

Chinmoyee and Mrinmoyee

Karabi Sen¹

Abstract: Chinmoyee and Mrinmoyee are two different ways of looking at divinity in a feminine form. Chinmoyee emphasizes the attainment or realization or manifestation of higher consciousness as being divine while Mrinmoyee hugs the earth and brings home the deliberation that mrit or the earth is the mother of all being, including all forms of consciousness and deserves to be acclaimed as the deity. Mrit means earthen in Sanskrit and the earth is what all living creatures are made of. It is the spring, the sustenance of all life and also that to which life reverts back after a particular form of it ceases to function, to be regenerated as another form of life when the necessary conditions appear. Mrit, also called Mrittika in Sanskrit and "mati" in Bengali, is the mother of all life. It is etymologically connected to "matter," "matre," "madder" of the Indo-Iranian-European group of languages. Matter has been contemplated to be a lifeless substance by some philosophers but the term is essentially expressive of what we know to be the mother of us all---that from which we sprung, that in the womb of which we all came to be, slept and grew until we evolved further and that to which we return in final embrace until we transform into another being. Matter and mrit are viewed as lifeless by philosophers who try to preach ultimate divisions and the purpose of this paper is to overthrow such absolute dichotomies as false. The paper purports to establish that consciousness and matter are one and inseparable and hence Chinmoyee and Mrinmoyee are an identical entity.

Keywords: Chinmoyee, Feminine Divine, Indian Mythology, Mrinmoyee.

Chinmoyee and *Mrinmoyee* are both terms that refer to the divine understood as a female principle in the context of Hindu philosophy and religion. Chinmoyee represents the divinity in the feminine as being pure consciousness or *chit* while Mrinmoyee upholds *mrit*(dirt) or the mortal frame of flesh and blood of an everyday woman as the seat of goddesshood. Chinmoy was how the Vedanta represented Brahman and the devotional sects of the Hindu religion, particularly the Shaktas and the Vaishnavas, used the linguistically feminine version of the term or Chinmoyee to contemplate the feminine aspects of divinity. The concepts of *chit* and *mrit* have often been interpreted by philosophers and common people alike as opposites, much in the same sense that mind and matter are thought to be very different. Chinmoyee, being rooted in consciousness, has sometimes been seen as more thoroughly spiritual in comparison to Mrinmoyee, the mortal one, sprung from her origin in matter, in earth. It is my contention that such a division and the associated qualitative ranking between the two versions of the deity are untenable and consequently, unworthy of being pursued.

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To many philosophers and devotees Chinmoyee and Mrinmoyee are one and the same deity, each term simply emphasizing two different aspects of the same divine principle. However, the belief systems underlying the two terms are entrenched in philosophies that have historically been quite apart. Time after time, the unresolved differences have found expression in controversies over the nature of Reality. Issues like change and permanence, appearances and reality, form and matter, monism and pluralism, the finite and the infinite, mind and matter, immanence and transcendence, creation and evolution, the divine and the human, the spiritual and the earthly are all different ways of pointing at a deep divide between minds trying to understand the source of all being and how they are related. Great religious wars have been fought and continue to be fought over these different belief systems. Chinmoyee and Mrinmoyee have not been reconciled for good yet. That does not mean, however, that they cannot be seen differently, as being related in a harmony that is not just possible, but inevitable.

Kazi Nazrul Islam (1899 – 1976), a 20th century Bengali poet noted for composing several moving devotional songs dedicated to Goddess Kali and Lord Krishna, is caught in one of his songs struggling to fathom the gap between Chinmoyee and Mrinmoyee. He beseeches the divine mother to come to him in her Chinmoyee form. He thinks our woes are attributable to the worship of the mother in her Mrinmoyee form. He then proceeds to describe the great divine energy or Shakti as that which can never be submerged, that which is ever manifest within us and in the world outside us, that which cannot be kept confined in temples or fortresses. Clearly, he is not seeing the spirit as residing in the image of the goddess and his whole being yearns for a rendezvous with a different kind of being, a spiritual entity that is beyond the goddess as enshrined in a material, finite form. Deprived of the devotion placed in her by the devotee, the image turns into a lifeless, meaningless idol. Mrinmoyee becomes a mere clay toy, finite, mortal, impermanent, subject to time, with a beginning and an end, unable to deliver spiritual fulfillment. Chinmoyee on the other hand, is consciousness pure and simple, infinite, eternal, a source of bliss and power that never fades. Nazrul is trying to make some ultimate distinctions in order to bring order into his house put into disarray by conflicting, undefined thoughts. He feels the need to classify, categorize and arrange things according to their types—clothes in the closet, books in the shelf, food in the pantry etc. It is hard to comprehend the world and our place in it without making an effort to settle the dust raised by confusion in understanding. The first step towards sanity would appear to lie in making distinctions and understanding the nature of such distinctions (Kazi Nazrul Islam, 1996).

In this context I would like to discuss some notions with which the philosopher G.E. Moore played in his book *Some Main Problems of Philosophy* (Moore, 1966). In the first chapter of his book Moore begins by offering a definition of philosophy as “a general description of the *whole* of the universe” (p.13). Philosophers, he maintains, must mention all the significant things they *know* are in it and also how these are related to one another. He then proceeds cautiously by trying to compare philosophy with “Common Sense”, mentioning that philosophers venture beyond the opinions of Common Sense, sometimes even contradicting Common Sense. Common Sense believes there are ultimately two different kinds of being in the universe, namely, material objects, which have no consciousness, and minds, which can perform conscious acts. All material objects are thought to be in space and can be understood to be related to one another by means of directions and measurements. Common Sense further tends to believe that all minds or acts of consciousness are related to some material objects in the sense of being rooted in or “attached to” them in the

sense that when we engage in mental activities, those acts occur “*in the same places* in which our bodies are” (p. 19).

Material objects, however, can exist independently of consciousness. There was a time long, long ago, when there were only material objects and such a time can come again in the future with conscious acts wiped away from the scene in the course of Nature. This underlines the fact that Common Sense believes both material objects and conscious acts to be in time as well as in space. Past, present and future are legitimate terms in which they can be understood. Common Sense does not usually deny that theories about facts can change, can be proven to be wrong or right as time progresses. But these are only admitting changes in our “knowledge” of things. How far is Common Sense willing to go to admit changes in the things themselves? Will it admit that matter can evolve into consciousness and that this can happen due to an inward unstoppable force in matter to become something else? Common Sense is reluctant to venture into the world of “possibilities”. But in all good faith, it cannot deny that there is a world of possibilities. Common Sense, however, does not have to go into such a world because it is not committed to give a description of the “whole universe”. That is the philosopher’s task. Common Sense is content to maintain the orderliness of its house as a more or less closed square of solid lines in which there are basically two residents, mind and matter, with mind dependent on matter and matter capable of existing independently of mind.

The philosopher’s square, on the other hand, is made up of dotted lines. This square has to be ready to admit the “possibles” to freely go in and out of the realm of the world it is trying to give shape to. If philosophers have to go with the two ultimate distinctions in the universe as being matter and mind, then in order to treat this picture as a general description of the whole universe, the philosopher will have to say that all that there is must be either matter or mind, or else the modified statement will have to be that all that we *know* to be in the Universe is either an act of consciousness or a material object, though “there *may* be in the Universe other things which we do not know to be in it.” (Moore, 1966, p. 27) There are many other kinds of things in the universe that are unknown to us and may possibly never be known. The limits of our knowledge are *known* to us and therefore have to be included in a general description of all the significant things in the universe. It would be unphilosophical, a-logical and unscientific to exclude the realm of the possibles from a general description of the whole universe, both theoretically and empirically. Moore feels that besides the entities in the unknown worlds, there are things within our known world that cannot properly be described as either material objects or acts of consciousness, for instance, space and time or a divine being and how it is related to material objects and conscious objects. A philosopher must therefore always maintain an open outlook and not give in to the urge to arrive at ultimate and irreducible distinctions between kinds of things, thus allowing for transitions from one kind to another, imperceptible and catastrophic change, gradual growth, manifestation of pre-existing conditions and emergence of novelties in the universe. Seeing fixed order and neatness where there is constant change and transformation is being untrue to the self that is seeking knowledge. There may very well be something that survives change or maintains continuity throughout the change, is fashioned and refashioned as a rejuvenated being. During the process, however, there are blurs, losses, gains that are in play. The path of nature proceeds through apparent confusions and demolition of set lines of distinctions to a continuous process of creations. Chinmoyee and Mrinmoyee may not be two distinct ways to contemplate the creative energy. The two may mingle, separate, and reunite endlessly in the world of thought as well as in nature. Not

admitting this may have been the reason behind Nazrul's woes, not the preoccupation with Mrinmoyee as opposed to Chinmoyee.

A discussion of the feasibility of ultimate distinctions between beings cannot be undertaken without trying to understand what indeed is being. What exactly do we mean when we say that something has being, that it *is*?

Does it mean that it is out there, to be seen, to be talked about or experienced in some way? But then is it not there even when we do not relate to it in any way? Some may think that that indeed is what being is, that it is there even when it is not entertained by us in any way. That we can come back and find it as it was confirms and verifies its being-hood. What if we find it altered in some way upon return? It still is, differently, but has not lost its 'isness'. What if we find it missing? It may still be somewhere else? It can definitely be in my mind, my memory, my imagination. What if it has been trashed, smashed, thrown out, removed, altered beyond recognition? Like a junkyard car or the ashes of a cremated dead body scattered into the air or the oceans? It still is somewhere, in some shape or form. It has lost its specific form, structure or chemical formula that enabled it to perform specific functions, but it has acquired newer such things and is performing different functions. Perhaps that is the best way to understand being, in terms of what it can do, do better or do differently; in terms of what it is no longer and what it is now or can become. Being is best understood in the context of non-being and becoming. Becoming does not have to deny the existence of continuity. Even if that which changes itself undergoes change it may still be possible that the outcome of the change was contained in that which gave birth to the new. In the acorn and the oak tree or the chicken and the egg controversy, the oak and the chicken are there first to make the acorn and the egg possible.

Thus, not only is continuity of being possible amidst change and new birth, not only can being not be understood apart from change, but being is impossible to comprehend without reference to its form, its structure, its function, its connection to other beings serving other functions, its interconnected operativeness in space and time.

At this point it becomes imperative to take a look at Aristotle. For the purpose of bringing in Aristotle, I will use the text *Aristotle*, by John H. Randall (1960). Aristotle's *Metaphysics*, which started out as being the Science of Divine Things, later became his First Philosophy, in which he explored the nature of anything that is. He endeavored to figure out what is involved in just being. In the world of logic, to be means it can be made the subject of some kind of discourse. We should be able to ask questions about it and be able to get answers to those questions. In the existential world, to be means to be part of a process. A process is going from one state to another state, but the passage does not occur from a sheer absence of something to becoming another thing. The journey from A to B means that A had the capacity to acquire the properties of B and achieve them in the end. Things sort of have a "career" to develop. They are always trying to attain what they are potentially capable of. Aristotle talks about three factors at play in all processes of change that are going on in nature. First there is the subject which changes or the material that changes. Second, there is that, what it is changed from, carrying within it the absence and yet the potentiality of that into which it is going to change. Third, there is the form that the thing acquires as it changes. Things that are said to happen by chance may appear to be unpredictable, but they are not inexplicable. They may appear unrelated in a causal chain, but each one of the minute links

between the events that are apparently unrelated but yet together can produce a startling impact or event, are actually propelled by reasons of their own and their combined interaction goes forth to produce an effect that may look like a significant event which came about by sheer chance or accident. When the generation of the new is achieved, the old still continues to live in the new, but not in the same ratio and proportion as the formula for the emergence of the new needs. They continue there as further potentialities.

Aristotle thus saw Nature as a great dynamic process in which things were continually passing from the power to be to the actualization of the power, to the actual functioning of that power. He further believed that each thing had its own specific function determined by its own structure. He did not think that matter could exist in an indeterminate, generalized form. To be was to be in form and to strive to bring into further form all that it was capable of generating, given the specific circumstances in the environment, in the other things surrounding it with which it was in constant, inevitable interaction. Everything harbored within it a bubbling energy, an inherent tendency to spill out in action and give rise to newer forms with newer functions. The powers contained within each thing, as determined by its material and form must find expression, must move forward in Nature's process of creation. Aristotle called this bursting, impelling energy *horme*. Everything continually moves towards becoming different. Being is never static, never indeterminate.

Also of significance is Aristotle's notion that beings are active not just due to their own inherent and unstoppable principle of motion surging within them. They are also in motion because of the impact they cause on each other in the environment. It is as though if we learned to the fullest depth possible in knowledge about any one particular thing, we would thereby come to know about the existence and nature of all other entities in the world. Each thing is thus a mirror of the world. Aristotle was a pluralist, a dynamicist, against any ultimate distinction possible between matter and consciousness, against the possibility of matter without form and the actual being of form without matter in a realm outside of logic. In the existential world what we encounter is always matter in conjunction with particularized form, endowed with specific powers to realize itself further, in constant action, forging ahead in the creative activity that is Nature. Chinmoyee thus could exist in Aristotle's view only as a cognitive principle, simply as a noun that referred to the idea of consciousness. The moment it laid claim to have being that we can actively interact with, it acquired form. In fact, it is not intelligible why even logical principles can be said to be untrapped in some kind of form. A noun is a form of understanding. After all, are they not constructs or presuppositions that are born in the human brain due to the way the brain is programmed to think? Is logic not a product or way of functioning of our brain and are these cognitive principles not applied to understand the existential world? It is understandable that they may be differentiated from the world of form and matter, but do they have any ontological claims beyond their place in the world of human discourse?

One must also reckon that Aristotle further believed that to be is not simply becoming something different and new, but that to be is also to pass away. The 'this-object dies when it becomes the that-object' in the sense that its form becomes different, its functions become different. The elements remain in the next object, but combined in a different formula, performing different functions. In this sense, there is immortality in being. The new tides carry along in their waters the same water but each sprawl of the water, each one of its waves, each one of their sea-borne treasures are different. The ashes of our cremated bodies sink to the river-bed and bear

aquatic plants that feed the fish that feed us. The air carries the ashes to distant mountains and deserts, to fertile valleys, become a part of their landscapes and their specific operations. The same thing happens when we bury the body. In time it becomes a part of mother earth, a source of nutrition for Nature's wealth of plant and insect life, ultimately becoming a part of us. So being never becomes nothingness. It changes form and function, emerging from one motion to another. There never was a time when there was no motion. Motion never began, nor will it ever cease. Therefore, if to be is to be in motion, then there never was a time when there was no being and there never will be a time when being will cease to be. There is no other eternity than the ceaselessness of motion and being.

Is all this unceasing generation of the new a change towards the *better*? Change does not necessarily mean progress.

First of all, when we try to interpret change as progress or the opposite of it, we have to use standards that are relevant to the specific judges or the subjects that we judge. What is a mark of progress for the human world may be destructive for the survival of other species and the environment. Since Nature is an intricate web of mutually dependent organisms and all other natural processes or beings, no single change can be ultimately voted to be progressive without reservations, without being very tentative and cautious. Keeping this possibility in mind, can we still discern in the processes of nature a direction towards something better, not just something different?

It would appear that what would be judged better for any being would be its ability to survive and thrive, to perform its function more and more perfectly. Reproduction by two parents opens up this path. Reproduction and survival of the young become the main thrust of all physical-chemical-biological processes. Responses to stimuli are geared towards these ends of survival. Unsuccessful responses get discarded and those that promote survival stay on and get drawn into the game.

So is nature teleological? Aristotle's natural philosophy has been described as a theory of internal teleology in the sense that every object is internally propelled to fulfill the potential into the actual being. Is this inherent necessity behind motion to become different purely mechanical? Or does what goes on within a being during the processes of becoming have the basic building blocks of activities that attain goals or ends by the following some means? Aristotle is well-known for his four causes. The formal cause or the vision of the thing to be, the end for the actualization of which the process is in place, is the purpose which guides the entire process of production. This formal cause operates in a capacity that can have a great range. In some cases it can be described as unconscious, but consciousness itself is a matter of degree. What goes on inside a seed is different from what goes on behind the formation of a canyon, but how different and in what ways different? Even some of our most significant decisions may be arrived at without exercising much intelligent deliberations. We all know about the instinctive activities of birds and bees that are performed in the middle range between the totally unconscious and fully conscious. The exercise of consciousness is not a necessary condition of processes that achieve ends. All machines, whether hand-driven or automatic, achieve ends by means. Hence Aristotle can without difficulty say that all processes of nature are purposive. They show the marks of certain means being used to achieve certain ends as directed by their specific structure. The fact that in each set of activity

the operation of these means and ends follows a *regular* pattern, as though one step is leading to the next, is what prompts Aristotle to suggest that nature moves with a purpose.

The temporal order of sequences between these steps is such that those steps must be followed in order for the outcome to be achieved. In Nature, the succession of events is not such that any moment in time can be followed by any other moment. Moments are connected by an internal connection of necessity in order to become the next thing in the process. This is the Aristotelian necessity. It can be viewed as blind or fully conscious depending upon the field of operation or the stages in the life of a being. Wherever the presence of what we understand as the rudiments of life and consciousness are detected, the change is easily observed and understood to be mostly productive, for the better, boosting the survival value of the thing. As for the energies in motion in what for the lack of a better word, I would say, the pool of potential energies, the upheaval and succession of steps is not accidental at all either. Each emergent is conditioned to arise in order to proceed to the next step in an endless series of experimentations to try out and bring forth newer and newer forms which will allow more and more perfected operations of their functions. Life and consciousness are born and set on a survival mode as a result of these ceaseless changes going on in the energy filled core of being. To understand their emergence may be we need to rethink life and mind.

In a public release made on January 4, 2016, by the University of Groningen, the Netherlands, the release item entitled *The Origins of Abiotic Species* published in the journal Nature Chemistry (Sadownik, J. W., Mattia, E., Nowak, P. and Otto, S., 2016) report some very interesting research work done on how life may have evolved from chemical processes. Experiments were done to determine if the two basic processes of living organisms, namely, replication or autocatalysis and self-organization whereby organisms spontaneously develop themselves into higher order structures, can be detected at the molecular level. Sijbren Otto, the university's chemistry professor and his research group not only developed self-replicating molecules but also observed diversification powers in the replicator mutants, with a second set branching off spontaneously from an ancestral set of replicator mutants. Otto reports that first they had found that some small peptides could arrange themselves into rings. They then found that these rings could form stacks. Once the stack formation began, it would continue to grow and then break into two smaller stacks. Then the smaller stacks would both grow and further break into smaller stacks. The process would continue, with the stacks stimulating the formation of rings that compose them. These rings and stacks have been designated replicators as they are basically making copies of themselves.

Following this, Jan Sadownik, a researcher in the group, discovered that if the replicators are fed two different types of building blocks, A and B, then a set of replicator mutants will emerge that specialized in A and also contain some B. A few days later a second set of mutants emerged that specialized in B but also tolerated some A. This second set descended from the first set, and thus was like a grandchild to the original mutant group. The diversification process was displaying the structures of heredity or ancestral lineage. This was also akin to how new species form out of existing species, the process underlying biological diversity in nature, the exception being these processes were all occurring not at the full-fledged biological level but at the molecular level instead. Hence the process has been aptly described as *molecular speciation*.

The researchers experimented with the death of these sets as well. They channeled a stream of building blocks into the system to feed the sets while at the same time draining the contents of the reaction container. Only those replicators survived whose growth rate surpassed the removal rate. If the environment was changed by introducing another solvent, that would impact the fitness of the different replicator mutants differently. The mutants would then move towards those that are best at replicating themselves.

It is certainly possible to see some of Darwin's natural selection at work here. However, the mutants appear to be working less out of chance, but more as driven by some kind of inner necessity towards survival and attainment of the higher order promoting survival. Aristotle would have been delighted to participate in this research which brings us face to face with processes of evolution, baring the palpitations of life in molecules and advancing towards greater and greater complexity. The links between Mrinmoyee and Chinmoyee, the earthen and the pinnacle of consciousness are also found here.

Tim Requarth who has his PhD in neuroscience from Columbia University, where he also taught biology, chemistry, and science writing and who currently directs NeuWrite (<http://www.neuwrite.org/>), a national network of collaborative working groups for scientists and writers, writes in the article *Our Chemical Eden* (Requarth, 2016), about the discoveries of the famed geologist Mike Russell or Professor Michael J Russell of NASA, JPL (Jet Propulsion Lab.), Pasadena, California. He writes that Russell's first intuition into how life came to be occurred when he happened to inspect a shattered toy of his son. It was a tank which was like a chemical garden in which tendrils of rocks grew in a chemical solution. When the tank broke Russell found that these rocks were really hollow in the inside, like a bunch of drinking straws. Russell was working at the time at similar rock formations as part of his geological work. When he saw the formations in his son's toy, the thought suddenly flashed in his mind that his rocks too may have formed in some such unusual chemical solution. He struck the hypothesis that undersea hydrothermal hot-springs through which mineral rich water ejected out of the earth's belly, subsequently precipitating in the cool ocean waters, gave rise to the chemical gardens of the hollow rocks. From this hypothesis he took his second intuitive leap by positing that life originated in the wombs of these hollow rocks, in the warm chemical pools they cradled. Behind Russell's intuitive conviction was his belief that he had found the energy that life mobilizes to grow and replicate. To him, the energy and the life using the energy no longer appeared to be two different things, but one and the same force. It did not take his geologist's mind long to realize that such undersea chemical gardens would be sources of plentiful material energy trapped locally and fit for the emergence of self-replicating systems. In fact, given the set of conditions there, Russell believed that the emergence of self-replicating systems was not just possible, but inevitable. Life appeared following the same principles as galaxies were formed or tornadoes happen: Given the set of necessary conditions as they exist in the chemical garden, life will invariably emerge.

Russell thinks that the chemical gardens provide a natural environment for the emergence of what is known as chemiosmosis which is an essential process for the generation of energy needed for the living body. The mitochondria of the cells draw the chemical energy from food and convert it into the molecule ATP with the help of oxygen. ATP is the molecule of life. It is the energy we use every moment of our lives in whatever we do, consuming about 10 million molecules of ATP every single second. Energy flows through the mitochondria through a chain of proteins consisting

of thousands of atoms. The protein chain traps the high energy electrons and passes them down the chain. The movement of the electrons creates an electric current which in turn traps a great many number of protons between the inner and outer membranes of the mitochondria. These protons can escape only through what is called ATP synthase, a special protein. This intricate machine spins like a water-wheel hundreds of times per second and protons falls through it as in a waterfall. Russell thinks that the early oceans were likely acidic with a high concentration of protons. However, the water coming up through the hydrothermal vents is alkaline with fewer protons.

Russell conjectures that this difference created a natural proton waterfall from the ocean to the undersea rocks which were thus filled with these protons. The proton flow and the electron transfers created simple reactions. Then as proteins evolved, some cells produced a primitive form of ATP synthase. While the ATP synthase is the same in every organism that is, the protein chain that traps protons is not so. This means that the first organisms used an existing proton gradient before they developed the means to create their own. In the rocks of the chemical gardens the proton gradients took shape. Life did not just happen. In the nooks and crannies of the rocks the carbon dioxide in the ocean reacted with the hydrogen from the earth's vents. This reaction took place due to the minerals iron and sulfur in the rock's walls. Small organic molecules came into being as a result of these reactions, such as the acetyl-CoA, one of the oldest. The molecules linked up to each other in the temperature gradient with cooler temperature on the outside and a warmer one on the inside. This created the connective process known as *thermophoresis*, which traps the molecules in compartments and leads to the formation of sugars, amino-acids, lipids and nucleotides which are the building blocks of life. Russell concludes that given the conditions of intense temperature and pressure under the seas, the building blocks were inevitably produced and further connected to bring into being more complex molecules. Genetic structures began to take shape and passed from one rock nook to another through micropores, thus colonizing stretches of rock territories and giving birth to the first cells.

In 2000, the vessel Argo II was lowered into the Atlantic to survey an underwater mountain range. It went past the depths reached by sunlight, past the half-mile mark of the gauge. Then came the startling revelation by the vessel's lamps. Peaks of rocks as tall as buildings twenty stories high rose out of the ocean bed. Heated water boomed out of them in gleaming spouts. A host of aquatic life flooded the region nourished by microbes that can convert raw elements from the inner earth without the sun's rays. The field was named The Lost City and it confirmed Russell's prediction of the chemical garden.

Do these theories of the origin of life go against the Second Law of Thermodynamics or Entropy which state that the universe is headed towards disorder from order? First of all, order and disorder are perceived by just human beings and they may not exist in anyone else's world. So this description of the trip is to be understood with expressed modesty. We can see the "this" or "that" in the path of the universe as conditioned by the equipment we are endowed with; or this or that principle is a logically necessary supposition to explain our observations or to put things in place coherently but we should be very cautious before we claim that the way we explain the world, whether empirically or logically, has any meaning beyond human discourse. This acknowledgement of relativity is the minimum humility required of any thinker. However, being who we are, our adventures into knowledge must continue. Theories must abide in coherence with

each other and must be supported by newer knowledge gained. This is what Moore affirmed when he contended that the *whole* universe must allow room for possibles. Aristotle tried to explain generation by both theory (by positing an Unmoved Mover and *horme*) and practical observations of inner necessity between means and ends making what is potential into an actual being. Otto, Sadownik and Michael J. Russell's work shed light on how life may be understood as a stage in the life of the flow/cycle of energy we know the universe to be.

If we are content to say that the stages that mark the appearance or presence of life and consciousness show more complexity, more necessary connection, more means and ends kind of relationship, more self-replication and self-organization capabilities than are observable in the preceding stages, then we can come forward to share our belief that as far as we know, nature shows signs of orderly development, where one step leads to the next, where things do not happen by chance.

If life is understood as flow of energy then the story of life goes as far back as the Big Bang. Russell felt that the Big Bang generated a stress so great that it could be dissipated only by forming structured systems that came to be and then passed on to become something else. If the Big Bang led to an even distribution of matter and energy then nothing further could have happened. No further dynamism would have been noticed. But things are understood to have happened differently. It is likely that quantum fluctuations in the structure of space made a balanced distribution of matter and energy not possible. Instead structures arose, particles grouped together and were bound by gravity, leaving vast expanses of space that remained somewhat empty. Collapsing structures formed stars, gas and star-dust formed into planets with red-hot bellies given to tectonic shifts and volcanic activities. Hydrothermal vent structures opened up, creating in our earth the requisite temperature gradient in the chemical garden that further translated into life. Such a sequence of events cannot be ruled out elsewhere in the universe, now or before or in the future, given the limited scope of our knowledge and the limitlessness of what is out there. But the important thing is that we *know* of this situation.

Thus Russell² combats the view that his theory of the origin of life contradicted Entropy by asserting that the appearance of life is not a disorder to order movement but rather an "order from

² Note: Russell was the 2009 Award Recipient of the William Smith Medal of the Geological society of London. Here is an introduction to Russell at the Award Ceremony:

William Smith Medal – Prof. Michael J Russell (NASA; JPL)

The medal named for the Father of English Geology, William Smith, was first awarded in 1977 and is given in recognition of excellent contributions to applied and economic aspects of geology. It is therefore particularly apt that this year the medal goes to Professor Michael John Russell, now of the NASA Jet Propulsion Laboratory, Pasadena. For over 20 years, Mike Russell was Professor of Applied Geology, first at the University of Strathclyde, then at the University of Glasgow. As befits someone whose original contribution has lain mainly in our understanding of mineral deposit geology, Mike began his career working in industry and surveys across the world; but his subsequent research concentrated on the giant Irish Carboniferous-hosted base metal ore field – still Europe's biggest zinc producer and the world's most concentrated zinc source. In a period when the demands on metal resources are increasing and stocks being depleted, Mike's work is all the more important. In addition to developing the use of trace-element haloes as an exploration method, Mike linked ore genesis to the emerging theory of plate tectonics, developing original theories about north-south geo fractures that continue to tantalize explorationists. Mike Russell is one of our science's truly original

order” process. Without the presence (or perception thereof) of an initial order, no further organization can take place. Geological complexity is the necessary precedent of biological complexity. To him, life is best defined not in terms of what it is but what it does. It is a way of being in constant passing from this to that while yet maintaining ancestral link.

In Chapter XXI of *Life Divine*, philosopher Sri Aurobindo Ghosh (2005) dwells on the Ascent of Life. He tries to distinguish between four stages in the evolution of life much of which appears to fall in line with the works of Sadownik et. al. (2016). In the first stage, matter expresses itself as moving towards life by means of division. In the second stage comes aggregation. In the third stage comes mind or the desire to unite with fellow beings to make aggregation a reality, to preserve and make permanent, by heredity on the physical level and aggregate memory on the socio-cultural level, what the processes of division and fusion have achieved, what the individual being has experienced in its life-span and what will otherwise, but for the emergence of this level, be lost forever. The survival value of this third stage is enormous. But for Aurobindo, the fourth stage, which is the emergence of a higher form of mind, is even more important. The fourth stage consists in laying a *conscious foundation* for our vision of harmony with the whole universe upon the discovered unity and link between our body and the rest of the bodies, our life and the rest of the lives, our values and those of the others (Sri Aurobindo, 2015). This is the point where the scientist, the philosopher and the saint join hands. Neither the scientist nor the philosopher, nor even the saintly person can choose to ignore this question: How am I going to conduct myself in relation to all that is, was and will be and what is the reason behind my choice? To answer this question satisfactorily one must know how life came to be, how it diversifies, how it is preserved and how it progresses further.

This makes it necessary for me to examine what Bertrand Russell (1963) had proposed in his book *Mysticism and Logic* regarding the use of the scientific method in philosophy. The noted mathematical logician who is also acclaimed as a great philosopher of modern times had his own model for philosophy. He believed that meddling in ethics and religion have largely been not beneficial for philosophy, that it should turn to science instead for successful pursuit. In Chapter VI (entitled *On Scientific Method in Philosophy*) of his above referenced book, he says that philosophy can find science useful in its domain in two different ways. It can either base itself on the results of science, or it can apply the methods of science in its own investigations. Next he gives his considered opinion that philosophy can gain more from employing the scientific method than from the specific results arrived at by the different scientific researches. He says that philosophers, particularly evolutionary philosophers, often tend to give an air of absoluteness to empirical generalizations based upon observations and proceed thenceforward to describe evolutionary change as “progress” whereas decay is as much a phenomenon of nature as growth. The essence of the scientific mindset, according to Bertrand Russell, is to remain receptive to facts. While philosophers may remain cognizant of the results of the specific sciences in order to stay educated, these results do not impact the essential nature of the philosopher’s business. He gives two reasons for this. He says that a philosophical proposition must not be regarding such properties of things that just happen to be. They should be such that they are true of any possible world

thinkers. His work on ore body generation led him into the debate over where life originated. His idea about hot deep spring environments as a hatchery for the first proto-living organisms has now moved centre stage, and its clear astrobiological implications are what led to his current appointment at JPL.

independently of verification by the senses. This leads Bertrand Russell to his second statement that a philosophical proposition must be a priori or “such that can be neither proved nor disproved by empirical evidence” (Russell, 1963, p. 84). He proceeds to characterize philosophy as “the science of the possible” and hence as indistinguishable from logic. Analysis, and not synthesis is the job of philosophy. When philosophers veer from this role and start interpreting the results of science and offering rosy and optimistic pictures of the universe and evolution, they are guilty of giving “legislative force to their own wishes” (p. 82).

In Chapter I of *Mysticism and Logic*, Bertrand Russell comes down hard upon the tendency of the philosopher to anthropomorphize and be a preacher of “pleasing dreams” (p. 29). The philosopher, he says, needs to maintain “ethical neutrality” (p. 29). A philosopher should have nothing to say about pessimism or optimism, good or bad, love or hate. There is not enough abstract difference between these ethical opposites. There is not much difference that is substantial between them, not any difference of form or structure, the opposites being very similar to each other in being simply states of mind. Philosophers should be more interested in knowledge for its own sake and

acquire the disinterested intellectual curiosity which characterizes the genuine man of science. Philosophy is not a short cut to the same kind of results as those of the other sciences: if it is to be a genuine study, it must have a province of its own, and aim at results which the other sciences can neither prove nor disprove. (p. 25)

It appears that Bertrand Russell has taken upon himself the task of defining philosophy. By adopting his definition, we would have to exclude many great philosophers from their entitlements. I agree that anthropomorphism is always a lurking danger for us, but would consider that even Bertrand Russell is guilty of that slip when he states that a philosophical proposition has to be true of all possible worlds. Logic is but a tool of the human mind. Its propositions are but *our* ways of understanding. The only way to avoid being anthropomorphic is to remain aware that our knowledge is always going to be through the human lenses but I refuse to narrow down philosophy to this single statement of the relativity of human knowledge. Socrates was humble but that did not stop him from raising crucial social, moral, political and epistemological questions. Philosophers must not quit interpretation of data and sharing their pursuits with scientists and moral, political and religious philosophers. They are all philosophers in their own rights inasmuch as they are all trying to fit pieces of puzzles which cannot be put together without mutual corroboration. It is true that knowledge is increasingly becoming specialized but no one can dictate that they must remain compartmentalized, that the findings of one branch cannot be shared with another, commented upon and absorbed in a common field. Philosophy is what it etymologically is: love of wisdom. Knowledge becomes wisdom only by interpretation and wisdom becomes enshrined in us only through internalization and constant practice. Philosophy has to be what we deeply believe in, and as such it holds hands with religion, ethics and politics. It must not be forgotten that Socrates, Christ, Meerabai, Gandhi, Martin Luther King Jr., all five of them gave their lives for what they *knew* and *believed* in, and there have been many others who go unnamed, here and in history books. The five named here lived their lives by their *philosophies* which they arrived at by intense cognitive and living soul searches, by means of countless interactions with other beings. If they are not to be admitted as philosophers, the claim of Bertrand Russell to be counted as one will remain in the shadow. Ethical neutrality is a most unbecoming feature in any

human being, and more so than tendencies to hasty generalizations and forgetting to submit to facts. The latter two can be more readily corrected while the first represents an attitude, a conviction, much harder to overcome. While it is good to rein in baseless optimism, it is important to have faith and the nurturing of faith is sustained by the admission of the world of possibles. Faith generates hope and courage. However, if it does not make us love and teach us to live in harmony, then such knowledge of possibles is of no use. We can be logicians only when we have learned to live and survive. It is my philosophy that a prosperous garden can be cultivated by scientists and philosophers of all shades when they draw upon each other.

Not only are abstractions envisioned and formulated by human beings, they are derived from our experience of particulars, fed by our interactions with and thoughts about particulars and are seen as applicable to particulars. The first question that is put to a suspect in a murder case is: Where were you at the time of the murder? The implication is that someone cannot be in two places at the same time. If the suspect was at a restaurant at the time the murder took place in a home, then the district attorney has a problem. Anybody who is trying to shear the bond between the universal and the particular, the abstract and the concrete, change and continuity, the one and the many, spirit and matter, the divine and the earthly, consciousness and the life and energy flowing through the world is doing us a big disservice. If we cannot see these supposed opposites as residing in each other, if we fail to recognize Chinmoyee in Mrinmoyee and Mrinmoyee in Chinmoyee, we will continue to hurt the earthly woman while singing praises to the goddess's divine nature; or ignore a child's well-being while putting the child Krishna and baby Jesus on pedestals. This is my opinion, based upon knowledge derived from the humanities and sciences, and yes, I am philosophizing when I am saying this. My philosophy is my belief system and network of actions *consciously founded* upon my knowledge as it is today. This conscious foundation-laying is what makes me and anyone else a citizen of what Aurobindo referred to as the world of the Supermind. It is also what determines my path, helps me stay on the path and serves as justification for why I do what I do.

It is important to understand that divisions, distinctions, and contrasts are useful mostly for analytical and artistic purposes. If they make us blind to fusions and create in us the inability to see the whole picture, then we are being deprived of seeing the way Nature works. There are no clear-cut distinctions in Nature. The living is in the dead, the dead is in the living. Spirit is in the dust and dust is in the spirit. Resistance to see ourselves in each other is what leads to wars; obliviousness to our ties to Nature, animate and inanimate, is what leads to cruelty to animals and environmental disregard. Likewise, failing to see Chinmoyee in Mrinmoyee is what leads to the ridicule of images as idols, to hate wars against image-worshippers.

To further understand Mrinmoyee it is imperative that we gain an insight into what is involved in the process of image worshipping. An image can be understood in different ways. It can mean a reflection, as in a mirror or in water. In such circumstances it is easy to bear in mind that the image is not real in the same sense as the object casting its reflection. When Sultan Alauddin Khilji³ was allowed to behold queen Padmini's image in the mirror by her husband, the sultan

³ Alauddin Khilji was the second ruler of the Khilji dynasty in India reigning from 1296 to 1316. A tale of his attack on Chittor in 1303 CE to capture the queen of Chittor, Rani Padmini, the wife of Rawal Ratan Singh and the subsequent story have been recounted in the epic poem Padmavat, written by Malik Muhammad Jayasi in 1540.

knew the difference. The situation was different with the lion in the Aesop's Fables. The lion jumped to its death in rage upon seeing its image in well water because it took the image to be real. Similarly, the men in the allegory of the cave in Plato's Republic thought the reflections cast on the cave wall to be the real objects because they were forever enchained and could never turn back to cast their eyes on the real things that were casting the shadows, exemplifying the classic principle of *maya* or ignorance rooted in the human condition which can be undone only by conscious effort or divine grace resulting in enlightened perception. In worshipping an image, the worshipper does not consider the image to be a reflection of something else that is more real as in the case of Padmini and her image. Nor is the devotee trapped in a state of ignorance or illusion from which there is need of deliverance. The worship is offered not to an appearance but to what is considered to be the real thing by the devotee.

Image worship is also significantly different from belief in pantheism and immanence. If the divine is believed to be everywhere then a stone, a tree, an animal or every conceivable form is worship-worthy. But this is not the reason why a devotee showers all his affection on an image. The philosophy of immanence simply serves as a justification for the idea that there is nothing impious about a form, any form. Ushering in *Mrinmoyee* has more to do with "manifestation". An image is worshipped because the devotee considers that the deity is manifested in the image. Such consideration by the devotee is a very conscious process involving deliberation and choice. The worshipper has to ritually instill life into the image. This process is known as *pran-pratistha*. The process can also be undone and the deity bade good-bye as in the practice of *Visarjana* or immersion of *Mrinmoyee* or the clay-image in water. In an act of worship, the worshipper plays as important a role as the object of worship. The worshipper calls upon the deity to be seated in the image and then engages in interaction with it. An example would be the Wilson volleyball from the Tom Hanks movie *Castaway*.

At the other end of the road of worship is the worshipped. While undergoing the process of manifestation at the call of the devotee, the deity becomes subject to all the limits of form, including birth, growth and death. The thought of such willing submission to limits in order to answer the devotee's call is seen as proof of the abounding love of the creator for the created. The belief in incarnation is closely related to the contemplation of godhood as *Mrinmoyee*, the earthly one, the one of flesh and blood, the manifest fountainhead of all that is treasured in *chit* or consciousness.

The separation of *Chinmoyee* and *Mrinmoyee* is, in the ultimate analysis, untenable. Nature is a continuum and is worship-worthy as such.

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