

**Anthony Giovia**  
[anthonygiovia@gmail.com](mailto:anthonygiovia@gmail.com)  
[www.geometryofideas.com](http://www.geometryofideas.com)

## **SHARED DIMENSIONS:**

### **PRINCIPLES OF DIMENSIONAL THINKING v7.0**

**Copyright © 2006-2012 Anthony Giovia**

#### **Preface**

The Geometry of Ideas, Contextual Geometry, and Dimensional Thinking are nomenclatures for related sets of principles. It is convenient to use The Geometry of Ideas as an umbrella term, Contextual Geometry when considering idea designs, and Dimensional Thinking when applying dimensional principles. The Geometry of Ideas is not a new science; rather, it is an extension of existing sciences.

The Geometry of Ideas proposes that generic concepts can be defined in physical world terms. The purpose is to provide a scientific basis for idea organization and idea interactions. To achieve this, we must 1) establish that ideas exist as physical objects, and 2) demonstrate that physical ideas must interact via known physical laws. The actual argument for physical ideas is straightforward – if everything in the Universe originated in a Big Bang of energy, then everything in the Universe is a product of the Big Bang and is composed of energy. Albert Einstein showed us that energy has a mass component – therefore ideas have a mass component.

Physical ideas – like all objects with mass - have physical dimensions, and as such certain logical concepts (for example, “sets”) require a corresponding dimensional nature to accommodate them. This is less disruptive than it may seem. Instead of using abstract ideas to describe other abstract ideas, The Geometry of Ideas adds a physical dimension to examine the possible ways logic actually associates one idea to another.

All ideas are defined in terms of other ideas, but along the way the definitions of many terms have lost their physical world roots – it is difficult to navigate down and discover how a word like “abstract” relates directly or indirectly to the existence of a real object for its meaning, or, for that matter, for its own non-abstract existence. The Geometry of Ideas re-defines these and other difficult concepts and shows how they co-exist in a more general nexus of physical ideas.

Initially, the lack of standardized definitions will lead to multiple geometries because the wording of definitions is the very basis of any Geometry of Ideas. Language variables, personal agendas, information awareness and honest disagreements all influence the wording of definitions. But it is the Darwinian nature of thought organizations to settle on the most efficient structures, and over time an open practical framework will predominate.

Caveat: It must be noted that a single object can and does have multiple definitions. These multiple definitions can be seen as “stages” or “levels” in an evolution to a more encompassing definition. This evolution will become apparent as definitions presented early in this treatise change as we proceed. The early definitions are still valid; however they are less comprehensive than their later incarnations.

## CHAPTER 1 - Objects

- 1.1 - An Aspect is any component of the Universe. (Definition)
- 1.2 - The Universe is a composition of aspects. (Construction)
- 1.3 - Any aspect composing the Universe is absolute proof that aspect exists in the Universe. (Construction)
- 1.4 - Detection is any interaction between any aspects of the Universe. (Definition)
- 1.5 - Any detection is absolute proof that the interacting aspects exist in this Universe. (Construction)
- 1.6 - The human physical senses - touch, sight, smell, taste, hearing - detect some or all aspects of the Universe. (Definition)
- 1.7 - Detection of an aspect of the Universe by human physical senses is absolute proof that aspect exists in this Universe. (Construction)
- 1.8 - Detection of an aspect of the Universe by human physical senses is absolute proof that human physical senses exist in this Universe. (Construction)
- 1.9 - An Object is any aspect of the Universe detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing. (Definition)
- 1.10 - An object detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing exists in this Universe. (Construction)

We will use the term “object” to indicate any aspect of the Universe that can be touched, seen, smelled, tasted or heard. We take as a given that any aspect that interacts with the physical human physical senses - that is, any aspect “detected” by the human physical senses - must necessarily exist in this Universe.

We are making a clear distinction here between the existence of an object and the interpretation of what that object is or means. The statements in this chapter merely establish a baseline definition of existence, and a baseline definition of an object.

You will note the introduction of the term “construction”. Euclid, The Father of Geometry, used “Common Notions” as building blocks to create his geometric proofs. He called these proofs “Propositions”, and used the Propositions to create more complex Propositions. In a similar manner we will use distinct definitions as our “Common Notions”, and like Euclid, use these definitions as the foundation for creating more complex definitions.

While Euclid used the term “Proposition” to describe the product of logical reasoning, we will be using the more direct – and more obvious – term “construction”. Euclid employed ideas as abstractions – points, lines, planes – and applied these abstract ideas to physical objects. Our approach differs in that we see ideas as physical objects, not as abstractions. When we use the term “reason” or “logic” we are referring to the physical connections and relationships between physical dimensions that ultimately define an object – that is, the physical dimensions used in the construction of an object.

Because later constructions rely on the integrity of earlier constructions we must apply a rigorous standard of logical reasoning when building new objects. Our standard will ideally be based on logical operations that can be duplicated by logic gates, such as substitution, addition, subtraction, “greater than”, “lesser than”, and the permutations that flow from these and other simple operations. Each new

constructed object must be recursively built from definitions, and constructions based on those definitions, using logical operations.

Logical constructions provide the internal consistency required by scientific inquiry. Each construction must stand on its own as a true statement, where “true” means the statement can be resolved into the definitions, constructions and logical operations that created it. As we proceed we will present an argument that logical constructions are necessarily physical constructions.

## CHAPTER 2 - A Definition of Definition

### SECTION A

- 2.1 - The act of Determination is the act of definition. (Definition)
- 2.2 - A Definition determines the outline, and/or magnitude, and/or architecture and/or design of an object, such that any definition is distinct and unique from every other definition. (Definition)
- 2.2a - An Outline determines the external boundaries of an object. (Definition)
- 2.2b - Magnitudes determine the measurable quantities of an object, relative to other magnitudes using the same standard of measurement. (Definition)
- 2.2c - Architecture determines the composition of an object within its external and internal boundaries. (Definition)
- 2.2d - A Design determines the function of an object. (Definition)
- 2.3 - Any definition is distinct and unique from every other definition. (Construction)
- 2.4 - Any object can be defined by its outline, and/or its magnitudes, and/or its architecture, and/or its design. (Construction)
- 2.5 - Any object can be completely defined by its outline, magnitudes, architecture and design. (Construction)

### SECTION B

- 2.6 - An object is any aspect of the Universe detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing. (1.9)*
- 2.7 - An object detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing exists in this Universe. (1.10)*
- 2.8 - A defined object is detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing. (Construction)
- 2.9 - A defined object exists in this Universe. (Construction)
- 2.10 - Outlines, magnitudes, architectures and designs are detectable by human physical senses. (Construction)
- 2.11 - Outlines, magnitudes, architectures and designs exist in this Universe. (Construction)
- 2.12 - Outlines, magnitudes, architectures and designs are defined objects. (Construction)
- 2.13 - A defined object is composed of defined objects. (Construction)
- 2.14 - Defined objects are components of definitions. (Construction)
- 2.15 - Outlines, magnitudes, architectures and designs are defined components of objects. (Construction)
- 2.16 - Definitions are composed of defined objects. (Construction)

The Geometry of Ideas is mainly about definitions and their implications, so it is appropriate and necessary to “define” what we mean by the word definition.

It is a given that every definition must in some way be distinct from every other definition. By "distinct" we mean discernable - the definition must be sufficiently illuminated from its surroundings to permit the act of determination.

There are many ways to combine definitions, and differences can be subtle, but they must all be unique in their totality from every other definition. To assure the uniqueness of definitions the terms used in a definition must be unambiguous. There also must be a sense of completeness – when a term is defined, it must be circumscribed to the point where it is clearly understandable as unique.

The “obstacles” of ambiguity and completeness may at first seem intimidating, but both actually present a low threshold, because both have a clear limit – simply, at the point of uniqueness the definition is complete. Using “uniqueness” as our delimiter will lead to different levels of the same geometry, but it guarantees consistency within any one geometry and will certainly lead to crossing points among geometries.

Initially, the lack of standardized definitions due to cultural differences and reasoning abilities will result in multiple geometries. But it is the nature of scientific inquiry to evolve a common language, and conflicting definitions will present opportunities for more precise definitions.

Ascribing properties like outlines, magnitudes, architectures and designs to the definition process may seem unusual, but I hope to make these applications clear in the next few chapters. For those thinking on their own, and wondering how a definition of an “object” applies to the definition of an idea, I offer the same answer.

### CHAPTER 3 – Body

3.1 - *The human physical senses - touch, sight, smell, taste and hearing - detect some or all aspects of the Universe. (1.6)*

3.2 - The human Body is detectable by the human physical senses. (Definition)

3.3 - The human body is an object. (Construction)

Here we are merely introducing the term “body” from the point of view of the physical senses. Clearly, it is intended as a building block, and it is not intended to be a comprehensive definition of body.

## CHAPTER 4 – Dimensions

### SECTION A

- 4.1 - A Dimension is any defined component of an object. (Definition)
- 4.2 - *Any object can be completely defined by its outline, magnitudes, architecture and design. (2.5)*
- 4.3 - *Outlines, magnitudes, architectures and designs are defined components of objects. (2.15)*
- 4.4 - Outlines, magnitudes, architectures and designs are dimensions of objects. (Construction)

### SECTION B

- 4.5 - *Outlines, magnitudes, architectures and designs are defined objects. (2.12)*
- 4.6 - All dimensions are defined objects. (Construction)
- 4.7 - All objects are defined. (Construction)
- 4.8 - Dimensions are objects. (Construction)
- 4.9 - Objects are composed of defined dimensions. (Construction)
- 4.10 – All dimensions are defined. (Construction)
- 4.11 – Objects are composed of dimensions. (Construction)

### SECTION C

- 4.12 - *A defined object is detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing. (2.8)*
- 4.13 - Dimensions are detectable by the human physical senses of touch, sight, smell, taste and/or hearing. (Construction)
- 4.14 - *Any object can be defined by its outline, and/or its magnitudes, and/or its architecture, and/or its design. (2.4)*
- 4.15 - Each dimension detectable by human physical senses is itself an object defined by its outline, and/or its magnitudes, and/or its architecture, and/or its design. (Construction)
- 4.16 - *A defined object is composed of defined objects. (2.13)*
- 4.17 - A dimension is an object composed of defined dimensions. (Construction)

### SECTION D

- 4.18 - Any dimension can be completely defined by its composing dimensions. (Construction)
- 4.19 - Any dimension can be completely defined by its composing objects. (Construction)
- 4.20 - Any object is a defined dimension. (Construction)
- 4.21 – Any object is a dimension. (Construction)

4.22 – Any object is defined. (Construction)

#### SECTION E

*4.23 - A Definition determines the outline, and/or magnitude, and/or architecture and/or design of an object, such that any definition is distinct and unique from every other definition. (2.2)*

*4.24 - Any object can be defined by its outline, and/or its magnitudes, and/or its architecture, and/or its design. (2.4)*

*4.25 - Outlines, magnitudes, architectures and designs are defined objects. (2.12)*

*4.26 – Any object is defined. (4.22)*

4.27 – Outlines, magnitudes, architectures and designs are objects. (Construction)

4.28 – Objects composed of defined objects are themselves defined objects. (Construction)

4.29 – All definitions are defined objects. (Construction)

#### SECTION F

*4.30 - Any definition is distinct and unique from every other definition. (2.3)*

4.31 - Any definition distinct and unique from every other definition is composed of defined objects unique to that definition. (Construction)

4.32 - Any definition is composed of defined objects unique to that definition. (Construction)

4.33 - Any definition is composed of objects unique to that definition. (Construction)

4.34 – Any two definitions composed of identical objects, each object and every object, are Identities. (Definition)

4.35 – Any two definitions not composed of identical objects, each object and every object, are not Identities. (Definition)

4.36 - Each object and every object composing identical definitions must be identical. (Construction)

4.37 - Any definition is composed of each object and every object unique to that definition. (Construction)

4.38 - If any Object B partly composes or wholly composes any Object A, then Object B is "Included" in the composition of Object A. (Definition)

4.39 – Any definition includes each and every of its composing objects. (Construction)

*4.40 - Each dimension detectable by human physical senses is itself an object defined by its outline, and/or its magnitudes, and/or its architecture, and/or its design. (4.15)*

*4.41 - Any object is a dimension. (4.21)*

4.42 - Definitions are composed of dimensions. (Construction)

4.43 - Any definition includes each and every of its composing dimensions. (Construction)

4.44 – Dimensions composing a definition are said to “Form” the definition. (Definition)

4.45 – Any definition is formed by its composing dimensions. (Construction)

Any definable aspect of an object is a dimension of that object. Dimensions can be absolute, as in “There are exactly 60 seconds in a minute” or relative as in “A is greater than (heavier than, farther than) B”.

A mathematician defines a dimension as “The least number of independent coordinates required to specify uniquely the points in a space.” A physicist defines a dimension as “A physical property, such as mass, length, time, or a combination thereof, regarded as a fundamental measure or as one of a set of fundamental measures of a physical quantity.” Both of these are useful definitions completely included in our usage of the term dimension.

A key point is that every dimension detectable by human physical senses is itself a defined object. This means that each of these dimensions is itself composed of dimensions. The structure of the “dimensional universe” is a network of countless linkages. We will be looking at the phenomenon of dimensions on both a small scale and a large scale as we go along.

Objects and dimensions are for all practical purposes the same materiality, so you may wonder why we risk confusion by using two names for the same thing. The answer is... to avoid confusion. Because any object and any dimension is composed of other objects and/or other dimensions (depending on how you choose to look at it), having two names allow us to distinguish a composite object from the objects/dimensions that compose it.

## CHAPTER 5 – Shared Dimensions

### SECTION A

5.1 – *Any object can be defined by its outline, and/or its magnitudes, and/or its architecture, and/or its design. (2.4)*

5.2 – In this Universe there exists at least two unique objects which, either instantaneously or persistently, are composed of identical outlines, and/or magnitudes, and/or architectures, and/or designs. (Definition)

5.3 – Identical outlines, magnitudes, architectures and designs can exist in more than one object. (Construction)

5.4 – *Outlines, magnitudes, architectures and designs are dimensions of objects. (4.4)*

5.5 – Identical dimensions can exist in more than one object. (Construction)

5.6 – A Shared Dimension is any dimension that exists in more than one object. (Definition)

5.7 - If Object A is defined by dimensions 1,2,3,4 and Object B is defined by dimensions 4,5,6, then dimension 4 is a shared dimension of Object A and Object B. (Construction)

### SECTION B

5.8 - *Any object can be completely defined by its outline, magnitudes, architecture and design. (2.5)*

5.9 - *Outlines, magnitudes, architectures and designs are dimensions of objects. (4.4)*

5.10 - Any object can be completely defined by its composing dimensions. (Construction)

5.11 - *Architecture determines the composition of an object within its external and internal boundaries. (2.2c)*

5.12 - *A Shared Dimension is any dimension that exists in more than one object. (5.6)*

5.13 - *If Object A is defined by dimensions 1,2,3,4, and Object B is defined by dimensions 4,5,6, then dimension 4 is a shared dimension of Object A and Object B. (5.7)*

5.14 - *Any definition is formed by its composing dimensions. (4.45)*

5.15 - If Object 1,2,3,4 and Object 4,5,6 exist in the same definition, they form an architecture 1,2,3,4,5,6 or 1,2,3,4,4,5,6. (Construction)

### SECTION C

5.16 - *A Definition determines the outline, and/or magnitude, and/or architecture and/or design of an object, such that any definition is distinct and unique from every other definition. (2.2)*

5.17 – *Outlines, magnitudes, architectures and designs are objects. (4.27)*

5.18 - *Definitions are composed of dimensions. (4.42)*

5.19 - *All dimensions are defined objects. (4.6)*

5.20 - A definition is composed of defined objects. (Construction)

5.21- *Any definition includes each and every of its composing dimensions. (4.43)*

5.22 - *A defined object is composed of defined objects. (2.13)*

5.23 - *Any definition is composed of defined objects unique to that definition. (4.32)*

5.24 – If Dimension A partly or wholly composes any Object B, and if the definition of an object composing Dimension A changes, then the definition of Object B changes. (Construction)

5.25 - If a dimension is shared between the definition of Object A and the definition of Object B, then exchanging that dimension of Object A for that dimension of Object B will not change the definition of Object A or of Object B. (Construction)

5.26 - The exchange of a shared dimension between objects does not change the definition of those objects. (Construction)

5.27 - If a dimension is shared between the architecture of Object A and the architecture of Object B, then exchanging that dimension of Object A for that dimension of Object B will not change the architecture of Object A or of Object B. (Construction)

5.28 - The exchange of a shared dimension between objects does not change the architecture of those objects. (Construction)

A shared dimension is a unique component of an object that also happens to be a unique component of one or more other objects. Common examples of this are two objects of the same color, or temperature, or length, or shape.

This chapter merely states that two distinct objects can contain an identical dimension in their definition. There is no reasoning in this chapter implying that two objects are necessarily physically joined at their shared dimension(s). If they are not physically joined, then the definition of Object 1,2,3,4 is separate from the definition of Object 4,5,6, and their architectures exist separately as definition 1,2,3,4 and definition 4,5,6. If they are physically joined at 4, then the definitions of Object 1,2,3,4 and Object 4,5,6 form a definition 1,2,3,4,5,6.

Alternatively, if a definition is composed of Object 1,2,3,4, Object 4,5,6, and Object 6,7,1, then the possible architectures are 1,1,2,3,4,4,5,6,7 or 1,1,2,3,4,5,6,7 or 1,2,3,4,4,5,6,7 or 1,2,3,4,5,6,7.

It is useful to remember that definitions can, and do change as additional dimensions are added to their structure. The statements in any chapter in this treatise are limited to what has gone before, and therefore all statements are building blocks of what is to come.

## CHAPTER 6 – Complexity

### SECTION A

6.1 - *A defined object is composed of defined objects. (2.13)*

6.2 - *All objects are defined. (4.7)*

6.3 - If "n" is any positive integer, then any object composed of  $(n + 1)$  objects is a Complex Object. (Definition)

6.4 - If Object A is composed at least of Object B and Object C, then Object A is a Complex Object. (Construction)

### SECTION B

6.5 - *A defined object is composed of defined objects. (2.13)*

6.6 - *All dimensions are defined objects. (4.6)*

6.7 - If "n" is any positive integer, then any dimension composed of  $(n + 1)$  dimensions is a Complex Dimension. (Definition)

6.8 - If Dimension A composed at least of Dimension B and Dimension C, then Dimension A is a Complex Dimension. (Construction)

### SECTION C

6.9 - *A definition is composed of defined objects. (5.20)*

6.10 - *All definitions are defined objects. (4.29)*

6.11 - If "n" is any positive integer, then any definition composed of  $(n + 1)$  definitions is a Complex Definition. (Definition)

6.12 - If Definition A composed at least of Definition B and Definition C, then Definition A is a Complex Definition. (Construction)

### SECTION D

6.13 - *Outlines, magnitudes, architectures and designs are defined objects. (2.12)*

6.14 - *All architectures are defined objects. (Construction)*

6.15 - If "n" is any positive integer, then any architecture composed of  $(n + 1)$  architectures is a Complex Architecture. (Definition)

6.16 - If Architecture A is composed at least of Architecture B and Architecture C, then Architecture A is a Complex Architecture. (Construction)

### SECTION E

6.17 - *All definitions are defined objects. (4.29)*

6.18 - *All architectures are defined objects. (6.14)*

6.19 - All dimensions are defined objects. (4.6)

6.20 - All objects are defined. (4.7)

6.21 - A defined object is composed of defined objects. (2.13)

6.22 - If Object A is composed at least of Object B and Object C, then Object A is a Complex Object. (6.4)

6.23 - Each and every Complex Object, each and every Complex Dimension, each and every Complex Definition, and each and every Complex Architecture is simultaneously a Complex Object, a Complex Dimension, a Complex Definition, and a Complex Architecture. (Construction)

6.24 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (Construction)

6.25 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously a Complex Object, a Complex Dimension, a Complex Definition, and a Complex Architecture. (Construction)

Every object is defined in terms of other objects, and these "other objects" are in turn defined by their own "other objects". This phenomenon of interdependent definitions forms a vast architecture of objects, and similarly a vast architecture of definitions and dimensions.

An important point is that we have defined "dimensions" as the components of objects only to help us distinguish between a "whole object" and the components that make up that whole object. But in fact dimensions are themselves defined, whole objects. The designations "object" and "dimension" are merely arbitrary terms that allow us to talk discernibly about an object and its parts.

An equally suitable, and equally arbitrary mathematical nomenclature can serve the same purpose. If  $O_w$  represents a "whole object" and  $O_a$  and  $O_b$  its component parts, then  $O_w = O_a + O_b$ . In this case we can eliminate the "dimensions" terminology altogether without materially affecting the meaning.

Just as objects and dimensions are arbitrary terms, so are definitions and architectures - both terms refer to the same manifest structure of objects and dimensions. A definition is an architecture of objects/dimensions, and an architecture is a definition of objects/dimensions. The equation  $O_w = O_a + O_b$  is both a definition and an architecture.

Whether expressed logically via words or mathematically via symbols that represent words the results are the same.

No matter the nomenclature, any object can be seen as an object, a dimension, a definition or an architecture. Further, any object can be seen as a grouping of objects, dimensions, definitions and architectures.

The coherence of objects, dimensions, definitions and architectures is the framework we will be using going forward. A more fundamental justification for this framework will be discussed in a following chapter.

## CHAPTER 7 – Pathways

### SECTION A

7.1 - A Pathway is a dimension shared by two or more objects composing a definition. (Definition)

*7.2 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

*7.3 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously a Complex Object, a Complex Dimension, a Complex Definition, and a Complex Architecture. (6.25)*

7.4 - A pathway is an object shared by two or more complex objects composing a definition. (Construction)

7.5 - A pathway is a dimension shared by two or more complex dimensions composing a definition. (Construction)

7.6 - A pathway is an object shared by two or more dimensions composing a definition. (Construction)

### SECTION B

*7.7 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

*7.8 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously a Complex Object, a Complex Dimension, a Complex Definition, and a Complex Architecture. (6.25)*

7.9 - A pathway is a dimension shared by two or more objects composing a complex dimension. (Construction)

7.10 - A pathway is an object shared by two or more complex objects composing a dimension. (Construction)

7.11 - A pathway is a dimension shared by two or more complex dimensions composing a complex dimension. (Construction)

7.12 - A pathway is an object shared by two or more dimensions composing a complex dimension. (Construction)

### SECTION C

*7.13 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

*7.14 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously a Complex Object, a Complex Dimension, a Complex Definition, and a Complex Architecture. (6.25)*

7.15 - A pathway is a dimension shared by two or more objects composing a complex object. (Construction)

7.16 - A pathway is an object shared by two or more complex objects composing a complex object. (Construction)

7.17 - A pathway is a dimension shared by two or more complex dimensions composing an object.  
(Construction)

7.18 - A pathway is an object shared by two or more dimensions composing a complex object.  
(Construction)

#### SECTION D

*7.19 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

*7.20 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously a Complex Object, a Complex Dimension, a Complex Definition, and a Complex Architecture. (6.25)*

7.21 - A pathway is a dimension shared by two or more objects composing an architecture. (Construction)

7.22 - A pathway is an object shared by two or more complex objects composing an architecture.  
(Construction)

7.23 - A pathway is a dimension shared by two or more complex dimensions composing an architecture.  
(Construction)

7.24 - A pathway is an object shared by two or more dimensions composing an architecture.  
(Construction)

#### SECTION E

*7.25 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

7.26 - Each and every pathway is simultaneously an Object, a Dimension, a Definition, and an Architecture. (Construction)

7.27 - A pathway is a dimension, and/or an object, and/or a definition, and/or an architecture shared by two or more dimensions, and/or objects, and/or definitions, and or architectures composing a complex dimension, and/or a complex object, and/or a complex definition, and/or a complex architecture.  
(Construction)

Understanding the interaction of objects, dimensions, definitions and architectures is the basis of any Geometry of Ideas. For example, the number "1" can be described in many ways - as a "number", as "not a letter", as a "point on the number line", as a "member of the set of all numbers", and so on. Just as the number "1" simultaneously fills many roles, so too does each object, dimension, definition and architecture.

To avoid tedium we did not spell out all the obvious permutations of the definition "A pathway is a dimension shared by two or more objects composing a definition." However, hopefully it is clear that statements such as "A pathway is an architecture shared by two or more definitions composing a dimension." and "A pathway is a definition shared by two or more architectures composing a complex definition." can be easily constructed.

## CHAPTER 8 – Relationships

### SECTION A

8.1 – A Relationship is a pathway uniting two objects or more than two objects composing a definition. (Definition)

*8.2 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

*8.3 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously a Complex Object, a Complex Dimension, a Complex Definition, and a Complex Architecture. (6.25)*

8.4 - A relationship is a pathway uniting two objects or more than two objects composing an architecture. (Construction)

8.5 - A relationship is a pathway uniting two objects or more than two objects composing a dimension. (Construction)

8.6 - A relationship is a pathway uniting two objects or more than two objects composing a complex object. (Construction)

### SECTION B

*8.7 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

*8.8 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously a Complex Object, a Complex Dimension, a Complex Definition, and a Complex Architecture. (6.25)*

8.9 - A relationship is a pathway uniting two or more objects, and/or two or more dimensions, and/or two or more definitions, and/or two or more architectures composing a complex definition. (Construction)

8.10 - A relationship is a pathway uniting two or more objects, and/or two or more dimensions, and/or two or more definitions, and/or two or more architectures composing a complex object. (Construction)

8.11 - A relationship is a pathway uniting two or more objects, and/or two or more dimensions, and/or two or more definitions, and/or two or more architectures composing a complex dimension. (Construction)

8.12 - A relationship is a pathway uniting two or more objects, and/or two or more dimensions, and/or two or more definitions, and/or two or more architectures composing a complex architecture. (Construction)

### SECTION C

*8.13 - A pathway is a dimension shared by two or more complex dimensions composing a definition. (7.5)*

*8.14 - A Relationship is a pathway uniting two objects or more than two objects composing a definition. (8.1)*

8.15 - A relationship is a shared dimension uniting two or more complex dimensions composing a definition. (Construction)

8.16 - A relationship is a shared object uniting two or more complex objects composing a definition. (Construction)

8.17 - A relationship is a shared definition uniting two or more complex definitions. (Construction)

8.18 - A relationship is a shared architecture uniting two or more complex architectures composing a definition. (Construction)

8.19 – A relationship is a dimension, and/or object, and/or definition, and/or architecture uniting two or more dimensions, and/or objects, and/or definitions, and/or architectures composing a complex dimension, and/or a complex object, and/or a complex definition, and/or a complex architecture. (Construction)

#### SECTION D

*8.20 - A pathway is a dimension, and/or object, and/or definition, and/or architecture shared by two or more dimensions, and/or objects, and/or definitions, and/or architectures composing a complex dimension, and/or a complex object, and/or a complex definition, and/or a complex architecture. (7.27)*

8.21 – A Direct Relationship between Object A and Object B occurs when Object A shares one or more of its composing dimensions with Object B. (Definition)

8.22 – An Indirect Relationship between two objects occurs when:

- 1) Object A directly shares one or more dimensions with Object B,
- 2) Object A directly shares no dimensions with Object C, and
- 3) Object B directly shares one or more dimensions with Object C.

There are no directly shared dimensions between Object A and Object C, therefore the relationship of A and C is an Indirect Relationship. (Definition)

8.23 - An indirect relationship is composed of one or more direct relationships, and one or more indirect relationships. (Construction)

8.24 - If Object A shares a direct pathway with Object B, then A and B share a direct pathway, each to the other, A to B, and B to A. (Construction)

8.25 - If Object A shares an indirect pathway with Object C, then A must share a direct pathway to an Object B, and Object B must share a direct pathway to Object C, and A must share an indirect pathway to C, and C must share an indirect pathway to A, each to the other, A to C, and C to A. (Construction)

8.26 - Any indirect relationship is composed of one or more direct pathways and one or more indirect pathways. (Construction)

8.27 - Definitions in a relationship share a direct or indirect pathway, each to the other. (Construction)

8.28 - Dimensions in a relationship share a direct or indirect pathway, each to the other. (Construction)

8.29 - Architectures in a relationship share a direct or indirect pathway, each to the other. (Construction)

8.30 - Objects, definitions, dimensions and architectures in a relationship share a direct or indirect pathway, each to the other. (Construction)

#### SECTION E

*8.31 - A Definition determines the outline, and/or magnitude, and/or architecture and/or design of an object, such that any definition is distinct and unique from every other definition. (2.2)*

8.32 - If Object A is composed of dimensions 1,2,3 and Object B is composed of dimensions 4,5,6, then Object A and Object B are distinct and unique definitions. (Construction)

8.33 - If Object A is composed of Object B and Object C, and Object B is composed of dimensions 1,2,3,4, and Object C is composed of dimensions 4,5,6, then dimension 4 is a shared dimension of Object A and Object B, and of Object A and Object C, and of Object B and Object C. (Construction)

8.34 - *A relationship is a pathway uniting two objects or more than two objects composing an architecture. (8.4)*

8.35 - If Object A is composed of Object B and Object C, and Object B is composed of dimensions 1,2,3,4, and Object C is composed of dimensions 4,5,6, and if they form an architecture 1,2,3,4,5,6, then 4 is a relationship uniting Object B and Object C. (Construction)

8.36 - *Any two definitions composed of identical objects, each object and every object, are Identities. (4.34)*

8.37 - Any two definitions composed of identical dimensions, each dimension and every dimension, are Identities. (Construction)

8.38 - *All dimensions are defined objects. (4.6)*

8.39 - If Object A is composed of Object B and Object C, and Object B is composed of dimensions 1,2,3,4, and Object C is composed of dimensions 4,5,6, then 4 is an identical dimension in the composition of Object A and Object B and Object C. (Construction)

8.40 - If Object A is composed of Object B and Object C, and Object B is composed of dimensions 1,2,3,4, and Object C is composed of dimensions 4,5,6, and they form an architecture 1,2,3,4,4,5,6, then the exchange of 4 between Object B and Object C, will not change the definition of Object A. (Construction)

## SECTION F

8.41 – *An Indirect Relationship between two objects occurs when:*

- 1) *Object A directly shares one or more dimensions with Object B,*
- 2) *Object A directly shares no dimensions with Object C, and*
- 3) *Object B directly shares one or more dimensions with Object C.*

*There are no directly shared dimensions between Object A and Object C, therefore the relationship of A and C is an Indirect Relationship. (8.22)*

8.42 - *Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

8.43 – Objects in a relationship “Exist” in a relationship. (Definition)

8.44 – Objects, dimensions, definitions and architectures in a relationship exist in a relationship. (Construction)

For the purposes of Dimensional Thinking, a relationship is constructed when two or more objects share a dimension directly, or share a dimension indirectly via a logical operation. Similarly, any relationship can also be viewed as an architecture of dimensions, or an architecture of definitions, or a complex architecture of architectures. Shared dimensions, pathways and relationships are aspects of each other.

Relationships are composed of objects, therefore they are simultaneously objects, dimensions, definitions and architectures in and of themselves – that is, they can stand alone as unique entities. In addition, relationships act as pathways within more complex objects, dimensions, definitions and architectures.

A non-numerical example of a shared dimension is, “A sunrise is the end of nighttime and the beginning of daytime.” Sunrise is a shared dimension used once in the architecture of this sentence. We could rewrite the sentence to include “sunrise” twice: “A sunrise is the end of nighttime and a sunrise is the beginning of daytime.” The exchange of the first “sunrise” with the second “sunrise” does not change the architecture of the sentence.

Note that capitalizing one of the sunrise objects, as in “Sunrise is the end of nighttime and sunrise is the beginning of daytime.” adds a hierarchy - an extra level, an extra dimension - to the Sunrise object. In that case they are different objects with different definitions and are not interchangeable. Sentence components “the”, “of” and “is” can of course exchange places with their identities without changing the architecture.

The definitions and constructions in this chapter are only intended to lay the groundwork for further investigation. It is useful to remember that thus far we have been discussing objects, dimensions, definitions and architectures detectable by the human physical senses – touch, sight, smell, taste and hearing. For example, our usage of the term “definition” is synonymous with a physical architecture, not with language.

## CHAPTER 9 – Networks

### SECTION A

9.1 – *A Direct Relationship between Object A and Object B occurs when Object A shares one or more of its composing dimensions with Object B. (8.21)*

9.2 – *An Indirect Relationship between two objects occurs when:*

1) *Object A directly shares one or more dimensions with Object B,*

2) *Object A directly shares no dimensions with Object C, and*

3) *Object B directly shares one or more dimensions with Object C.*

*There are no directly shared dimensions between Object A and Object C, therefore the relationship of A and C is an Indirect Relationship. (8.22)*

9.3 – *A relationship is a dimension, and/or object, and/or definition, and/or architecture uniting two or more dimensions, and/or objects, and/or definitions, and/or architectures composing a complex dimension, and/or a complex object, and/or a complex definition, and/or a complex architecture. (8.19)*

9.4 – *Objects in a relationship compose an architecture of dimensions. (Construction)*

9.5 - *Objects in a relationship compose an architecture, and/or dimension, and/or definition, and/or object of complex architectures, and/or complex dimensions, and/or complex definitions, and/or complex objects. (Construction)*

9.6 - *An indirect relationship is composed of one or more direct relationships, and one or more indirect relationships. (8.23)*

9.7 - *Architectures in a relationship directly or indirectly share dimensions. (Construction)*

9.8 - *Architectures, and/or dimensions, and/or definitions, and/or objects in a relationship directly or indirectly share architectures, and/or dimensions, and/or definitions, and/or objects. (Construction)*

### SECTION B

9.9 - *A Network is an architecture of direct or indirect relationships completely or partially composing an object. (Definition)*

9.10 - *A network is an architecture of direct or indirect relationships completely or partially composing a definition. (Construction)*

9.11 - *A network is an architecture of direct or indirect relationships completely or partially composing a dimension. (Construction)*

9.12 - *A network is an architecture of direct or indirect relationships completely or partially composing a complex architecture. (Construction)*

9.13 - *A network is an architecture, and/or object, and/or dimension, and/or definition of direct or indirect relationships completely or partially composing a complex architecture, and/or complex object, and/or complex dimension, and/or complex definition. (Construction)*

### SECTION C

9.14 - *A Definition determines the outline, and/or magnitude, and/or architecture and/or design of an object, such that any definition is distinct and unique from every other definition. (2.2)*

9.15 - *Outlines, magnitudes, architectures and designs are defined objects. (2.12)*

9.16 - *Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

9.17 - *Any definition includes each and every of its composing dimensions. (4.43)*

9.18 - Any definition includes each and every of its composing objects, dimensions, definitions and architectures. (Construction)

9.19 - *Any definition is composed of objects unique to that definition. (4.33)*

9.20 - If Object A is composed of Object B and Object C, then the definition of Object A is composed of the definition of Object B and the definition of Object C. (Construction)

9.21 - If Object A is composed of Object B and Object C, then the definition of Object A is different from the definition of Object B alone, and different from the definition of Object C alone. (Construction)

9.22 - If Object A is composed of Object B and Object C, then Object A, Object B and Object C are three differently defined objects. (Construction)

#### SECTION D

9.23 - If Object A is composed of Object B, Object C and Object D, Object A is simultaneously an object, a dimension, a definition and an architecture, Object B is simultaneously an object, a dimension, a definition and an architecture, Object C is simultaneously an object, a dimension, a definition and an architecture, and Object D is simultaneously an object, a dimension, a definition and an architecture. (Construction)

9.24 - *A Shared Dimension is any dimension that exists in more than one object. (5.6)*

9.25 - A shared dimension is any dimension, object, definition and architecture that exists in more than one object, definition, architecture and complex dimension. (Construction)

9.26 - *If Object A is composed of Object B and Object C, then Object A, Object B and Object C are three differently defined objects. (9.22)*

9.27 – *A Direct Relationship between Object A and Object B occurs when Object A shares one or more of its composing dimensions with Object B. (8.21)*

9.28 – *An Indirect Relationship between two objects occurs when:*

1) *Object A directly shares one or more dimensions with Object B,*

2) *Object A directly shares no dimensions with Object C, and*

3) *Object B directly shares one or more dimensions with Object C.*

*There are no directly shared dimensions between Object A and Object C, therefore the relationship of A and C is an Indirect Relationship. (8.22)*

9.29 - If the architecture of Object A is composed of the dimensions of Object B, Object C and Object D, and if B shares one or more of its composing dimensions with C and with D, then B, C and D are directly related, each to the other. (Construction)

9.30 - If the architecture of Object A is composed of the dimensions of Object B, Object C and Object D, and if B shares one or more of its composing dimensions with C but not with D, then B and C are directly related, and B and D are indirectly related. (Construction)

9.31 - If the definition of Object A is composed of the dimensions of Object B, Object C and Object D, and if B shares one or more of its composing dimensions with C and with D, then B, C and D are directly related, each to the other. (Construction)

9.32 - If the definition of Object A is composed of the dimensions of Object B, Object C and Object D, and if B shares one or more of its composing dimensions with C but not with D, then B and C are directly related, and B and D are indirectly related. (Construction)

9.33 - If Object A directly shares one or more dimensions with Object B and one or more dimensions with Object C, then some or all of the dimensions of B and C are directly or indirectly shared with A. (Construction)

9.34 - If Object A directly shares one or more dimensions with Object B, and Object B directly shares one or more dimensions with Object C, and Object A directly shares no dimensions with Object C, then the definitions of B and C directly and indirectly share the definition of A. (Construction)

9.35 - If Object A is composed of the definition of Object B and the definition of Object C, then the definitions of B and C directly share the definition of A. (Construction)

9.36 - If Object A is partly or wholly composed of Object B and Object C and Object D, then B, C and D directly or indirectly share the composition of A. (Construction)

#### SECTION E

*9.37 - Any definition includes each and every of its composing objects, dimensions, definitions and architectures. (9.18)*

*9.38 - A network is an architecture, and/or object, and/or dimension, and/or definition of direct or indirect relationships completely or partially composing a complex architecture, and/or complex object, and/or complex dimension, and/or complex definition. (9.13)*

9.39 - All objects are defined. (4.7)

9.40 – Networks are defined objects. (Construction)

9.41 - Networks are defined objects, and/or dimensions, and/or definitions, and/or architectures. (Construction)

9.42 - A defined object is composed of defined objects. (2.13)

*9.43 - If Object A is composed of the definition of Object B and the definition of Object C, then the definitions of B and C directly share the definition of A. (9.35)*

*9.44 - If Object A is partly or wholly composed of Object B and Object C and Object D, then B, C and D directly or indirectly share the composition of A. (9.36)*

9.45 - Definitions are networks of objects. (Construction)

9.46 - Definitions are networks of objects, and/or dimensions, and/or definitions, and/or architectures. (Construction)

9.47 - Definitions are networks of direct or indirect relationships. (Construction)

9.48 – Definitions, objects, dimensions and architectures are networks of direct or indirect relationships. (Construction)

9.49 - Definitions, objects, dimensions and definitions are composed of direct or indirect relationships. (Construction)

An object is defined by its composing dimensions and the relationships among them. The relationship between an object's definition – that is, the object itself - and its composing dimensions and relationships is absolutely aligned, because any alteration of the composing elements changes the definition of the object and therefore the object itself.

The dimensions composing an object's physical definition exist in direct and indirect relationships with the dimensions of other objects, and these relationships determine the uniqueness of any object.

The Geometry of Ideas is no more than a tool designed to examine the structure of the innumerable relationships composing our Universe. The fact that we contextualize Wholes and Parts into manageable chunks is a reflection of the mechanics of human perception, and not of the breadth and depth of actual interconnections.

## CHAPTER 10 – Influence

### SECTION A

10.1 - *A Direct Relationship between Object A and Object B occurs when Object A shares one or more of its composing dimensions with Object B. (8.21)*

10.2 – *An Indirect Relationship between two objects occurs when:*

1) *Object A directly shares one or more dimensions with Object B,*

2) *Object A directly shares no dimensions with Object C, and*

3) *Object B directly shares one or more dimensions with Object C.*

*There are no directly shared dimensions between Object A and Object C, therefore the relationship of A and C is an Indirect Relationship. (8.22)*

10.3 - Creation is any change to any architecture of any relationship. (Definition)

10.4 - Creation is an architecture, object, definition and dimension. (Construction)

10.5 – Dominant Influence is any creation that forms a direct relationship. (Definition)

10.6 – Recessive Influence is any creation that forms an indirect relationship. (Definition)

10.7 - Influence is any dominant change or any recessive change to any architecture of any relationship. (Construction)

10.8 - Influence is an architecture, object, definition and dimension. (Construction)

10.9 - *Definitions, objects, dimensions and definitions are composed of direct or indirect relationships. (9.49)*

10.10 - Influence is any dominant or recessive change to relationships composing definitions, objects, dimensions and definitions. (Construction)

### SECTION B

10.11 - For Object A to dominantly influence Object B, the architecture of Object A must partially or wholly compose the architecture of Object B. (Construction)

10.12 - For Object A to dominantly influence Object B, the architecture, and/or dimensions, and/or definitions of Object A must partially or wholly compose the architecture, and/or dimensions, and/or definitions of Object B. (Construction)

10.13 - For Object A to dominantly influence Object B, Object A must partially or wholly compose Object B, and Object B must partially or wholly compose Object A . (Construction)

10.14 – If Object X dominantly influences Object Y, then one or more dimensions of X share a direct relationship with one or more dimensions of Y. (Construction)

10.15 - *If Object A shares a direct pathway with Object B, then A and B share a direct pathway, each to the other, A to B, and B to A. (8.24)*

10.16 – *Any definition is formed by its composing dimensions. (4.45)*

10.17 - If Object A partially composes Object B, then A and B form an Object A + B. In Object A + B, A is a dimension of A + B, and B is a dimension of A + B. (Construction)

10.18 - If any Object A partially composes any Object B, then Object A dominantly influences Object B, and Object B dominantly influences Object A, and A and B create an Object C composed of Object A and Object B. (Construction)

*10.19 -- A Network is an architecture of direct or indirect relationships completely or partially composing an object. (9.9)*

10.20 – If any Object A partially composes any Object B, then Object A dominantly influences Object B, and Object B dominantly influences Object A, and A and B form a network  $A + B$ . (Construction)

### SECTION C

*10.21 – An Indirect Relationship between two objects occurs when:*

- 1) Object A directly shares one or more dimensions with Object B,*
- 2) Object A directly shares no dimensions with Object C, and*
- 3) Object B directly shares one or more dimensions with Object C.*

*There are no directly shared dimensions between Object A and Object C, therefore the relationship of A and C is an Indirect Relationship. (8.22)*

10.22 - For Object A to recessively influence Object C, Object A must share a direct relationship with an Object B, and Object A must not share a direct relationship with Object C, and Object B must share a direct relationship with Object C. (Construction)

*10.23 – Recessive Influence is any creation that forms an indirect relationship. (10.6)*

10.24 – If Objects A, B and C compose a relationship, then for Object A to recessively influence Object C the architecture of Object A must share an indirect relationship with the architecture of Object C. (Construction)

10.25 - If Objects A, B and C compose a relationship, then for Object A to recessively influence Object C, the architecture, and/or dimensions, and/or definitions of Object A must share an indirect relationship with the architecture, and/or dimensions, and/or definitions of Object C. (Construction)

*10.26 – Objects in a relationship “Exist” in a relationship. (8.43)*

10.27 - If Objects A, B and C exist in a relationship, then for Object A to recessively influence Object C, Object A must exist in an indirect relationship with Object C, and Object C must exist in an indirect relationship with Object A. (Construction)

10.28 – If Objects A, B and C exist in a relationship, and if Object A recessively influences Object C, then A and B form an Object  $A + B$ , and B and C form an Object  $B + C$ , and A, B and C form an Object  $A+B+C$ . (Construction)

10.29 - If Objects A, B and C exist in a relationship, and if Object A recessively influences Object C, then A is a dimension of  $A + B$ , and B is a dimension of  $A + B$ , and B is a dimension of  $B + C$ , and C is a dimension of  $B + C$ , and A is a dimension of  $B + C$ , and C is a dimension of  $A + B$ . (Construction)

*10.30 - A Network is an architecture of direct or indirect relationships completely or partially composing an object. (9.9)*

10.31 – If Objects A, B and C exist in a relationship, and if Object A directly influences Object B, and if Object A recessively influences Object C, then A and B form a network  $A + B$ , and B and C form a network  $B + C$ , and A, B and C form a network  $A + B + C$ . (Construction)

10.32 – If Objects A, B and C exist in a relationship, and if Object A directly influences Object B, and if Object A recessively influences Object C, then A and B and C form a network  $A + B + C$ . (Construction)

10.33 - In networks  $A + B$  and  $B + C$ , if  $A$  exists in an indirect relationship with  $C$ , then  $B$  exists in a direct relationship with  $A$ , and  $B$  exists in a direct relationship with  $C$ . (Construction)

#### SECTION D

10.34 - If Object  $A$  is composed of Object  $B$  and Object  $C$ , then Object  $A$ , Object  $B$  and Object  $C$  are three differently defined objects. (9.22)

10.35 - Any definition is formed by its composing dimensions. (4.45)

10.36 - If Object  $A$  partially composes Object  $B$ , then Object  $A$  dominantly influences Object  $B$ , and  $A$  and  $B$  form an Object  $A + B$ ; and  $A$ ,  $B$ , and  $A + B$  are three differently defined objects. (Construction)

10.37 - For Object  $A$  to recessively influence Object  $C$ , Object  $A$  must share a direct relationship with an Object  $B$ , and Object  $A$  must not share a direct relationship with Object  $C$ , and Object  $B$  must share a direct relationship with Object  $C$ . (10.22)

10.38 – If Objects  $A$ ,  $B$  and  $C$  exist in a relationship, and if Object  $A$  recessively influences Object  $C$ , then  $A$  and  $B$  form an Object  $A + B$ , and  $B$  and  $C$  form an Object  $B + C$ , and  $A$ ,  $B$  and  $C$  form an Object  $A+B+C$ . (10.28)

10.39 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)

10.40 - If Dimension  $A$  dominantly influences Dimension  $B$ , then  $A$  and  $B$  form a Dimension  $A + B$ ; and  $A$ ,  $B$ , and  $A + B$  are three differently defined dimensions. (Construction)

10.41 - If Dimension  $A$  recessively influences Dimension  $C$ , then  $A$  must exist in a direct relationship with a Dimension  $B$ , and  $B$  must exist in a direct relationship with  $C$ . (Construction)

10.42 - If Dimension  $X$  influences Dimension  $Y$ , then  $X$  must exist in a direct or indirect relationship with  $Y$ , and  $Y$  must exist in a direct or indirect relationship with  $X$ . (Construction)

10.43 – Objects in a relationship are dimensions of the relationship. (Construction)

10.44– Objects, definitions and architectures in a relationship are dimensions of the relationship. (Construction)

#### SECTION E

10.45 - If Dimension  $X$  influences Dimension  $Y$ , then  $X$  must exist in a direct or indirect relationship with  $Y$ , and  $Y$  must exist in a direct or indirect relationship with  $X$ . (10.42)

10.46 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)

10.47 - If Object  $X$  influences Object  $Y$ , then  $X$  must exist in a direct or indirect relationship with  $Y$ , and  $Y$  must exist in a direct or indirect relationship with  $X$ , each direct to each direct, and each indirect to each indirect. (Construction)

10.48 – If Object  $A$  exists in a direct relationship with Object  $B$ , then Object  $A$  directly influences Object  $B$ , and Object  $B$  directly influences Object  $A$ . (Construction)

10.49 - Objects, definitions, dimensions and architectures in a relationship share a direct or indirect pathway, each to the other. (8.30)

10.50 - Objects in a direct relationship influence each other, each A to each B, and each B to each A. (Construction)

10.51 – If Object A exists in an indirect relationship with Object C, then Object A indirectly influences Object C, and Object C indirectly influences Object A. (Construction)

10.52 – If Object X and Object Y exist in an indirect relationship, then X and Y indirectly influence each other, each X to each Y, and each Y to each X. (Construction)

*10.53 - Definitions, objects, dimensions and definitions are composed of direct or indirect relationships. (9.49)*

10.54 - If Network A exists in a direct relationship with Network B, then Network A dominantly influences Network B, and Network B dominantly influences Network A. (Construction)

10.55 – If Network A exists in an indirect relationship with Network C, then Network A recessively influences Network C, and Network C recessively influences Network A. (Construction)

10.56 - Networks in a relationship are dimensions of the relationship. (Construction)

*10.57 - A network is an architecture, and/or object, and/or dimension, and/or definition of direct or indirect relationships completely or partially composing a complex architecture, and/or complex object, and/or complex dimension, and/or complex definition. (9.13)*

10.58 – Networks in a relationship influence each other, directly or indirectly, dominantly or recessively, each to the other. (Construction)

Influence in a physical world requires a physical pathway. That pathway is shared objects, definitions, dimensions and architectures forming networks of connections within the larger whole. Here we are generalizing influence to include any interaction between objects that results in the creation of new networks.

You will note we have avoided using terms like “addition” and “subtraction” when discussing the changes to existing relationships. In the next chapter we will present our argument that the Universe, by necessity, must be a lossless network of unified relationships. In such a Universe relationships are not added or removed; instead they are merely recessed as other relationships take focus.

A key point going forward is the recognition that objects in a relationship are dimensions of that relationship, because objects in a relationship form a combined definition that includes the individual definition of each composing object. Put another way, objects in a network are dimensions of that network.

We can expand these observations and state that in a unified network of direct and indirect relationships each and every dimension is a dimension of each and every other dimension. More comprehensively, each and every dimension, object, definition and architecture is directly and/or indirectly related to each and every other dimension, object, definition and architecture.

## CHAPTER 11 – Matter and Energy

### SECTION A

11.1 - Matter is an aspect of the Universe detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing. (Definition)

*11.2 - An object is any aspect of the Universe detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing. (1.9)*

11.3 - Matter is an object detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing. (Construction)

11.4 - A Quantity is any multiple of any object. (Definition)

11.5 - Mass is a quantity of matter. (Definition)

*11.6 – All definitions are defined objects. (4.29)*

*11.7 - Any definition includes each and every of its composing dimensions. (4.43)*

*11.8 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously a Complex Object, a Complex Dimension, a Complex Definition, and a Complex Architecture. (6.25)*

*11.9 - If any Object B partly composes or wholly composes any Object A, then Object B is "Included" in the composition of Object A. (4.38)*

*11.10 - Any definition includes each and every of its composing dimensions, objects, definitions and architectures. (9.18)*

11.11 - Mass is composed of matter. (Construction)

11.12 - Mass is an object detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing. (Construction)

11.13 - The definition of mass includes the definition of matter. (Construction)

*11.14 - Definitions, objects, dimensions and architectures are networks of direct or indirect relationships. (9.48)*

11.15 – The definition of mass is a network of direct or indirect relationships. (Construction)

11.16 - The definition of matter is a network of direct or indirect relationships. (Construction)

11.17 - The definition of mass includes the network of matter. (Construction)

11.18 - The network of direct or indirect relationships composing mass includes the network of direct or indirect relationships composing matter. (Construction)

*11.19 - Networks in a relationship are dimensions of the relationship. (10.56)*

*11.20 - Networks are defined objects, and/or dimensions, and/or definitions, and/or architectures. (9.41)*

*11.21 – Objects, definitions and architectures in a relationship are dimensions of the relationship. (10.44)*

11.22 - Mass is a dimension of matter. (Construction)

11.23 - Matter is a dimension of mass. (Construction)

### SECTION B

*11.24 – An object detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing exists in this Universe. (1.10)*

11.25 - All objects detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing exist in this Universe. (Construction)

11.26 - Energy produces or prevents motion, or has a tendency to do so. (Definition)

11.27 - The Big Bang created a Universe composed of energy. (Definition)

*11.28 - Any definition includes each and every of its composing dimensions, objects, definitions and architectures. (9.18)*

11.29 - The definition of the Universe includes the definition of energy. (Construction)

*11.30 – Definitions, objects, dimensions and architectures are networks of direct or indirect relationships. (9.48)*

*11.31 – Objects, definitions and architectures in a relationship are dimensions of the relationship. (10.44)*

11.32 - Energy is a dimension of the Universe. (Construction)

11.33 - The Universe is a dimension of energy. (Construction)

*11.34 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

11.35 - Energy is an object. (Construction)

11.36 - Energy is an object, dimension, definition and architecture. (Construction)

11.37 - The Universe is composed of energy. (Construction)

11.38 – The Universe is an object. (Construction)

11.39 - The Universe is an object, dimension, definition and architecture. (Construction)

### SECTION C

*11.40 - Any definition includes each and every of its composing dimensions. (4.43)*

*11.41 - The Universe is an object, dimension, definition and architecture. (11.39)*

*11.42 - Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously a Complex Object, a Complex Dimension, a Complex Definition, and a Complex Architecture. (6.25)*

11.43 - The Universe is a complex definition composed of each and every of its composing definitions. (Construction)

11.44 - The Universe is a complex architecture composed of each and every of its composing architectures. (Construction)

11.45 - The Universe is a complex dimension composed of each and every of its composing dimensions. (Construction)

11.46 - The Universe is a complex object composed of each and every of its composing objects. (Construction)

11.47 - The Universe is composed of each and every of its composing objects, definitions, dimensions and architectures. (Construction)

*11.48 - An object is any aspect of the Universe detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing. (1.9)*

*11.49 - An object detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing exists in this Universe. (1.10)*

11.50 - Definitions, objects, dimensions and architectures exist in this Universe. (Construction)

*11.51 - The Universe is composed of energy. (11.37)*

11.52 - Objects, definitions, dimensions and architectures are composed of energy. (Construction)

*11.53 - Energy is an object, dimension, definition and architecture. (11.36)*

11.54 - The Universe is composed of each and every object, definition, dimension and architecture. (Construction)

*11.55 - Definitions, objects, dimensions and architectures are networks of direct or indirect relationships. (9.48)*

11.56 - The Universe is composed of each and every object, definition, dimension and architecture. (Construction)

11.57 - The Universe is a network composed of each and every direct relationship, and each and every indirect relationship. (Construction)

11.58 - The Universe is a network of direct and indirect relationships. (Construction)

11.59 - Energy is a network of direct and indirect relationships. (Construction)

11.60 - Energy is a network composed of each and every direct relationship, and each and every indirect relationship. (Construction)

11.61 - Each and every dimension is a network composed of objects, definitions, dimensions and architectures. (Construction)

11.62 - Each and every dimension is a dimension of each and every of its composing objects, definitions, dimensions and architectures. (Construction)

11.63 - Each and every dimension is network composed of each and every of its composing networks. (Construction)

11.64 - The Universe is a network composed of objects, dimensions, definitions and architectures. (Construction)

11.65 - The Universe is a network composed of each and every object network, dimension network, definition network and architecture network. (Construction)

#### SECTION D

11.66 - *The Universe is composed of energy. (11.37)*

11.67 -  $E=MC^2$  [ (E)nergy equals (M)ass times (C)the speed of light squared ], is an equation. (Definition)

11.68 - All equations exist in this Universe. (Definition)

11.69 - All equations are composed of energy. (Construction)

11.70 - *Energy is a network composed of each and every direct relationship, and each and every indirect relationship. (11.58)*

11.71 - Any equation is a network of direct or indirect relationships. (Construction)

#### SECTION E

11.72 - *Energy is an object, dimension, definition and architecture. (11.36)*

11.73 - *All equations are composed of energy. (11.67)*

11.74 - Equations are objects, dimensions, definitions and architectures. (Construction)

11.75 - *An indirect relationship is composed of one or more direct relationships, and one or more indirect relationships. (8.23)*

11.76 - *Energy is a network of direct and indirect relationships. (11.57)*

11.77 - *The Universe is composed of energy. (11.37)*

11.78 -  $E=MC^2$  is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)

11.79 - *All equations exist in this Universe. (11.66)*

11.80 - Energy, mass and the constant speed of light exist in this Universe. (Construction)

11.81 - *The Universe is composed of each and every object, definition, dimension and architecture. (11.54)*

11.82 - Mass and the constant speed of light are composed of energy. (Construction)

11.83 - Energy, mass and the constant speed of light are objects. (Construction)

11.84 - Energy, mass and the constant speed of light are objects, dimensions, definitions and architectures. (Construction)

11.85 - Energy is a network of direct and indirect relationships, mass is a network of direct and indirect relationships, and the constant speed of light is a network of direct and indirect relationships. (Construction)

11.86 - *The Universe is a network composed of each and every of its composing object networks, dimension networks, definition networks and architecture networks. (11.63)*

11.87 - The Universe is composed of energy, mass and the constant speed of light. (Construction)

11.88 - Energy, mass and the constant speed of light are networks. (Construction)

11.89 - The Universe is a network composed of the network of energy, the network of mass and the network of the constant speed of light. (Construction)

11.90 - The Universe is a network composed of energy, mass and the constant speed of light. (Construction)

## SECTION F

*11.91 - Influence is any dominant or recessive change to relationships composing definitions, objects, dimensions and definitions. (10.10)*

*11.92 - If Object X influences Object Y, then X must exist in a direct or indirect relationship with Y, and Y must exist in a direct or indirect relationship with X, each direct to each direct, and each indirect to each indirect. (10.47)*

11.93 - In any relationship  $A+B+C$ , any change to A influences B and C, any change to B influences A and C, and any change to C influences A and B. (Construction)

11.94 - Any change to any object in a relationship influences all objects in that relationship. (Construction)

11.95 - Any change to any object in a network influences all objects in that network. (Construction)

11.96 - Any change to any object, dimension, definition or architecture in a relationship influences all objects, dimensions, definitions or architectures in that relationship. (Construction)

11.97 - Any change to any object, dimension, definition or architecture in a network influences all objects, dimensions, definitions or architectures in that network. (Construction)

*11.98 - The Universe is a network composed of energy, mass and the constant speed of light. (11.88)*

11.99 - Any change to the object energy influences the object mass and the object constant speed of light. (Construction)

11.100 - Any change to the object mass influences the object energy and the object constant speed of light. (Construction)

11.101 - Any change to the object speed of light influences the object energy and the object mass. (Construction)

11.102 - Any change to the object, dimension, definition or architecture of energy influences the object, dimension, definition or architecture of mass, and the object, dimension, definition or architecture of the constant speed of light. (Construction)

The relationships among energy, mass and the speed of light are the fundamental relationships governing existence in this Universe. Because each relationship can be viewed in terms of mass, the Universe can be viewed entirely in terms of mass. This means the Universe, and every detectable object in the Universe, can be viewed in physical terms.

Physical objects composing a physical Universe have far reaching implications. For example, equations are composed of the same substance, and the same relationships, as the objects they are "describing". The next two chapters carry this phenomenon to its logical conclusion.

## CHAPTER 12 – Ideas and Physical Objects

### SECTION A

12.1 - *The act of Determination is the act of definition. (2.1)*

12.2 - Any Idea, by any act of determination, exists in this Universe. (Definition)

12.3- *The Universe is composed of energy. (11.37)*

12.4 - Any idea is composed of energy. (Construction)

12.5 - *The Universe is composed of each and every object, definition, dimension and architecture. (11.54)*

12.6 - *Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

12.7 - Any idea is simultaneously an object, dimension, definition and architecture. (Construction)

12.8 - *The Universe is composed of energy, mass and the constant speed of light. (11.87)*

12.9 -  *$E=MC^2$  is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (11.78)*

12.10 - Any idea is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)

12.11 - Any idea is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)

### SECTION B

12.12 - *The Universe is composed of energy, mass and the constant speed of light. (11.87)*

12.13 - *The definition of mass includes the definition of matter. (11.13)*

12.14 - *Matter is an object detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing. (11.3)*

12.15 – *Any object is defined. (4.22)*

12.16 - *A defined object is composed of defined objects. (2.13)*

12.17 - Any Physical Object, in whole or in part, is composed of mass. (Definition)

12.18 - *If any Object B partly composes or wholly composes any Object A, then Object B is "Included" in the composition of Object A. (4.38)*

12.19 - The definition of any physical object includes the definition of mass. (Construction)

12.20 - *Mass is a quantity of matter. (11.5)*

12.21 - The definition of any physical object includes the definition of matter. (Construction)

12.22 - *Objects, definitions, dimensions and architectures are composed of energy. (11.52)*

12.23 - *The Universe is a network composed of the network of energy, the network of mass and the network of the constant speed of light. (11.89)*

12.24 - *The Universe is composed of each and every object, definition, dimension and architecture. (11.54)*

12.25 - The network of mass includes each and every physical object. (Construction)

12.26 - The network of matter includes each and every physical object. (Construction)

12.27 - Any physical object is included in the network of mass. (Construction)

12.28 - Any physical object is included in the network of matter. (Construction)

12.29 - *The Universe is a network composed of each and every object network, dimension network, definition network and architecture network. (11.65)*

12.30 - The network of direct and indirect relationships composing mass includes each and every network of direct and indirect relationships composing matter. (Construction)

12.31 - The network of direct and indirect relationships composing matter includes each and every network of direct and indirect relationships composing a physical object. (Construction)

### SECTION C

12.32 - *Any idea is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (12.11)*

12.33 - *If any Object B partly composes or wholly composes any Object A, then Object B is "Included" in the composition of Object A. (4.38)*

12.34 - Any idea includes the definition of mass. (Construction)

12.35 - *Mass is a quantity of matter. (11.5)*

12.36 - Any idea includes the definition of matter. (Construction)

12.37 - *The Universe is a network composed of the network of energy, the network of mass and the network of the constant speed of light. (11.89)*

12.38 - *The Universe is composed of each and every object, definition, dimension and architecture. (11.54)*

12.39 - The network of mass includes each and every idea. (Construction)

12.40 - The network of matter includes each and every idea. (Construction)

12.41 - *The network of mass includes each and every physical object. (12.25)*

12.42 - *The network of matter includes each and every physical object. (12.26)*

12.43 - Each and every physical object, and each and every idea, is included in the network of mass. (Construction)

12.44 - Each and every physical object, and each and every idea, is included in the network of matter. (Construction)

12.45 - *Any Physical Object, in whole or in part, is composed of mass. (12.17)*

12.46 - Any idea, in whole or in part, is composed of mass. (Construction)

12.47 - Any idea, in whole or in part, is a physical object. (Construction)

12.48 - *A Dimension is any defined component of an object. (4.1)*

12.49 - Any idea is a dimension of mass. (Construction)

12.50 - Any idea is a dimension of matter. (Construction)

Physical Ideas are the crux of the argument supporting Dimensional Thinking. If we grant that ideas exist in this Universe, and that the Universe is composed of energy, then we must grant that ideas are composed of energy.

Beyond that, our high school physics and chemistry courses teach us that energy "obeys" mathematical laws. In those contexts "laws" refer to ideas expressed as mathematical equations, such as  $E=MC^2$ . This chapter re-defines the idea "obey". When ideas are given a physical dimension, there is no practical distinction between physical objects and the laws that physical objects "obey". It is only the direct and indirect physical relationships between the two that need to be defined.

You may ask why we say a physical object is "in whole or in part" composed of mass. How can a physical object be only "partly" composed of mass? The short answer is that it cannot - all objects in a physical Universe are composed of mass. However, the longer answer is that physical objects are simultaneously also composed of energy and the constant speed of light. Defining physical objects as massive "in whole or in part" requires us to see them in all their aspects, all their dimensions - as mass objects, energy objects and speed of light objects.

The physical relationship between ideas and physical objects may at first be difficult to grasp. We traditionally have considered ideas and equations to be intellectual phenomena that somehow have no physical existence. But once we include ideas and equations into the Universe of physical objects we are no longer using ideas as ethereal abstractions describing physical objects. Instead, ideas are now included in the Grand Design – they are physical networks composed of the very objects that "obey" them. It is a fundamental organization that aligns all the manifestations of energy into a unified vision of a physical Universe.

Our entire focus in this treatise has been to define ideas and equations as physical objects. However, our physical definition does not preclude traditional definitions of ideas. Instead it adds a physical dimension to our existing definitions. Concepts are now physical; thoughts are now physical; definitions themselves are now physical.

Physical laws integrate into all of energy's basic forms - energy, matter and the speed of light. A physical Universe obeying physical laws requires a common relationship among all its objects - all its dimensions - all its definitions - all its architectures. That common relationship is energy, and it is the foundation that provides a dynamic fabric of matter and ideas.

This is a big door. If ideas can be expressed in terms of energy, then ideas can be shown to "obey" physical laws. The dimensional nature of ideas has ramifications for the sciences of logic and mathematics, and the pantheon of other sciences - physics, sociology, linguistics, genetics, psychology, philosophy, and so on - built atop logic and mathematics. Physical ideas are the synergistic articulations composing the architecture and design of human knowledge.

## CHAPTER 13 - The Relationship of Mind and Body

### SECTION A

13.1 - *Architecture determines the composition of an object within its external and internal boundaries. (2.2c)*

13.2 - *Any idea is simultaneously an object, dimension, definition and architecture. (12.7)*

13.3 - A Mind is any architecture of ideas. (Definition)

13.4 – Any architecture of ideas is a mind. (Construction)

13.5 - Any mind is an architecture of ideas. (Construction)

13.6 - Any mind is an architecture of architectures. (Construction)

13.7 - Any mind is an architecture of objects, dimensions and definitions. (Construction)

13.8 - *Any Idea, by any act of determination, exists in this Universe. (12.2)*

13.9 - Any mind exists in this Universe. (Construction)

13.10 - *The Big Bang created a Universe composed of energy. (11.27)*

13.11 - Any mind is composed of energy. (Construction)

13.12 - *The Universe is composed of energy, mass and the constant speed of light. (11.87)*

13.13 -  *$E=MC^2$  is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (11.78)*

13.14 - Any mind is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)

13.15 - Any mind is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)

### SECTION B

13.16 - *The human physical senses - touch, sight, smell, taste and hearing - detect some or all aspects of the Universe. (1.6)*

13.17 - *The human Body is detectable by the human physical senses. (3.2)*

13.18 - *The human body is an object. (3.3)*

13.19 - Any human body is an object. (Construction)

13.20 - *Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

13.21 - Any human body is an object, dimension, definition and architecture. (Construction)

13.22 – *An object detectable by the human physical senses of touch, and/or sight, and/or smell, and/or taste, and/or hearing exists in this Universe. (1.10)*

13.23 - Any human body exists in this Universe. (Construction)

13.24 - *The Big Bang created a Universe composed of energy. (11.27)*

13.25 - Any human body is composed of energy. (Construction)

13.26 - *The Universe is composed of energy, mass and the constant speed of light. (11.87)*

13.27 -  *$E=MC^2$  is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (11.78)*

13.28 - Any human body is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)

13.29 - Any human body is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)

### SECTION C

13.30 - *The human physical senses - touch, sight, smell, taste and hearing - detect some or all aspects of the Universe. (1.6)*

13.31 - *Detection of an aspect of the Universe by human physical senses is absolute proof that human physical senses exist in this Universe. (1.8)*

13.32 - *The Universe is composed of each and every object, definition, dimension and architecture. (11.54)*

13.33 - Each and every human physical sense exists in this Universe. (Construction)

13.34 - Any human physical sense exists in this Universe. (Construction)

13.35 - Any physical human physical sense is an object. (Construction)

13.36 - *Each and every Object, each and every Dimension, each and every Definition, and each and every Architecture is simultaneously an Object, a Dimension, a Definition, and an Architecture. (6.24)*

13.37 - Any human physical sense is an object, dimension, definition and architecture. (Construction)

13.38 - *The Big Bang created a Universe composed of energy. (11.27)*

13.39 - Any human physical sense is composed of energy. (Construction)

13.40 - *The Universe is composed of energy, mass and the constant speed of light. (11.87)*

13.41 -  *$E=MC^2$  is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (11.78)*

13.42 - Any human physical sense is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)

13.43 - Any human physical sense is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)

#### SECTION D

13.44 - *Any Physical Object, in whole or in part, is composed of mass. (12.17)*

13.45 - *The Universe is composed of energy, mass and the constant speed of light. (11.87)*

13.46 - *Energy, mass and the constant speed of light exist in this Universe. (Construction)*

13.47 - *Any physical object exists in this Universe. (Construction)*

13.48 -  *$E=MC^2$  is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (11.78)*

13.49 - *Any physical object is an architecture of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)*

13.50 - *Any physical object is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (Construction)*

#### SECTION E

13.51 - *Any mind is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (13.15)*

13.52 - *Any human body is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (13.29)*

13.53 - *Any human physical sense is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (13.43)*

13.54 - *Any physical object is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (13.50)*

13.55 - *Any idea is an architecture, object, definition, and dimension of direct and indirect relationships among energy, mass, and the constant speed of light. (12.11)*

13.56 - *The Universe is a network composed of each and every object network, dimension network, definition network and architecture network. (11.65)*

13.57 - *The Universe is a network composed of the network of energy, the network of mass and the network of the constant speed of light. (11.89)*

13.58 - *Any mind, any human body, any human physical sense, any physical object and any idea is a network of direct and indirect relationships among the network of energy, the network of mass, and the network of the constant speed of light. (Construction)*

#### SECTION F

13.59 - *Influence is any dominant or recessive change to relationships composing definitions, objects, dimensions and definitions. (10.10)*

13.60 - *For Object A to dominantly influence Object B, the architecture, and/or dimensions, and/or definitions of Object A must partially or wholly compose the architecture, and/or dimensions, and/or definitions of Object B. (10.12)*

13.61- For Object A to recessively influence Object C, Object A must share a direct relationship with an Object B, and Object A must not share a direct relationship with Object C, and Object B must share a direct relationship with Object C. (10.22)

13.62 - If Objects A, B and C compose a relationship, then for Object A to recessively influence Object C, the architecture, and/or dimensions, and/or definitions of Object A must share an indirect relationship with the architecture, and/or dimensions, and/or definitions of Object C. (10.25)

13.63 - Objects in a direct relationship influence each other, each A to each B, and each B to each A. (10.50)

13.64 – If Object X and Object Y exist in an indirect relationship, then X and Y indirectly influence each other, each X to each Y, and each Y to each X. (10.52)

13.65 - Objects, dimensions, definitions, and architectures in a direct or indirect relationship influence each other - each object, dimension, definition, and architecture to each object, dimension, definition, and architecture. (Construction)

## SECTION G

13.66 – Dominant Influence is any creation that forms a direct relationship. (10.5)

13.67 – If any Object A partially composes any Object B, then Object A dominantly influences Object B, and Object B dominantly influences Object A, and A and B form a network  $A + B$ . (10.20)

13.68 – Recessive Influence is any creation that forms an indirect relationship. (10.6)

13.69 – If Objects A, B and C exist in a relationship, and if Object A directly influences Object B, and if Object A recessively influences Object C, then A and B form a network  $A + B$ , and B and C form a network  $B + C$ , and A, B and C form a network  $A+B+C$ . (10.31)

13.70 - Any mind, any human body, any human physical sense, any physical object and any idea is a network of direct and indirect relationships among the network of energy, the network of mass, and the network of the constant speed of light. (13.58)

13.71 – For any mind, any human body, any human physical sense, any physical object and any idea to influence any other mind, any other human body, any other human physical sense, any other physical object and any other idea, it must create a network with that other mind, that other human body, that other human physical sense, that other physical object and that other idea. (Construction)

13.72 - Any mind, any human body, any human physical sense, any physical object and any idea that influences any other mind, any other human body, any other human physical sense, any other physical object and any other idea must exist in a network with that other mind, that other human body, that other human physical sense, that other physical object and that other idea. (Construction)

13.73 - Any mind, any human body, any human physical sense, any physical object and any idea that influences any other mind, any other human body, any other human physical sense, any other physical object and any other idea must exist in a relationship with that other mind, that other human body, that other human physical sense, that other physical object and that other idea. (Construction)

Any minimal definition of a mind will stipulate that it is at least composed of ideas, which in the context of this treatise is also to say a mind is composed of definitions, objects, dimensions and architectures.

Our process in this treatise has been two-fold: 1) offer clearly understood, agenda-free definitions, and then 2) apply logical operations to these definitions to assemble new statements. If the presented

definitions are comprehensive and generic, and the assembled statements are free of logical errors, then we have effectively shown that ideas, and therefore the collection of ideas we call a mind, are partly or wholly physical objects. We say ideas are "partly or wholly" physical only because they are simultaneously composed of mass, energy and the speed of light, and traditionally physical objects have been loosely considered to be composed of mass only.

Introducing a mind as partly or wholly a physical object embeds it into the same architecture as other objects composed of mass, and effectively resolves the mind-body question. From another viewpoint, both mind and body are composed of energy, therefore mind and body are aspects of each other. Beyond that, both mind and body must "obey" the same physical laws that energy "obeys".

If the Universe is a harmonic network of energy, mass and the constant speed of light, then every object in the Universe is part of that network - every object helps compose that network. By this simple argument, ideas, minds, the human body, physical objects and the human physical senses are all directly or indirectly physically related to each other.

### **Addendum**

The integration of ideas and physical objects into a unified fabric merely puts us at a starting point for a deeper understanding of this fabric's structure. There are many directions, many dimensions inward and outward.

Because new statements are recursively created from definitions and previous statements, every statement in this treatise exists in a direct and/or indirect relationship with every other statement. In effect, this treatise is a mind set of true statements, where "true" means the statements are logically consistent.

The methodology of any Geometry of Ideas is the generation of eclectic definitions and irrefutable logical statements constructed from those definitions. Far from restricting imagination and personal truths, this methodology facilitates creativity and awareness. Truth has no agenda - it leads where it leads, and it leads everywhere in this Universe.

Importantly, in no way are the definitions and statements in this treatise the only possible explanation of the relationship among the objects of the Universe. This is how I derived my explanation, my mind set, and nothing more.

Going forward, my own inclination is to look into the physical structure of logic and mathematics. These two disciplines are the foundations of human understanding, and therefore the foundations of human nature. The dimensional structures of logic and mathematics offer windows into the wonder-filled reality we share with energy.

The pages and PDFs on this website are copyrighted to protect their integrity. However, anyone can freely change the definitions and statements in the thirteen chapters composing Dimensional Thinking, with the one requirement that the changes and additions are clearly ascribed to the modifier's name and not to mine. There is only one guiding light - the goal of any Geometry of Ideas, by any hand, must be to provide a logical methodology wherein energy-composed objects can be examined in a standardized – and transparent – framework.