

Trinitarian Design in Nature: Step One in Creationeering®

M.F. Horstemeyer, T. Temple*

Abstract

A multiscale hierarchical structural analysis of the universe employing an Integrated Computational Materials Engineering (ICME) methodology reveals that a trinitarian design occurs in nature that is premised upon Romans 1:20 wherein God revealed His nature in the things that He created. The first step in the creationeering® process includes systems engineering design that downscales to the lowest-length scales. We show that the universe can be viewed into multiple length scales of distinctive design volumes in which certain designed volumes illustrate a trinity. In particular, the lowest-length scales defined in nature as subatomic or atomic particles reflect the divine “substance” that makes the Godhead one and the higher-length scale, geometric forms differentiate the *hylomorphic structures* between the Father, Son, and the Holy Spirit in the Trinity. Since God is a trinity, we would expect that He would have revealed it in nature based on Romans 1:20 (NKJV)—For since the creation of the world His invisible *attributes* are clearly seen, being understood by the things that are made, *even* His eternal power and Godhead. We validate this premise of God being a trinity and that He demonstrated this idea in nature as 57 different trinities are quantified.

Key Words: Constraints, Design, Creationeering®, Integrated Computational Materials Engineering (ICME), Objectives, Trinity, Variables

Introduction: Creationeering®

Creationeering® (Horstemeyer et al., 2022) is a paradigm that integrates engineering and business practice for

technological entrepreneurship that derives from the Dominion Mandate in Genesis 1:26–28, in which the Creator commanded mankind to “rule” and “reign.” Creationeering® distinguishes

itself from creation science in that the former includes the design and creation process while the latter is limited to discovery of existing physical phenomena. Because the design and the creation stages are different from each other by definition and practice, a more holistic word to describe God’s process that comprises both design and creation is creationeering®. The engineering systems steps include the

* M.F. Horstemeyer, T. Temple, Liberty University
Accepted for publication January 18, 2024

following: design, analysis/synthesis, procurement/making, logistics, assembly, performance/function, sustainability, and death/recycling.

In the creationeering[®] process, one thinks that the engineer will focus on optimizing the design by maximizing the mathematical equations that includes the objectives for the performance environment. The design phase of some thing or process takes time for analysis of the design and is distinctly different from the “making” of the thing or process. We use the term Creationeer[®] as distinct from Designer and Maker, because the “designer” just designs and the “maker” just makes things. However, the Creationeer[®] does both the designing and making of things and processes. Albeit, some might argue that when the term “Creator” was first used, it was meant to be both designer and creator, but technically in engineering, these are two distinct actions and require two different jobs and associated people.

In terms of the design and analysis of the different steps in the creationeering[®] process (procurement, logistics, assembly, life-cycle performance, sustainability, and death/recycling), the creation science community has focused mainly on the life-cycle performance or function of the particular designed volume. Since the Creationeer[®] procured the materials, applied logistics, and assembled all of the entities during the Creation Week, one can understand why the community has focused on the life-cycle performance or the function of the particular system, subsystem, module, or component. However, the universe is not static and thus the procurement, logistics, assembly as well as the life-cycle performance, sustainability, and death/recycling are currently dynamic processes and are still in motion and are changing. As such, the Creationeer[®] not only designed and established the first version of each of the systems, sub-

systems, modules, and components but also designed the future versions of each entity with their dynamic, correlated creationeering[®] steps.

We focus particularly on design in this paper, not the creation aspects. This is key to understand, because when we read about the Creation Week in the Bible, it shows the creation schedule and interactions, not the design timing nor design interactions.

Romans 1:20 specifies the goal of research and discovering things in God’s creation to find out more about the Creationeer[®]. Hence, the knowledge garnered by research and discovery reveals some aspects of the Creationeer’s nature, character, and attributes.

Romans 1:20 (NKJV)—For since the creation of the world His invisible *attributes* are clearly seen, being understood by the things that are made, *even* His eternal power and Godhead...

Proverbs 8:12 indicates that information is revealed to mankind for a creative purpose to invent “things” for human service.

Proverbs 8:12 (KJV)—I wisdom dwell with prudence and find out knowledge of witty inventions.

Both science and engineering find their roots as a commandment under the Dominion Mandate for ruling and reigning:

Genesis 1:26–28 (NIV)—Then God said, “Let us make mankind in our image, in our likeness, so that they may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild animals, and over all the creatures that move along the ground.” So God created mankind in His own image, in the image of God he created them; male and female he created them. God blessed them and said to them, “Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky

and over every living creature that moves on the ground.”

Holding firmly to the doctrine of *creation ex nihilo* (creation out of nothing), we see God’s *design* from the beginning of Genesis 1. The entire Bible (Old and New Testament) opens up with the sentence:

Genesis 1:1 (KJV)—“In the beginning, God created the heaven and the earth.”

This opening verse depicts God’s majesty, power, and unsearchable wisdom, who out of His goodness and love created everything. The whole of creation therefore reflects intelligent design and coherent systems, made from nothing, yet crafted to reflect virtues to be celebrated throughout culture. The systematic ordering of the universe as seen in the structure of the Creation Week in Genesis 1:1–2:3, portrays a transcendent God, who intelligently sets everything in their proper place, the three days of shaping the void and three days of filling the void, to support each other in conformity to His grand design. For example, Behe (1996; 2002) and Behe et al. (2009) described “irreducible complexity” in biological systems where he described the smallest features in a living system are complex engineering systems. If just one component fails, the entire system fails in a symbiotic manner. Hence, you need an intelligent designer to design such an organism. Creationeering[®] subsumes the “irreducible complexity” argument since it covers “systems complexity” at every length scale, including the cosmos, and the wholeness of systems engineering (Blanchard et al., 1990).

We now make a note the multiscale hierarchical systems design that incorporated the trinitarian aspects. First, the Trinity of the Godhead as will be discussed next has each person of the Godhead as distinctly different but still God in essence (Erickson, 1998) as illustrated in Figure 1. We note

that the difference between the Father, Son, and Holy Spirit as three persons are related to geometric forms and spatial locations with different agency and *expression*. As such, the larger-length scales discussed below can be thought of different geometric forms and at different spatial locations. The oneness of the Trinity is defined not only in purpose, but also in essence, where essence in our context can be the atomic structure, since atoms make up everything in the universe and the protons, neutrons, and electrons are all identically the same, making them the same essence. More on this later.

From the multiscale viewpoint, we will show in nature that there are exact corollaries to this trinity, and some much less than that but still incorporating the “three” that comprise the “one.” We also note that by categorizing different length scales per the Integrated Computational Materials Engineering (ICME) paradigm (Horstemeyer 2012; 2018) in terms of their “performance” or function, *objectives are related to particular geometric structures that define the length scale. For example, a car would represent a “system” but one length scale smaller would be the “subsystem” like the chassis for example. Further down in size or length scales would be an engine cradle, which would represent a “component.” We also note that we present the information in terms of downscaling, like going from the car to the chassis to the engine cradle.* In this writing, we associate the trinities with 13 different length (*size*) scales. To be sure, there are more length scales and probably more trinities that the authors missed. Each length scale appears to illustrate nature’s trinities. As stated, the trinities *described* in this paper may not be comprehensive as others might be able to discern others in nature. However, this writing is still the first effort to quantify the trinities in nature in the context of the systems engineering ICME analysis methodology and *creationeering*[®] process.

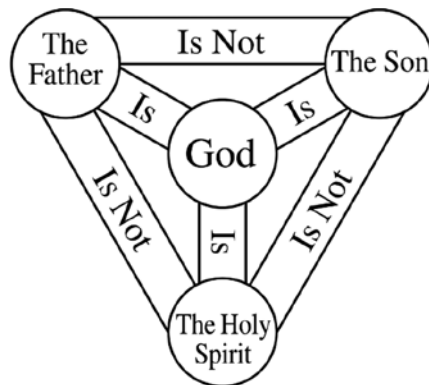


Figure 1. The Trinity within the Godhead illustrating that the Father, Son, and the Holy Spirit are individually God with the same essence, but They are not each other, and are distinct aspects of the Godhead.

Trinity Within the Godhead

The trinity in the Godhead is illustrated in Figure 1, which shows that the Father, Son, and the Holy Spirit are individually God as the same essence but are not each other as distinct aspects of the Godhead. A distinguishing aspect of Christianity from other religions (Judaism, Islam, Hinduism, etc.) is the notion of the divine Trinity. Early church history tried to communicate the essence of the Trinity. Although not using the word trinity, the concepts were explained by Justin Martyr (100–165 A.D.) (Martyr et al., 2003) and Irenaus (180 A.D.), who was a disciple of Polycarp, who was a disciple of the Apostle John. Tertullian (155–220 A.D.), a lawyer and priest from Carthage, North Africa, living in the Roman Empire described the Godhead as the Father, Son (Jesus), and Holy Spirit (Momigliano, 1971) and was the first to use the term “trinity” (Fortman, 1999) with the sameness represented by “substance.” For more clarification, the Nicene Creed was defined in Nicaea, Turkey (325 A.D.) and later modified in Constantinople,

Turkey (381 A.D.) (von Hefele, 1894). Athanasius (350 A.D.) provided the modern orthodox view of the Trinity (Erikson, 1998). Augustine (415 A.D.) of Hippo Regius in Numidia, Roman North Africa compared the Godhead to the human mind with three parts: memory, understanding, and will (Sanlon, 2014). Cappadocian theologians argued that there are three persons (Father, Son, and Holy Spirit) but they are indistinguishable and inseparable in their “essence” or “substance” or “being” (Erikson, 1998), which was based specifically on the image of God. Another aspect is that each component of the trinitarian Godhead could also be named God, so the triuneness can be represented as the whole by each component. Erickson (2002) stated that the nature of God is an organism, meaning a unity of essence with distinct parts.

The Biblical basis for the Godhead Trinity is clear from several verses.

Genesis 1:1 (KJV)—In the beginning God created the heaven and the earth.

The word for God is “Elohim,” and the subject-verb conjugation is singular in the Hebrew language, but there is something peculiar about the word Elohim. In the Hebrew language, the singular word for God is “El” and like anything in the Hebrew language, when the “ah” suffix is added, it is not singular but means two. Hence, “Ellah” can mean two-gods or two aspects to God. However, when the suffix “im” is used in the Hebrew language, it means three or more. Several rabbis that we have asked about this conundrum was answered by the notion that God has many aspects or attributes so the “im” suffix means that many characteristics and names for God are represented in the name Elohim. However, a different interpretation can mean “trinity” or “three-in-one God.”

Genesis 1:26 (KJV)—let us make man in our image...

In Genesis 1:26, God is speaking and saying to make man in His image as a trinity. In other words, the Godhead is a trinity and thus each person needs to be a trinity since it is after His image. Consistent with Genesis 1:26 is the following.

Genesis 2:7 (KJV)—and God breathed into man and man became a living soul

The body of man was first assembled (Step 5 in the creation[®] process) out of the dust of the ground but required an immaterial entity to make it “alive” as a soul per Genesis 2:7. Also note that “breath” is what made the man to “live.” Hence, the spirit part of man was also created here. The logistic step in the creation process showed that the dirt was procured and the body was assembled first and then the spirit and soul were added at the same time as God breathed into the body. It is the spirit part of mankind that gives him life. As such, we have a trinity represented as man in Genesis 2:7, which is a body, soul, and spirit. Thus, Genesis 2:7 complements Genesis 1:26 where both God and man are clearly only one unit in the image of each other as trinities. Another New Testament verse that describes the trinity is the following:

Romans 5:1 (KJV)—Therefore being justified by faith, we have peace with God through our Lord Jesus Christ

Here, the phrase “Lord Jesus Christ” represents the trinitarian Godhead. The word for “Lord” represents the Father; the word “Jesus” obviously represents the human manifestation of God; and the word “Christ,” which means anointed one is demonstrative of the Holy Spirit.

Next, we show how the Father, Jesus, and Holy Spirit are each separately referred to as God in the *Bible*. We just illustrate the points by an Old Testament and New Testament verse. However, there are many more references

that we did not include. We encourage the reader to conduct a more thorough review in order to remove any doubt, if the reader has a doubt.

Father Is God

The Father part of the Godhead is revealed in both the Old and New Testaments. The reader can think that the Old Testament is the New Testament concealed, but the New Testament is the Old Testament revealed. In the Old Testament one example is the following:

Deuteronomy 6:4 (KJV)—Hear, O Israel: The Lord our God is one Lord.

Interestingly, the word “Lord” is Yahweh in both places and “God” is Elohim. In other words, it can be translated that “Yahweh our Trinity (Elohim), Yahweh is One.”

1 Corinthians 8:6 (KJV)—But to us there is but one God, the Father, of whom are all things, and we in Him; and one Lord Jesus Christ, by Whom are all things, and we by Him

This verse can be translated that One God (Theos), the Father (Pater)... and the One Lord (Kyrios, which was translated in the Old Testament as Yahweh) Jesus (the human manifestation of God) Christ (Christos or Anointed One pertains to the Holy Spirit). Hence, the Father part of the Godhead is clearly used as God in this New Testament verse.

Jesus is God

Now that we have shown in the scriptures that the Father is God, we need to show that Jesus is God. The following verse is a statement from arguably his closest disciple John, which clearly delineates Jesus as God.

John 1:1–3,14 (KJV)—In the beginning was the Word, and the Word was with God, and the Word was God. The same was in the beginning with God. All things were

made by him; and without him was not anything made that was made..... And the Word was made flesh, and dwelt among us, (and we beheld his glory, the glory as of the only begotten of the Father,) full of grace and truth.

Here, the disciple John designates Jesus as God from several perspectives: (1) Jesus is referred to as the Word of God as if in Genesis when the Father spoke that Jesus obeyed his words to accomplish His task, (2) John equivocates the synonym for “word” meaning Jesus be equal to the Father, (3) Everything was creation[®] in conjunction with Jesus being there at the beginning with the Father, thus validating the Trinity described by Elohim in Genesis 1:1; and (4) John says that the part of the trinitarian Godhead that came into the space-time-matter continuum was Jesus.

Another verse in which Jesus is made synonymous with God is the following:

Philippians 2:10–11 (KJV)—that at the name of Jesus every knee should bow, of things in heaven, and things in earth, and things under the earth; And that every tongue should confess that Jesus Christ is Lord, to the glory of God the Father.

The Apostle Paul writing Philippians refers to Jesus as God several times here: (1) everything in the cosmos will bow its knee to Jesus showing submission to the greatest authority, which equals God, and (2) all living things shall verbally state that “Jesus is Lord” referring to the ultimate reality of a “Lord” being the authority over everything.

One final verse in which the disciple John referred to Jesus as God is the following:

John 8:58 (KJV)—Before Abraham was, I am.

Here, the disciple John quotes Jesus’ declaration, where Jesus Himself is stating that He Himself is God. Jesus

knew that the Jews in His audience knew that Abraham was the “father” of the Jews, but He was meaning several things: (1) Jesus existed before Abraham in time, so He (Jesus) was more important than Abraham and was indeed God, (2) Jesus referred to the “I am” of the burning bush in Moses’ time, saying that He was God who delivered the Israelites out of Egypt. The Jews listening to Jesus were immediately offended because they understand the Abraham and Moses references, and this statement was one claim that led the Jews before Herod to have him crucify Jesus since He claimed to be God.

Finally, the following verse in Colossians is self-evident.

Colossians 2:9 (KJV) For in him (Jesus) dwelleth all the fulness of the Godhead bodily.

Holy Spirit Is God

The third Person of the Trinity is often not discussed as God. In some sense, if Christians either ignore or dismiss the Holy Spirit, they are in essence believing and living like a deist. Yet, there are clear scriptures that the Holy Spirit is God just as is the Father and Jesus. The disciple Luke wrote in Acts that the Holy Spirit was equal to God in the following verses:

Acts 5:3–4 (KJV)—But Peter said, Ananias, why hath Satan filled thine heart to lie to the Holy Spirit, and to keep back part of the price of the land? Whiles it remained, was it not thine own? and after it was sold, was it not in thine own power? why hast thou conceived this thing in thine heart? thou hast not lied unto men, but unto God.

Here, Peter said to Ananias that he lied to the Holy Spirit who is God.

King David wrote about the omnipresence of the Godhead coming from the Holy Spirit:

Psalms 139:7–8 (KJV)—Where can I go from your Spirit? Where can

I flee from your presence? If I go up to the heavens, you are there; if I make my bed in the depths, you are there.

Only God is omnipresent; hence, the Holy Spirit is God.

Reconciling the Godhead Oneness in Unity

How can each part of the Godhead be different and be the same? The thesis of this paper is that it depends on the length scale of the discussion. For example, when Jesus was baptized in human form, the Father spoke, and the Holy Spirit came down like as a dove. These three dissimilar and distinct expressions of the Godhead were represented by the macroscale levels of geometric agency. However, the oneness or unity of the Godhead occurred not only by the agreement of the communication and actions of the separate words of the Father, the action of Jesus’ baptism, and the Holy Spirit’s motion like as a dove, but also in the spiritual dimension of the “essence,” or “substance,” or “being” (Erickson, 1998) of each at a lower length scale being the most fundamental dimension that spans cosmic space-time-matter and also in the third heaven (the domain outside of the space-time-matter cosmos—2 Corinthians 12:2). The examples in nature give credence to the differences at one length scale but the sameness at a different lower-length scale that is more fundamental. Before we proceed forward with nature’s examples of a trinity, let us discuss the Biblical passages that describe the differences between the Father, Jesus, and the Holy Spirit.

God the Father, God the Son, and God the Holy Spirit Are Different Agencies of the Godhead

Now that we have established that the Father, Jesus, and Holy Spirit have been identified each distinctly as God, we

now share some scriptures to show that they are distinct agencies with different roles within the Godhead from each other as illustrated in Figure 1. Within the trinity the difference is that the Father, Jesus, and Holy Spirit are together at the same essence at the same time, but not necessarily in the same space. One good example is when Jesus was baptized, where the voice of the Father spoke and the Holy Spirit descended upon Jesus like a dove. Although the Godhead is the trinity of the Father, Son, and Holy Spirit, each is distinctly taking up different space within the Matthew 3:16–17 verses.

Matthew 3:16–17 (NKJV)—When He had been baptized, Jesus came up immediately from the water; and behold, the heavens were opened to Him, and He saw the Spirit of God descending like a dove and alighting upon Him. And suddenly a voice *came* from heaven, saying, “This is My beloved Son, in whom I am well pleased.”

The examples in the following sections sometimes do not align exactly as the Godhead Trinity, but are very close, while other examples are exact representations of the trinitarian Godhead. For example, we will mention a trinitarian process instead of an “entity” in which the different processes occur at a different time but are in the same space. A specific example is when God formed the structure of the universe and Earth in Days 1–3 of the Creation Week.

In contrast to the trinitarian nature of the Godhead, modalism has been an issue in some denominations which states that God the Father, Jesus the Son, and the Holy Spirit are all one at the same time, and have no distinctions between each other at any time. Sometimes it has been called the “Jesus Only” doctrine. The Athanasian Creed (Athanasius, 350 A.D.) states that we are not to “confound” Jesus and Father or vice versa, but modalism confounds

them as one time and space. Hence, modalism does not have any distinct differences between the Father, Jesus, and the Holy Spirit.

Jesus Is Not the Father

The following *Bible* verses, though not comprehensive as more than these can be shown, illustrate the distinctness, roles, and agencies of the Father and Son part of the Godhead.

Mark 14:36 (ESV) And he (Jesus) said, "Abba, Father, all things are possible for you. Remove this cup from me. Yet not what I will, but what you will."

Here, Jesus is in the Garden of Gethsemane just before He dies and He uses two terms for the Father part of the Godhead: (1) Abba, which is the Aramaic term for father, and (2) Pater, which is the Greek term for father. In maybe Jesus' trial and torment, He expresses the Father's name in two different languages, Aramaic and Greek, the language of the people. The distinction between the Father and Son are clear in Their roles. Jesus' makes the comments of the possibility of His will being different than the Father's will, which makes clear the distinction in Their agency.

Jesus Is Not the Holy Spirit

Jesus in His final lengthy discussion with the disciples makes a clear distinction of the roles and agency of His own work versus the work of the Holy Spirit.

John 14:16–17 (ESV) And I will ask the Father, and he will give you another Helper, to be with you forever, even the Spirit of truth, whom the world cannot receive, because it neither sees him nor knows him. You know him, for he dwells with you and will be in you.

John 14:25–28 (ESV) These things I have spoken to you while I am still with you. But the Helper, the Holy Spirit, whom the Father will

send in my name, he will teach you all things and bring to your remembrance all that I have said to you. Peace I leave with you; my peace I give to you. Not as the world gives do I give to you. Let not your hearts be troubled, neither let them be afraid. You heard me say to you, 'I am going away, and I will come to you.' If you loved me, you would have rejoiced, because I am going to the Father, for the Father is greater than I.

John 15:26 (KJV) But when the Helper comes, whom (Jesus) will send to you from the Father, the Spirit of truth, who proceeds from the Father, he will bear witness about me.

Here, Jesus had to personally leave the Earth so that the Holy Spirit could come and indwell the followers of Jesus. Hence, the roles are very different. The Son part of the Godhead, Who was perfect and without sin, had to die and take the place of a human in God's court of law to legally take the place of every human because of man's sin. However, the Son part of the Godhead could not indwell another human. It had to be the Spirit part of the Godhead, which also was the legal earnest entity that guarantees for humans the everlasting relationship with the Godhead in heaven.

Ephesians 1:11–14 (ESV) In him (Jesus) we have obtained an inheritance, having been predestined according to the purpose of him who works all things according to the counsel of his will, so that we who were the first to hope in Christ might be to the praise of his glory. In him you also, when you heard the word of truth, the gospel of your salvation, and believed in him, were sealed with the promised Holy Spirit, who is the guarantee of our inheritance until we acquire possession of it, to the praise of his glory.

The Holy Spirit Is Not the Father

Jesus in his final lengthy discussion with the disciples makes a clear distinction of the roles and agency of the Father part of the Godhead versus the Holy Spirit.

John 16:13–15 (ESV) When the Spirit of truth comes, he will guide you into all the truth, for he will not speak on his own authority, but whatever he hears he will speak, and he will declare to you the things that are to come. He will glorify me, for he will take what is mine and declare it to you. All that the Father has is mine; therefore I said that he will take what is mine and declare it to you.

The clear distinction in these verses describe the line of authority that goes from the Father to the Son and then to the Holy Spirit. Also, the line of glorification goes from the Holy Spirit to Jesus to the Father part of the Godhead.

Creationeering® Design in the Integrated Computational Materials Engineering (ICME) Paradigm

Now that we know the essence of the Godhead is a tri-part being and given that He wants to reveal His character, nature, and attributes per Romans 1:20, we now pursue the examples that He has left us in nature related to His trinitarian design. A clear engineering process is given in Genesis 1 during the Creation Week as God employed a process to create the structures in terms of a trinity, resulting in the trinitarian nature of the substances that filled the voids. As will be discussed, Genesis 1:1 states that God created the basic elements of the universe in terms of time, space, and matter. Genesis 1:2 then documents the unfinished, created state of the time-space-matter continuum and lays out an outline for

Table I. Trinities expressed in the two three-day sets of activities during the Creation Week.

Structure		Substance	
Day 1 (Genesis 1:1–5)	Separation of Light/Dark	Day 4 (Genesis 1:14–19)	Light Givers
Day 2 (Genesis 1:6–8)	Separation of Waters Above/Below	Day 5 (Genesis 1:20–23)	Animals of Water and Sky
Day 3 (Genesis 1:9)	Separation of Land/Waters	Day 6 (Genesis 1:24–29)	Land Animals and Mankind

the trinities that will be exposed in the rest of the Creation Week.

Genesis 1:2 (NIV)—Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters.

Basically, the Earth or the matter did not have form or structure at different length scales and even if structures were in place, the space was empty and had nothing in it. What happens next is illustrative of the Creationeer® developing a process to create the trinitarian structures in the first three days following that with filling the empty space with trinitarian things in corroboration with each day of creation. Tables I and II summarizes the processes related to the first three days of trinitarian structure where God distinctly separated the three main structures (light/dark, waters above/below, and land/water) in their associated creation day along with the *Bible* verses. Table I also shows how Days 4–6 aligned with Days 1–3 in terms of filling the empty spaces that now had structure. Day 4 is related to Day 1 in that God made the light providers. Day 5 is related to Day 2 in that God made the animals of the water and sky. Why did God make the structures to give form in three days and why did God make all of the substances in three other days? We assert that he wanted to show his trinitarian nature and the creationeer® process.

As explained in Horstemeyer (2012, 2018) and Horstemeyer et al. (2022), the

ICME multiscale engineering process progresses from the top and goes down in creationeer®. Hence, the engineering goals and requirements are defined at the largest system level first by the objectives, constraints, and variables at that level. Once the largest-length scale is designed in terms of its materials, processing method, and function, then these are pushed down to the next-length scale as constraints. And so on. *This is called “downscaling.”*

God’s Systematic Creationeer® of Multiscale Design Volumes with the Trinitarian Design Constraint

Figure 2 schematically illustrates the Creationeer’s *downscaling* perspective in terms of the universe being a multi-size scale, multi-objective, interactive, complex system including trinitarian concepts throughout the cosmos revealing His nature as per Romans 1:20. *We discuss the trinities starting at the largest-length scales and then proceed down to the smallest-length scales.* We also note that Figure 2 is not comprehensive of all of the trinities discussed in Tables II-7, but it illustrates the point related to different revealed trinities in nature. Note also that there are 57 trinities either expressed directly in the *Bible* or indirectly in nature as counted in Tables II-7. Finally, the lowest length scales represented by Leptons, subatomic particles, protons, neutrons,

electrons, and atoms can be found in anything in nature and thus represent the “sameness” of the basic “essence” that is spoken of in the sameness of essence like that of the Trinity.

Fundamentals of Creationeer® Everything in the Cosmos

In the context of the engineering goals, The Creationeer® defined the objectives, constraints, and variables with a focus on a life-thriving environment for the “created love beings.” Love can be argued to be the overarching objective *that was to be maximized* based on Jesus’ statement about the most important thing in Matthew 22:37. However, there are really two objectives to maximize in His statement: (1) love God, and (2) love people.

Matthew 22:37 (NKJV)—you shall love the Lord your God with all of your soul, all of your might, and all of your strength and love your neighbor as yourself.

The constraints would include the spiritual and physical laws, where the spiritual laws could pass in and out of the space-time-matter cosmos, but the physical laws are bound within the space-time-matter cosmos. The variables would be the elements of the Periodic Table, individual souls that he would create, and the angels/spirit beings. Hence, from an *engineering* design perspective then, God was trying to maximize the love between the “Creator Love Being” and the

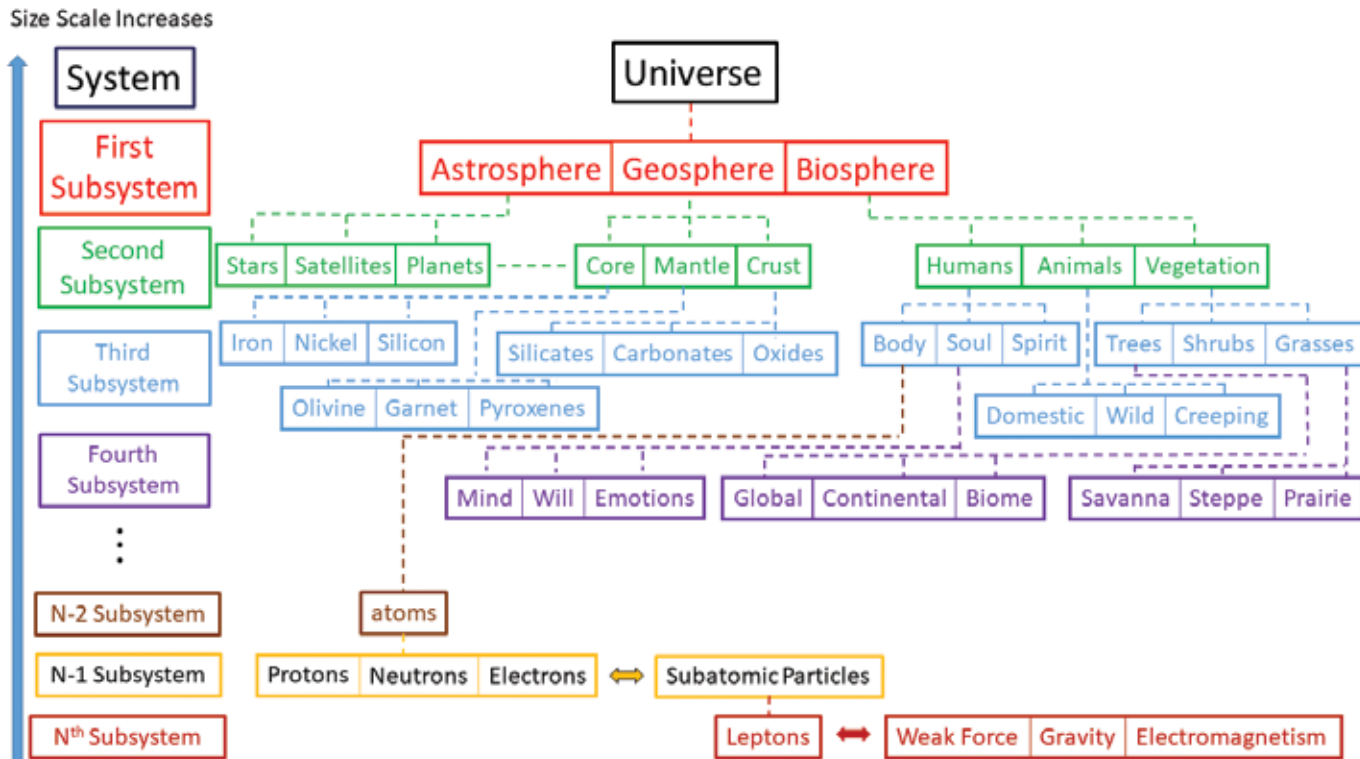


Figure 2. The Createeener’s perspective is that the Universe is a multi-size scale, multi-objective, interactive, complex system including the astrosphere, geosphere, and biosphere. Createeenering® Step 1 is the systems design phase related to each size scale.

“Created Love Beings” and the interplay between “Created Love Beings” with the constraints of the laws in the space-time-matter universe. However, it is the *design* variables in which some the trinities *were expressed* as will be discussed. In other words, God chose

in the *design variable* space different reflections of Himself at many different length scales (see Figure 2) in order to communicate with different created love beings who would think and *study the* universe within their domains of learning.

Table II summarizes the three fundamental processes that God used in createeenering® everything in the universe. First, in the ICME context, one must consider the materials of choice and the method to process the associated materials based on

Table II. Three trinities in the Bible related to createeenering® fundamental processes related to the design and making of everything in the universe.

Overall Number	Trinitarian Name	Component 1	Component 2	Component 3
1	Createeenering®	Materials	Processing Method	Function
2	Formed Structure	Separate Light/Dark	Separate Water/Sky	Separate Land/Water
3	Filled the Void with Substance	Created Light Providers	Created Animals of Water and Sky	Created Land Animals and Mankind

Table III. Twelve trinities related to the creationeered® fundamental aspects of the physical universe.

Overall Number	Trinitarian Name	Component 1	Component 2	Component 3
4	Universe	Space	Time	Matter
5	Time	Past	Present	Future
6	Space	One Dimension	Two Dimensions	Three Dimensions
7	Matter	Solid	Liquid	Gas
8	Kinematic Motion	Displacement	Velocity	Acceleration
9	Continuum Point	Mass	Momentum	Energy
10	Light	Red	Yellow	Blue
11	Fire	Fuel	Oxygen	Heat
12	Heat	Radiation	Conduction	Convection
13	Corrosion	Anode	Cathode	Electrically Conductive Medium
14	Life	Water	Spirit	Blood
15	Universe	Astrosphere	Geosphere	Biosphere

the ultimate function or functions of design and structure. The two other processes summarized in Table II are those related to designing and making the structures and then filling the voids with substance associated with those structures. Genesis 1:2 states that after God made the space-time-matter continuum that there was no structure nor substance to it, so He sets the stage of the days of the Creation Week as shown in Table I.

Genesis 1:2 (NKJV)—The earth was without form (no structure) and void (no substance)...

Table III summarizes nine fundamental aspects of the physical universe. Romans 1:20 states that God designed after His own image and nature, and Genesis 1:1 validates this point as He (as a Trinity) created the trinity of the space-time-matter continuum universe (Morris, 1979). *Although some theologians would disagree, one can think of Genesis 1:1 as where He first created time, space, and matter. The phrase "In the beginning" comes from one He-*

brew word "bereshith," which means "time" as in temporal time. The Hebrew word "shamayim" translated "heavens" relates to "space" based on the root "mayim." And the Hebrew "erets" translated "earth" relates to "matter." Thus, the very first verse of the Bible can be translated "a tri-une God created the space-time-matter universe. In our universe, we cannot have matter without time and space. We cannot have space without matter and time. And we cannot have time without matter and space. Space, time, and matter are different from each other like the Father, Son, and the Holy Spirit, but we cannot have one without the other two. Just as space-time-matter can express the universe, so the Father, the Son, and the Holy Spirit express the Godhead.

Morris (1979) also explained that "time" is a trinity. All time will have been future; all time will have been past; and all time will have been present. The future is like the Father, since we cannot see him; the past is like Jesus, since we saw him; and the present is

like the Holy Spirit, since we experience Him now. The past, present, and future time are all different, but their essence is time just like the Father, Jesus, and the Holy Spirit are different but the essence of each is God.

Space is a trinity as well. In one dimensional space, we know that something exists although we cannot see it, like the Father. In two dimensional space, we see something like a picture on a wall and that represents Jesus, since we have seen him. In three dimensional space, we experience things, like the Holy Spirit. One, two, and three dimensional space are all different but their essence is space. Similarly, the Father, Jesus, and the Holy Spirit are different but in essence each is God.

Matter is also a trinity. Depending on the temperature, pressure, and volume, the universe has expressed three types of matter: solid, liquid, and gas. A gas is like the Father, because we cannot see it. A solid is like Jesus, because we can handle it. A liquid is

like the Holy Spirit, because they both flow. A solid, liquid, and gas can all exist at the same time, called a triple point. One can see this example of cyclohexane (cyclohexane, 2022). Just as the essence of a solid, a liquid, and a gas of the same element is made of the same atoms, so the Father, Jesus, and the Holy Spirit are made of the same God substance or essence at the same time.

The next fundamental trinity mentioned in Table III is that of kinematic motion. Motion comprises three parts (displacement, velocity, and acceleration) of which they have the same essence but are different and yet each can be called kinematic motion. Displacement is the measurement of motion in terms of length. Velocity is the measurement of motion in terms of length per time and is the mathematical time derivative of displacement. Acceleration is the measurement of length per time square and is the mathematical time derivative of velocity. (And some people do not know the purpose of calculus!) This trinity is a trinity of the truest sense, since it represents identically the Godhead trinity all at the same time.

Associated with motion is the notion of a continuum point or element in which conservation laws are appropriated that define a continuum point: mass, momentum, and energy (see Table III, Number 9). In a particular volume, defined as a continuum point, one must have equilibrium, balance, and stability, which are defined by three laws of science that are intimately tied together. The three laws of conservation of mass, momentum, and energy have associated mathematical equations that distinguish themselves from each other but are also tied together as one in a continuum point in which the parameters that make up each of the three laws are intertwined: density, volume, temperature, pressure, and velocity.

Another fundamental trinity shown in Table III is light, which comprises all colors of which there are only three basic, independent colors from which all others derive: red, yellow, and blue. Each color is a wave defined by frequency, amplitude, and shape, but each also is different in that each color has different frequencies (and hence different periodicities) when all combined make white light. Red has a frequency of $400\text{--}480 \times 10^{12}$ Hz; Yellow has a frequency of $510\text{--}530 \times 10^{12}$ Hz; And blue has a frequency of $620\text{--}670 \times 10^{12}$ Hz. Light is the visible part of the electromagnetic spectrum, which has a frequency range much greater than the visible light range: 3 Hz to 10^{18} Hz. We note in terms of the trinity that red is light, yellow is light, and blue is light. Also, they are distinct from each other but have the same essence since they are waves with frequency, amplitude, and form.

Table III presents another trinity of fire, which exists when fuel, oxygen, and heat simultaneously exist. Essentially, a combustible material like paper or wood exhibits rapid oxidation upon a heat source that ignites into the fire. The flame is the visible portion of the fire.

Regarding how heat transfers there are three modes that operate at the same time: radiation, conduction, and convection. Similar to a continuum point in continuum mechanics, there are three distinguished modes that have associated mathematical equations. Radiation transfers heat by means of temperature to the fourth power. Convection transfers heat by means of temperature to the second power. And conduction transfers heat by means of temperature to the first power. Although the temperature is the key observable parameter, its mathematical expression is different in terms of the power-law level.

Table III, Number 13, is corrosion which is essentially the deterioration

of a material by an electrochemical reaction in which a metal (or polymer) converts to a more chemically stable oxide. Corrosion finds its identity in three interacting components: anode, cathode, and an electrically conducting medium. Metals typically have the most electrochemical potentials although some polymers experience the same behavior. In an electrochemical reaction, an anode is a positively charged electrode by which the electrons leave a source and thus become oxidized. An electrode that is negatively charged is the cathode in the subsystem. To have an electron move from the anode to the cathode, a medium between them is required. Each component has their distinct role and yet demand each other without each other's existence for corrosion to be present.

Life is also a basic fundamental entity in the cosmos since it is demanded by the design and making of the created love beings. Life has three components that are actually mentioned in the *Bible*: water, spirit, and blood.

1 John 5:7–8 (NKJV)—For there are three that testify: the spirit, the water, and the blood; and the three are in agreement.

Clearly, water is the basic entity that is searched for when life is examined on other planets and nothing living can live without water. The word for spirit (Greek *pneuma*) basically means breath and clearly a created love being needs to breathe to live. Also, blood is required for the created love being to live.

Leviticus 17:14 (NKJV)—For it is the life of all flesh. Its blood sustains its life.

When we compare water, breath, and blood, we note that the only commonality is oxygen. In other words, oxygen is the only common denominator of the three entities mentioned for life. As such, we can conclude that *life is the oxygen in the water, breath (air), and*

Table IV. Six trinities related to the Astrosphere in the creationeered® design of the universe.

Overall Number	Length Scale	Trinitarian Name	Component 1	Component 2	Component 3
16	1 st Subsystem	Heavens (<i>Shemayim</i>)	Sky	Outer Space	God's Throne
17	2 nd Subsystem	Galaxy	Gas	Dust	Stars
18	3 rd Subsystem	Solar System Light Providers	Stars	Satellites	Planets
19	4 th Subsystem	Stars	Hydrogen	Helium	All other elements
20	4 th Subsystem	Atmosphere	Nitrogen	Oxygen	Argon
21	5 th Subsystem	Cloud	Dust	Water	Free Air

blood. Hence, the trinity of life is such that water, breath (air), and blood are distinct from each other but, in fact, have the same essence of oxygen.

As an aside from the natural aspects of life being associated with water, breath, and blood, spiritual life is also associated with these three entities. Jesus' life is associated with water baptism, breath of life, and His blood at His death for the remission of sins.

Matthew 3:16 (NKJV)—When He had been baptized, Jesus came up immediately from the water

John 20:22 (NKJV)—And when He had said this, He breathed on *them*, and said to them, "Receive the Holy Spirit."

1 John 1:9 (NKJV)—...blood of Jesus Christ His Son cleanses us from all sin.

Interestingly, the Holy Spirit, who brings the life of God to a created love being, has been represented by water, breath (wind), and blood as well.

John 7:38 (NKJV)—He who believes in Me, as the Scripture has said, out of his heart will flow rivers of living water.

John 3:8 (NKJV)—The wind blows where it wishes, and you hear the sound of it, but cannot tell where it comes from and where it goes.

So is everyone who is born of the Spirit.

Hebrews 9:14 (NKJV)—how much more shall the blood of Christ, who through the eternal Spirit offered Himself without spot to God, cleanse your conscience from dead works to serve the living God?

The final topic mentioned in Table III is that of the universe which comprises the astrosphere, geosphere, and biosphere. Each of the three distinct components are made up of atoms as well as the universe as a whole unit. Yet, each of the three components are distinct in purpose and as such were designed with different objectives, constraints, and variables by The Creationeer®. Figure 2 shows that the universe is made up of a trinity with its first subsystem, which includes the trinitarian design of the astrosphere, geosphere, and biosphere. Just as the Father is not the Son, and the Son is not the Spirit, and the Spirit is not the Father, so the astrosphere is not the geosphere, the geosphere is not the biosphere, and the biosphere is not the astrosphere. However, as the Father, *the Son*, and the Spirit make up God as one, so the astrosphere, geosphere, and biosphere are made of atoms and make up the universe as one unit or system.

Multiscale Trinitarian Design of the Astrosphere

The astrosphere was creationeered® over several days during the Creation Week. Day 1 included the basic materials and energy for all of the cosmos, Day 2 included the heavens that were creationeered® by separation of the waters beneath from the waters above, and Day 4 included the Sun, Moon, and stars. Table IV summarizes six different trinitarian design entities found at different length scale within the astrosphere.

The astrosphere is a subset of the trinity "heaven" described in the Bible. Morris (1979) explained the trinity found in the word "heaven," which comes from the Hebrew word "*shemayim*." Recall that the "*im*" suffix in the Hebrew language means three or more. Although the English translations used the word "heaven" instead of "heavens." Could this mean that heaven is a trinity similar to the word "*Elohim*" for God? Let us examine this further. The first heaven is where the birds fly in the atmosphere of the Earth's geosphere (Genesis 1:20–23). The second heaven is where the stars reside (Genesis 1:14–19). The third heaven is where God's throne exists as described by the Apostle Paul where Jesus entered

into the presence of the Father. Hence, only the first two heavens are within the space-time-matter continuum of the universe, and the third heaven is outside of the universe. We note that just as the Father, *Son*, and the Spirit are not each other but God, so the first, second, and third heaven are not each other but are called “heaven.”

Gen 1:20 (NKJV)—And God said, “Let the water teem with living creatures, and let birds fly above the earth across the vault of the heaven.”

Jeremiah 4:25 (KJV) ...all the birds of heaven fled

Isaiah 13:10 (KJV)...for the stars of heaven and the constellations thereof shall not give their light....

Gen 1:14–17 (NKJV)—Then God said, “Let there be lights in the firmament of the heavens to divide the day from the night; and let them be for signs and seasons, and for days and years; and let them be for lights in the firmament of the heavens to give light on the earth;” and it was so. Then God made two great lights: the greater light to rule the day, and the lesser light to rule the night. *He made* the stars also. God set them in the firmament of the heavens to give light on the earth,

2 Cor 12:2 (KJV) I knew a man in Christ fourteen years ago (whether in the body, I cannot tell or whether out of the body, I cannot tell; God knows) such a one caught up to the third heaven.

Hebrews 9:24 (KJV) For Christ is not entered into the holy places made with hands, which are the figures of the true; but into heaven itself, not to appear in the presence of God for us.

Table IV shows a 2nd subsystem in terms of gases, dust, and stars making a galaxy. Each galaxy is made up of the trinity of gases, dust, and stars, but the type, amount, and stereology

of the gases, dust, and stars are different within each galaxy thus giving each galaxy a uniqueness within each galaxy supercluster.

One can think of the solar system as a designed 3rd subsystem under the astrosphere as per Figure 2 (and Table IV) comprising the stars, satellites, and planets, which were created on the 4th Day of the Creation Week. Each of the stars, satellites, and planets are made from elements of the Periodic Table at a lower-length scale yet are distinct from each other at their macroscale. The unifying oneness of these entities is what could be called “light providers” (see Number 18 in Table IV). We note that Genesis 1:14–19 emphasizes a different trinity with respect to the Earth, when it states that God created the Sun (a star) and the Moon (a satellite) from the reference frame of the Earth (a planet).

A 4th subsystem within the astrosphere mentioned in Table IV is that of stars, which are made of three elements: hydrogen, helium, and a third element that can be almost any other element found in the Periodic Table. Each star has a life of its own, but basically is made of these three distinct elements of the Periodic Table. When a star is divided into its most basic structures, there are atoms as the unifying oneness in a star.

Another 4th subsystem mentioned in Table IV is the atmosphere made of nitrogen, oxygen, and argon. Nitrogen is not oxygen which is not argon. However, all three elements form the atmosphere.

A 5th subsystem within the atmosphere is a cloud comprising dust, water, and free air. Dust in the air allows water to condense upon it and as it grows it forms a cloud. We note that although oxygen was recognized as giving “life” to things, it is also the common denominator of these three components of a cloud. For example, the chemical make-up of dust includes

a silicate or carbonate, which chemically have oxygen. The chemical make-up of water is two parts hydrogen and one part oxygen. Finally, free air in the atmosphere includes 21% oxygen. Hence, the same essence of each of these quantities is oxygen and yet the dust, water, and air are distinctly different from each other.

Multiscale Trinitarian Design of the Geosphere

Table V summarizes the nine different trinities found at three different length scales within the Earth’s geosphere. At the 1st subsystem level, the three components of the geosphere (Earth) are the core, mantle, and crust, which are made of the basic elements of the Periodic Table but are distinct from each other at the mineral length scale. Each of these three different components of the Earth have the same material chemistries at the lowest length scales but because of the temperature, pressure, and volume, each expresses themselves differently at the meso-scales in terms of a mineral. In essence, the Earth is a trinity as well with the three distinct components having same chemical make-up.

The Earth’s core is at the center of the Earth and can be considered at 2nd subsystem in the design of the Earth. We really do not know the composition of the Earth’s core. However, we have surmised that a trinity of Periodic Table elements comprise the Earth’s core. First, because of the magnetic field that arises, we know that iron exists. Second, the whole core cannot be just iron because the density would be too much; hence, we suspect that nickel makes up some portion of the Earth’s core. Finally, the third projected element is silicon as most planets (and the mantle and crust) are made of silicon-based alloys. Hence, just like the Father, *the Son*, and the Spirit are distinct from each other but are indeed God, so iron, nickel, and silicon are

Table V. Seven trinities related to the Earth in the creationeered® design of the geosphere.

Overall Number	Length Scale	Trinitarian Name	Component 1	Component 2	Component 3
22	1 st Subsystem	Geosphere	Crust	Mantle	Core
23	2 nd Subsystem	Core	Iron	Nickel	Silicon
24	2 nd Subsystem	Mantle	Olivine	Garnet	Pyroxenes
25	2 nd Subsystem	Crust	Silicates	Carbonates	Oxides
26	2 nd Subsystem	Crust	Sedimentary Rocks	Metamorphic Rocks	Igneous Rocks
27	3 rd Subsystem	Olivine	Magnesium	Iron	Silicate
28	3 rd Subsystem	Garnet	Divalent Cation	Trivalent Cation	Silicate
29	3 rd Subsystem	Igneous Rocks	Aphanitic	Phaneritic	Pegmatitic
30	3 rd Subsystem	Sedimentary Rocks	Erosion of pre-existing rocks into Smaller Pieces	Transport of Eroded Smaller Pieces	Deposition of Eroded Smaller Pieces

distinct from each other although they are all elements of the Periodic Table.

The geosphere's mantle is between the core and crust and is also a 2nd level subsystem that the Creationeered® designed and made comprising three minerals named olivine, garnet, and pyroxene. Each of these minerals changes crystallographic form as a function of the radial distance from the center of the Earth because the pressure and temperature changes, which in turn change the density thus morphing the crystallographic structure. However, the elements within each mineral are identically the same.

The final 2nd level subsystem that the Creationeered® designed and made was the Earth's crust, or outer layer, comprising three mineral classes with the names of silicates, carbonates, and oxides. Silicates make up approximately 90 percent of the Earth's crust and are based on silicon that joins with other elements. Calcites are composed of calcium and carbon and make up approximately 4 percent of

the Earth's crust. Oxides are another class of minerals found in the Earth's crust making up the remaining part of the crust.

Another trinity in the Earth's crust are three rock types: sedimentary rocks, metamorphic rocks, and igneous rocks. Sedimentary rocks like limestone and sandstone were laid down by water from the Genesis Flood. Essentially, the catastrophic nature of the worldwide Genesis Flood broke down so many of the pre-Flood rocks like the silicates, calcites, and oxides into small particles that they were released during the Floodwaters moving over the continents. Metamorphic rocks are those that exhibited phase transformation due to high pressures and temperatures. These also occurred during the Genesis Flood and previously on Day 3 of the Creation Week. Igneous rocks are those that were formed deep in the Earth by solidifying as they cooled and moved to the surface.

Four different 3rd level subsystems of the Earth's geosphere mentioned in

Table V include the following trinities. Olivine is made up of magnesium, iron, and silicate. Garnet is made of divalent cations, trivalent cations, and a silicate all in one. Igneous rocks are made of three solidified forms: (1) Aphanitic: fine-grained less than 1 mm, higher hardness material, (2) Phaneritic: grain size ranging from 1 to 10 mm with an intermediate hardness level, and (3) Pegmatitic: grain sizes greater than 1 cm with lower hardness value. The final trinity at the 3rd subsystem level is that of sedimentary rocks which incorporates three distinct processes to form: (1) erosion of pre-existing rocks into smaller pieces, (2) transport of eroded smaller pieces to a location, where (3) deposition of the eroded smaller pieces occurs.

Multiscale Trinitarian Design of the Biosphere

Table VI summarizes the twenty-four different trinities found at different length scales within the Earth's biosphere. At the 1st subsystem level, the

Table VI. Twenty-four trinities related to the creationeered® biosphere.

Overall Number	Length Scale	Trinitarian Name	Component 1	Component 2	Component 3
31	1 st Subsystem	Biosphere	Humans	Animals	Vegetation
32	2 nd Subsystem	Life Sustenance	Food	Clothing	Shelter
33	2 nd Subsystem	Vegetation	Trees	Shrubs	Grasses
34	3 rd Subsystem	Trees	Global	Continental	Biome
35	5 th Subsystem	Apple	Core	Fruit	Skin
36	3 rd Subsystem	Grass	Savanna	Steppe	Prairie
37	5 th Subsystem	Shamrock	Leaf 1	Leaf 2	Leaf 3
38	2 nd Subsystem	Animals	Water	Sky	Land
39	3 rd Subsystem	Land Animals	Domestic	Wild	Creeping Things
40	3 rd Subsystem	Sky Animals	Birds	Bats	Insects
41	4 th Subsystem	Insect	Head	Thorax	Abdomen
42	5 th Subsystem	Chicken Egg	Yolk	Albumen	Cuticle
43	2 nd Subsystem	Humans	Body	Soul	Spirit
44	3 rd Subsystem	Human Soul	Mind	Will	Emotions
45	4 th Subsystem	Emotions	Pleasures/Affections	Pain/Anger	Passions/Desires
46	4 th Subsystem	Conception	Man	Woman	Baby
47	4 th Subsystem	Brain	Cerebrum	Cerebellum	Brain Stem
48	5 th Subsystem	Voice	Frequency	Harmonics	Intensity
49	5 th Subsystem	Spoken word	Voiced sound	Resonance	Articulation
50	5 th Subsystem	Music Chord	Note 1	Note 2	Note 3
51	7 th Subsystem	Software	Application Programs	Utility, Device Drivers	Operating Systems
52	7 th Subsystem	Codons	Nucleotide 1	Nucleotide 2	Nucleotide 3
53	8 th Subsystem	Nucleotide	Nitrogen Base Unit	Phosphate Base Unit	Sugar
54	9 th Subsystem	Sugar	Glucose	Fructose	Sucrose

three components of the biosphere are a trinity (Number 31 in Table VI) of living organisms (Figure 2): vegetation (Day 3), animals (Days 5 and 6), and humans (Day 6) that reside on the geosphere all of which require another trinity at the 2nd subsystem level of food, clothing, and shelter as sustenance (Number 32 in Table VI).

Genesis 1:29–30 (NKJV)—Then God said, “Behold, I have given you every plant yielding seed that is on the surface of all the earth, and every tree which has fruit yielding seed; it shall be food for you; and to every beast of the earth and to every bird of the sky and to everything that moves on the earth which has

life, I have given every green plant for food;” and it was so
 Psalm 104:13–15 (NKJV)—He waters the mountains from His upper chambers; The earth is satisfied with the fruit of His works. He causes the grass to grow for the cattle, And vegetation for the labor of man, So that he may bring forth

food from the earth, And wine which makes man's heart glad, So that he may make his face glisten with oil, And food which sustains man's heart.

1 Kings 10:11–12 (NKJV)—Also the ships of Hiram, which brought gold from Ophir, brought in from Ophir a very great number of almag trees and precious stones. The king made of the almag trees supports for the house of the Lord and for the king's house, also lyres and harps for the singers; such almag trees have not come in again nor have they been seen to this day.

Isaiah 60:13 (NKJV)—The glory of Lebanon will come to you, The juniper, the box tree and the cypress together, To beautify the place of My sanctuary; And I shall make the place of My feet glorious.

Vegetation can be thought of as a 2nd subsystem trinity (Number 33 in Table VI) of trees, shrubs, and grasses per Genesis 1:11. Here vegetation is the first sign of “life” that God created as a 2nd subsystem within His design providing food, oxygen, and regulating water quality for life.

Genesis 1:11(KJV)—Then God said, Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth: and it was so.

A 3rd subsystem within the biosphere are trees (Number 34 in Table VI). There are three types as determined by the location in which they live: global, continental, and biome level (Cazzolla et al., 2022). A tree is considered vegetation that distinguishes itself from a shrub or grass, because it is a perennial plant with an elongated stem (trunk), usually supporting branches and leaves, and is usually larger than shrubs and grasses. Because it is larger, a tree demands more water than a shrub or grass and thus lives in a different space than a

shrub or grass although existing of the same substance at the same time, similar to the Godhead. An example of a fruit from a tree that expresses a form of the trinity is an apple (Number 35 in Table VI as a 5th subsystem), which comprises the core, fruit layer, and skin. Although each subscale quantity identified as the core, fruit, and skin look different, they are made of the same atomic essence and represent the apple at the same time. Joshua (2017) argued that there are no great natural descriptions of the trinity and mentioned that the apple is a bad example of the trinity since it does not identify itself as each component does. The counterargument is related to what length scale that is being discussed. If we talk about the level of the skin, fruit, and core, then Joshua (2017) is correct; however, if one were to talk about the particle, atomic, or molecule length scales, then Joshua (2017) is not correct and the apple, indeed, represents a true trinity.

Similar to trees growing in different regions, so grasses (Number 36 in Table VI) live in different regions, and as a 3rd subsystem are categorized as such: savanna, steppe, and prairie (Dixon et al., 2019). Grasses are considered flowering plants that require less water (rain) than trees or shrubs. Savannas are typically near the equator and are associated with hot, dry regions. Steppe grasses are typical for cooler climates, and prairie grasses are typical for intermediate climates. One example of a grass is clover in which three leaves together are called a shamrock, representing a trinity (Number 37 in Table VI) of sorts as presented by Saint Patrick (Thurston and Attwater, 1956). Each leaf is spatially different from each other leaf but are of the same substance at the same time.

Another 2nd level biosphere trinity (Number 38 in Table VI) is that of animals, created on days in which they presented in the *Bible* where they live:

water (Day 5), sky (Day 5), and land (Day 6).

Genesis 1:20–23 (NKJV)—Then God said, “Let the waters abound with an abundance of living creatures, and let birds fly above the earth across the face of the firmament of the heavens.” So God created great sea creatures and every living thing that moves, with which the waters abounded, according to their kind, and every winged bird according to its kind. And God saw that *it was* good. And God blessed them, saying, “Be fruitful and multiply, and fill the waters in the seas, and let birds multiply on the earth.” So the evening and the morning were the fifth day.

Genesis 1:24–25 (NKJV)—Then God said, “Let the earth bring forth the living creature according to its kind: cattle and creeping thing and beast of the earth, *each* according to its kind;” and it was so. And God made the beast of the earth according to its kind, cattle according to its kind, and everything that creeps on the earth according to its kind. And God saw that *it was* good.

The trinity of land animals (Number 39 in Table VI as a 3rd subsystem) created on Day 6 can be described as domesticated animals (cattle), insects (creeping things), and beasts (wild animals) in the *Bible*. The trinity of sky animals (Number 40 in Table VI as a 3rd subsystem) can be described as birds, bats, and insects. A 4th subsystem defines an insect by it having a head, thorax, and abdomen (Number 41 in Table VI). A 5th subsystem under land animals is a chicken egg (Number 42 in Table VI) which comprises a yolk, albumen, and cuticle. Each of these different animals, although distinguishable by intermediate length scales, are made of the same atoms for each distinguishing part of the trinity.

The created love being (human) has many layers of trinities embed-

ded at different length scales (Day 6 of the Creation Week). A 2nd subsystem level under the biosphere is a human comprising a body, spirit, and soul as illustrated in Figure 2 (Number 43 in Table VI) (Genesis 2:7).

Genesis (2:7)—And the LORD God formed man (body) of the dust of the ground and breathed into his nostrils the breath of life (spirit); and man became a living soul.

The body is the house (or temple) of the spirit and soul. The spirit is what gives life to the created love being and allows the connection and communication with God through the Holy Spirit. The human soul is a trinity (Number 44 in Table VI) comprising the mind, will, and emotions. The human mind can be thought of as the intellect, which admits the ability to think and acts as software for the brain, which is alternatively the hardware that allows the software to run its program. The human will or volition is the ability to make decisions by acting on information received through the human senses, the spirit of the human, emotions, or the mind. Human emotions range a broad spectrum but the notion here is based on feelings or states of feelings like pleasures/affections, pain/anger, and passions/desires. Let us consider the following example of a boiling pot of water accidentally spilling on someone. The emotion of pain will immediately cause the mind to provide the will with information to remove oneself from the boiling water. Although each aspect of the soul meaning the mind, will, and emotions immediately acted as one unit to provide an action for the human. On the other hand, a man may intellectually think about a particular woman to be his wife, thus deciding to marry her after which feelings of affection arise within the man. Again, the trinitarian nature of soul reveals the oneness of the mind, will, and emotions in this example.

The next subsystem down in length scale is “emotion” which is made of pleasures/affections, pain/anger, and passions/desires. Down a different length scale path another 4th subsystem in the human is conception made of man, woman, and a baby. At the same 4th subsystem level is the brain comprising the cerebrum, cerebellum, and brain stem (Number 47 in Table VI).

Several 5th subsystem level trinitities were created downscaled from different upper scale trinitities and are also shown in Table VI. Voice is composed of frequency, harmonics, and intensity. A human’s spoken word is made of voiced sound, resonance, and articulation. A music chord is made of three different notes but joined together as one. These three different 5th level subsystems were created for humans alone.

One lower-length scale subsystem in the human under the “brain” intermediate length scale is the trinity of software (Number 51 in Table VI) which is made of an application program, utility or device driver, and an operating system. Software is a conception of humans and cannot be found anywhere else in the cosmos.

The following lower-length scale subsystems are found in all living systems. A 7th subsystem (Number 52 trinity in Table VI) can be a codon, which is a sequence of three nucleotides in a deoxyribonucleic acid (DNA) or ribonucleic acid (RNA) molecule. The trinity of a codon is a code that messages for an amino acid, which in turn makes up proteins, which in turn make up organs. Each codon is made of the same three elements of the Periodic Table but in a dissimilar, distinct order thus illustrating their oneness and threeness at the same time. The next length scale down from a codon is an 8th level subsystem called a nucleotide, which comprises a nitrogenous base unit, a phosphate group, and a sugar all tied together as one unit. One can

note that each nitrogenous base unit, a phosphate group, and a sugar are made of the same protons, electrons, and neutrons although having a differing amount of each. The next length scale down from a nucleotide is a 9th subsystem called a sugar, which comprises glucose, fructose, and sucrose, which are structural isomers of each other.

The Smallest Length Scales in the Physical Universe Illustrate Different Trinitities

Table VII summarizes the three different trinitities found at the lowest-length scales and are found in everything in the space-time-matter continuum cosmos. Because we really do not know how many subsystems exist, we define the largest number as an arbitrary “N.” As such, we then work backwards starting with “N-2” subsystems and finish with the smallest known entity to mankind currently in physics known as a subatomic particle.

The “N-2” subsystem level is an atom (trinity Number 55 in Table VII) which is made of protons, neutrons, and electrons. The final lowest-length scale is what physics calls a particle (Number 57 in Table VII) and is the “Nth” subsystem. A particle comprises quarks, leptons, and bosons and these three make up everything in the cosmos whether they be anything in the astrosphere, geosphere, and biosphere.

Discussion

The early Church fathers spoke and wrote about defining the unity or oneness of the trinity by using words like “essence” or “substance” or “being” (Erickson, 1998) with the assumption of unity of action. Brower and Rea (2005) argued that Christian orthodoxy requires that properties of the Father, Son, and Holy Spirit be instantiated by the divine essence assuming Aristotle’s hylomorphic structure. One

Table VII. Three trinities related to the creationeered® nature of the smallest entities currently known to mankind. Although we counted different length scales herein, we use the generic mathematical representation as the Nth subsystem since there are probably more that the authors are not aware of.

Number	Length Scale	Trinitarian Name	Component 1	Component 2	Component 3
55	N-2 Subsystem	Atoms	Protons	Neutrons	Electrons
56	N-1 Subsystem	Subatomic Particle	Quarks	Leptons	Bosons
57	N th Subsystem	Lepton Force	Electromagnetic Force	Weak Force	Gravitational Force

main weakness of nature’s trinities is that God, Who is a spirit, is able to move in and out of nature’s cosmos, whereas nature’s trinities are bound within the space-time-matter cosmos, albeit by definition. When the Christian forefathers spoke of the Godhead having the same essence, substance, and/or being, we translate that herein to represent the smallest length scales (atoms and subatomic particles). The higher length-scale, geometric forms are what distinguish each of the parts of the trinities, and this is consistent with Aristotle’s hylomorphic structure. In other words, the same basic lower-length scale “substance” makes up the different hylomorphic structures at a larger length scale.

All of the examples herein lead to the mathematical *logic argument* for the trinity in the context of the ICME multiscale approach as the following: x is God if-and-only-if x is a larger length scale hylomorphic structure whose “substance” is some divine essence called z; hence, x is the higher length scale and z is the lower length scale. We assert that x is the same God as w and y if-and-only-if x and w and y are each hylomorphic structures whose “substance” derives from the same divine lower length scale essence z. If x’s “substance equals z” and is the same “substance” as w’s and y’s substance that equals z, then x, w, and y form a trinity. Also, numerically exactly only one God

exists if-and-only-if there is an x such that x is God and every person of the Godhead is the same God as x. Then (as Christians assume) there are three as x, w, and y (and only three) Persons that share the same divine essence, z, then we arrive directly at the central trinitarian claims without contradiction. For in that case, there will be three distinct Persons; each Person will be God (and will be the same God as each of the other Persons); but there will be exactly one God.

Summary

If God revealed His nature, character, and attributes like Romans 1:20 states, then one would expect that God, who is a trinity, would express Himself in nature as a trinity. From the understanding of multiscale aspects of ICME *engineering process in which downscaling is first conducted (as in this writing)*, we clarify the mystery of the trinity by showing the fundamental “essence” or “substance” that unites the Godhead, although three distinct Persons are mapped to the atomic and subatomic level as the main “essence” or “substance” with different higher, geometric length-scales as nature’s trinities. In fact, 57 different trinities at multiple length scales are illustrated in this writing. Although there might be more that the authors missed, the ones represented herein are clear demon-

strations and have explanatory power of trinitarian nature of the Godhead.

References

Augustine. c. 415 AD. Analogy of the Trinity to the human mind. *On the Trinity*, Chapter XIV.

Athanasius. c. 350 AD. Defense of the Trinity (against Arianism). *Apology Against the Arians*.

Behe, M.J. 1996. *Darwin’s Black Box: The Biochemical Challenge to Evolution*. Simon and Schuster, New York, NY.

Behe, M.J. 2002. The challenge of irreducible complexity. *Natural History* 111(3): 74. https://www.evforum.net/RefLib/NaturalHistory_200204_Behe.html.

Behe, M.J., W. Dembski, and M. Ruse. 2009. Irreducible complexity: Obstacle to Darwinian evolution. *Philosophy of Biology: An Anthology* 32: 427.

Brower, J.E., and M.C. Rea. 2005. Material constitution and the Trinity. *Faith and Philosophy* 22(1): 57–76.

C., Joshua 2017. Why all analogies of the Trinity fall short. *Joshua’s Pen*. <https://joshuaspen.wordpress.com/2017/03/21/why-all-analogies-of-the-trinity-fall-short/>.

Dixon, A.P., D. Faber-Langendoen, C. Josse, J. Morrison, and C.J. Loucks. 2014. Distribution mapping of world grassland types. *Journal of Biogeography* 41(11): 2003–2019.

Erickson, J.H. 1998. On the cusp of modernity: The canonical hermeneutic of St.

- Nikodemos the Haghiorite. *St Vladimir's Theological Quarterly* 42(1): 45–66.
- Erickson, M.J. 2000. *Making Sense of the Trinity: Three Crucial Questions*. Baker Books (a subdivision of Baker Academics), Ada, MI.
- Fortman, E.J. 1999. *The Triune God: A Historical Study of the Doctrine of the Trinity*. Wipf and Stock Publishers, Eugene, OR.
- Gatti, R.C., et al. 2022. The number of tree species on Earth. *Proceedings of the National Academy of Sciences* 119(6): p.e2115329119. <https://doi.org/10.1073/pnas.2115329119>.
- Horstemeyer, M.F. 2012. *Integrated Computational Materials Engineering (ICME) for Metals: Using Multiscale Modeling to Invigorate Engineering Design with Science*. John Wiley & Sons, Hoboken, NJ.
- Horstemeyer, M.F. 2018. *Integrated Computational Materials Engineering (ICME) for Metals: Concepts and Case Studies*. Wiley Press, New York, NY.
- Horstemeyer, M.F., A. Adebayo, M. Jantomaso, J.L. Long, S. Burgess, and A. McIntosh. 2022. Creationeering®: An integrated engineering-business paradigm for technological entrepreneurship from a Biblical basis. *Creation Research Society Quarterly* 58(4): 238–261.
- Iraeneus. 180 A.D. *The Surprising God*.
- Martyr, J., M. Slusser (editor), and T.B. Falls (translator). 2003. *Dialogue with Trypho*. In *Selections from the Fathers of the Church* 3. Catholic University of America Press, Washington, D.C.
- Momigliano, A. 1976. Review of T.D. Barnes' (1971) *Tertullian: A Historical and Literary Study*. Clarendon Press, Oxford, England, pp. xii+ 320.£ 6. *The Journal of Roman Studies* 66: 273–276.
- Plato. 360 B.C. *Timaeus*.
- Pfandl, G. 2003. The Trinity in Scripture. *Journal of the Adventist Theological Society* 14(2): 5.
- Sanlon, P.T. 2014. *Augustine's Theology of Preaching*. Augsburg Fortress Publishers (now 1517 Media), Minneapolis, MN.
- Thurston, H.J., S.J., and D. Attwater. 1956. *Butler's Lives of the Saints*. (Christian Classics, Volume 1), p. 615.
- von Hefele, K.J. 1894. *A History of the Christian Councils, From the Original Documents, to the Close of the Council of Nicaea, A.D. 325*. Volume 1. T.&T. Clark (now an imprint of Bloomsbury Publishing), Edinburgh, Scotland.