

## The Nature of 3-Dimensional Time

--daniel



*Vicki (in deep contemplation): Time, like space, although a dimension in itself, also has **dimensions of its own**.*

*The Doctor: So you know about it, child? Hum? We must have a little chat about it sometimes.<sup>1</sup>*

The concept of *time* having more than one dimension was brought to the public's attention as far back as 1965 in the BBC Science Fiction series, *Doctor Who*. Vicki's observation was perfect, in the fact that it includes *both* components of time: *a dimension in itself* as clock time, and *dimensions of its own* as coordinate (3D) time.

Conventional science only recognizes the former, clock time, a 1-dimensional "arrow of time" that can either point forward (towards the future) or backward (towards the past). The backward flow of time has never been observed, only hypothesized in particle physics to explain the odd behavior of certain types of particles—a behavior that is the result of coordinate time, not clock time.

The 3-dimensional nature of time was first published by Dewey B. Larson in the 1959 publication, *The Structure of the Physical Universe* as a natural consequence of the physical relations he had developed by studying the Periodic Table, realizing that the properties of elements were best explained if they were treated as the *reciprocal of space*. The simplest relation that combines space with its reciprocal was the concept of *motion* (speed or velocity) as space/time, meaning that this spatial reciprocal was actually *time*—not the conventional, clock time we are familiar with, but something that also had the *properties of space*, including its 3-dimensional structure.

This opened the door to another universe, much like the "universe of time" that Doctor Who's ship travels in<sup>2</sup>—a part of the Universe where time has three dimensions and space becomes a clock, what Larson went on to describe as the *cosmic sector*. This formed a perfect reciprocal with 3D space and clock time, which eventuated in his *Reciprocal System of physical theory*.

With that little bit of background, let's explore this universe of time.

### The Concept of a Clock, A Dimension in Itself

*Clock time* is the time we are familiar with, the constant forward movement of time that serves to give us a consistent *measurement of change*. If the clock stops, then nothing in space can change—it is a necessary component to space and our existence. We know its properties through observation, it is *scalar* (only a magnitude) and that magnitude is always the same value, *unity*. Note that this is not a *consequence of nature*, but a consequence of our *consciousness*—how we experience the world through our physical senses. Clock time can be thought of as a *duration*, chunks of "how long" something lasts. A duration is a magnitude (how long) but has no inherent direction. It makes no sense to say something took "15 minutes northeast." It just took 15 minutes, that's it. That is what is known as a *scalar* and how we treat clock time.

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1 *Doctor Who*, "The Space Museum," BBC, 1965. Conversation between Vicki (Maureen O'Brien) and the first Doctor (William Hartnell), "the original."

2 *Doctor Who*, "Tomb of the Cybermen," BBC, 1967. Conversation between Jamie (Fraser Hines), Victoria (Deborah Watling) and the second Doctor (Patrick Troughton), referring to the TARDIS, "*which enables me to travel through the universe of time.*"

The reciprocal to clock time is *clock space*, which is a mind-blower for those that run across it for the first time. But the concept is simpler than it appears—just as clock time is a *duration*, clock space is a *distance*. When we speak of, “that chair is 22 inches wide,” we are talking about a distance (a length) that, like clock time, has no direction—only a magnitude. It is not “22 inches southwest,” which makes no sense. In our conventional world, we understand distance but do not correlate it to a clock because a distance can take any value, whereas clock time is always normalized<sup>3</sup> to unity. This is what makes it confusing... but clock space is just *distance normalized to unity*, where *time* is adjusted to make it work.

As an example, take a speed of 10 miles in 2 minutes,  $10/2$ . Nobody measures things in 2-minute intervals, so we *normalize* the denominator, time, to unity, making it 5 miles per minute,  $5/1$ . It is the same *speed*, just in a normal form so we can ignore the denominator, time. As mentioned, this is not an act of nature, just a convention that human consciousness has made to make communication easier.

Measurements of *energy* are the classic use of clock space, even though conventional scientists don't realize it. Energy is measured by *work*, a relation of *time* to *space*,  $t/s$ . This is the inverse of speed; it took 10 minutes to move that box 2 meters. Again, we don't like to measure things in 2-meter intervals, so we normalize it to a rate of 5 minutes per meter,  $5/1$ . As you can see, clock space works just like clock time, but is hidden from casual observation because our conventional knowledge simply does not understand the nature of space and time, and their association as motion.

Space and time, when placed in reciprocal relation as  $s/t$  or  $t/s$ , are what the Reciprocal System terms *motion*, a general term for the relations of speed and energy.<sup>4</sup> That brings up a very important concept, as the *clock* also has two reciprocal aspects, *clock time* and *clock space*—meaning that the clock IS motion, not something else. This concept was not addressed by Larson in his books and papers, but arose as a natural consequence of RS2 research,<sup>5</sup> the concept of *clock motion*.

## Clock Space :: Clock Time = Clock Motion

*Clock motion* is simply the relation of *distance* to *duration* (or vice-versa). Since we defined the use of the clock as a scalar magnitude that was normalized to unity, clock motion must be the relation of *unit space* to *unit time*—and that is well-known in the Reciprocal System as the *progression of the natural reference system*, the datum from which *everything* is measured.<sup>6</sup>

When we are dealing with clock time or clock space, we are only dealing with one aspect of the clock—the denominator in relations of motion. It does nothing more than to establish a common reference for either motion in space or motion in time. That is the function of the clock, to allow us to establish a reference back to the progression of the universe.

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3 *Normalization* or *normalisation* refers to a process that makes something more normal or regular. In mathematics, it usually refers to the process of reducing denominators to unity, or in geometry, reducing a vector to a unit vector (one that has a length of 1.0).

4 Larson originally referred to motion as space/time, which he later dropped to avoid confusion with time/space (energy) as being something different from motion.

5 RS2 is the reevaluation of the Reciprocal System of theory, was created by Dr. Bruce Peret and Prof. KVK Nehru back in 1996 to explain the properties of black body radiation. RS2 differs in two key aspects from Larson's original work: it postulates the geometry of the Universe is *projective*, not *Euclidean*, and the inclusion of angular velocity as a primary motion. Larson restricted his work to Euclidean, linear velocity only—the way conventional science does it.

6 In the Reciprocal System, this measurement, how much something changes from unit speed, is called a *displacement*.

## What are Dimensions?

Before we delve into the mysteries of 3D time, it is beneficial to understand what a “dimension” actually *is*. The term is greatly misused these days in scientific research, as well as metaphysical research that treat a dimension as though it were a separate reality.

I conducted a survey on Facebook to see what people understood a “dimension” to be. A very nice summary of the replies was posted by Marc Descoteaux:

- |                            |                               |                            |
|----------------------------|-------------------------------|----------------------------|
| 1. Conscious               | 13. Direction, position in    | to realize it is conscious |
| 2. Direction along a scale | space                         | 20. The area where we      |
| 3. Time                    | 14. Xyz coordinates           | perceived time in a linear |
| 4. State of mind           | 15. Type of consciousness     | perspective                |
| 5. Specific frequency      | 16. A kind of                 | 21. Density                |
| 6. Perfect orchestra       | spiritual/consciousness       | 22. A certain level of     |
| 7. Alternate reality       | elevation                     | understanding as to who    |
| 8. Vibration               | 17. Perception measured by    | we really are              |
| 9. A container and vehicle | consciousness                 | 23. Rhelms [realms]        |
| 10. Space and time         | 18. Evolution of              | 24. Dream state            |
| 11. Bandwidth              | consciousness                 |                            |
| 12. Range                  | 19. Ability for consciousness |                            |

A pattern emerged in that people tend to associate dimension with consciousness or a higher state of existence. Now, as to what a “dimension” really is, we have to go back to the 14<sup>th</sup> century and how it was originally used in Latin:

*dimensioun* (Middle English): *dismetiri* (Medieval Latin); *dis-* “between” + *metiri* “measure”

Basically, the original usage is a measurement between two locations—a line that gives use a finite measurement of something. If we have more than one measurement, then we have more than one dimension. If we generalize that to the 21<sup>st</sup> century, a “dimension” is just *one element of a set of elements*, where that element is one of the dimensional measurements. The *number of dimensions* is the number of elements we need in the set to accurately represent something.

- 1D: <a>, a single measurement
- 2D: <a,b>, two measurements
- 3D: <a,b,c>, three measurements
- 4D: <a,b,c,d>, four measurements

As you can see, there is nothing about “measure” that refers to consciousness, alternate realities or densities. It is unfortunate that the metaphysical community has misused the term so profusely, as it has done more to confuse researchers than to help them understand the underlying principles of the Universe. So let’s see if we can correct that misunderstanding—and once done, see where it actually takes our line of thought.

Now that we have an idea of what a dimension IS, and what it IS NOT, let’s find some common terms that refer to dimensions:

Some 1-dimensional sets are:

- A ruler, <distance>.
- A stopwatch <duration>.
- A compass direction, <degrees>.

Some 2-dimensional sets are:

- Area <width, length>, such as carpet size.
- Spherical coordinates, <longitude, latitude>.
- Celestial coordinates, <right ascension, declination>.

We tend to favor 3-dimensional sets, such as:

- Volume, <width, depth, height>.
- Location, <x, y, z>.
- Color, <red, green, blue>.

And there are some common 4-dimensional sets that computer imagery relies heavily upon:

- Quaternions, < $\omega$ ,  $X_i$ ,  $Y_j$ ,  $Z_k$ >.
- Homogeneous coordinates, < $X$ ,  $Y$ ,  $Z$ ,  $\omega$ >.
- Filtered colors, <red, green, blue, transparency>.

Note that dimensions *do not have to be numeric*, although they are the most common. A dimensional element can be composed of *any* ordered sequence. For example, shirts are 2-dimensional:

- Shirt <S|M|L|XL, Black|Gray|White|Navy>

Where the vertical bar represents a “pick one of these” choice. There are two elements in the set <size, color>, so it is 2-dimensional.

We can always increase the number of dimensions by adding another variable element, such as “sleeve length” <Long|Short|None> or reduce the dimensions by providing only a single color or size. *Note this well...* when a dimension is reduced to a single value (such as unity), we *stop counting it as a dimension*. This is important in the Reciprocal System where Larson refers to “free dimensions” that have a value of unit speed. Larson postulates a three-dimensional system, but he has two-dimensional motion (for example, magnetism)—should be impossible when you require three dimensions in the Universe, but the third dimension is a single value, unity. Still there, but it is omitted from the count of dimensions because the value does not change (if it does, then it becomes an additional dimension).

In the Reciprocal System, the dimensions used are:

- 3 Scalar dimensions, where each element is a ratio, not a single number.
- 3 Coordinate dimensions, where each element is a displacement from an origin, <dx, dy, dz>.
- 1 electric dimension of rotation, a *planar* angle, <angular velocity>.
- 2 magnetic dimensions of rotation, a *solid* angle<sup>7</sup>, <first angular velocity, second angular velocity>.

RS2 makes heavy use of “imaginary” numbers (rotational operators), but it allows for a simpler expression of dimensional constructs:

<sup>7</sup> The common, planar angle is that pie-slice of a cake. A solid angle is the 3D version, where that pie slice becomes a cone inside a sphere.

- 2D complex numbers, used to transmit the effects of magnitude across a unit boundary (linear and angular magnitudes). Also describes electric rotation (the imaginary component).<sup>8</sup>
- 4D quaternions, as mentioned above, to express atomic rotation and magnetic structures.<sup>9</sup>
- 4D homogeneous coordinates, also mentioned above, but rewritten in the form  $\langle \omega, X, Y, Z \rangle$  to match the quaternion arrangement:  $\langle \omega, X_i, Y_j, Z_k \rangle$ .<sup>10</sup>

Mathematicians love higher-dimensional objects, such as the 4D hypercube or hypersphere. Physicists love them even more; bosonic string theory has 26 dimensions, which makes you think it has all sorts of alternate or parallel realities and multiple universes. Truth be told... all it means is that it takes 26 numbers to properly describe something as simple as an electron.<sup>11</sup> What they are doing is that each extra dimension offers another way to fudge the equation to get the desired result.<sup>12</sup> This is common practice in today's theoretical physics, because no matter what you do you can always find the answer you want—and get those huge, monetary grants!

In spatial applications, extra dimensions allow the use of *alternates*, such as an alternate location or an alternate size. That 4<sup>th</sup> dimension is often *time* and can be thought of as *animation* (something that changes coordinates with respect to time). So at time = 0, an object is at a specific  $\langle x, y, z \rangle$  location. At time = 1, it can move to another  $\langle x, y, z \rangle$  location. Same object—*where* it is depends on *what time* it is.

Additional spatial dimensions, beyond three, are fun to play with as they allow alternate views of things. For example, let's say you are trying to arrange furniture in a room. Mom wants it one way, dad wants it another, their son Billy wants it a gaming room. They only have one computer program to do the layout, but by adding a “person dimension” of  $\langle \text{Mom}|\text{Dad}|\text{Son} \rangle$ , you can get three views of the same room, depending on which one you choose.<sup>13</sup>

When reading about the Reciprocal System or its reevaluation, keep in mind that a “dimension” is just a *variable*. When Larson speaks of “scalar dimensions,” he is just referring to one ratio of a set of ratios needed to describe something accurately. Nothing more. No alternate realities, no black holes, no objects sticking into hyperspace or subspace. Nature is simple; let's keep it that way!

## Densities, Domains and Realms

So how did the term “dimension” get associated with consciousness and alternate realities? As we used to say when I was a child in Catholic school, “right church, wrong pew” (nearly right, but off target). Most information in the metaphysical community is obtained from lecturers at conferences (and now YouTube channels). A lecturer will get a concept correct, but picks the wrong word when doing his presentation. People assume he was right and other lecturers pick up the word and spread the error, until no one realizes that it was wrong, as these days, truth is determined by social consensus—not observation and analysis of Nature.

8 Larson's electron is 1D, since he only considers the rotational component. RS2's electron is 2D, a complex quantity, because it includes the scalar component,  $\omega$ , in its definition.

9 In a quaternion, the rotational operators have a unique property of  $i \cdot j = k$ , which means that 2D rotation *implies* a 3D rotation, which is converted to a motion by the addition of the scalar,  $\omega$ . It only takes two elements to define a magnetic rotation (2D), but to fully express it, 4D is required.

10 The scalar value,  $\omega$ , is always the first element,  $E_0$ , and makes programming of computer simulations much simpler.

11 In the Reciprocal System, the electron is 1-dimensional, just a simple, angular velocity.

12 String theory does not include the dimensions of time, still considered the 1D “clock time” only.

13 This is why you have to create accounts on sites, to give the computer that extra dimension of “username” to keep your information separate from others.

“Density” versus “dimension,” originating from the *Law of One / Ra Material*, is a perfect example. Though there is a clear difference in the material, itself the words became equivalent because they were used incorrectly on the lecture circuit.

To clarify, since we already know what a dimension is:

- **Density:** a level of complexity, usually with the *same number* of dimensions. In physics, gold is more dense than helium, because the atom of gold is far more complex than helium is. They both have the same number of dimensions, three, but have vastly different densities.

In metaphysics, how complex the *animus* (spiritual component) of an organism is. In the *Law of One*, the first three densities (inanimate, animate, human) all have *three dimensions*, but differ in the *complexity* of the spiritual component.<sup>14</sup> If dimensions were equivalent to density, then a 1<sup>st</sup> density rock would be nothing more than a 1-dimensional *line*, because a volume requires 3D!

As described above, when a dimension has only a single value it is omitted from the count of dimensions. When an organism’s spiritual dimension has not yet formed (at the default of “predestination only”), the organism appears to be 2-dimensional, <body, mind>, versus <body, mind, spirit>. Take away the mind, as in inanimate chemicals, and you have the appearance of a 1-dimensional structure, <body>. This is where the confusion starts, because in organisms, the *density number* just happens to match the *number of dimensions*, respectively. But now you know the secret: the three dimensions are there, just omitted because they only have a single value.

- **Domain:** an area under control, such as the “domain of the king” or any municipality. A domain is usually geographic (think *dominion*), but can also be more abstract, such as a magnetic domain, where atoms in a ferromagnet with similar orientation group together in domains. A set of dimensions can also be considered a domain, meaning that set of dimensions is treated as a group, such as a vector.

In the Reciprocal System, the most common domain is *gravity*. You are under its control. The most recognizable domain comes from the 3<sup>rd</sup>, ethical sector: that of the *ethical control unit*. This unit dictates the overall behavior of the spiritual and emotion aspect of living organisms, and is basically “king of the castle.”

- **Realm:** an abstract sphere of influence, such as a “realm of possibilities,” where a collection of outcomes is group together. Often confused with domains, but the key difference is that a domain is tangible—it expresses something physical, whereas a realm is an abstraction.

In my papers, I have used two realms: our realm of conventional experience, the *Mortal Realm*, defined as the animate level of existence in 3D space and clock time, and the *Other Realm*,<sup>15</sup> the temporal analog of animate existence in 3D time and clock space. The Other Realm is where one finds ghosts, spirits and other entities invisible to our common perception; basically the metaphysical realm of time/space.

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14 Further discussion of the spiritual component would require an understanding of the Reciprocal System’s *ethical control unit*, defined in Dewey Larson’s book, *Beyond Space and Time*.

15 The *Other Realm* is a generalized, more embracing concept of the *altermundi*, literally the “other world.”

There two other terms that are unique to the Reciprocal System, that of the *Sector* and *Region*:

- **Sector:** one of the two, inanimate “halves” of the physical universe. Larson labels them as the *Material Sector*, clock time and 3D space  $\langle t_c, s_a, s_b, s_c \rangle$ , and the *Cosmic Sector*, clock space and 3D time  $\langle s_c, t_a, t_b, t_c \rangle$ . The Cosmic Sector was named “cosmic” because it is the origin of cosmic rays.<sup>16</sup>

One important point regarding the Sectors is that, from our perspective of the Material Sector, everything in the Material Sector moves *slower* than the speed of light. When something exceeds the speed of light, it begins to move into the *time* of the Cosmic Sector.

Conversely, everything in the Cosmic Sector moves *faster* than speed of light, so when something drops below that speed, it shows up in the *space* of the Material Sector (such as cosmic rays).

- **Region:** one of four possible *combinations* of 3D space and 3D time, that are divided between *Sectors* and *Cosms* (*macrocosm* and *microcosm*). Using *s* to represent space and *t* for time:

- **The Macrocosm**

The macrocosm is the large-scale structure of the stuff that builds a Universe, delimited from the microcosm by *unit boundaries*. The unit boundary means that the speed at the boundary is *unity*. On one side, we have magnitudes that are greater than unity (atoms, molecules, etc) and the other side, lesser (particles, atomic rotations, etc). In keeping with the Reciprocal Relation, if one side of the boundary is space, the other will be time... and vice-versa. This results in two unit boundaries: *unit space*, where space remains fixed at unity and time varies in magnitude (boundary of m-atoms) and *unit time*, where time remains fixed at unity and space varies (boundary of c-atoms).

- **Time-Space Region:** The Material Sector macrocosm, 1D clock time and 3D space,  $s^3/t$ . This is the region of our conventional, day-to-day experience, commonly known as *space/time*.<sup>17</sup> (Please take careful note of the punctuation, or it will get confusing when reading Larson’s books and papers. Larson uses *time-space region*. Conventional science and RS2 use *space/time region*. They both refer to the *same* geometric structure,  $s^3/t$ .)
- **Space-Time Region:** The Cosmic Sector macrocosm, 1D clock space and 3D time,  $t^3/s$ . In conventional science, this region is the *antimatter* half of the Universe, though it is a misnomer—it is more of the conjugate half (or commonly, the inverse half) that contains *inverse* matter, not *anti*-matter. Larson refers to these inverse/anti-atoms as *cosmic atoms*, or simply, *c-atoms*.

In esoteric material, this region is referred to as the *metaphysical region*. In works such as the *Law of One*, it is known as time/space. (Again, watch the punctuation! Dash for Larson/RS, slash for everyone else.)

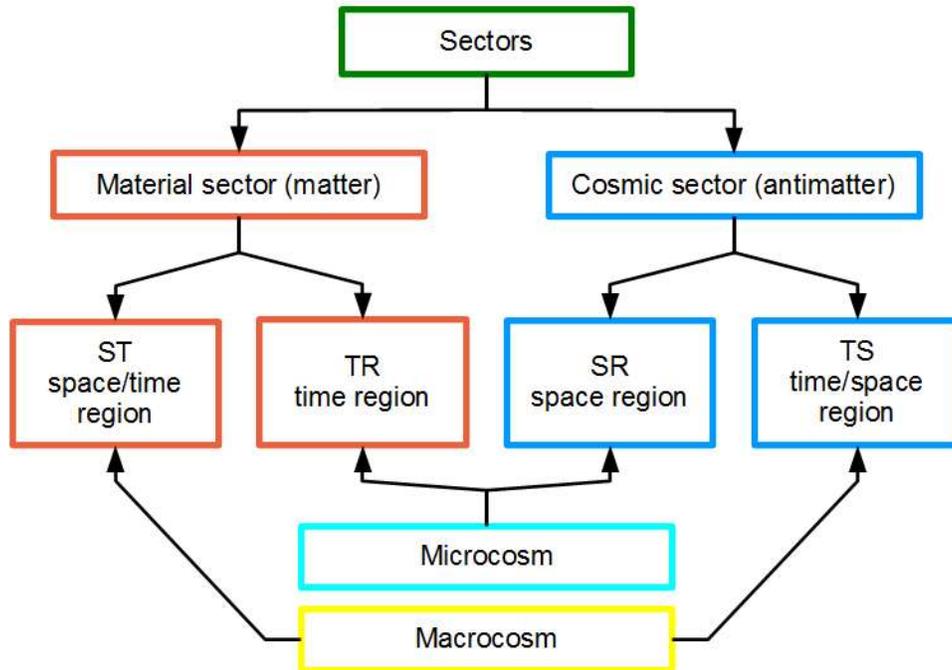
<sup>16</sup> From the *Cosmic Microwave Background Radiation*, a misunderstood concept associated with the Big Bang. It isn’t “relic radiation” or a leftover from an imaginary Big Bang, but simply the slower-than-light radiation being produced by cosmic stars—stars that exist in the 3D time of the Cosmic Sector.

<sup>17</sup> Larson puts it backwards (have to remember this was defined in 1959), because he was a chemical engineer interested in atoms and elements, so he took the perspective of the atom looking outward at space, not the spatial environment looking inward towards the atom. RS2 distinguishes them by using a dash for Larson’s terms (time-space), and a slash for conventional terms (space/time).

- **The Microcosm**

- **Time Region:** The domain of the Material atom (m-matter), where temporal atomic rotation takes place,  $s/t^3$ .
- **Space Region:** The domain of the Cosmic atom (antimatter, cosmic matter or c-matter), where spatial atomic rotation takes place,  $t/s^3$ .

### Relation of Sectors, Regions and Cosms



Note that the two Sectors and four Regions form the *physical universe* in the Reciprocal System. This means that the metaphysical region is actually *physical*, with defined properties and behaviors. Sounds strange at first, but it derives from the fact that conventional science does not understand 3D time, and writes off the properties and behaviors of 3D time as magick or wizardry. In the RS/RS2 world, *magick* is nothing more than *temporal science* and just as physical as spatial science.

#### Clarke's 3<sup>rd</sup> Law

*Any sufficiently advanced technology is indistinguishable from magic.*

#### And it's reciprocal:

*Any sufficiently advanced magic is indistinguishable from technology.*

With these definitions in mind, there should be enough background to understand the concept of 3-dimensional time.

### Coordinate Time, Dimensions of Its Own

In the Reciprocal System, one must remember that *space* and *time* are just *aspects* of motion. In other words, they are just *labels*, like “numerator” and “denominator,” or “right” and “left.” They have no

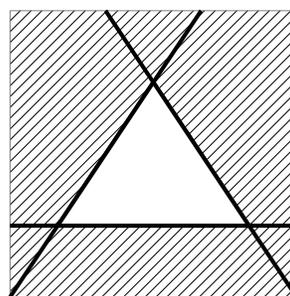
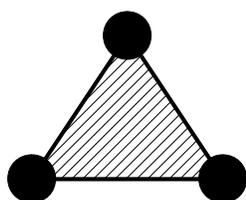
other significance.

Knowing this leads to the conclusion that anything and everything that exists in one aspect also exists in the other. Space has three dimensions, therefore time has three dimensions. Time has a clock, therefore space has a clock. And that's about it. This is useful in understanding 3-dimensional time, as we can equate it to common, 3-dimensional spatial systems. Just remember that *time is a label*, it has no other significance. A common difficulty with the Reciprocal System is trying to treat space and time as “things” with special meaning. That isn't the case with the Reciprocal System. If you get confused, try substituting another word for “time,” perhaps a nonsense word like “gleep” or “hooey.” May be easier to understand 3D hooey than 3D time!

One concept regarding coordinate *anything* is that geometry also has a reciprocal form, which in projective geometry is called a *dual*. Consider: one can draw a triangle by connecting three points together, or by drawing three, intersecting lines. Both form a triangle—but what is the difference?



*Additive, Rain in Air: Points*



*Subtractive, Bubbles in Water*



Basically, there is no difference. You get exactly the same shape—a triangle. It is *how* they are drawn and in projective geometry, the points creating the triangle are additive—they come together to form a planar surface. In the case of the lines, the lines are subtractive, cutting out a planar surface to form the triangle.<sup>18</sup> This concept works for all shapes and sizes; in Art it is recognized as the difference between *building* (putting parts together to form an object) and *sculpting* (taking a big block and cutting away parts to form an object).

I bring this up during the 3D time discussion because *sculpting* is how we view temporal structures from a constructive, 3D spatial building system. In the old days, 3D time was considered an all-pervasive *aether*, namely a giant block of magical stuff<sup>19</sup> out of which ætheric objects hacked away at, to give inside-out structures. The old researchers assumed this block was all-pervasive across the Universe, but as we have learned from the Reciprocal System, it is only *half*, the *cosmic half*, of the Universe. And keep in mind that, like a spatial volume, it only has to be large enough for us to believe it is huge and all-pervasive. It may be just a small block of æther, but one too large for us to see the ends of.

There is also a second property of these triangles that must be kept under consideration: that of *how many dimensions are involved*. When we view 3-dimensional space, we see the former; points (vertices) connected by lines to form areas, then areas connected together to enclose volumes. 3-dimensional time is the *dual* of this, where we are excavating a volume from a solid. An easy analogy is to see 3D space as *raindrops in the air*, whereas 3D time are *bubbles in the water*.

<sup>18</sup> Think of the lines as the edges of three sheets of paper, leaving a triangular hole.

<sup>19</sup> Which is now referred to as “dark matter,” though astronomers will never admit it!

Now consider the number of dimensions involved. From a constructive, additive perspective, we are taking points (no volumetric dimensions, therefore 0D) and using them to construct a 1D line segment, which forms the edges of the triangle. From the inverse perspective, we start with areas (2D sheets of paper) and intersect them to form 1D line segments, producing the edges of our triangle again.

$$0D \text{ (vertex)} \rightarrow 1D \text{ (edge)} \leftarrow 2D \text{ (face)}$$

It would appear that the number of dimensions involved is two, to account for the 0D points, 1D lines and 2D areas. Not so, however, because the observer has been omitted. I won't be going in to a discussion on the observer principle as it is a very lengthy presentation, but suffice it to say that when you observe something, you cannot be part of the system being observed—you have to be outside of it. This means you have to add another dimension to the maximum value of the observed system, so there is a distinction between “observer” and “observed.” Therefore, to flip duality of points and areas to get triangles, we need 3 dimensions (of space or time).

Now, if we want to understand 3-dimensional duality, that means we have to deal with a 4-dimensional system, often misrepresented by  $\langle sx, sy, sz, t \rangle$  where “time” is the 4<sup>th</sup> dimension. It is obvious that time cannot be a 4<sup>th</sup> dimension, simply because the observer and observed are in the same time zone.

That 4<sup>th</sup> dimension turns out to be what is called a *projective plane*, the screen on which we watch the world as an observer and key into understanding duality. Going back to basic math, the formula to determine the duality of objects is a dimensional one:

$$n = n*(n-1)/2$$

The left hand side is the possible dimensional number for objects, and the right hand side is the possible number of dualities. When the two are equal, the formula has only one non-zero and non-infinite possibility: *three*. The projective plane can therefore handle 3-dimensional duality: it can invert between drops and bubbles.

## Two Different Types of Space and Time

Remembering that we are dealing with *motion*, not static units of space or time. To understand *where* 3D time is, we must understand the two types of motion that create it. In RS2, these are known as *primary motions*,<sup>20</sup> since they can exist on their own without any need of an external force to keep them going. In Eastern philosophy, they are referred to as *yin* and *yang*. In physics, they are referred to as *angular* and *linear* velocity. In mathematics, they are referred to as *imaginary* and *real* numbers.

Primary motion has a single, necessary property: once it is started, the motion will continue indefinitely unless acted upon by a force.<sup>21</sup> The two, primary motions are:

1. **Yang, linear, real:** this is motion in a straight line. Grab a baseball, put on your space suit and head out into the vacuum of space. Wind up and throw the ball. It will fly away in a straight line and keep on going and going... it will never stop going in that straight line, unless something comes along and either deflects or stops it.

<sup>20</sup> Larson does not have this concept in his Reciprocal System, which is based solely on a single, primary motion: that of linear velocity. In order to get rotation, he has to draw a line first (a photon vibration), then spin it. The research of Prof. KVK Nehru pointed out the flaws in this system back in the autumn of 1989 in his paper, “[The Law of Conservation of Direction](#),” where Nehru points out that angular velocity is just as likely, and as permanent, as linear velocity.

<sup>21</sup> Isaac Newton's first law of motion: “An object at rest stays at rest and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an unbalanced force.”

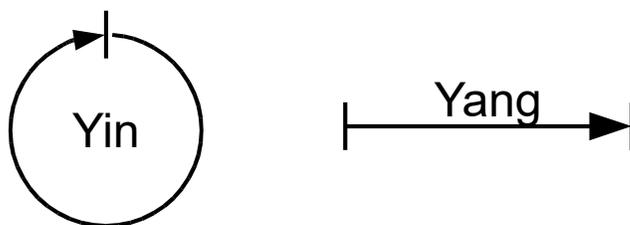
Larson uses *only* this primary motion to define his Reciprocal System of physical theory, as does conventional science. Larson had to resort to spinning a line in order to get to the second, primary motion, yin, treating it as a secondary motion.

2. **Yin, angular, imaginary:** this is *spin*, an angular velocity around an axis. In the old days, we'd use a phonograph<sup>22</sup> as an example. The record spins at a constant velocity (78, 45, 33½, 16 RPM) using “Rotations Per Minute,” a 1-dimensional value indicating the speed of the turntable.

But since you already have your space suit on, take another baseball, hold it in front of you and give it a quick spin, rather than throwing it. It will stay in the same spot and continue to spin about its rotational axis, at the same rate, forever.

There are no other kinds of motion that do this. Vibratory motion (or oscillation<sup>23</sup>) is an *accelerated* motion, which means something needs to act upon it to stop it and make it reverse direction at regular intervals. If the force is omitted, it stops vibrating. In RS2, this is referred to as a *secondary motion*, since it has a dependency on primary motion.<sup>24</sup>

The primary difference between yin and yang is the starting and ending *locations*. Yin, being angular, will loop around and return to the location where it started from. This gives the appearance of not moving at all, since we typically define movement as a change of location—and the location isn't changing. Yang, being linear, starts and stops at different locations so it is easily identified as motion (and probably why Larson, and conventional physics, chose it to express their systems in):



These figures are 1-dimensional; each having a single element. Yin is an *angular* velocity (how fast it is turning) and yang is a *linear* velocity (how fast it is translating). But the *Universe* is 3-dimensional, so when we take these 1-dimensional elements and move them into three dimensions, we have the basis of our two kinds of 3D space or time—the four *Regions*, described earlier.

The microcosm is where *yin* has three dimensions and defines atomic structure. The angular velocities in the microcosm can be described mathematically as the *quaternion*. There are two Regions in the microcosm: the *Time Region* ( $s/t^3$ ) that defines our common, atomic structures and the *Space Region* that defines *antimatter*.

In Larson's RS, antimatter is referred to as *cosmic matter*, as it is the building block of the material in the cosmic sector. Technically, antimatter is the *conjugate* of normal matter, where the names of the aspects (space and time) are flipped, but the dimensional relations remain constant in the numerator and

22 Not sure if younger folks even know what a phonograph, gramophone or “record player” is these days! See: <https://en.wikipedia.org/wiki/Phonograph>.

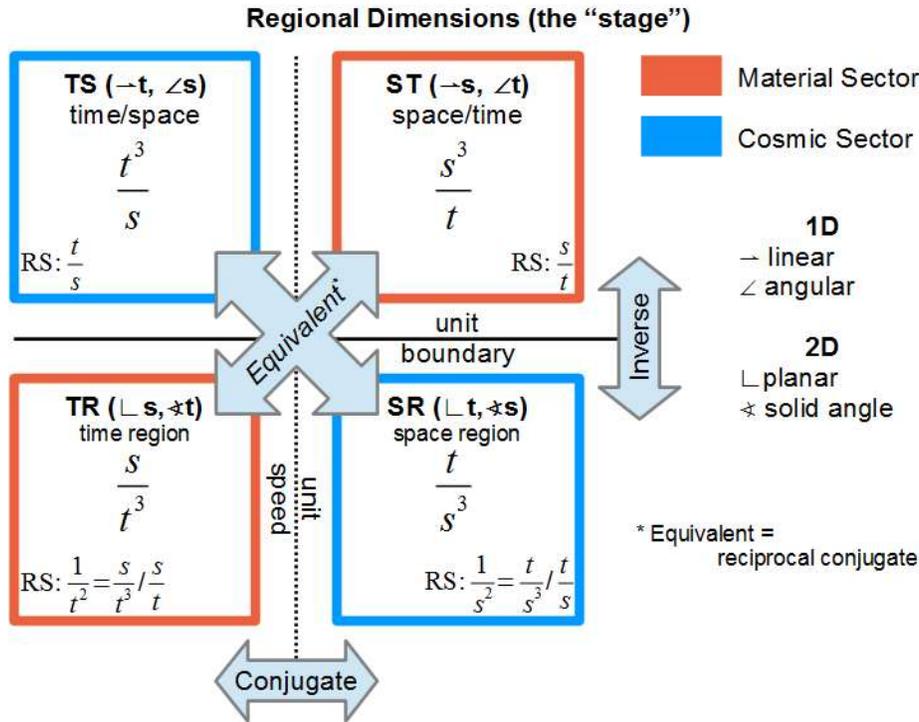
23 In the context of RS2, *vibration* is a motion that occurs inside a unit boundary, whereas *oscillation* occurs outside. For example, in the case of heat, the thermal vibration is inside the time region, whereas the resulting shaking of the atom, banging into other atoms, is an oscillation.

24 Larson, in order to create vibration, uses a concept of a *direction reversal* where the outward progression just decides to reverse itself to create a line, which then can be rotated inward, creating the vibratory motion.

denominator. As an example, examine the units of force (energy per unit distance):

$$\text{Force} = \frac{t}{s^2}; \quad \text{Inverse force} = \frac{s^2}{t}; \quad \text{Conjugate force} = \frac{s}{t^2}$$

The inverse is just the ratio flipped upside-down, whereas the conjugate just flips the names of the aspects. Conjugate force has the units of cosmic force, the force that acts in 3D time, rather than 3D space, so you can see how the conjugate makes more sense than the inverse, in this application.



The macrocosm is where *yang* has three dimensions. We are familiar with the Material Sector, the region of our conventional, day-to-day experience, as 3D space. Since space and time have no other meaning outside of being aspects of motion, we can exchange the labels and find that the Cosmic Sector, the Region of invisible, metaphysical experience, is where 3D time exists—and behaves just like 3D space.

One must remember that where you stand (observer) and what you look at (what is observed) are very important in the Reciprocal System. Larson assumes the observer is *always* located in the time-space Region, the Region of our conventional experience. But that is not always the case. Atomic physics may locate their observer within the Time Region, thus getting a very different reality with what appears to be different, “quantum” rules. But that is not the case. Same rules apply in all Regions, but two major changes take place—what you see is the linear shadow of atomic rotation (viewing yang from yin) and operating in conjugate rules—not normal rules. This is the origin of that confusion (and the crazy stuff they come up with!)

Should we move our perspective so we see from the Cosmic sector rather than the material, something similar happens. We are still viewing a yang Region from a yang Region, so geometric relations maintain consistency (we can observe structure), but the rules are now operating under conjugate conditions—things look inside-out!

So far, we have identified two regions of 3-dimensional time, a yin one (antimatter) and a yang one (the

cosmic sector). Each behave by the same set of rules, and you will only understand what you see if your camera (the observer) is in the *same Region* as what is observed. Once you start crossing boundaries, things change.

The Natural Law that applies to 3-dimensional time is the same law that applies to 3-dimensional space, except the labels of space and time are flipped around. Length is measured by seconds, speed by seconds per meter. 3D time volumes still have a length, width and depth, but they are measured in seconds, not meters—that object is 3 seconds wide, 2 seconds deep and 5 seconds high. Sound confusing? That is your mind trying to resolve some “bad programming” you received in school, where time is always treated as a 1-dimensional clock and not an aspect of motion.

If you want to do a conversion of one to another, that is where the *speed* of light comes in, 299792458 meters/sec. Remember that a speed is s/t, making the speed of light 299792459 meters (s) in 1 second (t). An object that is 5 seconds long in time would be:

$$d = 5 \text{ sec} \times \left( \frac{299,792,458 \text{ meters}}{1 \text{ sec}} \right) = 1,498,962,290 \text{ meters}$$

That is one, large object! One can see now why the values in physics have incredibly small numbers, because they are measuring small, temporal distances, areas and volumes.

## How 3-Dimensional Time is Perceived

In 3D space, we have a *physical body* with physical senses that we use to measure changes of location in space (the macrocosmic, yang aspect). In 3D time, we have a *metaphysical body* with metaphysical senses that we use to measure changes of location in time (also the macrocosmic, yang aspect). We term this metaphysical body the *soul*.<sup>25</sup> And the “physical senses” we use to measure temporal change as *psychic ability*, such as precognition (seeing something approaching in the temporal landscape). Note that in the Reciprocal System, *both* the body and soul are considered part of the physical universe, not really “metaphysical.” This is because they both operate by the same set of rules, those of the linear, yang macrocosm—they are just conjugates of each other.

Each of the five physical senses has its 3D time, or soul, component:

3D Space	3D time
Vision	Clairvoyance <sup>26</sup> , Precognition
Hearing	Clairaudience
Smell	Clairalience
Taste	Clairgustance
Touch	Telekinesis

How does this fit into the accepted, planes of existence model? The physical body is obviously the *physical plane*. However the soul body is the *astral plane*, not the ætheric. Why? There is another concept in the Reciprocal System that, if you looked closely, may have spotted on the Region chart. We

<sup>25</sup> See my paper, “Homo Sapiens Ethicus: Life, Death, Reincarnation and Ascension.” on

<http://www.conscioushugs.com/homo-sapiens-ethicus/> or <http://reciprocalssystem.org/papers/daniel-phoenix-iii>

<sup>26</sup> The most common psychic ability is clairvoyance, because the most common physical sense is vision. Same rules, both Regions.

have discussed inverse and conjugate, but there is one other connection: that of the *inverse conjugate*, or what Larson terms *Equivalent Space* or *Equivalent Time*.

It is these equivalent relations that allow for the use of force fields, such as the electric and magnetic, as well as the Level 2 fields associated with life, things like auras and their color fields. This supplies the missing link between the physical and astral levels mentioned. The biological *equivalent motion* (which includes both aspects of the equivalent relation) becomes the *ætheric body*, the intersection of the physical and astral as a nonlocal force field.

## Summary and Conclusion

The following points were discussed and hopefully, the meanings have been clarified. It is important that when studying any kind of science or metaphysics, each student shares the same understanding of a word—or else that word becomes useless and disinformation is generated. We're all after truth, so the less disinformation the better!

I'm not trying to change your understanding on what these concepts are, but merely explain how these words are used in the context of the Reciprocal System, RS2 and in a lot of metaphysical literature, where I fall back to the medieval Latin definitions.

Clear communication is vitally important in this next stage of human learning, particularly these days of making up words and socially-defined truth. Let's start understanding by setting the stage straight.

Topics discussed:

- What “clock time” actually is, in the context of 3D space.
- The flip-side to clock time, “clock space,” in 3D time.
- The combination of the clocks, “clock motion,” that determines the tape measure on which we measure structures in the Universe.
- “Dimensions,” what they are and what they are not.
- What a “density” is and how it compares to a dimension.
- What a “domain” is, and how it compares to the Realm.
- What a “realm” is, as I've used the term often in the context of the “Other Realm,” the Level 2, biological realm of existence on the cosmic, 3D time side of things.
- The concept of the “sector” and what defines it.
- How “macrocosms” and “microcosms” are defined in RS2, and the four regions they define.
- What a “region” is, and its space-time structure.
- What “coordinate”, 3D time is.
- Geometric dualities.
- The yin-yang of RS2.
- Perceptions of 3D time from different regions.
- The correlation between the physical senses of space, and the metaphysical (psychic) senses of time.

## Epilog

As many of my readers know, about a year ago I was diagnosed with terminal, Stage 4 prostate cancer. I've literally been “to hell and back” trying to fight it off and regain my health, but so far nothing has

worked in either conventional or holistic approaches. The oncologists now tell me that, without divine intervention, I'm down to a few weeks of life left. There is one more chemo option left to try, but the drugs are dangerous—may be one of those “kill or cure” things. Doctor tells me to take my time and consider things carefully before making a decision on it. He is fairly confident it will stop the cancer, at least for a while (the time of which I would use to get on a stronger, holistic system), but the chemo, itself, may kill me.

I will do my best to keep on writing what I can and do some video interviews, so at least there is something left of the 40+ years of research I've done on all the weird topics I write about.

All the best to all my readers, and hopefully, not yet time to say, “So long and thanks for all the fish!”

--daniel