

**Intricate Connections:
Concerning the Mathematical Precision of the Universe
In View of a Design Theory of Creation
and
Some Implications of Unification Thought**

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Introduction

The universe has always been a cause for great wonder. The solar system, stars, galaxies, super novas; atoms, neutrons, and quarks; the list goes on and on. This paper takes a look at the universe, but with a decidedly mathematical bias. I do this for a particular reason, and yet there is good justification for doing so. In a popular book published in 1975, entitled The Tao of Physics, the author, Fritjof Capra, stated:

“The view that mathematics is nothing but an extremely abstracted and compressed language does not go unchallenged. Many mathematicians, in fact, believe that mathematics is not just a language to describe nature, but is inherent in nature itself.”
(Tao of Physics, p. 19)

The implications of saying that mathematics is inherent in nature itself might easily be overlooked by those of us who are not used to thinking about things this way. When we look at the moon, for example, most of us would not normally think in terms of numbers, but rather about the beauty of a full moon on a cloudless night. Nevertheless, one who is highly trained in mathematics is able to appreciate, in a way most of us cannot even imagine, the same moon in the same sky. Mathematical logic, mathematics, numbers, quantitative measurements, and so on, are all able to engender within the scientist trained in mathematics an appreciation of the universe which is every bit as profound as those phenomena which fascinate the poet or mystic. No less a scientist than Albert Einstein

was fascinated by the mathematical elegance of the universe. My son has on the wall of his room a poster with a quote from Einstein: “All I want to know are the ideas within the mind of God; all the rest are merely footnotes.”

A more important reason (than the sheer fact of the mathematical elegance of the universe), however, why I am going to focus our attention in this paper on numbers and mathematics is because I want to consider, or rather re-consider, a Design theory of the creation of the universe, and do so from the viewpoint of its mathematical nature.

I have not chosen to take this mathematical perspective entirely at random; rather there are grounds for doing so in the philosophical system of Unification Thought and I am seeking to introduce this (mathematical) aspect of Unification Thought in this paper. The Unification Thought perspective offers a Design theory of the creation of the universe and I believe it deserves a new, fresh examination. Unification Thought advocates the view that the universe has been planned and crafted by a Designer, usually conceptualized as a Creator God, and identified in Unification Thought as the “Original Being.” One of the avowed objectives of Unification Thought is “solving actual problems of the individual and society.” (Essentials, p. 1) Again,

“The purpose of Unification Thought is also to achieve the goal of one-world family and to realize an everlasting ideal world of God’s love, through solving—fundamentally and once and for all—the numerous and difficult problems that afflict humankind?” (Essentials, p. iv)

Even with this, one might question why we should place any more credence in the position set forth by Unification Thought than we do in any other similar position. Everyone has sought to solve the world’s problems! Why should we pay any more attention to Unification Thought than we do to any other perspective? The reason, I think, that we should take Unification Thought seriously lies in the fact that the personality and vision behind Unification Thought is the person and the work of the Rev. Sun Myung Moon. Anyone the least familiar with the life work and many projects of the Rev. Moon knows that in him we are dealing with something out of the ordinary at the very least. World leaders, scholars, and Nobel scientists have all grown to respect his vision and work. What is less appreciated is the fact that Rev. Moon is also a profound thinker and philosopher. The fact that “Unification Thought is a theoretical system of a great thinker—namely, the Reverend Sun Myung Moon” (Essentials, p. v) is good reason to take its perspectives seriously.

Traditionally, it was the teleological argument, for one, which, in view of the complexity of the world, postulated an apparent Designer, that is, God. It was held that one could see in such phenomena as the intricate design of the human eye, on a small level, or in the precision of the planets, on a larger level, the apparent existence of a Designer. The argument was made that such a complex universe must have been designed by an intelligent Designer in much the same way as a watch was designed by a watchmaker. It was held that we can know the Designer from His works. A number of

philosophers were advocates of a teleological perspective in terms of the origin of the universe. I would like to point out here in passing that both the structure and function of the human eye and the precision of the planets, can be described in very technical, but elegant mathematical formulas.

I briefly offer the process of creation as set forth in Unification Thought and then consider some of the mathematical realities found in the various sciences, including astrophysics, physics, and chemistry (the “hard” sciences), and biology, psychology, and sociology (the “soft” sciences). I then consider the nature of give and take action and how it is manifested in the various sciences and how many well-known scientific facts are simply expressions of give and take action. I then attempt to bring these two perspectives together. That is to say, given the nature of the creative process outlined in Unification Thought, the kind of universe that might be expected to result seems to be, in fact, the kind of universe that we experience.

This can be easily understood by considering an artist. When one knows well both the nature of the artist and the character of the works produced, one can see that they are in exact accord. I am assuming, in this paper, considerable familiarity on the part of the reader with the ideas set forth in Unification Thought. What I am trying to do in this paper is not meant to serve as a new “proof” for the existence of God. It is only meant to add credence to the Design theory by considering some of the insights provided by Unification Thought.

A central component of any Design theory would, of course, be the Design (or blueprint) itself. Yet, rarely does one find a philosophical position which includes a clear or well-thought-out sense of any Design, or at least of its component parts. Pythagoras was the first to argue that “all things are numbers” and with this he came to an important realization which has perhaps not been sufficiently appreciated.

“Through Pythagoras and the philosopher-scientists whom he influenced, some Greeks came to believe that in numbers and mathematics they had found the clue to the nature of the universe” (Living Issues in Philosophy, p. 21)

In my opinion, Pythagoras was correct in his insight. There is an important nomological (of the nature of numbers or quantity) dimension to the creation, an observation explicitly pointed out in the first edition of Unification Thought. Unification Thought offers, in its concept of the Logos, a rational conceptuality with regard to numbers, mathematics, mathematical laws, and mathematical reasoning. This is probably very close to what Pythagoras was trying to point out. In Unification Thought, the Theory of the Original Image addresses the question of God’s attributes, and among the attributes are included the Logos, or reason-law.

The Creative Process: The Logical Sequence As Described in Unification Thought

Unification Thought describes the attributes of God (which Unification Thought calls the “Original Image”), and describes a sequence of steps which logically outlines the way in which these attributes interact during the creative process so as to actually result in a new creation. Briefly stated this process is as follows: centering on the purpose of heart (which is to create an object which one can love, and from which one can subsequently receive joy) the Divine mind first formulates a plan or blueprint. This is realized by an interaction (or give and take action) between the Divine intellect, emotion, and will (wherein reason, which is a part of the intellect, plays a major role), as the subject or leading partner, and the object partner which is constituted by an idea within the Divine mind as well as law and mathematical reason, which is the ability to reason with numbers. The result of this interaction is the multiplication in the Divine mind of Logos, which is “reason and law” combined into a detailed blueprint for the creation of an entity. This is then followed sequentially by another give and take action (again centering on the purpose of heart), this time between this intricate blueprint consisting of reason and law and a kind of pre-energy, existing within the Creator together with the mind. This latter give and take action results in the actual creation in time and space of an existing entity. This is a very brief summary of the two-stage structure of creation, involving the two-stage structure of the Original Image (for a more detailed description of the creative process, please consult Essentials, pp. 27-36).

Logos is an Infinitely Sophisticated Blueprint

I want to examine more closely now the nature of this blueprint, or Logos (reason combined together with law), which is one of the attributes of God, the Original Being.

“Logos is the thinking of God, as well as the Word uttered by God. Logos as the Word uttered by God is the conception, or blueprint, of each created being at the time of creation. Therefore, Logos is a *multiplied entity* (i.e. a *created entity*) that arose within God’s mind.”

When the Inner *Sungsang* and Inner *Hyungsang* engage in give-and-receive action, centering on the purpose of creation, there arises a conception, or a blueprint—and this is what we call Logos. As an example, let us suppose that God, centering on Heart, establishes the purpose of creating a bird, for the sake of human beings. In trying to realize this purpose, God engages in thinking by exercising His volitional and intellectual functions, especially His reason. He might ask Himself, ‘In what shape shall I make this bird? In what color? In what form and structure shall I make its wings? How shall I form its skeleton and flesh?’ By proceeding this way, God comes to envision the image of a bird through associating various ideas within His Inner *Hyungsang*. This process leads to a tentative conception of the bird. At that point God’s emotion comes into play, allowing Him to feel whether this or that aspect of conception is good or bad. If God feels something in the conception of the bird is not good, He reconstructs the conception by again exercising the faculties of will and intellect. Through such a process, God finally completes His conception...

Since the universe is created through Logos, and since Logos is reason-law, within each created being there can always be found an element of reason and an element

of law (or a mathematical element), and these two elements work in unity.” (Essentials, pp. 22-23)

This is the process whereby the blueprint is formed within the mind of God. We are not, however, accustomed to thinking about the blueprint of a bird. Let me turn to a more mundane example so that we may understand better what I am proposing. We are all familiar with the blueprint of a house with all of its mathematically precise detail. Exact distances, lengths, widths, and scales are shown, measured exactly and the exact locations of doors and windows, for example, are marked. Measurements and proportions are worked out to an exact degree so that by following the blueprint, the builder (and the carpenter, the electrician, the mason, etc.) is able to create a beautiful house as a finished product. If the mathematics of the blueprint are faulty, or are not followed closely, the result will be a very sloppy construction in which no one would want to live.

The blueprint I am concerned with here, however, the Logos, is an unimaginably more detailed and intricate blueprint than any blueprint the human mind could possibly conceive. The mathematics involved must be correspondingly intricate. Science has not yet developed to the point where it is able to create even a single cell of a living being (much less the entire organism) and yet even a single cell, or even a molecule, is vastly more complex than the most sophisticated computer. Consider the well-known DNA molecule (deoxyribonucleic acid).

“...the shape of the DNA molecule resembles the shape of a ladder—two sides connected to each other by rungs. Each side of the molecule is a chain of nucleotides. The bases act like the rungs of the ladder, bonding together the nucleotides on each side...each ‘rung’ consists of two, and only two, bases. In human cells, a single DNA molecule may have as many as 3 billion pairs of these bases.” (Schraer and Stoltze, *Biology: The Study of Life*, p. 65)

Considering the fact that a human DNA molecule, when stretched out in a straight line, would still be only a mere four centimeters long, must give us pause as to how those 3 billion pairs of bases fit inside the cell. The cell is a very sophisticated and mysterious organism. The earliest English edition of Unification Thought, indeed, states: “according to the teacher of the Divine Principle, ‘The mystery of the universe is contained in a cell.’” (Unification Thought, p. 32).

The Logos as a “blueprint” is a combination of the Divine “intellect, emotion and will” (found in the inner sung sang) and an “idea” combined through the agency of mathematical reason and law (found in the inner hyung sang). As a blueprint for an existing being, the detail inherent in the Logos must be intricate beyond our capacity to comprehend. The mathematical make-up or character of the Logos as a divine blueprint of even a simple thing like a single cell, or even a DNA molecule, would have to be intricate to the ultimate degree. Just imagine how intricate the blueprint has to be in order to correctly specify all of the precise mathematical dimensions and instructions necessary to guide and mould pre-energy to create one living cell, with its organelles, mitochondria, nucleus, chromosomes, chloroplasts, etc., and all the physical, chemical, and biological

interactions taking place in the context of a highly sophisticated mathematical character. Just think of the mathematics involved in the chemical processes of creating ATP, for example, within a single cell! To “assemble” a small organism, composed of numerous cells, the level of complexity would rise exponentially. Consider the situation on an even smaller scale, the scale of the subatomic world, where the mathematics becomes even more precise and intricate as scientists analyze the atom and speak about the s, p, d, and f orbitals. One need only think of Einstein’s famous formula $E=MC^2$ to appreciate the mathematical nature of the universe. Some sense of the precision can be gained when speaking of the strong and weak forces of the atom, for example,

“The charges of the electron and proton have been measured in the laboratory and have been found to be precisely equal and opposite. Were it not for this fact, the resulting charge imbalance would force every object in the universe—our bodies, trees, planets, suns—to explode violently. The cosmos would consist solely of a uniform and tenuous mixture not so very different from air.” (Greenstein, p. 256)

Consider how precisely the charges of an electron and a proton must balance: “Relatively small things like stones, people, and the like would fly apart if the two charges differed by as little as one part in 100 billion. Larger structures like the Earth and Sun require for their existence a yet more perfect balance of one part in a billion billion.” (Greenstein, p. 64-65)

Again, on a different level,

“Electricity walks a tightrope, and the perfection of its balance is quite extraordinary—better than one part in a billion billion. Our lives depend on it. If this balance were to be upset, even for an instant, each one of us would burst apart in an explosion. As would each tree, each blade of grass, each planet, and each star. (Greenstein, p. 62)

This is indeed mathematically intricate! This mathematical precision is the result of the creation through the Logos (reason-law).

These quotes, taken from the book The Symbiotic Universe, speak dramatically of the precise mathematical nature of forces and energies. This book argues for the validity of the so-called Anthropic principle, which holds that the universe seems to have been designed in such a way, that is, in a mathematically precise way, as to be able to support life.

Mathematical Evidence Suggestive of a Designer

The above statements concerning the mathematics of the very small and the very large are very suggestive. Indeed, the author of The Symbiotic Universe, himself a physicist, posits the inevitable question:

“Whatever regulated so precisely the electron and proton charges presumably lay buried within [the microscopic realm]...Could it be that suddenly, without anybody’s looking for it, evidence had been found of some supernatural Agency at work in the world? The question was doubly thrust forward by the immense significance to our being of that charge balance.” (Greenstein, pp. 86-87)

It is also stated:

“...in some strange and at present mysterious fashion, our universe is fundamentally a universe of life—a universe that takes life seriously, if you will...Life obeys the laws of physics—this much is a truism. What is new and incomprehensible here is that in some extraordinary way the reverse seems also to be true—that the laws of physics conform themselves to life...As we survey all the evidence, the thought insistently arises that some supernatural agency—or rather, Agency—must be involved. Is it possible that suddenly, without intending to, we have stumbled upon scientific proof of the existence of a Supreme Being?” (Greenstein, p. 27)

This same author states elsewhere, after delving into some other instances of the mathematical intricacies of the universe:

“My object has been to convince the reader, by the sheer magnitude of accumulating evidence, that we are faced with a mystery of deep significance. The more knowledge we have gained, the more surprising it has become that life exists in the universe...More than a century after...have we found at last [the] Watchmaker—not hiding in the petals of a flower, not lodged in the optical perfection of the eye, but ensconced within the very laws of nature themselves? Was it God Himself who crafted those laws so precisely for our benefit? Using the cold, abstract methods of modern science, have we succeeded in proving the existence of a Supreme Being?” (Greenstein, pp. 188-189)

Unification Thought Affirms a Designer, and a Design

Although the existence of a Creator God has not been proved by the above research (nor was it ever meant to), in line with the scientific questioning (or speculation, perhaps), Unification Thought affirms exactly this: that a Designer has, indeed, crafted the laws of nature for our benefit. The laws which inform the entire universe, and which mathematicians believe to be inherent in the very nature of the universe, have come to be there by virtue of the Logos, or blueprint, originally multiplied in the mind of the Designer. There have been Design theories in the past, but Unification Thought is able to explain systematically, in a forceful and logical manner, the process of creation, that is, creation through the Logos.

An Intricately (and Mathematically) Interlocked Universe

Millions upon billion upon trillions of atoms, all bonded precisely and correctly in ionic or covalent bonds or such go to make up the uncountable numbers of molecules constituting either the inorganic astronomical entities such as stars, planets, and asteroids, or the organic entities making up living things, such as cells, tissues, and so on. Then you have the numerous chemical reactions taking place every second within a living cell to maintain the cell's viability, and all obeying the law of conservation of mass. Then the interactions between cells in tissues, between tissues in organs, and between organs in organ systems, all make-up an incredibly intricate "universe" of mathematical precision. The proper acid-base balance, proper pH balance, proper capillary action, proper hormonal balance, and a variety of other biological and biochemical processes all have a mathematical character. Every enzyme/substrate complex is precisely configured or the proper biochemical relationships will not go forward as necessary to maintain life and biological function. Enzymes work best at certain temperatures and certain levels of pH. All the sciences utilize mathematics to research the nature and function of living, and non-living, organisms.

Unification Thought speaks eloquently of the interconnectedness of creation, how each level of being is intricately involved and interconnected with both the level below it and the level above it. In short, it speaks of a hierarchy of centers, manifesting order, and all tied together by virtue of the dual purposes of each being. Physics addresses the mathematical world of the very small subatomic realm with its color and flavor, muons and quarks; chemistry and biochemistry address the realm of the inorganic and the organic or living realm with their gigantic molecules of DNA and RNA, proteins and polysaccharides; biology addresses the realm of organic life and its various levels of ecosystems and environmental parameters; psychology addresses the realm of the human mind; and sociology addresses the realm of human society. All of these sciences are connected and research in any of them develops through highly sophisticated mathematics. The Divine Principle notes that even the sociological reality of the family has its "mathematical" character, for example, in its exposition of the numbers 4, 12, 21, and 40:

"God exists upon His Principle, which has a numerical aspect. The universe, with human beings at its center, was created based on numerical principles to be the unfolding of the dual characteristics of the invisible God as His substantial object partner. This is the reason science, which seeks to discover the external laws governing the universe, *progresses through research conducted with the aid of mathematics*. The first human ancestors were to become complete by passing through a growing period characterized by certain numbers...In their perfection they were to embody the quality of these numbers...Based upon what numbers were the first human ancestors...to lay the foundation of faith? What numbers were they to have embodied in their perfection? We learned...that no entity can exist or thrive without first forming a four position foundation...Had the first human ancestors not fallen, they would have laid the foundation of faith based on significant numbers, including twelve, four, twenty-one, and forty. When they then accomplished the purpose of creation, they would have become the

perfect embodiments of the quality of these numbers.” (Exposition of the Divine Principle, pp. 294-299, passim, italics added)

In the same way that the area of a two-dimensional circle can be determined by a mathematical formula ($A = \pi r^2$), and a (three-dimensional) spherical object such as a basketball has an area determined through a mathematical formula (two-thirds that of the cylinder in which it is inscribed—leading immediately to the formula for the volume, $V = \frac{4}{3} \pi r^3$), so, too, does the four position foundation of the family (also three-dimensional) have a certain quality characterized by certain numbers.

If we look at the entire universe as a whole, we can discern that the precision of existence on each level is such that it creates the necessary and perfect conditions for the next higher level of beings to exist. As the anthropic principle would tell us, if conditions at any given level of being were any other way than what they are, the next higher level of being would not be able to exist. The precise mathematical nature of the atomic world must be exactly the way it is or molecules could not exist in all their variety. The precise mathematical nature of the molecular world must be exactly the way it is or inorganic beings like the planets and other heavenly bodies, and organic beings like cells and living organisms could not exist. This means that the entire universe is, as Unification Thought expresses, a hierarchy of centers, all being interconnected and interwoven by their dual purposes:

“The entire universe is a vast organic body composed of connected bodies with dual purposes... The purpose for the individual is for the maintenance of the self, that is to say, self-existence; and the purpose for the whole is for the maintenance of the whole, that is, to say, the purpose to make the whole more perfect.” (Unification Thought, p. 83)

Again:

“Thus all existing beings, from the small atoms to the great cosmos, including the galaxy, form a hierarchy consisting of many levels of centers, and develop a circular movement.” (Unification Thought, p. 87)

Circular movement is another way of saying give-and-take action, and it is give-and-take action that is expressed in every mathematical formula and chemical reaction.

When one considers this immense universe from the point of view of its mathematical intricacy, and when one realizes that this mathematical intricacy was all formulated, embodied and thus predetermined by the Logos at the time of creation, one begins to be able to appreciate the “beauty” of the Design, as well as the intricacy of the connections.

This intricacy goes even further, however, as observed by a reputable scientist in a book published this year (2002):

“Mathematical logic...leads to the conclusion not only that all systems are ‘alive’ to various degrees, but also that this information continues as a living, evolving energy system after the physical structure has ceased to exist.” (The Afterlife Experiments p. 4)

Although this quote is made to suggest that the “soul” survives its physical death, and is made in view of accumulating evidence of life after death (which Unification Thought would affirm), the fact that “mathematical logic” has been used in advancing scientific research is what catches my attention. If the nature of the universe is mathematical, then it stands to reason that mathematical reasoning and logic would be necessary as one investigates it. This is what was affirmed by the quote above, from the Divine Principle.

All of this vast mathematical character, which is found inherent in the universe, originates in the Logos (reason and law). Reason here indicates the intelligent and purposeful consciousness inherent in life and, concerning law, Unification Thought states:

“Original laws refer to fundamental laws. Laws discovered by humans have diversity and some aspects that change with the times. Original laws, however, are absolute. The laws that exist within God are original laws. When original laws manifest themselves in the created world, they appear in two aspects, namely, the Sungsang aspect and the Hyungsang aspect. The Sungsang aspect refers to the norms in human society, such as ethics and morality; in contrast, the Hyungsang aspect refers to the laws of the natural world. We just noted that the family four position foundation has a certain mathematical character, a nature characterized by certain numbers. As people interact, the way of interaction should be in accordance with the Logos. The way of interaction must be such that our relationships realize true love. The laws of true love are just as much “law” as the “law” of gravity. The only difference is that one is a sungsang law and the other is a hyungsang law. They both originate in the Logos of the Original Being.

Moreover, God is a mathematical being. Within His Inner Hyungsang, God has mathematical content, such as an infinite number of mathematical values and formulas...Throughout history, scientists have discovered a great number of numerical formulas. Each of them has grasped the manifestation of some part of the mathematical nature that God possesses. Paul Dirac (1902-), a British physicist who contributed to the formulation of quantum mechanics, said that God is a high-level mathematician, and that one cannot but admit that God used high-level mathematics in forming the universe.” (Essentials of UT, p. 5)

It is exactly this mathematical nature of the Logos I am interested in, and which I examine in this paper. In John 1:14 it is said “the Word became flesh” and we know that Jesus of Nazareth was a historical human being. The Greek word for Word is Logos and so this means that the Logos became flesh. This means that the Logos or “Word” was a blueprint for the human being we call Jesus of Nazareth, both of his physical self and of his spirit self. As a physical person, Jesus ate, slept and functioned biologically. In doing so, his physical body obeyed all the mathematical laws of physics, chemistry, and biology. As a person with a spirit, Jesus related to other people in love, and was able to realize true

love in loving people. That is to say, his spirit functioned according to certain spiritual laws (laws of love). He was a complete human being, spiritually and physically, and was able to live both spiritually and physically according to the original laws and mathematical natures ordained by the Logos of God. The implication of all this is that the blueprint for the creation of a human being could only be incredibly intricate, far more complex than any blueprint we finite human beings could possibly imagine. Only an infinite, Divine Creator, with an infinite Mind, possessing infinite intellect, infinite emotion, and infinite will, and having an infinite ability to think mathematically, using original laws and formulas, could have been capable of designing the universe in all of its incredible mathematical complexity, and yet simultaneously mathematical beauty.

Unification Thought speaks often of the Logos (reason-law), both in theory of the original image and in ontology. Logos is the reasonable, mathematical nature of the universe, as divulged through the investigations of the various sciences, which are developed through complex mathematical formulas, etc.

The idea of give-and-take action was mentioned just above. It is a simple concept, but Unification Thought affirms several kinds of give and take relationships: bilateral autonomous, unilateral autonomous, heteronomous, and collation, as well as an original type, a temporary type, an alternating type, and so on. These are expressions of the precise mathematical relatedness among various objects.

Unification Thought also makes note of the fact that there have been transformations (from literal circular movement to rigid chemical bonding, to the flowing movement of blood, to the social interaction of goods and services around a society) of the basic give-and-take actions at various levels of the created order. The reason this phenomenon occurs is so that it will be contextually possible for give-and-take action to support the particular needs or dual purposes of that specific level of being. It is necessary for the dual purposes to be accomplished, the purpose for the whole and the purpose for the individual. For example, in order for the chemical homeostasis of the body to be maintained, it is important that chemical bonding between the various proteins and molecules in the body have a certain character. This in turn requires that the atoms and even the electrons in those atoms have a certain mathematical nature. From this one can derive the mathematics of the atomic and sub-atomic realms. The structure of the DNA double helix is a case in point. This intricate molecule must form and dissolve chemical bonds at the right time and in the right manner for cell function to proceed properly. In the process of the discovery of this “double helix,” mathematics figured prominently. For example, in an extract from a popular book:

“Especially important was my insistence that the meridional reflection at 3.4 Angstroms was much stronger than any other reflection. This could only mean that the 3.4 Angstrom-thick purine and pyrimidine bases were stacked on top of each other in a direction perpendicular to the helical axis. In addition we could feel sure from both electron-microscope and X-ray evidence that the helix diameter was about 20 Angstroms.” (The Double Helix, p. 110)

Even in the concept of perpendicularity (a 90° angle) there is a mathematical nature, and a corresponding preciseness.

At the same time, the fluid movement of blood through the arteries and veins of the body, rather than rigid chemical bonding, allows the various tissues, organs, and organ systems of the body to function properly and maintain the correct physiological homeostasis. As any doctor will tell us, the acceptable chemical and biological parameters of good bodily function and good health, all are within certain limits. Of course, the body has the capacity to regulate this homeostasis within broader limits, so that there can be a certain fluctuation, but even that homeostatic mechanism must operate very precisely. The body knows when the precise limitations are reached. Give-and-take action is the expression of exact and precise mathematical realities. Every mathematical equation and every chemical reaction is an expression of the mathematical nature of reality.

According to the Divine Principle,

“When the circular movement of the subject partner and the object partner on a single plane becomes a spherical movement in a three-dimensional orbit, the dynamism and creativity of the universe unfolds. Variations in each orbit’s distance, shape, state, direction, angle, force and velocity are manifest as the beauty of creation in its infinite variety.” (Exposition, p. 27)

In other words, the infinite variety of creation comes through the great variety of give and take actions with their differences in angle of interaction (give and take), velocity of interaction, speed of interaction, direction of interaction, etc. All of these (direction, angle, force, velocity, etc.) are physical properties which operate in accordance with strict mathematical precision, which can be precisely determined quantitatively, and which are measurable quantities in physics. They can all be determined as having a precise mathematical dimension and can be expressed in elaborate mathematical formulas. This mathematical character of angle, velocity, and so on, are determined by the Logos of God, and thus come to be inherently manifest in creation in this way because the Logos, or reason and law, pervades all areas of creation, that is, all places in the universe. Physicists investigating the objective universe derive such mathematical formulas because of the quantitative nature of reality.

Conclusion

This paper has attempted to set forth some sense of the mathematical character of the Logos (or Design) of God, through which the universe comes to have an incredibly intricate, and yet amazingly beautiful mathematical nature. When one considers the mathematical complexity of the universe, a Design theory of creation comes to mind. Unification Thought, with its logical explanation of the creative process, whereby the Original Being created Logos, with its rational and lawful dimensions, certainly must give us pause as to a persuasive creative theory. Certainly, the universe has inspired

scientists, who can appreciate the intricacy of the mathematics, to marvel at the elegance and beauty of the universe, but this is merely the foundation for that beautiful sunset which can so inspire two people when they are in love. For it is not the sheer mathematics of the universe, which forms the underlying basis for all of it, but it is the stimulating sounds, scents and images of God's wondrous creation which often move us to tears.

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