

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iv
PREFACE	vi
INTRODUCTION	1
CHAPTER 1. THEOLOGICAL COSMOLOGY	3
CHAPTER 2. PHILOSOPHY OF COSMOLOGY	33
CHAPTER 3. BASIC MATHEMATICAL CONCEPTS ON IDENTITY	42
3.1 The Set and Empty Set	43
3.2 Embodiment and Embeddings	46
CHAPTER 4. MATHEMATICAL PHYSICS OF COSMOLOGY	54
4.1 Big Bang Theory	54
4.2 A Self-Creation Cosmology Theory for Matter	60
4.3 Some Explicit Notes on the Continuum	63
4.4 An Archetype of the Unit Circle and Embodiments of Self	78
CHAPTER 5. MANY UNIQUE SELVES FROM ONE	79
CHAPTER 6. A STANDARD MODEL OF THE HUMAN BEING	81
6.1 The relationship between Allah and the Human being: The artistry of Self-creation through postulating Identities and Beingness.	86
6.2 Self-Creation from Topologies of the Creator	91
6.3 The Human Soul- a Topological Free Algebra	97
6.4 The Human Being -A Structure of Categories	100
REFERENCES	116

PREFACE

The concept of Self-Creation is a theological/philosophical concept, found in ancient African, Asian, Polynesian, and European religious cosmologies. While Self-Creation is not popularly included in “Abrahamic” theological cosmology, some aspects of Self-Creation are there. During the 1930’s through the early 1970’s, the concept of Self-Creation resurfaced in a theological scientific context, in the writings and lectures of Elijah Muhammad, Leader of the Nation of Islam. He described the cosmological process by which the first human is created, which involved the building up of an atom, light, and the generation of brain cells. In many writings and lectures of Elijah Muhammad, he also stated that “Mathematics is Islam and Islam is Mathematics”.

The purpose of this book is to put into one place the material, from a variety of perspectives on Self-Creation, to advance a basis for a concept of the “process” of Self-Creation; and to discuss a mathematical point of view on Self-Creation- a perspective using some of the language of mathematics. While this is not the only perspective on the mathematical nature of self-creation; the definite article “**The**” in this book’s title “The Mathematics of Self-Creation” is meant to enthusiastically indicate the absolute mathematical nature of the “action” of self-creation and the absolute mathematical nature of the entire spectrum of existence.

Further, to prove the existence of Neith, Nebertcher, Allah, Oludumare, God,..., or an infinite space-time-independent intelligent deterministic creator of our present universe, is not the purpose of this book. To note, there are many proofs and mathematical/scientific debates on the existence of the *Continuum*; while, many-many more mathematics books and science books do “acceptably” begin with the *Continuum Hypothesis*, and **proceed without proof**, of postulated and believed-in entities such as (various continuums- the number line, generalized manifolds, One-object categories, and even singularities) that are space-time independent or dependent, where these “mathematical or scientific” entities can even “act” on their own self and possibly each other. Similarly, there are many proofs for or against the existence of God. This book “acceptably” begins and proceeds with an Intelligent Deterministic Continuum that postulates and creates- in the spiritual or religious language called Neith, Nebertcher, Allah, Oludumare, Thesis, God, ... etc. Further, in this writing all of the names Neith, Nebertcher, Ptah, Amma, Krisna, Oludumare, Haumea, Kane, Allah, Thesis, Jehovah, God, ... etc, are respected and will be referring to the same Supreme Being in different religious contexts and descriptions.

We recognize that both Research Mathematicians and Research Scientists use the mental faculty of “belief” under the name “hypothesis”. If the belief (hypothesis) is “brand new” on the planet, then that belief (hypothesis) is a premise that is sought after by the Researcher and may be proved or disproved; or may not be capable of proof at all! Some Researchers contributed to whole systems (theories) based on certain premises (beliefs) that are “taken to exist” called postulates or axioms. These systems (theories) have benefited the human family, either academically or technologically. An even healthier benefit is when existing postulates, axioms, and theories are allowed to evolve. We also admit that some postulates, axioms, and theories have hurt or stunted the mental growth of the human family.

In particular, the purpose of this book is to mathematically discuss the self-creation of the human being as the self-creation of the supreme being. Is the human being more than we think; or is the human being more than we get to experience? From a theological perspective, the human being is a kind of *sentient* “composite”- spiritual part, mental part, and physical part; each part having its own qualities and dynamics while being related to the other. Some say that the person is the spiritual part that “owns” its mind and body. If so, how can we discuss the self-creation process of any of the parts? From the perspective of science, the human being is a *sentient* composite of biological, chemical, physical

dynamics, where the mind- a blurry scientific concept – is popularly taken to be the aggregate complexity of the brain (a biological organ). While the psychological scientists may treat the mind as a non-material entity, all scientific persuasions acknowledge the intimate closeness between the mind and the brain. Still, how can we discuss the self-creation process of any of the parts?

We will use the language of mathematics, from different areas and levels of mathematics, to advance a discussion on self-creation based on existing mathematical properties and abilities of a “continuous manifold” (a *continuum*). Namely, that a continuous manifold can “act” on itself and has infinitely many representations of itself (a well-known mathematical theorem).

If there is any redundancy in restating definitions or stating versions of explanations of the same thing, in different chapters or even different sections within chapters; it is to keep-clear what is being discussed at that point, by stating and using the definition in the context of what is being discussed. Redundancy of stating definitions and explanations from one chapter to another also demonstrates the application of definition across contexts, thus providing a sense of unity in theology, science, and mathematics.

For the purpose of introducing, gaining familiarity, and understanding certain math or science concepts, these concepts will be stated in a “comfortable” conversational language supported by examples. Then the concepts will be stated and applied according to their formal mathematical or scientific definitions.

We list references from Religious texts, Religious Teachers, Philosophers, Mathematicians, Scientists, and Researchers, not only for direct definitions and quotes, but for their interesting reading. Furthermore, we understand that Religious texts are primarily “moral” texts, they are not science or math books. In the same respect, Science and Mathematics texts are just that, they are not meant to be “moral” books. However, in any universal discussion on cosmology it is healthy and, in fact necessary, to respect and study points of view and contexts from Religious, Science, Mathematics, and even Psychological material.

Referring to the Human-Being-

Throughout this book, we will give more emphasis on the intangible human “parts” (self, soul, and mind), and less emphasis on the biological human body. That is because there are more texts that *openly apply mathematics* directly to the human body (biology, chemistry, and physics), than to theology, in particular the concept of self-creation. However, the biological human body is clearly an intimate, integral, and necessary “part” of the human being, so we will mathematically discuss some aspects of the *relationship* “between” the human-Self, human-Soul, human-Mind, and human-Body in later chapters.

Finally, in the spirit of scientific research, it is the hope of the author that this book inspires others to refine, build, and improve on this work.

INTRODUCTION

History commonly begins with a record of human events in “early” societies. In general, science and ancient civilizations of Africa, Asia, Europe, and the Americas begin their history with cosmology, the events during the origination of the universe. Among modern scientists, early events involve the *spontaneous* origination of space and time out of a singularity and the origination of matter-energy out of fields of states of potential (potential field states). Among many ancient societies (6000 BC – 600 BC), these early cosmological events are theistic in context and involve the origination of matter, time, and space via a Self-Creation process by a deity.

During the 1930’s through the early 1970’s, the concept of self-creation resurfaces in a theological scientific context, through writings and presentations by Elijah Muhammad (Leader of the Nation of Islam), as the process by which the first human is created, which involved the building up of an atom, light, and the generation of brain cells. This work uses the language of mathematics and physics to discuss the concept of self-creation. We use mathematics in its philosophical, theoretical, and applied contexts to describe the concept of self-creation as the process of identity replication in different circumstances. Also, we apply quantum physics to discuss dynamics of “elements” in No-time-space (internal) and Time-space (external), and the role they play in self-creation. In this work we mean to discuss the “self” as a non-material entity in the human construct, similar but not equal to, the context of mind/consciousness found in psychology and soul/spirit in theology.

While we acknowledge that there are many differences between theological and scientific points of view on many-many matters; here, I will take the liberty to “narrow” our focus to a cosmological difference through my own comment that, “Scientists do believe that before the “beginning” there was no space-time, a *vacuum*, and that a stimulus (mathematically called a perturbation) spontaneously disturbed the vacuum causing a singularity to expand (“Big Bang”) and from that we get today’s universe”.

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The difference between Scientists and Theologians is that scientist agree that “apparently” there is nothing in the present mathematical model of the universe that indicates that this perturbation (external but acting on the vacuum) is an intelligent or conscious sentient source. A narrow but major difference here is that if Theologians do agree with the scientific theories on the physical dynamics of the universe, they also believe that the source and maintenance of the universe is an intelligent sentient being. As this book progresses, we will see that there is mathematical language suitable for discussing an “intelligent cause” or a stimulus produced by a sentient being. In particular, Scientists apply some nice mathematics to describe the emergence of matter with mass and charge out of “empty” space. They consider an already existent “Self-acting” Manifold, which is a special case of a “*smooth*” *continuum*, that acts on itself and the vacuum (empty space) to “give” **mass** and **charge** to “Potential” Particles. Scientifically, this existent

“Self-acting” Manifold existed before space-time, and is independent of space-time, and caused space-time form.

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CHAPTER 1. THEOLOGICAL COSMOLOGY

The purpose of this chapter is to examine certain religious texts from various religions and sift through them to find any mathematical and scientific foundations that can be used in our mathematical discussion of self-creation. It is not the purpose of this section to compare the various religions.

Here, we give some history of cosmology under various theologies that involve self-creation and discuss in “modern scientific” cosmological language where applicable.

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Cosmology in the Theology of Ancient Egypt

As early as 6000 BC, in Egypt, the Goddesses Neith and Hathor, and the God Ptah, are reported to be self-created (Budge, 1967; Faulkner, 1937; Sauneron, 1962). Over a period of time from 2686 BC – 2181 BC, several gods under the names, Kheprera, Amon (Amen), and Atum are self-created in the Egyptian theological systems.

It is important to note, here, that the Theologians/Scientists of ancient Egypt itemized existence into categories of unseen eternal sentient being, unseen principles, physical properties and qualities of material, and the physically seen. Scientists also use mathematics to describe an internal physics (nonmaterial dynamics) and an external physics (material-world dynamics). Also, the ancient Egyptian description of the process of “the beginning” occurs over different periods of events.

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Neith

Neith (The One God) is one of the most ancient names of the supreme being in predynastic Egypt (6000 BC – 3150 BC) (Sertima, 1997; Mark, 2016). She is self-created and is the sole creator of the universe and everything in it, causing inert space (Nun), the first material (matter and antimatter), the first gods, and the first humans. The first generation of Gods “issued” from the mouth of Neith and became seven divine beings (Zabkar, 1968). In an inscription on the wall of the Temple of Neith, in Sais, Egypt, She states that – “I am the things that are, that will be,

and that have been. No one has ever laid open the garment by which I am concealed. The fruit which I brought forth was the sun” (Sauneron, 1962). A writing on the wall of the temple at Esna, Egypt, describes Neith: “Unique Goddess, mysterious and great who came to be in the beginning and caused everything to come to be . . . the divine mother of Ra, who shines on the horizon..” (Sauneron, 1962).

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Dogon Cosmology

The Dogon cosmology is an intimate part of their more than 6000-year religious tradition (Temple, 1976). In their cosmological description, Amma, supreme being (The one God), places the po (“tiniest thing”) in the empty space and the po explodes whirling in spiral form spreading matter throughout the universe (Finch, 1998). The Dogon also postulated that space and time coalesced in the po and also that Amma’s will was in the po (Finch, 1998). The Dogon cosmology and the “Big Bang” theory tally, where the Big Bang asserts that matter, time, and space expanded out of a singularity (“infinitesimal volume”, “tiniest volume”) (Finch, 1998). The Dogon also explain the types of existence categorically.

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Ifa Cosmology

Among the Yoruba people of Nigeria, in the Ifa religion, the supreme being is called Oludumare. The Ifa oral scriptures dates back 500 BC – 1000 BC (Egu, 2011; Adeyemi, 2016). In the Ifa cosmology, Oludumare is “the head” that creates immaterial beings that are sentient representations of attributes of his self, called Orisas; and “prepared” beings that are sentient representations of himself, (the “souls” of human beings) (Iduwo, 1994). In Ifa tradition, some “creatures” who formed the nucleus of the human occupation of the earth, existed earlier than the earth (Iduwo, 1994).

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Hindu Cosmology

Hindu cosmology, 1200 BC, in the *Bhagavad Gita*, the supreme being, one God, under the name Krsna describes a process of self-creating his own Soul (Brahman) from his own Self (Atma) (Bhagavad Gita). The *Bhagavad Gita* (chapter 10 verse 6) also states “The seven great sages and them before the four other great sages and the Manus (progenitors of mankind) come from Me (Krsna), born from My mind, and all the living beings populating the various planets descend from them”.

From Brahman, Krsna self-creates himself into a second physical creator Brahma- responsible for creating and controlling the universe. Brahma and his inner Feminine Self (Brahmani) self-creates their first physical human form (*Swayambhu Manu*).

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In the *Matsya Purāna* Hindu text, Krsna, in the representation Vishnu executes a cosmological stage involving water –

“At the beginning, Swayambhu (the self-created) Vishnu created water first and placed his seed in it, and a Golden Egg emerged outside which Bhagavan Aditya, and as Vishnu recited Vedas, Brahma was in position.

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In the *Kumulipo*, a 490 BC Hawaiian text, there is a Hawaiian description of creation (Liliuokalani, 1897). The Kumulipo is cosmogonic genealogy, and also describes the direct descendancy of the first human being from the Gods (Kame’leihiwa, 2009). There are a few descriptions of “the beginning” in ancient Hawaiian religious tradition; however, in all descriptions, before the physical universe there was a condition of total limitless darkness called “Po” in the Hawaiian language. During the “Po” period immaterial Gods initiate creation. There is another period called “Ao” where the biological human form is created, and genealogy begins.

From the *Kumulipo* creation description the immaterial Goddess Haumea, the sister of the immaterial Gods Kane, Lono, and Ku, manifests in many different representations of herself during the creation process. In particular, Haumea self-creates as the first physical human being with the name La’ila’i, who weds the physical biological male Ki’i (“image of the God Kane) to give birth to children directly from Her brain (mind) (Liliuokalani, 1897).

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Cosmology of The Nation of Islam

In the early 1930’s Elijah Muhammad, the student and minister of Wali Fard Muhammad, Founder of the Nation of Islam, taught the concept of self-creation as an integral part of the theology of the Nation of Islam. From the 1930’s to 1974, he reintroduced the concept of self-creation to theological cosmology. Through theological lectures and writings by Elijah Muhammad, he taught that God is a human being, and that the first God was self-created out of an atom building itself up in the darkness of space and generating brain cells. That this first God/man willed himself into existence, and the beginning of the motion of the atom building itself up was the beginning of time/universe.

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From the 1969 Savior's Day Address Elijah Muhammad describes the self-creation process
This speech is also written in Elijah Muhammad's book *Our Savior Has Arrived* (Muhammad, 1974) -

"How came the Black God, Mr. Muhammad? He is Self-Created..."

"This is the way He was born; in total darkness..."

"Out of the total orbit of the Universe of darkness there sparkled and atom of life..."

"He was the only One in the whole entire dark Universe. He had to wait until the atom of life produced brains to think what he needed. He was a Black man...Coming out of total darkness at that time...that Darkness Created an atom of Life..."

"He was Self-created Himself, but He can't make a man without help now because the law of Nature, Creation, won't allow him to do so... It takes two people to make a man."

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From the 1972 *Theology of Time* lecture series (Muhammad, 1972)-

"If our Father was made on the number "1", how did He get that figure...? How did He become "1" ?"

"One could not have come out of darkness unless force was in the darkness to bring it out."

"...the force of actual space seemingly looks as though nothing is moving; but it brings out objects to us that are hidden in it, to our view."

"This "1" was already here in the darkness, but nothing did not give it to us until the time brought it about, ... It emerged out there into our view as a Revolving light..." "Having made Itself out of an atom of water, because we can't produce life without water; therefore, it was water out there in that darkened world of space. This space had produced life..."

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From a 1991 lecture by Minister Farrakhan, titled "Who Is God?" (Farrakhan, 1991)-

"... God created Himself out of the material of darkness. Before there was anything there was darkness, but it was a substantive darkness..." "... matter was in the darkness. Even though matter was in the darkness, it was considered nothing, because it was without aim and purpose."

"The Honorable Elijah Muhammad taught us that electricity is the most mysterious force because no one knows its origin. When you have electricity and matter in the darkness, you can produce the first germ of life. Whatever happened with electricity and matter, the first atom of life sparkled in the darkness. There is intelligence in the life-germ."

“The Honorable Elijah Muhammad said Allah formed Himself- not from a mother, but out of the dark womb of space. Space and the darkness of it became His womb and He came out of that darkness.”

“Then, the Honorable Elijah Muhammad said before there was Sun, there was a Woman. Allah came out of the womb of darkness with a womb within Himself.

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“The woman is made after the womb out of which God created Himself...”

- Farrakhan

CHAPTER 3. BASIC MATHEMATICAL CONCEPTS ON IDENTITY

In this chapter, we will use concepts from basic arithmetic to mathematically discuss some aspects of the Self-creation process of the first human being. As a start, we will apply some aspects of “0”, “1”, “NOTHING”, “Multiplication”, and “Addition”, to mathematically discuss the dynamics of “**the life** after which he started into perfection as a stature and form of a man” (Muhammad, 1972).

The material in this chapter is motivated by the following statements by Elijah Muhammad, in his 1972 *Theology of Time* lectures (Muhammad, 1972). With respect to the beginning of the creation of the first human being (God) he states-

“You can’t prove truthfully his birth, though we can pinpoint him after his birth, but we can’t tell you of the life after which he started into perfection as a stature and form of a man...” “I have been taught so near to Him that you would have to put the counting of years on it yourself.”

“... I would have to go through how long darkness took to produce the atom from which the man was made.”

“Time is motion, we can’t make time without a motion...” “There was no such thing as time before the creation of God or the whole universe, as we call it. It was not a universe; it was just a darkened, unlimited amount of space.”

“The zero represents nothing...” “... and we go from zero out here at the other end finding one, then from nothing is created, what we call in arithmetic, “number 1...”

“What produced one?”

“... we left out of nothing and made ourselves one.”

“This “1” was already here in the darkness, but nothing did not give it to us until the time brought it about. It emerged into our view as a Revolving light.”

The *Pymander* states some details on of the archetypical “1”, called Unity-

“For the Unity, Beginning, and Root of all things, as being the Root and Beginning...”

“Unity therefore being the Beginning, containeth every number; but itself is contained of none, and being begotten of no other number.”

-Pymander

Recall that in the “Natural” number system the number “1” is **not the successor** of any other number. “One” is called the Non-Successor and is unique!

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Some Empty-Set Thought Experiments

Are there any mathematical examples of getting something from nothing? Yes. Again, we state the obvious. The operations multiplication (\times) and addition ($+$) are not numbers. The numbers in \mathbb{R} are the members (elements) of \mathbb{R} ; for example, some numbers $-5, -4, -.3, 0, .3, .45, 1, 2 \in \mathbb{R}$. But, the operations do not “live” in \mathbb{R} . We can quickly write $\times, + \notin \mathbb{R}$ to mean “multiplication and addition are not members of the set of numbers”. Multiplication and addition “live” in the set of Operations with many other operations.

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Now for the same powers, $1 = \frac{x^n}{x^n} = x^{n-n} = x^0$. Therefor, $x^0 = 1$. That is, **No factors** of x produces 1. “No” factors means the empty set; further, the word “**factor**” means something that multiplication is acting on. So, “**No factors** of x produces 1” means that multiplication acts on the empty set to produce 1. In symbols, we can write

$\times \{ \} \rightarrow \{1\}$, to mean “multiplication acts on NOTHING (empty set) to produce the set $\{1\}$, containing 1”. Now we mathematically have SOMETHING, 1, from NOTHING $\{ \}$ through the “action” of multiplication (\times). In fact, mathematicians call any form like x^0 , the Empty Product, and can be written $\{ \} \times \{ \} \rightarrow \{1\}$; do not confuse our context here with the symbolism of the “cross” product of sets, such as $A \times B$.

A big deal here is that 1 is the identity element under multiplication. So multiplication produces its own identity element when acting on nothing. Remember that NOTHING $\{ \}$ also has the identity/self property, more than any other set, so it produces different cases (manifestations) of identity depending on who/what is “acting” on it.

Quickly, the same is true for the addition operation; $+ \{ \} \rightarrow \{0\}$ means “addition acts on NOTHING (empty set) to produce the set $\{0\}$, containing 0”. Again, the big deal is that 0 is he identity element under addition. So, addition produces its own identity element when acting on nothing.

After 0 and 1 are produced from the actions $\{ \times, + \}$ acting on Nothing...

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4.2 A Self-Creation Cosmology Theory for Matter

Astro Physicist Garth A. Barber, Fellow of the Royal Astronomical Society, has been working on a Self-Creation theory of matter since 1982, called Self Creation Cosmology (Barber, 1982). He applies a modified Brans-Dicke theory for gravitation to show the creation of matter and energy out of self-contained gravitational and scalar fields (Brans and Dicke, 1961). In the Self Creation Cosmology there is no “Time Zero” for the beginning of the universe. Time is permitted to go back to “Negative Infinity”, when there was no matter in the vacuum of space; but there is an ever-existent *Gravitational Potential* field. In a 2005 paper, Barber details three main equations that describe the self-creation setting and process. In those equations, a *Principal of Mutual Interaction* (PMI) is inherent (Barber, 2005).

The PMI states-

“The scalar field is a source for the matter-energy field if and only if the matter-energy field is a source for the scalar field.”

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CHAPTER 5.

MANY UNIQUE SELVES FROM ONE

Before we conclude with our final Chapter 6, we exercise the topic of self-creation with some explicit language and concrete examples from Precalculus. Psychologically and theologically, we consider each “Person” to be a unique individual entity; that is, each Self is unique. In the context of self-creation, each Self (Person) is a Self of The Creator. The Creator is a Self. One of the properties of self is that it is always its own-self while dealing with self-interactions and living with self-dispositions.

How can we mathematically discuss the presence of so many unique independent Persons (“Selves”) since the beginning of the universe and the “unborn” Persons yet to have a mind and body? Also, how can we mathematically discuss the fact that, usually on Earth, at least 5 billion unique independent “Selves” with bodies are coexisting at the same time while The Creator’s Self remains the same (invariant)? Through self-reflection and self-interaction, The Creator can decree or impose a disposition on Her/His own self, exemplified by a prevailing dynamic attribute or prevailing set of attributes. A Disposition can be a prevailing Quality or Character. A

Disposition can also be An Arrangement of “things” in Relation to each other, such as a prioritization of attributes.

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Example 1.

This example mathematically discusses the Self’s creation of another self, to be a Unique Disposition of its own Self.

For the Parabolas $f_1 = \{(x, y) | y = x^2 + 1\}$ and $f_2 = \{(x, y) | y = x^2 + 2\}$ notice that for any points (x, y) in f_1 , they can Not also be in f_2 ; since, (x, y) in f_1 means that strictly $y = x^2 + 1$ and can Not be $y = x^2 + 2$ for the same x . In General, for **any** two **different** C -values m and n , the graphs (sets) f_m and f_n will Never intersect (touch).

(i). Each set f_C is an *Equivalence Class*, meaning that **any** two points (w, z) and (a, b) in f_C are “Equivalent” to each other simply because they are Related by

$$z = w^2 + C \text{ and } b = a^2 + C.$$

Also, for each C , the set (graph) f_C is a subset of \mathbb{R}^2 ; written, $f_C \subset \mathbb{R}^2$.

(ii). The underlying set (self) for all of this is \mathbb{R}^2 . Also, the *Union* of all “parabolas” f_C combined is again \mathbb{R}^2 , symbolically written,

$$\mathbb{R}^2 = \cup f_C, \text{ where } C \in \mathbb{R}.$$

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CHAPTER 6. A STANDARD MODEL OF THE HUMAN BEING

A popular idea on what the Human Being is, is that the human being is one “three-part” entity- a Person (Self), a Mind, and a Body all working together. In this structure (human being) the actual Person (Self) is the most sentient part and determines, is aware, feels, and causes (Hubbard, 1956). The person “owns” their mind and their body; where the mind is a sentient part through which the Person communicates to and from the body, and the body is a sentient part through which the mind communicates to and from the physical world. There are areas of study that just focus on the body, such as biology, chemistry, physics, and medical). Psychological study and treatment focus on the mind.

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We must state here that there is a point of view that the person is a mind. However, without loss of the generality of applying mathematics to “modeling” the Human Being, we will study and

treat the Person as a distinct entity, different from the mind; but, is intimately associated with and “owns” a distinct mind and a distinct body.

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6.1 The relationship between Allah and the Human being: The artistry of Self-creation through postulating Identities and Beingness.

First, let us dig into the word “postulate”. A postulate, as a noun, is a “thing” suggested to be true as a basis for reasoning or discussion. As a verb, *postulate* is the mental act of suggesting or assuming a thing to be true as a basis for reasoning or discussion. We will use postulate, the verb, in the following discussion to mean the act of causing a thing to be (to exist in some form) (Hubbard, 1956). The mental act of “postulating” is a mental routine for most mathematicians.

Self-Created Quotient Spaces

In mathematics there is an art to “postulating” and “imposing” *relations* on an entity (set), **causing** sub-entities (substructures, subsets) of the “underlying” entity (set). An *equivalence relation* is a special kind of relationship determined between “elements” of a set. We go into detail, here, on the development and definition of *equivalence relation* because of its direct context as an identity and its direct application to self-creation. And, still, the use of arithmetic serves as a comfortable (common) language to explore concepts with.

A Definitive Example:

given the set of all whole numbers, \mathbb{W} , **we can consider** an equivalence between all even numbers because each even number can be divided by two. Write the set of all even numbers as, \mathbb{E} , and the set of all odd numbers as, \mathbb{O} . Then, just by **our consideration** of how **we wanted** to relate numbers by evenness, \mathbb{W} is “respected” in the context of a split set, a split space, made of the subsets \mathbb{E} and \mathbb{O} . “ \mathbb{W} is the Union of \mathbb{E} and \mathbb{O} ”, written $\mathbb{W} = \mathbb{E} \cup \mathbb{O}$.

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Another example of a created quotient space of \mathbb{W} . Define the equivalence relation, \sim_3 , to be $a \sim_3 b$ if and only if “the difference of a and b is divisible by 3”. A little arithmetic will show that imposing \sim_3 on \mathbb{W} , splits \mathbb{W} into only three equivalence classes, call them

$[0] = \{0,3,6,9,12, \dots\}$,
 $[1] = \{1,4,7,10,13, \dots\}$, and
 $[2] = \{2,5,8,11,14, \dots\}$.

The relation, \sim_3 , identifies all pairs of numbers whose difference is divisible by 3 and puts them in their own equivalence class. $[0]$ consists of all numbers whose remainder is 0 when divided by

3; [1] consists of all numbers whose remainder is 1 when divided by 3; and [2] consists of all numbers whose remainder is 2 when divided by 3.

The quotient space of \mathbb{W} created by imposing (speaking) the identity/relation (name) “ \sim_3 ” is $\mathbb{W}_{\sim_3} = \{[0], [1], [2]\}$.

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There exists a homomorphic relation/function between $(\mathbb{W}, +)$ and $(\mathbb{W}_{\sim_3}, +_3)$, defined by $h: (\mathbb{W}, +) \rightarrow (\mathbb{W}_{\sim_3}, +_3), h(n) = [n]$. The function h identifies every element $n \in \mathbb{W}$ with the equivalence class that it is in, $[n] \in \mathbb{W}_{\sim_3}$. Also h is a homomorphism: for any $n, m \in \mathbb{W}$ then $h(n + m) = h(n) +_3 h(m)$. This ensures that the images of equations that are true in the language of $(\mathbb{W}, +)$ are also true in the language of $(\mathbb{W}_{\sim_3}, +_3)$. Thus, the qualitative structure and nature of $(\mathbb{W}, +)$ is preserved in $(\mathbb{W}_{\sim_3}, +_3)$. Outright, the quotient space $(\mathbb{W}_{\sim_3}, +_3)$ has the same qualitative structure and nature as $(\mathbb{W}, +)$; even though $(\mathbb{W}, +)$ is an infinite space and $(\mathbb{W}_{\sim_3}, +_3)$ is a finite space. The function h is called the *Quotient Map*. It is an action that creates a Quotient space out of a space.

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So here is another mathematical “case” of Self-Creation:

Consider the set $(\mathbb{W}, +)$ as a “*Grothendieck*” type set, and the homomorphism given by

$$h: (\mathbb{W}, +) \rightarrow (\mathbb{W}_{\sim_3}, +_3), h(n) = [n], \text{ is in } (\mathbb{W}, +).$$

Since each equivalence class $[n]$ is also a subset of \mathbb{W} , then we can have $[n] \in \mathbb{W}$ so that the homomorphism is now an Automorphism from \mathbb{W} into itself, written $h: \mathbb{W} \rightarrow \mathbb{W}$. In fact, the very identity/relation (name) “ \sim_3 ” is also in \mathbb{W} , so $(\mathbb{W}, +)$ **possess the name (identity)** that it will impose on itself. The homomorphism, now, is the action of \mathbb{W} **acting on itself** to produce the quotient space \mathbb{W}_{\sim_3} . So really \mathbb{W}_{\sim_3} is just a form of \mathbb{W} . Theologically, the entity $(\mathbb{W}_{\sim_3}, +_3)$ is a Self-creation of $(\mathbb{W}, +)$.

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The Quran tells us that Allah has created man from a clot (alaq) (Quran 96, 1-2). In one context, the English translation clot (alaq) is a “leech-like” clot. The clot that is referred to is a biological zygote that is attached to and feeds from the placenta of its mother’s womb. Creation from a leech-like clot (alaq) describes the biological creation (beginning) of every human from a “nourishing-relationship” between the human zygote and its mother, written, $n: Z \leftrightarrow M$. Here,

there are two material objects, human zygote Z and its mother M , and an immaterial thing, the nourishing-relationship, n , between them. In the Arabic language the word “alaq” also indicates a “loving-relationship”-

Aliqa, Alaq, Alaqatun: love, become attached by love, True love, Attachment [Dictionary of Holy Quran].

In the context of relations, the Quran states “Allah has created man from alaq”. Meaning that the Self of the human is created from a loving relationship, a loving relationship between Allah and the human Self, written $l: A \rightarrow S$.

In the Islamic theology are there any automorphic “acts” between Allah and himself? Yes. The Quran states that Allah bears witness to his own oneness (Quran 3, 18). Bearing of witness to any attribute/property/reality of one’s own self is a cognitive automorphic act involving self-awareness. Also, in the Quran Allah states that he has prescribed (ordained) Mercy on himself (Quran 6:12). Prescribing or Ordaining is an authoritative act of Allah. “On himself” means that this particular authoritative act is an automorphism.

Allah agrees with and is satisfied with his own self. This agreement of Allah with his own self is a “loving-relation” between Allah and his self, written as an Automorphism $l: A \rightarrow A$. In the context of self-creation, Allah (A) “acts” on his own self, through a loving-relationship (l), with respect to a postulated identity (\sim), to create a “Quotient-self” (A_{\sim}), a “homomorphic” copy of himself, the human self (A_{\sim}), written $l: A \rightarrow A_{\sim}$. Notice that the loving-relation l is a homomorphism, an “agreement-relation” between the qualitative structures/natures of A and A_{\sim} . Thus Allah (A) creates man/woman (A_{\sim}) from alaq (l , love).

Each human self (A_{\sim_j}) is a unique Quotient Space (Quotient-self) of Allah A , created by Allah postulating a unique identity/attribute (\sim_j). There are infinitely many identities/attributes that Allah can postulate; that is, there are $\sim_1, \sim_2, \sim_3, \sim_4, \dots$. That means there are potentially infinitely many Human Selves that can be created $A_{\sim_1}, A_{\sim_2}, A_{\sim_3}, A_{\sim_4}, \dots$; and from each of those, infinitely many unique souls can be generated. As we have seen in the process of babies forming in its mother’s womb, that in some point of space-time, each soul can become **intimately associated** with a forming zygote, fetus, human body.

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Topological-Selves from Equivalence Classes of The Creator

REMBER that any “act” or “acts” of the Creator X considering, defining, respecting, postulating, and imposing on Self are *automorphisms*, in the set $AUT(X)$. For the discussion on the self-creation of the human self we will apply a special subset of automorphisms, $ISOM(X)$. The Creator X can Define and consider a self-Isomorphism of X , $s_n: X \rightarrow X$, to be $s_n(x) = n * x$, where $*$ is some operation postulated on X , by X . We will only focus on one operation; but, just as a mathematical manifold can have infinitely many operations on it, theologically the Creator can postulate infinitely many operations on itself. Also, the constant n is an element of X . Now

for any t and w possessed by \mathbf{X} , the Creator \mathbf{X} can postulate and ordain an equivalence relation/identity (\sim) on itself to be $t \sim w$ if and only if “ t and w have a common factor” in \mathbf{X} , with respect to the operation $*$.

The “act” of the Creator postulating and ordaining the equivalence relation/identity (\sim) on itself generates subsets (sub-entities) of itself to consider and respect, given by $C_r = \{n * r \mid n \in \mathbf{X}\}$. The subset $C_r \subset \mathbf{X}$ consists of all “multiples” of r , as different elements $n \in \mathbf{X}$ combine with r by $*$. For different elements $r \in \mathbf{X}$, each set C_r is an equivalence class. That is, for any two elements v and u in C_r , $v \sim u$ (v and u are equivalent) because $v = n_1 * r$ and $u = n_2 * r$ for some elements n_1 and n_2 in \mathbf{X} . Simply put, $v \sim u$ is true since r is a common factor of both v and u .

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The set of equivalence classes $\mathbf{X}_{\sim} = \{C_r \mid r \in \mathbf{X}\}$ is a Quotient space of \mathbf{X} . Since \mathbf{X} has the *continuum* property and the set of self-actions $AUT(\mathbf{X})$ that produced \mathbf{X}_{\sim} has the *continuum* property, then the set of equivalence classes \mathbf{X}_{\sim} also has the continuum property. In particular, the set \mathbf{X}_{\sim} is *Uncountable*. Without going into much detail, *uncountable* means that we cannot list each C_r one-after-another as $\{C_1, C_2, C_3, \dots\}$ like the “Natural Numbers”, just like we cannot even list the “Real Numbers” one-after-another that are in the continuum called the number line. However, in this book, we will write some subsets of \mathbf{X}_{\sim} as a list of equivalence classes $\{C_{r_1}, C_{r_2}, C_{r_3}, \dots, C_{r_k}\}$ because it is EASIER to talk about and expose the main idea.

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Theologically, \mathbf{X}_{\sim} is a human Self, that has the same qualitative and dynamic nature as the self of the Creator \mathbf{X} . Also, \mathbf{X}_{\sim} is a self-creation of \mathbf{X} , acting on itself (self-isomorphisms) under the identity/name (equivalence relation) \sim . The topology, $\mathcal{T}_{\mathbf{X}_{\sim}}$, is a human soul generated by all subsets (“sub-entities”) of \mathbf{X}_{\sim} . The relation $g: \mathbf{X} \rightarrow \mathbf{X}_{\sim}$ defined by $g(r) = C_r$ is a special relationship between the Creator \mathbf{X} and the human self \mathbf{X}_{\sim} . It is a self-isomorphism that preserves and respects each other’s qualitative and operational/dynamic natures. The self-isomorphism g is a “loving-relationship” that the Creator \mathbf{X} created the human self \mathbf{X}_{\sim} out of.

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6.4 The Human Being -A Structure of Categories

In the last section the language of Topology was applied to describe the intangible sentient self as a Topology of The Creator, caused by The Creator postulating and imposing an equivalence relation on its own Self. Theologically, The Creator is the only underlying sentient entity. Each postulated unique equivalence relation is an identity that induces a corresponding unique set of

equivalences classes of The Creator, that is a unique sentient Self (Person, Ori)- a Self of The Creator.

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The **Human being** is both a tangible and intangible structure that can be described in Universal Algebra as an *intimately-integrated* sextuplet $\mathcal{H} = (\sim, S, F, M, B, I)$, where the particular equivalence relation \sim is the person's identity; S is the self (the person); F is the person's soul; M is the person's mind which is a substructure of the person's soul; and B is the person's body. The body is a substructure of the physical space-time universe. In reality, there are probably more detailed categories that we can use to discuss the human structure, but using the six categories still lets us get to the point of this writing.

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Building the Human Body

Theologically/scientifically, the first human body was a physical, chemical, biological construction that was mentally designed and constructed by the Mind of The Creator (Ptah). We list the scientific names (physical, chemical, biological), in order, to respect the order in which The Creator used its physical representations to make a human body to operate. Again, let us use the symbol X to represent The Creator so we can keep the mathematical discussion connected. Also, to properly keep connectivity, we will recall and summarize the steps of physical universe creation, through to biological creation.

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Biology

Since we are concerned with self-creation we will focus on human biology. All human cells are made of *water* encased by a cell membrane. The cell has a detailed structure. We will introduce a few parts. The nucleus of the cell is located inside of the cell and it is encased by a nucleus membrane. **Arrangements** of specific types of *amino acids* called DNA are in the cell nucleus. The amino acid arrangements (DNA) are the **Instructions** for the type of cell, the cell structure, the cell function, and the cell life cycle.

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Keep in mind that all cells are made of atoms; so, mathematically, all cells are elements of the algebra, \mathcal{A}_C , along with all other aggregates of atoms. DNA in the cell nucleus **communicates** to the rest of the cell by sending instructions in the form of proteins, like the well-known mRNA and tRNA, among others.

In the building of cells, here is a Theologically/Scientific/Mathematical sequence of events: the Algebra of forces T_O is homomorphic to the Creator's *identity component* G_O so that the bosons (force-carriers) in the physical universe are produced, sustained, and controlled by the Creator through the homomorphism $A: G_O \rightarrow T_O$. The algebras T_O , \mathcal{A}_E and \mathcal{A}_C share the universe together. The existing "chemical" algebras \mathcal{A}_E and \mathcal{A}_C can be manipulated by the boson (force-carriers) from T_O . "From" the Creator's *identity component* G_O , the force-carriers were used by the Creator to act on atoms in \mathcal{A}_E to produce a desired combination called water and a "desired" combination of human DNA, and from that, human cells. The water, human DNA are all molecules in the algebra \mathcal{A}_C . Recall that each algebra T_O , \mathcal{A}_E and \mathcal{A}_C is mathematically a representation of the Creator. The human DNA is made of arrangements of amino acids. The **arrangements** themselves are actually **instructions**, in chemical form, for the structure, function, and life of each cell that it is contained in. Through cell division many cells are made, and cell types communicate and coordinate to be the human body. Cells **communicate** and coordinate with each other by sending proteins or ions to one another through their cell membranes.

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The Body Extension

The live human body is involuntarily and voluntarily controlled by the Self/Soul, again recalling that the Mind is a substructure of the Soul. The live human body B is a "local" physical universe for its Self/Soul that is intimately associated with it. The human body is contained in and apart of the space-time universe $\mathbb{R}^{3,1}$, written $B \subset \mathbb{R}^{3,1}$. Through energy communication between matter over space and time, the universe $\mathbb{R}^{3,1}$ is a natural extension of all matter that it contains. In particular, the universe $\mathbb{R}^{3,1}$ is a natural *extension* of the human body B . Comparatively speaking, the universe $\mathbb{R}^{3,1}$ is a larger "social-body" for other bodies (including human bodies) to communicate in and impose on. Through our live bodies, our behavior is embedded into the universe. Our mind and soul intentionally and involuntarily produces force-carriers and mechanical force through our brain and body into the universe. The production of force-carriers, chemical behavior, and mechanical behavior is a behavior function from our mind into the universe. Mathematically, the universe is an *extension* of our behavior function.

The mind embeds behavior into the physical universe at the quantum, chemical, and mechanical level through our brain and body. In scientific and mathematical context the Universe U is a generalized algebra, in this case a generalized *Vector-Field* of force and matter, and any Live human Body, B , is a generalized sub-vector-field that is embedded in the Universe. A consequence of *extension* is that U can be considered to be a "vector space over" B .

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