, considering the fact that epigenetic changes are continuous in response to every passing experience of an organism. The DNA that is passed on at a particular moment to become the determinant of future progeny is thus only a passing image of the organism. If this is to be considered as the 'self' that is perpetuated, then the preferred mode of reproduction must be asexual rather than sexual. However, sexual reproduction has evolved because it is more advantageous than the asexual in terms of variation.

The DNA is nothing but a sequence of base pairs which supposedly undergoes very little mutation during the lifetime of an organism, except for epigenetic modifications. Continuous exchange of matter with the surrounding necessary for survival of the organism implies that the atoms and molecules constituting the physical body are replaced by identical atoms and molecules in a rather shorter span of time compared to the life span. For humans it is about 7-10 years. This means that the framework of the DNA remains more or less unchanged, though every single atom in every base changes and is substituted by another atom of the same kind. Thus what is actually permanent is the framework, or the sequence rather than physical atoms themselves. Is this framework, the bio-

lattice of the DNA (like crystal lattice) the 'self' that is sought to be perpetuated through reproduction?

Coming to the organism itself, every atom of its body is also exchanged for a similar atom. The organism feels a continuity of self existence in spite of such exchange occurring continuously means that the notion of the 'self' is somewhat misplaced as far as the physical body is concerned. In lower animals this notion of the self is a total identity with the physical body for fulfillment of requirements of which is the be-all and end–all of their existence. At the human stage, the notion of the self becomes amenable to a deeper analysis and can be shifted to a plane subtler than the physical body which is exchanged for a similar one every few years. Still the notion of the continuity of the existence of the self points to the fact of there being a relatively more permanent structure or framework a psychological lattice of characters i.e. a psi-lattice[15,16, 24].

LEARNING AND EVOLUTION OF INSTINCTS

Learning is the process by which an organism can bring about adaptive changes in behavior as a result of experiences. The ability to learn is the greatest evolutionary feature seen in all organisms in varying degrees. The experiences leave their mark on the individual psyche and they bring newer adaptive traits in the organism through epigenetic changes[16]. The evolution of instincts happens through the process of learning and has been experimentally established in many species[25].

PERPETUATION INSTINCT AND THE PLEASURE PRINCIPLE

Variation by reproduction is considered to be a key factor in evolution. The amoeba reproduces by dividing itself unendingly. It is assumed that in the process of such reproduction, gradually multicellular organisms evolved. What was the necessity for the amoeba to divide in the first place? By taking in appropriate materials from the surrounding, each organelle, including the cell membrane itself, grows in dimension till it reaches a limiting physical dimension when the surface tension of the membrane can no longer support its life. Faced with complete stoppage of growth, or alternatively, death from blasting of the membrane, it divides all the cellular constituents into two halves gradually developing a constriction to continue living with decreased surface tension at all parts of the membrane[26]. As the two parts develop separate identities with the further narrowing of the constriction, a final moment of release arises when the two detach from each other to become separate living entities. This sensation of release gets ingrained in the genes of the newly formed juvenile pairs. By this death has been avoided, growth assured, tension has been released and a consequent joy experienced, thereby assuring continuation of life.

Human experience bears testimony to the fact that the urge to perform instinctive acts grows intense with repetition without inhibition. Ironically, it is also true that the very same instinctive urges, if sought to be inhibited by interference, become even more powerful to drive the organism to act more instinctively and more impulsively without caring even the least for the consequences. The nature and structure of the objects may not be as clearly defined as the urge itself. An organism may find itself placed in a circumstance that is not exactly and perfectly agreeable to it as it has not the actual object of its urge. This particular ability of having the perfect impression of the object, in addition to the urge for the object itself is possible only if there is the corresponding depth and intensity in holding it in the mind constantly and without any dilution or confusion. This is possible only in the higher evolved humans working out conscious evolution through resolute will.

CONCLUSION

The role of instincts in evolution of organisms and species is discussed in details. It is found that all evolution has at its basis some mutation that precipitated from the adaptation as a stress response to for competitive success in the fulfilment of an instinctive urge. This mechanism is the generator of new impression or strengthens old impression which changes the subsequent manifestation of the instinct accordingly. The process is nothing but learning, which is the key to alteration or evolution of the instincts and the concomitant urges. The mother of all instincts turns out to be the perpetuation instinct which is the most powerful of all. Its roots in the cosmic mind are certainly in a realm not accessible to science as we know it today, but we can safely retrace its evolution back to self-replication in the biomolecules.

Darwinian evolution is all set to get a new basis in the psyche, beyond bio-molecules, random mutations and natural selection, as has been foreseen and hinted by Darwin himself. This new paradigm shift will unify biology with psychology and will complete both the fields in a sound foundation that has always been sought by human intelligence in its highest flights of the most sublime philosophy.

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