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### Evolution and Unification Thought: an Alternative Approach

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When dealing with issues of science and religion, evolution is perhaps the most well known point of contention between them. The two camps, “Creationist” and “Evolutionist,” are entrenched. Most Unificationists tend to side with the Creationist camp because of its support for theism. Although Unificationist sources often take a strong stance against evolution, a rejection of evolution is not required by the underlying teaching, and the situation is actually far from clear. Here I first briefly examine the general position of Unificationism toward evolution and its context of Christian opposition to evolution. In this I favor the position of Karl Giberson, who makes a case for the acceptance of evolution within Christianity.

From there we move to an examination and critique of the treatment of evolution in *New Essentials of Unification Thought* (NEUT). However accepting evolution raises some difficult questions for religious thought. In particular one key issue, addressed here, is the problem of teleology. The science of evolution contains a random component that appears undirected and purposeless. Since religious thought sees a distinct direction and purpose from God in created things, this would seem to suggest that the two are fundamentally incompatible. Making a simple change in perspective and combining that with the concept of dynamic equilibrium, however, allows us to deal with the random component of evolution in a way that is potentially compatible with both science and religious thought. Nature in general seems to embody a degree of randomness at many levels that religious thought needs to learn to deal with. Finally, beginning from Unification Thought and my previous writing, I try to outline the basis for a possible integration of evolution with Unification Thought.

### Darwin’s “Dark Companions”

In contrast to the Creationist *a priori* rejection of evolution, one of the goals of Unificationism is to establish a unity between science and religion. The introduction to *Exposition of the Divine Principle* clearly addresses the importance and significance of science. It suggests that establishing unity between science and religion is an essential part of the Unificationist mission.

Religion and science, each in their own spheres, have been the methods of searching for truth in order to conquer ignorance and attain knowledge. Eventually, the way of religion and the way of science should be integrated and their problems resolved in one united undertaking; the two aspects of truth, internal and external, should develop in full consonance. Only then, completely liberated from ignorance and living solely in goodness in accord with the desires of the original mind, will we enjoy eternal happiness.<sup>[1]</sup>

The text acknowledges the validity of scientific knowledge, and even goes further in suggesting that religious teaching has changed over time to come closer to science.

Today, however, people will not accept what is not demonstrable by the logic of science. Accordingly, since religions are now unable to guide people even to the level of understanding, much less to belief, they are unable to fulfill their purpose. Even internal

truth demands logical and convincing explanations. Indeed, throughout the long course of history, religions have been moving toward the point when their teachings could be elucidated scientifically.[2]

Each area of science has its own techniques for investigation, but all the branches follow a consistent logic of theoretical and experimental validation that we call the scientific method. Biology too has its own methods of investigation, but it adopts the same standards of proof as the rest of science. Evolution thus has no less validity than any scientific theory, and these passages from *Divine Principle* should apply equally to evolution as to theories in physics or chemistry.

Although from these passages we might expect Unificationism to accept evolution, in fact there is opposition to evolution that arises from the Unificationist opposition to communism. Opposition to communism is another important aspect of the Unification mission. Rev. Moon took a strong stand against the atheism of communism and committed significant resources to arrest its spread around the globe. Sang Hun Lee, the author of *Unification Thought*, was also known for his *Victory Over Communism (VOC) Theory*. Jonathan Wells has this to say of Stalin and the worldview of the Soviet Union:

After reading Darwin as a boy, Josef Stalin became convinced that God did not exist. Although Stalin's worldview was based more on Marx than Darwin, Darwinism was central to the Soviet worldview from the beginning because it seemingly proved scientifically that human beings are nothing more than highly evolved animals.[3]

In accordance with these sentiments expressed by Wells, evolution has come to be viewed within the Unification movement as one of the pillars of communism, in fact of atheism in general. Consequently the Unification theistic opposition to communism leads to a rejection of evolution.

So we have a situation where different parts of Unificationism seem to pull in differing directions with respect to evolution. If we are to move toward one consistent position, we need to resolve the apparently conflicted goals of a desire for the unification of science and religion with the presentation of a theistic response to communism. Further muddying the water the Unificationist opposition to evolution tends to adopt some parts of creationist thinking. We can particularly see this in a booklet *From Evolution Theory to a New Creation Theory*[4] published by the Unification Thought Institute under the guidance of Sang Hun Lee, and in Jonathan Wells's involvement with the Intelligent Design movement. This adds to the uncertainty, because the purpose underlying creationist opposition to evolution is quite different to that derived from the opposition to communism found within Unificationism.

In his book *Saving Darwin*, Karl Giberson[5] traces the development of the opposition to evolution within Christianity and clearly presents the purpose and motivation behind the creationist thought. Giberson suggests that by the end of the nineteenth century Christianity had largely made peace with evolution, but that at the beginning of the twentieth century there was a reaction against the rapid modernization and an increasing secularization of faith that had occurred in the second half of the nineteenth century. This reaction took the form of attempting to identify and return to the core ideas of traditional Christianity. One result of this was a series of essays entitled *The Fundamentals* from which Christian fundamentalism developed.

Giberson points out that while *The Fundamentals* did not uniformly oppose evolution, it was the excesses of Social Darwinism and the Eugenics movement that galvanized the opposition to evolution and eventually the Scopes "Monkey Trial" in 1925. This trial in turn focused fundamentalist attention directly on evolution, where it has remained since. Giberson calls these questionable social applications of evolution Darwin's "Dark Companions."

Giberson also traces another important thread in the story that began from the visions of Ellen White of the Seventh Day Adventists. White's interpretation of Noah's flood was spread outside Adventist circles by the writing of George McCready Price. Then William Jennings Bryan

invoked Price's "flood geology" in the Scopes trial, cementing together a combined opposition to both evolution and geology, and John Whitcomb and Henry Morris mainstreamed the idea in their 1961 book *The Genesis Flood*. This book launched the modern creationist movement and also a profound rejection of science. This first form of Creation Science rejected both evolution and the geological age of the earth. Giberson then traces the central thread as this scientific creationism fails to make inroads outside of fundamentalism, though within fundamentalist circles it becomes de rigueur. He shows how legal, and popular, opposition to creation science subsequently resulted in the development of the Intelligent Design movement.

Intelligent Design, spearheaded by Philip Johnson, dispenses with overt religious trappings and is specifically targeted only against evolution, but Giberson shows that it has clear ties to its Creation Science parent. Though Intelligent Design is not the same as Creation Science, we should consider it to be an evolved form of Creation Science with the same underlying goals. Intelligent Design too has been stymied in the courts, and I believe we now await the next stage in evolution of the thought.

Though there is indeed a strong basis for opposition to evolution in the context of the Rev. Moon's opposition to communism and atheism, I would suggest that the approach of the creationist movement cannot lead to the larger goal of unity between science and religion that is found in *Divine Principle*. In the first instance this is because, as Giberson shows, the creationist movement begins from a position of rejecting the science. All too easily the rejection of evolution then leads to a general condemnation of science that is divisive rather than unifying. We can see this next step in the writing of Akifumi Otani, vice president of the Unification Thought Institute of Japan. Adopting the position that science in general is not compatible with teleology, he says,

Since the appearance of Darwinism atheism has spread all over the world not only in biology but also in all areas of natural sciences ... However, if Darwinism proves to be false, the Godless physics will lose its support.[6]

In addition to this rejection of science, there is further argument to be made against using creationist arguments within the context of Unificationism. Again we look to the introduction of *Exposition of the Divine Principle*:

Another factor has fated religions to decline. In step with the progress of science, the human intellect has become highly sophisticated, requiring a scientific approach to understanding reality. The traditional doctrines of religions, on the other hand, are largely devoid of scientific explanations. That is to say, the current interpretations of internal truth and external truth do not agree.[7]

and

However, for humankind to completely overcome the two aspects of ignorance and fully realize the goodness which the original mind desires, at some point in history there must emerge a new truth which can reconcile religion and science and resolve their problems in an integrated undertaking.[8]

That is, current science and traditional religious thought do not agree, and we need a new approach that respects and integrates both the science and the religion. This forward-looking purpose of a new type of reconciliation between science and religion is, I would suggest, incompatible with the backward looking purpose of creation science. Giberson's book shows that the driving force behind creation science is a reaction against modernization and secularization that seeks to reestablish in society the seemingly lost ideals of a Protestant Christianity. I would say this does not align with the purpose of Unificationism, which is seeking to bring a new ideal

and establish unity between science and religion. We should then rethink the current common adoption of creationist thought. The problem remains, however, how to maintain both a respect for science and a theistic response to communism that would also seem to necessarily involve refuting evolution?

In this context Wells sees Darwin's Dark Companions, including communism, as directly linked to the theory of evolution itself.

Although not every social evil can be blamed on Darwinism, the logic of Darwin's theory leads inexorably to a self-centered disregard for others... humans are not qualitatively different from lower animals... there is no such thing as a human soul or spirit... no foundation for moral standards... there is no essential distinction between races and species... death is the engine of evolutionary progress.[\[9\]](#)

So for Wells, refuting communism and atheism would necessarily also involve refuting evolution. Giberson, however, takes a different approach:

I hasten to point out that the connection between Darwinism and movements like Nazism is not causal... The connection is, rather, one of rhetoric and rationalization... conclusions already embraced rest easier on one's conscience if supported by some thread of rational argument, no matter how thin.[\[10\]](#)

Giberson shows us the middle path here by correctly pointing out that there is no causal link between the science of evolution and the social evils of the Dark Companions. Consequently he can and does decry the social evil carried out in the name of evolution, but recognizes that it adopted concepts from evolution merely to justify a position already held. This approach allows us to separate the science from the social applications of the Dark Companions in a way that is essential if we are to realize both the unity of religion with science and maintain a theistic opposition to communism and atheism.

This approach of Giberson, then, is the basic stance I take toward the science of evolution in this paper. That is to separate the scientific theory of evolution from the social evils of the Dark Companions and to respect the validity of the scientific knowledge in the domain where it is applicable. It is not my purpose here to address the Dark Companions.

## Evolution in Unification Thought

The ontology of Unification Thought and Divine Principle is a general description of how things exist. That is, it describes existing things as they exist now, but does not explain the process of how things came to be the way they are. In other words, it does not contain a theory of evolution. Unification Thought, however, does contain the basis for an explanation that could perform this function. This begins from the description of a layered structure of sunsang and hyungsang in existing beings.

It is evident that human beings possess the Sungsang and Hyungsang of minerals, plants, and animals and, in addition, they possess a Sungsang and Hyungsang of a still higher level. When seen in this way, the human being can be regarded as the integration of all things, or as a microcosm of the universe. From this explanation, it becomes clear that, as the levels of existing beings ascend from minerals to plants, to animals, and to human beings the Sungsang and Hyungsang become more substantial and elaborate layer by layer. This may be called the "layered structure of Sungsang and Hyungsang in existing beings,"[\[11\]](#)

In this scheme Lee divides all created existing beings into four distinct categories. These are nonliving things, or minerals, plants, animals, and human beings. Each category is seen to have its own distinctive *sungsang* and *hyungsang* characteristics as well as containing the *sungsang* and *hyungsang* characteristics of the preceding layers. This is essentially the same as Aristotle's hierarchy of being.<sup>[12]</sup> Thomas Aquinas also gives a similar hierarchy of being, but adds God and Angels to the hierarchy.

Aristotle's hierarchy, and Lee's layered structure, is essentially a description of how things exist rather than the description of a developmental process. However in Unification Thought Lee then goes on to connect this layered structure to the developmental process of God's creating all things.

In the process of creation, according to Unification Thought, God first formed or visualized, in His mind, the idea of a human being as a being of united *Sungsang* and *Hyungsang*. Only then did He form the ideas of animals, and then plants, and then minerals, one by one, by subtracting their specific elements from the *Sungsang* and *Hyungsang* of human beings and lowering their dimension.<sup>[13]</sup>

This is a direct application of the layered structure to development in creation. First within God's mind there is a downward process that starts with the idea of the highest level, human beings. When the specific characteristics of human beings are subtracted what we are left with is the layers within animals. If the specific characteristics of animals are subtracted what is left is the layers within plants, and a final subtraction leaves the characteristics of minerals. After this downward process within God there is subsequently an upward process of creating actual things.

It must be realized then, that in the actual process of creation God followed the reverse order—that is, based on the ideas He had formed, He created actual minerals first, then plants and animals, and finally human beings.<sup>[14]</sup>

This upward process of creating, then, has the appearance of progressive development, but is actually successive creation rather than a progressive development from simpler systems to more complex. Each new step or layer that appears is a distinct creation by God. This is not directly an evolutionary theory, but in describing the appearance of progressive change in creation it does lay the groundwork for explaining the appearance of evolution. In general Lee does not deal with evolution in NEUT, but there is one passage in the chapter on the Original Image where he applies this concept of successive creation to evolution.

However, as understood from Unification Thought, the theory of evolution is merely a phenomenological understanding of the process of creation. In fact, the appearance of a new character in a living being, seemingly caused by mutation, is instead the creation of a new being with a new individual image.<sup>[15]</sup>

This passage needs to be placed in the context of Lee's understanding of an existing being, the description of the two-stage process of creation, and the nature of DNA. All of these things in NEUT derive from an application of traditional form and matter ontology to the relational structures of Divine Principle. Firstly the *sungsang* and *hyungsang* of existing beings are treated as separate substances, and Lee deals with them like traditional form and matter.<sup>[16]</sup> In this view *hyungsang* picks up, or catches, *sungsang* according to the layered structure discussed above. The analogy given is like an antenna catching a radio wave. For living systems, Lee suggests that DNA molecules are analogous to the antenna and catch life.<sup>[17]</sup> With respect to God's act of creating, Lee describes two processes. The first is the formation of *logos* for the being, and the



second is giving substance to it. Here logos acts as the Platonic form, and God's hyungsang is the unformed and continuous prime matter that can assume any shape.<sup>[18]</sup>

In this description of creation, Lee is trying to emphasize the causal primacy of sungsang/logos such that the appearance of all new character in existing beings is first a creation by God and secondly a manifestation in hyungsang and the DNA of living beings. Thus, he sees all progressive change to be successive creation rather than evolution, and the science of evolution itself is then said to be merely phenomenological. That is, the science pertains solely to hyungsang, not to the causal change in God. This successive creation is then the basis for NEUT's explanation of the external appearance of evolutionary change. Though involving God and the appearance of evolutionary change, it is not a theistic form of evolution.

## Critique of the Position of Unification Thought

There are two issues that arise from successive creation and the layered structure of existence that I would like to address here. First, there is a consistency problem between different parts of the NEUT text, and second, there is the issue of teleology.

Let us look at the consistency problem first. I would suggest that once again this arises from Lee's use of traditional form and matter ontology in the context of Unification Thought.<sup>[19]</sup> As mentioned above, Lee's primary description of the process of God's creating an existing being is essentially one of giving form (logos) to an unformed matter in a two-stage structure, where the unformed matter is God's Hyungsang. This description has consequences for his explanation of progressive creation. If applied directly as described, this implies that the matter of each new creation is distinct from the matter of created beings that already exist. From an external viewpoint this would mean that each new creation would appear apparently spontaneously "ex-nihilo." This is not what is observed, and the spontaneous generation of living things themselves was discredited in the nineteenth century. What is observed is that, other than the elementary particles, all new beings use already existing particles and groupings of particles. There is no progressive spontaneous generation, as the outer base of the two-stage structure of creation implies. What is new is new patterns of relationship between existing particles.

Consequently Lee's explanation of the two-stage structure of God's creating does not work as an explanation for successive creation. Perhaps recognizing this, in a continuation of the passage quoted above he gives a different explanation for God's act of successive creation in living systems.

The appearance of a new character by the mixing of the parents' DNA is the creation of a new being with a new individual image achieved through the mixing of the hereditary information. To be precise, the creation of a new individual image in living beings or in human beings means that an Original Individual Image is given to a species or to a person.<sup>[20]</sup>

This changes the view of living beings and somewhat weakens the strict reliance on sungsang in the two-stage structure. In the two-stage structure hyungsang is little more than continuous material stuff without shape. Life and structure are found only in sungsang (logos). Here the story is a little different. Molecules of DNA (hyungsang) are also seen to contain structure and information. Hyungsang is not just the inert shapeless stuff we see in the two-stage structure. The information in the sequence of bases in the DNA is almost, but not quite, sungsang in this view, as it represents information pertaining to the logos of the being. This view of DNA is also essential to the basis for life and cognition described in the chapter on Epistemology.<sup>[21]</sup> New character arises in the mixing of hereditary information stored in DNA, to give a new being that embodies an already existing individual image. How this leads to new species, and how God acts to bring about change, is unclear from the text.

The point about new species in the context of successive creation is addressed in the booklet *From Evolution Theory to a New Creation Theory*:

According to Unification Thought, when a new species is created, God's power works to bring about an abrupt change. In such an occasion, God causes an abrupt change according to Logos (blueprint). How is that carried out? In biological terms, this matter relates to the rearrangement of the genetic code, or to a change in the program of the genetic code.[\[22\]](#)

How God acts to change the DNA is still not explained, but this type of progressive creation in living things through changing the genetic code is not the same as giving form to unformed matter in the two-stage structure. As an explanation this changing of the genetic code is also then closer to a description of theistic evolution rather than the successive creation it is said to be. Consequently from the NEUT text we can derive two different explanations for God's act of successive creation in living systems, and further that these two explanations are not fully consistent with each other or the way things are observed to exist.

Now let us move on to the second issue—teleology. The explanation of successive creation related to genetics in living things suggests that changes to living beings occur with changes to DNA, but that these changes are caused in some way by God with a definite purpose. In the science of evolution, changes to DNA from generation to generation are also important. In the science, in addition to mixing from sexual reproduction, there are also multiple possible additional sources for changes. These would include such things as copy errors in cell division passed on to the sperm or egg, a retrovirus that inserts a section of DNA, ionizing radiation and cosmic rays that cause changes, etc. We call these additional changes, whatever their source, mutations. In general the overall mutational change per generation is small—say about one hundred point changes per person in the approximately three billion base pairs in the human genome. Too many changes and we would not have the necessary inheritable stability in a species. Too few would also be a problem.

These mutations accumulate at a relatively steady rate, such that we can calculate how long different species have been reproductively separated by measuring the extent of differences in their genes. What is important in the science, however, is that these mutations are random. The randomness inherent in the science is one of the core problems for religious thought. In Unificationism, and Christianity as a whole, there is a distinct purpose in all things, whereas the randomness inherent in the scientific explanation would seem to have no purpose. This random element at first glance seems antithetical to teleology arising from a belief in God's action in the world. Consequently the science of evolution tends to be seen as a denial of God that works hand-in-hand with Communism. Lee holds to this atheistic view of evolutionary science:

Today we live in a changed and changing world. The Communist system has collapsed, and yet Communist philosophy, the materialist dialectic, which denies God, still exists, in various forms and manifestations, thus continuing to confuse the world in a diverse number of ways. Furthermore, evolutionary theory, which would deny any idea of creation by a designer (God), is currently widely accepted, and promoted as the only viable scientific perspective, and is promoted as objective truth.[\[23\]](#)

Lee's description of successive creation, then, serves to completely remove any random element in evolution. He sees each new character as a deliberate creation by God, so upholding theism becomes a denial of the randomness in evolutionary theory. What this overlooks, however, is that randomness is perhaps an integral part of nature. Moreover evolution is not the only scientific theory that relies on random behavior. Some of our most important scientific theories, including thermodynamics and quantum mechanics, also depend on random behavior as a fundamental characteristic of existence. Einstein, in a rejection of quantum mechanics, is reported to have said "God does not play dice." However, much of contemporary physics suggests that God does indeed play dice. If we are to unite science and religion, we cannot simply deny the importance of random behavior for existence, but rather we need learn how to deal with it in the context of religious thought. One possible approach toward resolving this issue

in the context of evolution is a change in perspective. The needed change in perspective is well described by the common saying, “you can’t see the forest for the trees.”

## Taming Randomness

Scientific theories dealing with systems that have an underlying randomness share a common important feature. Even though the individual particles in the system are behaving randomly, and their individual behavior cannot be predicted, there is nevertheless a statistically predictable behavior for the whole system itself. The behavior of the larger collection of particles is not random and emerges from the collective behavior of all the individual particles. Randomness is thus a fundamental part of existence, but there is an overlying order that sits on top of it. Science does not have to deal with the random behavior directly, but only with the emergent order. So the change in perspective we need for dealing with random behavior in the context of religious thought is to move from looking at the individual beings, which are behaving randomly, to looking at the whole collective of beings, which is statistically ordered.

The contemporary science of evolution is statistically ordered in this way too, though Darwin’s theory was not. Darwin did consider variations in a population, but he was looking at random changes in the traits of individuals that would spread if they provided a competitive advantage. He was looking at things from the perspective of individual organisms. In the late 1930’s and early 1940’s Darwin’s theory was combined with genetics to produce the Modern Evolutionary Synthesis. This Modern Evolutionary Synthesis is still the basic paradigm of evolutionary science today. One aspect of genetics, population genetics, adds a statistical component to the theory, and, like statistical theories in physics, we have order emerging from randomness here too. Consequently we also, in considering how change occurs in nature, need to change our perspective from the individual organism to the larger system.

Thus, biologists tend to talk about evolution in terms of populations rather than individual organisms. Taking a breeding population as a whole system, and the evolutionary behavior of that population through successive generations is not random. Rather, we find that random mutation and selection processes act together in a concerted way within a population and lead to a directed evolutionary behavior of the population as a whole (see below).

Despite incorporating a fundamental randomness at an individual level the evolutionary change of the population is not random. Hence the Modern Evolutionary Synthesis, though perhaps not Darwin’s original theory, is potentially compatible with the concept of purpose found in religious thought. The irreconcilable atheism that Lee attributes to the science of evolution is not correct. Also, the common characterization of evolution as “Darwinism” is somewhat misleading, perhaps deliberately so from some quarters on both sides of the fence. Recognizing and acknowledging that the contemporary science of evolution does not require a denial of God is an important step towards realizing the ideal of unity between religion and science as called for in *Divine Principle*.

## Basis in Unification Thought for a New Approach

Lee’s discussion of evolution in NEUT begins from an understanding of existing beings that is based on his adding traditional Aristotelian form and matter ontology to the ontology of Divine Principle. When we remove the influence of Aristotelian ontology, we are led to the view of an existing being where *sungsang* is not a separate substance to *hyungsang*, and *sungsang* can be seen as an inner base related to information storage and processing. [\[24\]](#)

If we apply this to living systems, then each cell’s *sungsang* refers to its processing information in its metabolism, protein synthesis, actions, growth, etc. In other words, the functioning of life in the cell involves information processing.

Lee’s analogy of the radio antenna does not, then, reflect how living things actually exist. The information is both genetic and epigenetic, and is primarily, but not exclusively, stored in the DNA. The DNA contains information for the construction of proteins in its genes and also



information that controls when and how the genes are expressed. The genes then function in complex self-regulating networks within the organism giving rise to its shape and basic behavior. The content of this information and its processing constitute the sungsang aspect of life in living beings in the ontological model I have proposed.[\[25\]](#)

An additional feature of my model is that change occurs through collisions, where yang and yin are the primary dual characteristics needed to describe change.[\[26\]](#) In evolution we are fundamentally dealing with change. So dealing with evolution in the context of Unification Thought is an application and extension of this basic idea. In living beings the collision is symbolic of the sexual relationship where the male gives sperm to the female and fertilizes the eggs. As a first approximation, we can assume that the process whereby particular male and female beings come together to mate is random, though this is not always the case. In the random coupling of sexual reproduction, genetic information from both parents is combined. Moreover, in any population there is already a degree of genetic variation. So this facilitates variation in the population and adds a lateral exchange of genes between different lineages in the population as they combine in the offspring.

Mixing the parents genes only serves to shuffle what is already present in the genome, however it is not the only thing happening. We also need to consider the effects of mutation. Random mutations affect every offspring and distinguish each offspring from its parents and siblings. Each generation continually adds new variation. Potentially any part of the DNA could be changed, but some changes have bigger effects than others depending on what is affected in the regulated network of gene expression. Some changes can lead to an organism that is not viable and that fails to develop. Mostly the effects of the changes are small, leading to small variations in the population. Since the number of mutational changes is generally small in each offspring, the rate of generating variation in the population by this mechanism is also correspondingly slow—except for organisms like bacteria that can reproduce in a matter of hours.

Also, since I do not regard sungsang and hyungsang as separate things, these changes to DNA have both sungsang and hyungsang components. Mutations and mixing of parental genetics directly affects the information content of the offspring. In other words they affect the sungsang of the offspring, and also affect their hyungsang as those changes are expressed. Due to the complexity of the system, however, effects on hyungsang from any specific change are often unpredictable.

In each individual developmental relationship, then, there is quite a significant degree of randomness, both in the mating process and in the genetic variations introduced into the offspring. To deal with this inherent randomness, we need to change our perspective to consider the larger population. The population of a species can be regarded as its individual truth body, rather than the individual organisms that comprise it. The collective population, then, has both sungsang and hyungsang characteristics. It also has relationships both internally within itself and externally with its environment.

In order to conceptualize how a population can be an individual truth body, it helps to first look at a simpler system to provide a basic model. One such simpler system is a gas. Gases do not have a definite shape of their own, but expand to fill any container they are in. Nevertheless they have distinct state functions such as pressure, temperature, or internal energy, which describe the gas as a whole. A sample of a gas is composed of a multitude of individual particles, and unlike, say, a population of rodents, we don't see the individual particles but rather only observe the state functions. It seems natural, therefore, to look at the whole gas rather than the individual particles. However, these state functions can be described by the statistical behavior of the gas at the level of the particles. Temperature, for example, is a measure of the average kinetic energy of the particles. Though we cannot determine the kinetic energy of any particular particle, there is a definite and predictable statistical distribution, the Boltzman distribution, of particle energies in the gas. Also, although widely separated particles are not directly in contact, their energy and information are connected by constant collisions between them. These collisions distribute energy and information throughout the gas and lead to a state of equilibrium, both within the gas and in relation to the surroundings. The energy of the system is continually passed particle to particle by the ongoing collisions, and is delocalized from any particular particle. In this way, the state functions represent the collective system rather than any particular particle.

We can regard a population of rodents in some ways as a gas. The population as a whole has no definite shape and expands to fill its ecological niche (its container). Furthermore, although particular lineages in our population of rodents may be widely separated, the continual sexual relationships among them serve to distribute information throughout the population in the same way as collisions distribute energy in a gas and lead to an equilibrium state that represents the population as a whole. In a gas the Boltzman distribution, representing the statistical distribution of energies of the particles, provides the basis for understanding the state functions of the collective system. In a population of rodents there is also a mathematical statistical distribution that represents the whole population in terms of individual properties in the same kind of way.

Suppose, looking at our species of rodent, we were to measure things like the body length, weight, or how fast they run, for all the animals in a large stable population. Then if we plot graphs of the frequency of occurrence vs. the measurement (or for some things, the log of the measurement), we would get a characteristic statistical shape called a normal distribution or bell curve. This bell curve represents the statistical order present in the population. It is a Gaussian distribution that is characterized by two numbers. These are the mean, which in this case is the measurement corresponding to the top of the bell, and the standard deviation, which defines the width of the bell. The mean corresponds to the most common measurement in the population, and the standard deviation is a measure of the variation present.

Since the body shape, weight and behavior of each rodent is derived from hereditary information passed on from its parents, there is also a connection between these numbers and the genetics of the population. Variation can occur due to the different environmental factors that affect the development of each rodent, but there is a vital, and random, source of variation in the continual mutation occurring within the population.

Here we leave the analogy with a gas. The Boltzman distribution in a gas relates to the distribution of energies and speeds of the gas particles rather than the shape or composition of the particles, whereas our bell curves for a rodent population represent the shape and behavior of the rodents. Further that shape can change through succeeding generations, unlike our gas, through the continual introduction of variation and the operation of selection processes. Now, selection processes act on the whole organism, not just the length of its tail or legs. Hence, the normal distributions by themselves are not a sufficient description of the population, since they only represent variation in one measurement. They do, however, provide the basis for developing an overall picture, a state function if you like, for the population. We can do this by conceptually combining all the different bell curves into one image.

If we do this, we get a fuzzy three-dimensional mental image of our rodent population where each part of the image would be a representation of the bell curve for that part.<sup>[27]</sup> From this image we could derive an idealized image of our rodent, representing the top of each individual bell curve. This fuzzy image, and its information distributed among the genetics of the population, represents the *sungsang* of the population. We can regard it is a state function of the population. If the population is at equilibrium with its environment, then the image also contains information about the environment since selection processes tend to fit the population to the environment. The relationship of the population with its environment “writes” information about the environment into the *sungsang*, the collective genetic information, of the population. The state function then matches the environment at equilibrium.

## Stasis and Change

Darwin’s original theory predicted that a gradual accumulation of evolutionary change would be observed in a species, but the fossil record does not generally reflect that expected gradualism. More often the fossils show that species remain relatively unchanged for long periods of time, and that new species appear suddenly at irregular intervals. In order to explain what is observed in the fossil record, Stephen Jay Gould and Niles Eldredge proposed the theory of punctuated equilibrium in the 1970’s. In this theory, a species undergoes long periods of stasis, or equilibrium, that is punctuated by periods of rapid speciation.

In order to understand the punctuations, we first need to address the periods of stasis and the type of equilibrium operating. There are two basic types of equilibrium: static and dynamic. Balancing a meter stick on a knife edge is an example of a static equilibrium. Disturb this equilibrium, by moving the knife edge away from the balance point, and it collapses completely. Dynamic equilibria, however, arise from opposing kinetic processes such that at equilibrium a steady state arises from a balance of the rates of change in the processes. At equilibrium the kinetic processes are still ongoing, but there is no observable change to the larger system. Further, if you disturb a dynamic equilibrium, rather than collapse it tends to establish a new position of equilibrium. Dynamic equilibria are important throughout chemistry and biology. And through the kinetic processes of random mutation and selection in a population, evolution too involves dynamic equilibria.

At equilibrium with its environment the sungsang image or state function of the population of rodents matches the requirements of its ecological niche. Since it is a dynamic equilibrium there is still ongoing mutation and selection, but there is no apparent change to the state function. The accumulation of variation through mutation is balanced by selection processes that tend to select for a particular equilibrium position and reduce variation. Under these conditions the state function achieves a steady state, and there is no observable evolutionary change despite the ongoing gradual accumulation of genetic change. Though genetic change to an individual may affect that individual, the dynamic equilibrium operating in the population means that as a whole the state function for the population remains stable. Evolutionary processes are, however, still continually operating even in this stable situation.

This describes the periods of stasis in the punctuated equilibrium theory. However if the population is not at equilibrium with its environment, if, for example, there is wholesale migration or the environment changes in some way, then the population rapidly shifts to a new equilibrium position.[\[28\]](#) This new equilibrium position represents a new image and a change to the state function of the population. Thus, we would observe some definite evolutionary change in the rodents. The length of their legs may get longer, or their mouths smaller. Any number of things can happen, depending on the equilibrium position of the new state function in relation to the changed environment.

This evolutionary change to the state function of the population is not random despite relying in part on fundamentally random processes such as mutation and random coupling in sexual reproduction. Speciation is thought to occur when these kind of evolutionary changes occur to an isolated part of a larger population.[\[29\]](#) The state function of the larger population itself may remain unchanged such that there is no apparent evolution in this larger population.

Genetically, though, it too will be distinct from the ancestral population prior to separation, because mutation will have been ongoing in both populations. The shift to a new state function can be relatively fast, such that the new species apparently appears suddenly in the fossil record. This represents the punctuations in the theory.

## Conclusion

The importance of Giberson's book is that he shows there is a middle ground in the debate between creation and evolution. He shows that it does not have to be creation *or* evolution, but can be both creation *and* evolution. He also points out that there are many Christians who accept evolution. This middle ground is also for me the message of *Divine Principle*, when it suggests that internal and external truth should develop in full consonance. If we are to bring about a true unity between science and religion, then what is needed is voluntary surrender from both sides to a more inclusive approach. Further, I believe that this more inclusive approach can be derived from the ontology in *Divine Principle* and an acceptance of the validity of scientific knowledge. The basis for one possible more inclusive framework derived from this fundamental position is what I have tried to outline here.

If we remove the influence of traditional Greek ontology from Unification Thought, then it provides fertile ground for exploring the relationship between religion and evolution. When we do so, the basic change is that the sungsang of created beings is no longer a substance that is

separate from the substance of hyungsang. Rather sungsang exists as an inner quadruple base inseparably connected to an outer base that involves hyungsang. There are then no actual substances in the traditional philosophical sense at all, merely particles and relationship. Extending this idea to a living population of a species allows us to discern a collective statistical image or state function for the population that represents the inner base, the sungsang,<sup>[30]</sup> of the population, and that is present in the collective hyungsang and genetics of the population. The integrity of the population as an individual truth body in its own right is derived from the continual collisions of sexual reproduction occurring within the population. Sexual reproduction also establishes the basic rate processes for the dynamic equilibria of the population.

We normally consider evolution to represent change to the shape and behavior of the individuals in a species. Change to individuals, however, does not necessarily constitute evolution of the population. In fact, change to individuals is ongoing in a population even in periods of evolutionary stasis. If we change our perspective from the individual to the population, then observable evolutionary change corresponds to change in the collective state function rather than to change in some individuals within the population. This kind of change can occur when the population is not at equilibrium with its environment.

One big advantage of taking the perspective of the population rather than of the individual is that it allows us to deal with the randomness inherent in the underlying processes. Despite randomness on the individual level, the evolutionary change to the state function of the population is not random. This means that evolution from the perspective of the population is potentially compatible with a concept of teleology as found in religious thought. It allows us to deal with evolution in the context of religious thought without negating the science or the randomness that seems to be an integral part of nature.

That is not to say we have yet resolved all the issues. This is just a first step. I would say the next step involves dealing with the basic definition of evolution itself. Evolution in the broadest sense simply means continuing change of any kind over time. Darwin's theory of evolution applied only to living beings, and that is also the sense of the term as used here. Darwin succinctly described his theory as "descent with modification," and this definition is still widely used today. However, this definition does not do justice to the contemporary science. Darwin proposed his theory before there was any understanding of the role of things like plate tectonics, mass extinctions, meteorites, or the expansion of the universe. In other words, he did not know how the universe and the earth change with time, and how this has affected the evolution of life. He was proposing an explanation for change in living beings that acted independently of the environment against the essentially static backdrop of an unchanging earth. Contemporary science suggests, however, that evolutionary change in living beings happens in the context of their relationship with a changing, not a static, environment. That is hinted at here in the explanation from dynamic equilibria and the directed nature of evolutionary change in a population.

Adding a changing environment into the mix completely changes the picture from one based only on living beings. Descent with modification is then no longer a sufficient scientific definition in and of itself to describe evolutionary change. This shifts our notion of the driving force for evolution from random change in individuals to the non-random relationship of populations and ecosystems with a changing environment. We can start to describe evolution in the context of emergent individual truth bodies at larger scales than that of individual organisms. Life is inextricably connected to its environment, and hence the context for understanding change in living beings must also include an understanding of change in the Earth.

Lee's description of the process of God's creating inadvertently addresses this. The layered structure of existence, the inner downward development of logos within God, and the outer upward creation of existing beings, all include minerals as an integral part of the explanation. The progressive creation that Lee uses to explain evolution in life would then also apply to the evolution of structure that is not alive. From the formation of atoms to stars and galaxies there is an overarching evolutionary process at work. The definition of evolution therefore should not just be restricted to change in living beings, but rather extended to include change in the universe as a whole. The evolution of life, then, is but one component of this larger context of evolution as progressive change in the universe.



Following on from this expanded view of evolution, we can turn to the key question for religious people. How is God involved? This moves into more speculative areas not directly addressed by science, and it is not straightforward to address. Lee, in *Unification Thought*, sees every new thing to be a direct creation by God in a way that is not random. Yet here I argue that randomness is a fundamental aspect of nature, but that randomness coupled with a non-random selection process leads to a directed overall change for populations, and perhaps ecosystems. To me this suggests that we should look for God's involvement in the directed nature of the overall change and in the selection processes themselves, perhaps even in the changing environmental conditions that drive the change in equilibrium positions for living populations. So superimposed on the underlying randomness is a "pressure" toward a particular direction from God. In other words God does play dice, but they are weighted dice such that in the statistics of large numbers there is selection toward a particular outcome.

There is some precedent for this type of approach in Teilhard de Chardin's evolutionary theology. De Chardin was a Jesuit priest, but also a paleontologist. In his writing he combined science and religion and tried to stay true to both, with remarkable results. Of significance for this work is that he presented an evolutionary theory that begins from inorganic particles leading up through living things to the emergence of consciousness and God. That is, he already has adopted the larger context of evolution suggested here, building an overarching theory that encompasses all things.

For de Chardin, the key parameter in evolutionary change is complexity. He sees the universe beginning in a state with large numbers of particles of low complexity. Then over time complexity progressively increases to give fewer and more complex beings that integrate all the simpler particles that preceded them. The final unity of everything in one most complex being, the Omega Point, represents God. It provides the impetus toward increasing complexity found in all things. This scheme allows for randomness in science, teleology in religion, and God's involvement in a way that is consistent with our discussion here.

Though some aspects of de Chardin's thought are quite distinct from *Divine Principle* and *Unification Thought*, the overall picture he presents is remarkably compatible with a relational view of existence, with the addition of the evolutionary component that is missing from *Unification Thought*. His work points to one way to begin to develop a general evolutionary theory in the context of *Unification Thought*. In particular his idea of evolution as most essentially a progressive increase in complexity driven by God provides the key paradigm for such a theory. If we can combine the basis developed here with important elements from de Chardin's thought, it may give us a more general evolutionary theory that has universal application. In its compatibility with both science and religion, the theory may also be a step toward developing the new approach to reconcile science and religion that is advocated in the introduction to *Exposition of the Divine Principle*.

## Notes

[1] *Exposition of the Divine Principle* (Seoul: Sung Hwa Publishing Co., 1996), 20.

[2] *Ibid.*, p. 23.

[3] Jonathan Wells, *Evolution and Unification Thought* (Korea: Unification Thought Institute, 2008), p. 140.

[4] *From Evolution Theory to a New Creation Theory* (Tokyo: Kogensha, 1996).

[5] Karl Giberson, *Saving Darwin* (New York: HarperCollins, 2008).

[6] Akifumi Otani, *Beyond Darwinism: Towards Unification Science* (Korea: Unification Thought Institute, 2009), p. 182.

[7] *Exposition of the Divine Principle*, p. 23.

[8] *Ibid.*

[9] Wells, *Evolution*, p. 142.



[10] Giberson, *Saving Darwin*, p. 77-78.

[11] Sang Hun Lee, *New Essentials of Unification Thought* (Tokyo: Kogensha, 2006), pp. 108-109.

[12] Samuel Enoch Stumpf, *Socrates to Sartre* (New York: McGraw-Hill, 1982), pp. 93-95.

[13] Lee, *New Essentials*, p. 108.

[14] Ibid.

[15] Ibid., p. 21.

[16] [David Burton, "What is the Matter? Understandings of Matter in Unification Thought and Modern Physics," \*Journal of Unification Studies\* 6 \(2004-2005\): 151.](#)

[17] Lee, *New Essentials*, p. 110.

[18] [David Burton, "Collision Theory in Developmental Relationship," \*Journal of Unification Studies\* 14 \(2013\): 151.](#)

[19] One of the major themes in my writing has been the discovery that that most, if not all, the major problems in Unification Thought arise from Lee's adoption of traditional form and matter ontology.

[20] Lee, *New Essentials*, p. 21.

[21] Ibid., pp. 407-408.

[22] *From Evolution Theory*, p. 55. This booklet gives more detail directly pertaining to evolution, but in general does not give any new explanation related to Unification Thought.

[23] Lee, *New Essentials*, p. vii.

[24] Burton, "Matter," pp. 153-56.

[25] Ibid.

[26] Burton, "Collision Theory," p. 161.

[27] In most species there are significant differences between male and female, and we would really need two images for a population, one for all the males and one for all the females.

[28] The equilibrium can still collapse, the population die, if the change is too large and too fast. This is the issue facing species such as Polar Bears today with global warming.

[29] I believe that in addition to being isolated, the environment of the isolated population must also be different to that of the main population for the separation to result in speciation. The differing environment leads to a changed image in the equilibrium state function of the isolated part of the population.

[30] Specifically this statistical image would reside in the inner hyungsang of the inner base.