The Priority of Relation for Creation:
A Primer in the Logic of Three

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Abstract:

An exploration of the metaphysics of relation as a unifying motif in modern physics. What happens when Ideal observers begin to observe their own observing?

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Theoria

          Immediately *he made the disciples get into the boat*
          and go on ahead to the other side, while he dismissed
          the crowds. And after he had dismissed the crowds

                    he went up the mountain by himself to pray.
                    When evening came, **he was there alone***,*

but by this time the boat, battered by the waves,
was far from the land, for the wind was against them.

          And early in the morning he came walking
          toward them on the sea.

But when the disciples saw him walking on the sea,
they were terrified, saying, "It is a ghost!"
And they cried out in fear.

          But **immediately** *Jesus spoke to them and*
          said, "Take heart, **it is I***; do not be afraid."*

Peter answered him, "Lord, if it is you, command me
to come to you on the water."

          *He said, "***Come.***"*

          So Peter got out of the boat, started walking
          on the water, and came toward Jesus.
          But when he noticed the strong wind,
          he became frightened, and beginning to sink,

he cried out, "Lord, save me!"

          Jesus **immediately** *reached out his hand and*
          caught him, saying to him, "You of little faith,
          why did you doubt?"

When they got into the boat, the wind ceased.
And those in the boat worshiped him saying,
          *"***Truly you are the Son of God***."*

                    [Matthew 14.22-33]

1. Light

If you are like me, then you are probably so used to thinking in terms of binary logic that it becomes difficult to fathom that there may be forms of logic that are truly *other* and not just a translation or re-inscription of binary logic. In fact, you may believe that the word "logic" means *binary logic*, that to speak otherwise is a misuse of language, and therefore to speak of another form of logic is meaningless. So if you are interested in what might possibly be meant by "the logic of three", you may need to begin in the suspension of disbelief. *Suppose* there is something that could reasonably be called the logic of three. What might we be able to say about this logic and how might we be able to justify calling it "logic".

The suspension of disbelief[1] is a state of anticipation, an opening to the possibility of something new. If, for you, "logic" means binary logic, then what I am about to describe is something *other* or *beyond* "logic". Yet it continues to bear an essential relationship to binary logic. The exploration of the "logic of three" involves the working out of difference and sameness using binary logic as the starting framework. This "working out" brings forth a transition from the starting framework to something *Other* that has yet to be determined and will only come into view as the exploration unfolds. The term "logic" identifies sameness or identity throughout the transition

I take logic to be about formal patterns of thinking or information processing[2], where formal patterns are repeatable and they can be abstracted and represented. Binary logic is about patterns that occur within formal systems that are governed by rules or laws. The patterns are *given* by the system. The processes of the logic—the processes of thinking or processing information within the system—involve explorations of the given patterns. A prototypical example of binary logic (to which we will repeatedly return) is the system of Natural numbers. The logic of three (infinitely) expands binary logic such that the processes of repeating, abstracting and representing (what is already given by a formal system) *are also part of the logic*. We might say that binary logic is a mechanical working out of the patterns inherent in a formal system such that valid thinking always remains within the system. The logic of three includes this mechanical working out of a formal system, but it also concerns itself with how a formal system is created, sustained and, ultimately, transcended.

Binary logic is *mechanical* and bound by a formal system. The logic of three is *creative* and open.

The principles of binary logic

The primary principle of binary logic is the law of the excluded middle. This law can be stated in the following form: For any given state A, either A is true or not-A is true, where not-A is the negation of A.

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[1] Whereas *disbelief* is the negation that underwrites binary logic, the *suspension of disbelief* is the negation of that negation. The double negation moves us from an image of nothingness as an empty void to an image of nothingness as active listening or receptivity to the Creative.

[2] Information processing involves the dynamics of *signs.* Signs are interior representations of exterior processes. A sign points to an object to which a response can be made by an interpreter. Thinking involves information processing at the highest level.

The principle of binary logic forbids any third possibility, and therefore, it excludes any "middle" or *in-between* that might relate not-A back to A. The principle is not just a law, it is the principle of Law. The negation implies an absolute difference; it establishes what is in (truth) and what is out (false).

> *"Things are, and are not, as they seem.*
>
> *"This means: at any given moment, from any given perspective, it is possible to be insensitive (forgetful, unimaginative, inattentive).*
>
> *"Things are what they seem; but it is possible for them to seem differently.*
>
> *…*
>
> *"Being is the interconnectedness, the resonant ecology of things."*
>
> [Zwicky, L79, L86]

Additionally, the principle of binary logic pre-supposes or pre-forms identity. It begins with "any given state A". That is to say, it begins by *naming* the state, where the name points to the self-identical aspect of instances of A. The principle of identity is the equality of A with itself: A=A. Binary logic pre-supposes the principle of timeless *self*-identity. Through this pre-supposition, the principle of identity differentiates the self-identical *form* of the state (namely A), from any particular *instance* or realization of that form, (namely the "given" state A). The self-identical form exists, as it were, in a realm of all possible states. From this realm a particular state is "given" or actualized in some way. The realm of "all possible states", the realm of generality, is timelessly formed by the principle of identity. The actualization or specification or particularization brings a general possibility into the present moment of time.

> *"Law of identity A=A. This tautological formula, this lifeless, thought-less, and therefore meaningless equality A=A, is, in fact, only a generalization of the self-identity that is inherent in every given … In excluding all other elements, every A is excluded by all of them, for if each of these elements is for A only not-A, then A over against not-A is only not-not-A. From the point of view of the law of identity, all being, in desiring to affirm itself, actually only destroys itself, becoming a combination of elements each of which is a center of negations, and only negations. Thus, all being is total negation, one great "Not". The law of identity is the spirit of death, emptiness, and nothingness."*
>
> [Forensky, 22,23]

But what "gives" A? This may seem like an odd question at first. Typically, binary logic is taken to encompass all that is possible—the rational universe. If that is the case, then what "gives" A is existence itself, what might be called "Being". Being actualizes possible (timeless) states within the temporal

unfolding of creation. Being or existence might therefore be thought of as providing the *ground* for binary logic. Being obeys the rational principle of non-contradiction: Nothing can both exist and not exist. The "ground of Being" is like a stage in which a general or universal form is actualized as *this particular thing*. Ontology—the nature of Being—is determined and constrained by this inert, passive (back)ground upon which actualities substitute for generalities.

> "*Ontological attention is a response to particularity:* this *porch,* this *laundry basket,* this *day. Its object cannot be substituted for, even when it is an object of considerable generality ('the country', 'cheese', 'garage sales'). It is the antithesis of the attitude that regards things as 'resources', mere means to human ends. In perceiving* this*ness, we respond to having been addressed. (In fact we are addressed all the time, but we don't always notice this.)"*
>
> *[Zwicky, L52]*

So, with binary logic we have three principles that work together[3]: (1) *naming* that establishes identity through equality; (2) *law* that establishes truth conditions through the excluded middle; and (3) g*rounding* that establishes what is the case through non-contradiction.

Space as dark ground

In classical approaches to physics, theoretical forms describing the physical world are imaged on binary logic. Physics is taken to describe a universe according to rational systems of law, where "rational" means the systems of law obey the principles of binary logic. Naming references elementary forms that are pre-existing and timeless—the fundamental "objects" of the world. Laws establish fixed relations of equality among the pre-existing fundamental objects, such that the objects are co-present and inter-act with one another to form complex structures within the domain of what is possible according to law. Grounding connects the theoretical forms with the world of experience by allowing the expression of a specific experimental setup or a specific initial condition *in the world* as a theoretical form.

> "*The actual is not something spatial … In a non-actual element like [space] there is only a truth of the same sort, i.e. rigid dead propositions. We can stop at any one of them; the next one starts afresh on its own account, without the first having moved itself on to the next, and without any necessary connection arising through the nature of the thing itself.*"
>
> *[Hegel, $45]*

For a physicist enmeshed in a web of rational systems of law, the "being" of Being therefore tends to take the form of an abstract ground of possibility, where possibility, rooted in the equality of self-identity, is determined by the system. Reference to "what exists" becomes an unreflected and unreflecting reference to the ground of physics, where this dark ground is taken as the foundation of all

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[3] An introduction to the "three traditional laws" of thought—identity, non-contradiction, and excluded middle—can be found in Wikipedia https://en.wikipedia.org/wiki/Law_of_thought#The_three_traditional_laws

that may be, the foundation of the *ontology* of physics. The meta-form of Absolute Space (including spatialized Time) in Newton's theoretical framework is a pro-type of this dark ground.

> "We are all infatuated with the splendor of space, with grandeur of things of space. Thing is a category that lies heavy on our minds, tyrannizing all our thoughts. Our imagination tends to mold all concepts in its image. In our daily lives we attend to that which the senses are spelling out for us: to what the eyes perceive, to what the fingers touch. Reality to us is thinghood, consisting of substances that occupy space; even God is conceived by most of us as a thing.
>
> "The result of our thinginess is our blindness to all reality that fails to identify itself as a thing, as a matter of fact. This is obvious in our understanding of time, which, being thingless and insubstantial, appears to us as if it had no reality."
>
> *[Heschel, 5]*

With the logic of three, Being exceeds the passive ground of self-identical and timeless forms that determines and is determined by laws of classical physics. While binary logic is contained within the logic of three, the logic of three also allows an encounter with the Other, an encounter with the excluded middle. This encounter happens through paradox. The (triadic) logic of paradox creates a pivot that brings the (back)ground into relation with a particular indexical origin to reveal a generalizing system that is sustained by synchronization with other indexical origins to that same system (other images of the system).

> "It is a relationship with a surplus always exterior to the totality, as though the objective totality did not fill out the true measure of being, as though another concept, the concept of infinity, were needed to express this transcendence with regard to the totality, non-encompassable within a totality and as primordial as totality."
>
> *[Levinas, 23]*

Within binary logic, grounding is based on the principle of non-contradiction: Nothing can both exist and not exist. This is also the principle of Absolute Space, the principle of Euclidean geometry, for example. In modern physics, there is a tendency to carry this principle forward, so that something formally like Absolute Space is the privileged ground of the "being" of physical entities (such that this principle is applied to both space and time.) Relativity theory, however, subverts the privileging of Absolute Space inasmuch as it takes simultaneity to be relative to a particular indexical origin or frame of reference. Consistent with relativity theory, the logic of three pushes us to recognize that the principle of non-contradiction *in itself* is incomplete. In a post-relativistic era, we might obliged to say: Nothing can both exist and not exist *at the same time*. This opens us to the possibility of taking time to be the *Other* of space. Whereas space grounds general form as a synchronized structure of co-present equals; time ungrounds unique individuals as particular pivots that participate in the process of coming into synchronization with others.

"But I thought that anything from which space was abstracted was non-existent, indeed absolutely nothing, not even a vacuum, as when a body is removed from a place, and the space remains evacuated of anything physical, whether earthly, watery, airy, or heavenly, but is an empty space—like a mathematical concept of space without content.

"So my heart had become gross, and I had no clear vision even of my own self."
[Augustine, 111-2]

Within binary logic, the identity of the fundamental objects of investigation for physics is timelessly given. Paradoxically the principle of identity differentiates the general form from the particular instance by taking them to be the same. In so doing, it sets up a relation of ambivalence between general form and particular instance, between the idea of A and its realization. A particular instance of A *is* the general form of A even though the realm of the abstract general as a universal form and the realm of the particular as an embodied form may be different. The logic of three drives a wedge between these two realms, between the general and the particular, between the ground and the "given".

"Ontological attention is a form of love.

"When we love a thing, we can experience our responsibility toward it as limitless (the size of the world). Responsibility is the trace, in us, of the pressure of the world that is focused in a this. *That is* how much *it is possible to attend; that is how large complete attention would be."*
[Zwicky, L57]

In modern physics, *Space* becomes the meta-form of the general, the ground. *Time* becomes the meta-form of the particular, the given. And in the wedge between space and time, there is *Light*. The logic of three is the logic of light. Understood in this way, in modern physics *light is the creative source of the physical world in space and time.* Relativity theory describes the external form of the logic and quantum mechanics describes the internal form. The logic of three shifts our metaphysical perspective away from a dark ground of objects in-themselves towards the illumination of light as creative act.

"Here, when the consciousness rises above 'the double bound of space and time' and enters into eternity, here, at this moment of annunciation, the One Who announces the Truth and the Truth Announced coincide completely. In the appearance of the Spirit of Truth, i.e., in the light of Tabor, the form and the content of Truth are one. But perceived and assimilated into creation, the knowledge of the Truth falls into time and into space. Into the time of the diversity of the individual and into the space of the diversity of the social."
[Florensky, 107]

From an ontology of being & power into an ethics of creation & formation

In order to open ourselves to the possibility of "the logic of three", we need to overcome the entrenched belief in Newton's Absolute Space as the ground of Being. This ontological grounding is the realm of action, force and power.

> *"A philosophy of power, ontology is, as first philosophy which does not call into question the same, a philosophy of injustice … Being before the existent, ontology before metaphysics, is freedom (be it the freedom of theory) before justice. It is a movement within the same before obligation to the other."*
>
> *[Levinas, 47]*

Space is ruptured and loses its totalizing grip in the encounter with an *Other*. Such an encounter is particular; it addresses each uniquely; it demands a *response*. The encounter occasions a lifting up out of the realm of action/power and into a higher realm of creation/formation. The encounter opens us to the cracks in the dark ground and momentarily lifts us up, out of the given ground, and into the light.

> *"Ring the bells that still can ring*
> *Forget your perfect offering*
> *There is a crack, a crack in everything*
> *That's how the light gets in.*
> *That's how the light gets in.*
> *That's how the light gets in."*
>
> *[Cohen, "Anthem"]*

Further Reading

The Proximity of Light: a deconstruction of space

2. Encounter

In this section we will explore the interior and exterior forms of the logic of three. The first part of the exploration involves a particular, experienced encounter with the form of the logic that is subsequently traced as a phenomenon. It is presented as a letter that recounts an actual inter-personal interaction. The second part abducts the trace of this encounter into a generalizing form.

Part One: The form of encounter: an example in the form of a letter

Hi David,

Our conversation last week was very fruitful for me. I thought it might be helpful to try to trace the gist of our discussion of the movement from the known to the unknown. This movement occurs in repeated cycles of **3 → 2 → 1**, where the numbers represent Peirce's three categories. That is to say, Thirdness (3) is generality; it is the realm of what is known or understood in some way. Secondness (2) is a process of encounter with an Other that remains irreducibly *other*; it results in image formation. Firstness (1) is present simply in its being without referring to anything; it is the mover, the creative, that which draws the logic onward and upward, like light that gradually or suddenly illuminates a darkened room to reveal objects in their own clarity.

I hope you also will find this tracing to be helpful in your work on Hooker.

Here goes:

Three

The starting point is in the known (Thirdness), which is to say the starting point is an understanding that is recognized as common in some way. Our starting point was the triad (*Beauty, Goodness, Truth*) which we mutually (i.e. commonly) related to Peirce's three categories.

Beauty	1
Goodness	2
Truth	3

This triad (*Beauty, Goodness, Truth*) is a "pro-type". What I mean by this term is that the triad begins by merely being a particular instance of a triad that we could discuss. But it also offers itself up as an instance that could be repeated through images and therefore become a "type". But it would not become a type unless that potential was actualized. So the instance is not necessarily a type, but it might be a type and until that possibility is actualized it is more accurate to call it something that comes *before* type, and so I use the word "pro-type". (At the time of the Baptism of Jesus [Matthew 3:13-17], what was happening in that moment was a pro-type.)

It is important to recognize that a pro-type must be an *actual occurrence*, an event at a particular moment in space and time. It cannot be an imagined narrative or an abstract theoretical model. It is precisely because the pro-type has actuality and particularity that it is able to serve as the basis for the formation of something radically novel and beyond the domain of the accessible that existed before the event. The pro-type brings the (formerly) *impossible* into the realm of the possible.

Two

First doubling
Next, a reflecting image (*Faith, Hope, Love*) was brought into juxtaposition with the pro-type. Then there was a process of back-and-forth (like metaphor) between the two triads. Through this process we identified
- a kind of sameness (which was in their relationship to the three categories)
- a kind of difference which you named "survive". Faith *survives* Truth; Hope *survives* Goodness; Love *survives* Beauty.

The sameness was represented by placing the two triads together on the page (in spatial juxtaposition). But the difference was a bit more challenging because it involves a sense of overcoming or going beyond. Faith *survives* [known] Truth because it can overcome falseness. Similarly Hope *survives* Goodness because it can overcome badness; Love *survives* Beauty because it can overcome [the fleetingness of] beauty. The difference is an asymmetrical movement such that the second triad is "larger than" or "more than" or *beyond* the first. We ended up representing this by an arrow

Love	Beauty [fleeting]	1
Hope	Goodness	2
Faith	Truth [known]	3

←

I've added the qualifiers to the first triad because in this process of bringing together the two triads, two movements of thinking are happening:
- The image gives clarity to the pro-type *as a type* and brings it into greater definition and determination. The qualifiers begin to articulate the sense of definition and clarity that the pro-type assumes as a type.
- As it comes into definition, the pro-type also begins to exceed itself in pointing to the other triad which is greater than it's own self-image.

The arrow is the intrigue. It is Secondness. *Survive – (sur-vive) – live beyond.* It is not really a "thing". It is not really an "arrow" because the movement is also reflexive—from the type to the image, to the type, to the image, and so on—it is an expanding cycle or spiral. The logical "form" of this intrigue is metaphor, meta-*form*: beyond or above form. Metaphor has the quality of proclaiming that something *both is and is not* something else. But the "is" and the "is not" don't exist on the same "level". There is a *sense* in which there is sameness and there is a different *sense* in which there is difference. So the

intrigue of Secondness is that we are awakened to "levels". The sameness belongs to the category of generality or Thirdness and the difference belongs to the category of Secondness or particularity.

Naming
You called the first triad "Value" and you noted that Value operates on a different level from the second triad which we both thought could refer to Pauline eternity [1 Corinthians 13.13]. A key intuition about each triad is that it corresponds to a "whole" and this is why it is reasonable to name the first triad "Value".

Second doubling
We then went back to the original triad and created a new image that helped us grapple with the idea of levels. This is what I would call the movement of *pivoting*. And we came up with the following new triad as an image (*Aesthetic, Experimental, Theoretical*)

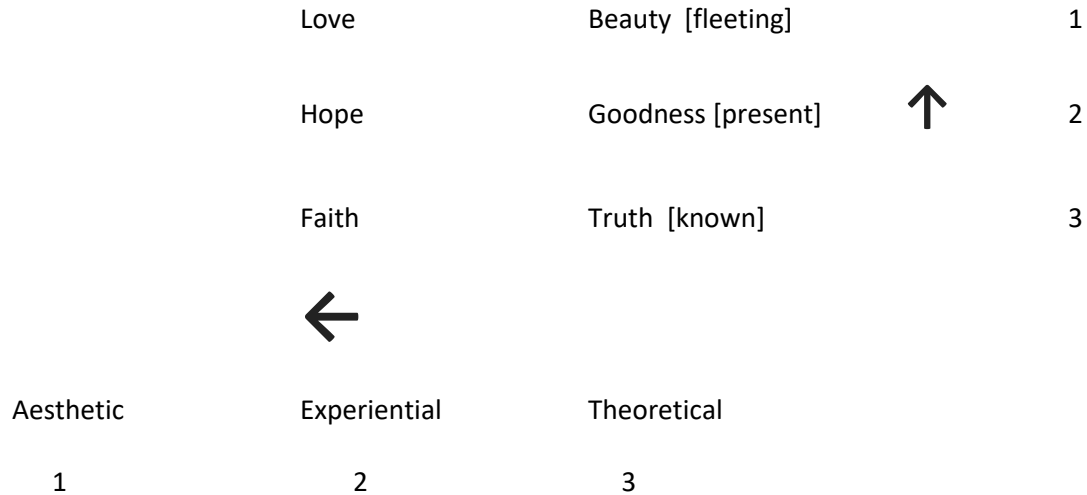|		
Aesthetic	Beauty [fleeting]	1
Experiential	Goodness	2
Theoretical	Truth [known]	3

At this point we had a pro-type and two different images. We had explored the relationship of each image with the pro-type. And we had a way to retain identity of the pro-type *as a triad* through naming it *Value*.

But what about the relationship between the two images?

One

Thirdness
We recognized that the second image could be used to bring into a common understand (Thirdness) *sur-vive*, this new kind of relation between the pro-type and its image. It could be used to begin to bring into awareness the intrigue of Secondness as a movement from one level to another level. It would look something like this:

Love	Beauty [fleeting]		1
Hope	Goodness [present]	↑	2
Faith	Truth [known]		3

←

Aesthetic	Experiential	Theoretical
1	2	3

In this way, we expanded our matrix of relations from one dimensional (pro-type) to two dimensional (pro-type and image) and then to three dimensional (pro-type, image, and level) *qualities*.

Also, we have repeated the pro-type of the intrigue of secondness (the arrow) because we can see that there is a movement to the left and also a movement upwards and these two movements can be brought into the relation of *meta-phor*.

At first that intrigue was only an experiential encounter with Otherness, a fleeting recognition that had no representation in the known with which we started. **An intuition**. But through iteration, we could create an image and then the image could reflect back on the encounter to bring it into definition and determination as a thing, *after the fact of having encountered it*.
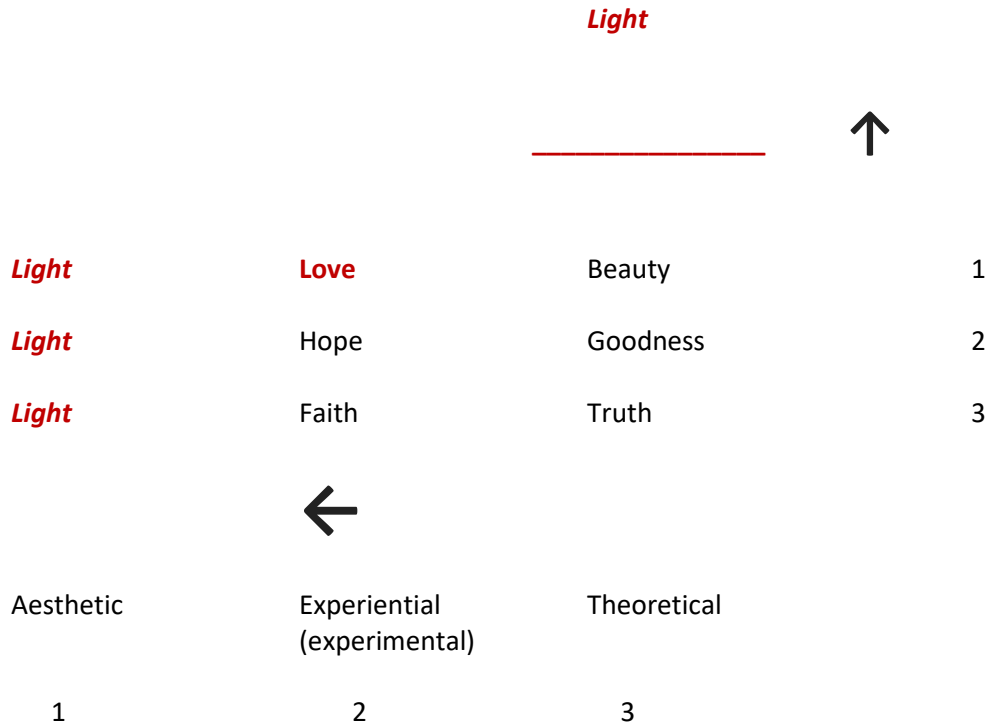
This recognition is what led me to suggest that "Beauty" is too narrow a term. In the upward movement there is something greater than *Beauty* which I called "Glory" at the time, but now I think it is better to call it "Light". You also said that you felt uncomfortable connecting *Beauty* with Firstness, yet it did make sense in the context of the levels because *Beauty* belongs to the level of the Aesthetic. You were implicitly relating these levels to Kant's critiques, I believe, while I was relating them to physics. It is as if, at the level of the aesthetic, *Beauty* is pointing to something beyond itself, beyond its proper content or meaning, and that something is a pure uplifting movement, like what might be mean by the phrase "from Glory into Glory".

So, first our pro-type (*Beauty, Goodness, Truth*) outflowed itself in its image and in that process was brought into greater determination or limitation. Now our pro-type is outflowing itself into a new "level" where by "level" we mean the specific instance of the categories (3, 2, 1, with 1 being the "highest" level).

Where is that level?

Secondness

The graphic tells us the answer. That level is the Aesthetic into which the image flows. That is to say that the movement upwards and the movement to the left flow into the same "Oneness".

Light

_____   ↑

Light	**Love**	Beauty	1
Light	Hope	Goodness	2
Light	Faith	Truth	3

←

Aesthetic	Experiential (experimental)	Theoretical
1	2	3

The graphic, as *text*, is the Other to the dynamic conversation between us. It marks the trace of our dynamic inter-personal thinking and sets the original triad, the pro-type, as a pivoting centre, or index, or origin out from which the other images flow *relationally*. As Other to our temporal logical movement, the text also allowed for the recognition of a **Return** flowing into Oneness.

Firstness
Light is Firstness. It is recognized in the Other as *Love*. It is what moves the movement. It is what unifies the triads.
- It moves within the internal structure of the pro-type, such that the pro-type can exceed its externally defined "selfness" which is its image.
- It moves externally by creating additional external images that can be brought into relation with the pro-type in order to lift the pro-type out of its "level" and into a higher "level".

Light/Love is the teacher that was with us even though we didn't recognize him [John 20.16].

I hope this tracing of our conversation has some resonance for you. It certainly has helped me to understand the "intrigue" of secondness which I find particularly hard to grasp. Once again, thanks for your help!

Blessings,
Timothy

Part Two: The Form of Generalization: an interpretation

The movement described above (Part One) is the recounting of a particular encounter or action. I now want to interpret this particular. By *interpret*, I mean *bring the particular into a generalizing form*. The generalizing form might allow this particular to be related to other similar particulars and, in so doing, create a movement of inference to the general.

Part One is an outward movement and has the form of the cyclical spiral **3 → 2 → 1.** In Part One we saw how triads are embedded in inter-triadic relations. The interlocutors in Part One (David and I) traced out three triads as 3-Form that folded back upon itself. That movement was informed by and disclosed an interior "Light" that was *beyond* the articulated 3-Form because the 3-Form, in itself, was contained by the Return. It was as if I had been in the belly of a fish and the fish protected my Finitude against the dark abyss of Infinity while at the same time drawing me into the recognition of an Interior Light that came from an entirely different "Level". (Indeed, "Level" is not the right word because the notion of level belongs to the realm of the 3-Form; "dimension" might be a better term, except that the exploration of the 3-Forum was temporal not spatial.) Once the Light was recognized, the fish spit me out.

Part Two is an inward movement and has the form of the spiral circling in the opposite direction **1 → 2 → 3.** In Part Two we will see the form of the intra-relation within a triad.

1. Name

In traditional binary logic, each concept is a monad. A concept's unity rests timelessly in itself. In the logic of three, there are no monadic concepts. The fundamental unit of the logic of three is a Notion which is a complex of concept-like elements. The particular notion we began with was called *Value*. A Notion involves aspects of all three categories: Firstness, Secondness, Thirdness. So, at the very least, it must have three elements. The elements of the particular Notion called Value are *Beauty*, *Goodness* and *Truth*.

Beauty

Goodness

Truth
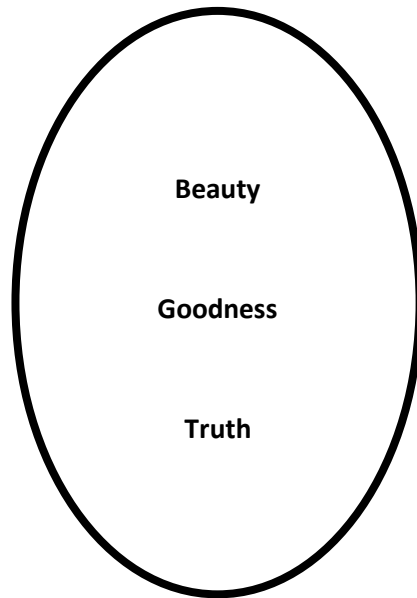
**Figure One: The Notion called *Value***

Unlike a monadic concept that is timeless, the Notion is dynamical. But it is a dynamical movement that returns back upon itself iteratively to form a self-reflexive "whole". There is an implicit infinity in this form of self, like the infinite form of self-energy in renormalization theories of physics. The dynamic of the Notion happens because the Notion includes aspects from all three categories. The identity of the Notion is held or stabilized or centred in the dynamical flux of the Notion by its Name. The Name can stabilize the Notion because the (infinite) cyclical dynamic of the Notion forms a whole. The named, cyclical dynamic is how the notion comes to express *meaning*.

2. Exteriority

Therefore, meaning is infinitely expansive for a notion. However, meaning becomes determined or contained or brought into the finite through limitation inasmuch as a particular Notion is brought into relation with other notions that are external to it.

Notions are always in *external* relation to other notions. Notions in reciprocal external relation to one another have the form of images, and images are concept-like in their unity. So the "exterior" of the Notion, which is merely an image of the Notion, is like the surface or the *face* of the Notion.
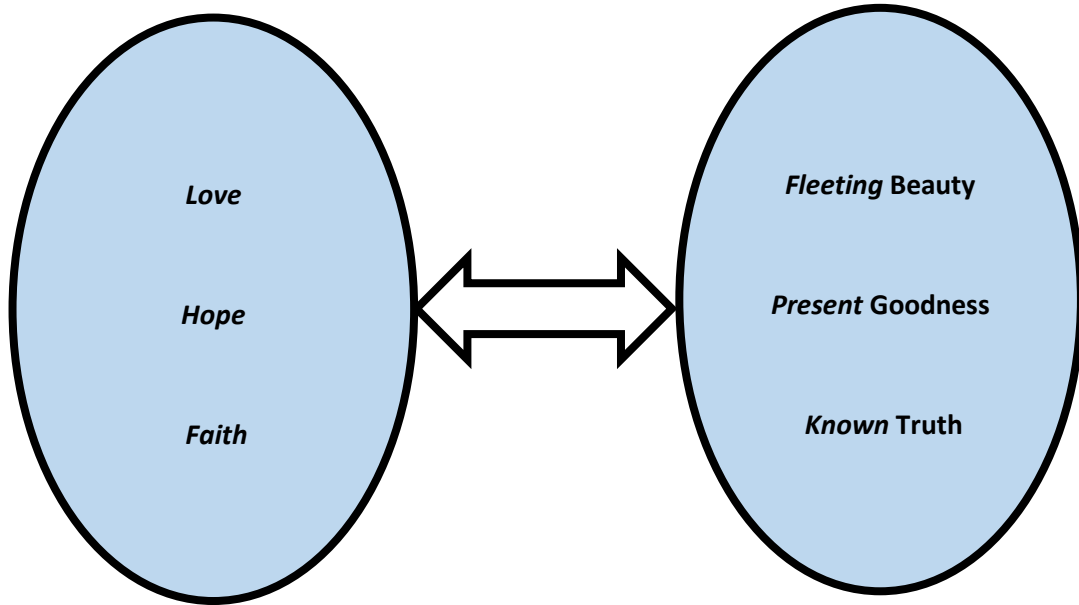
Figure Two: The exterior form of notions as images in reciprocal relation

3. Interiority

A Notion also has interiority. The interiority consists of at least three other Notions because the interiority must contain aspects of the three categories. So Notions are also always in internal relation to other Notions. However, because of the dynamic of the three categories, the interiority of the Notion is always exceeding itself so that there is a movement of expansion as a form of "self-overcoming". This is another way of speaking about how meaning is infinitely expansive for the Notion. In "self-overcoming" the Notion refers beyond its horizon; it has the form of a Sign. For example, Value is a *sign* of Light and Love as explored in Part One.

Light **Love**

Beauty

Goodness

Truth
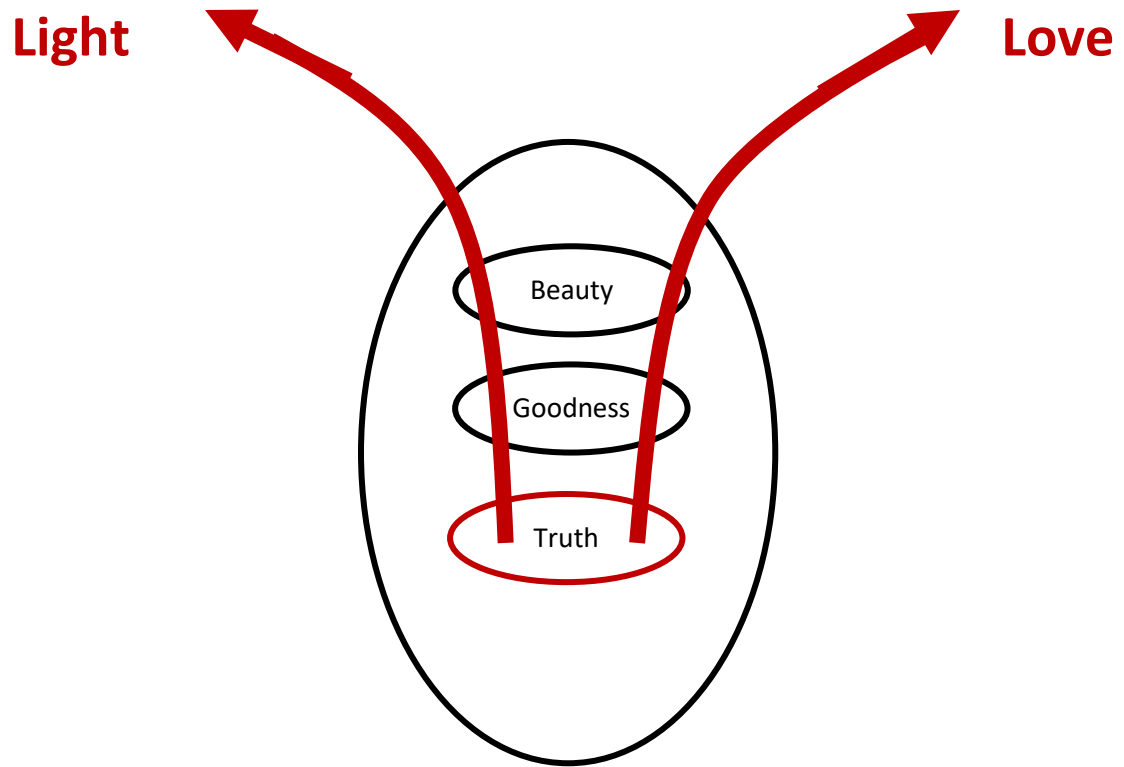
Figure Three: The Interior form of the Notion as Self-overcoming

1. **Origin**

In order to bring notions together into exterior reciprocal relations, one Notion must be chosen as the indexical Notion to which all other notions are related as mere images. This creates the structure of a framework of notions, where the particular indexical Notion is the origin, like the origin to a frame of reference in physics. The framework creates a generalizing system. All other notions within the system occur as surface images, as concepts, but they are concepts in relation to a system for which the chosen Notion is the index or Origin.

In other words, there is no purely exterior vantage. An exterior description of the relation of notions must Name its origin. This chosen origin is then the dynamical centre for the way in which the generalized framework is particularized in the actuality of the logic.

In Part One of this exploration, the indexical Notion was Value and Value was the pivoting centre for the processes of the logic.

Similarly, when bringing notions together into interior reciprocal relations as in Figure Three, the Notion that belongs to Thirdness, namely Truth, is an indexical ground. This ground is the (known) starting point for an interior ascent of *Intuition* as an irresistible drawing upwards out of the self-limitation of the image of the Notion.

In other words, from the interior ground of the known (Thirdness) there is an upwards movement of Intuition that allows the indexical Notion to overcome its self-limiting image. In our example of Value, it was Truth which, starting from "known truth" lifted the logic up out of this starting ground and into Light and Love.

So at the deepest interior of the Notion we find Truth writ infinitely large as a lifting up of the Notion out of itself and into Light and Love. In the "infinite limit" the interior and the exterior are one. In this manner, we might say that Truth includes both ground and pillar [1 Timothy 3:15]. And we also might say that all notions are traces of Trinity, where "trace" is like "image" but on a higher level.

In our encounter, the trace might be said to have the following form:

Light

Love

Truth
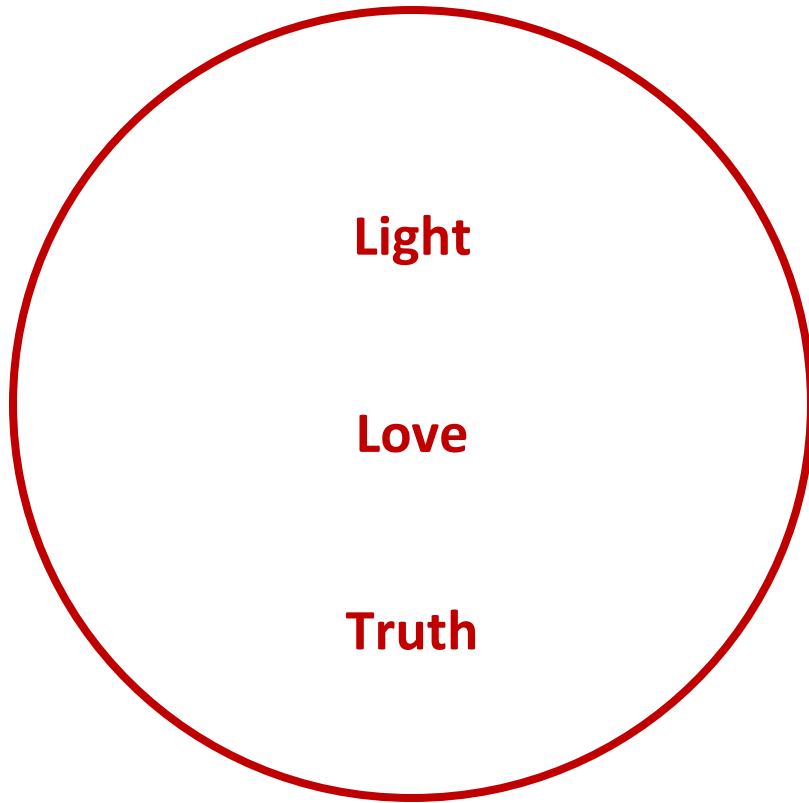
2. Subject-Object

Each Notion has two manifestations: *Exterior* and *Interior*.

Exteriority

Through Exteriority the Notion manifests as an image. In Part One, we encountered two such images, namely, the triad (*Love, Hope, Faith*) and the triad (*Aesthetic, Experiential, Theoretical*). The exterior image, or the *face*, of the Notion is formed through relationships of equality with other notions. The image allows the Notion to appear in finite logic as an entity. The exterior of the Notion is merely a surface form. It is similar to the "concept" in binary logic, except that it never exists "in-itself". The image of the Notion presents as an **object**; exteriority is objectivity.

The image of the Notion is what brings meaning to the Notion by means of its relationships to other notions. Objectivity always manifests in some form of generalizing structure, which is the grammar of mutual relationships between notions.

In describing exteriority, we might say something like this. The Notion, in entering into a grammar of mutuality, *limits itself* so to speak, so that its interior infinity is constrained. This is the movement of the pro-type. The pro-type then offers up its image as a repeatable type in order to allow the presence of other notions which have the freedom to likewise come into determination in the grammar of mutuality.

The grammar of mutuality is always general (Thirdness), never particular (Secondness). Meta-phorically, it is *spatial*.

Interiority

Because the grammar of mutuality is always general, notions need an origin or an index in order to actualize in the world of space and time. There is a need for a frame of reference or a sense or a ground.

With the logic of three, *there is no transcendental vantage for objectivity*. There is no universal frame of reference. Rather one *particular* Notion is set apart from all other notions as the **Subject** of an investigation or a system.

The Subject is what we have been calling the indexical Notion. In the conversation recounted in the letter of Part One, the Subject was Value (*Beauty, Goodness, Truth)*. The Subject, as the indexical Notion does not appear in objectivity like the other notions to which it becomes related externally. Instead, it "empties itself" in order to deepen the meaning of the other notions to which it becomes related through the investigation or system.

The "inner truth" of the Subject flows out into the other notions that are brought relationally into the investigation or system. In this way, the investigation or system maintains its *coherence* as a whole. The inner truth of the subject animates the logic and moves it from the known to the unknown through a latent attraction that we have called *Intuition*.

This means that the Subject is always *intentional*. It is always oriented towards an Other. The nature of this orientation determines whether or not the Subject is treated *truthfully*.

In this paper, the Subject is the triad (*Light, Love, Truth*).

Mediation

The Subject is the spiraling centre of a particular investigation or system that gives meaning to and draws meaning from the other notions to which the Subject becomes externally related in a coherent grammar of mutuality.

This logical process works through images. The other notions present to the Subject at hand as images. The Subject is *drawn out* by these relational images. This outward movement happens because the images of the other notions both reveal and conceal Infinity as the interiority of the Other, as its "inner truth".

As the logical processes work themselves out in the investigation or system, the other notions reflect back to the Subject its own image. This is an image that is given to the Subject by the others. The Subject is then always in the process of over-flowing this given Self-image in relating to the other notions. Reciprocally, the Subject allows the other notions to overflow their own Self-images in the investigation or system.

At the core of this mediated process is the possibility for *resonance* or mutual recognition. Resonance happens when the Subject offers up an image to a particular other Notion and that other Notion reflects back *that same image* to the Subject. However, because there is always excess in the offering up and receiving of images, this processes of mutuality, which is different that reciprocal equality, pulls both Notions out of their Self-images and into something radically new. *Resonance* is the movement of Intuition, where the Intuition is presenting at a higher level in which the particular Subject and the particular Other Notion are One.

3. Signs

The Notion can present as Subject or as object and, through mediation, it can alternate between these vantages of interiority and exteriority like a flickering light.

So what is the Notion? What shall we call its general form?

The Notion the fulfilment of the sign.

The three elements of a sign are: the *sign-vehicle* (also called representamen or simply "sign") which stands for an *object* to which a response may be made by an *interpretant.*

The image of the Notion is the *sign-vehicle*; the exterior of the Notion is an *object*. The interior of the Notion, the Subject, is an *interpretant.*

Further reading

Jonah [1.17-2.10]

Matthew [16-17]

3. Synchronicity

Introduction

In this section I attempt to imaginatively enter into a debate on the nature of time[1] between Bergson and Einstein. My entrance is not a re-enactment. Rather, it is a tentative narrative that seeks to *relate a disjuncture* between Einstein's insights about time and those of Bergson. In taking Einstein's part, I depend upon a common understanding of Special Relativity Theory, such as the one articulated by David Bohm[4]. In taking Bergson's part, I draw from Bergson's text[5]. The reason for these choices is that I intend to situate Einstein within a General or common framework and Bergson within a Particular understanding.

The method of the investigation involves alternating between the two sides of the disjuncture while at the same time attempting to thread them together by focusing on an implicit question that each interlocutor asks of the other. The question asked of Einstein is *How does the General become embodied?* Of Bergson, *How is the Particular communicated?*

The intended outcome of the investigation is an illustration of Aufheben[6] whereby the disjuncture is synthesized at a "higher level" of interpretation. The illustration discloses the Logic of Three and suggests a pathway to the synthesis of quantum mechanics with relativity theory.

Origin, Rest, and Light

The coherence and trajectory of the investigation depends on the way in which the terms of reference are established. I begin by introducing the core notions of *Origin*, *Rest* and *Light*. These terms are introduced in a way that will hopefully allow us to move between Einstein and Bergson; consequently, the way that I speak about them may seem foreign at first[7].

Special Relativity Theory is built upon the notion of an Inertial Frame of Reference. An Inertial Frame of Reference points to, or locates, an Origin where an Origin is a local here-and-now within the unfolding of creation. An Origin calls out, "*Here I am*", so to speak. The spatiotemporal unfolding of creation—the dynamics of the embodied Universe—is then indexed to the chosen Origin. That is to say, everything else in the Universe *is related back to the Origin*, while the Origin is taken to rest in itself. One cannot speak descriptively of the embodied Universe without naming an Origin.

The Origin is *particular*, it refers to a particular here-and-now within creation. Yet the Origin is *not unique*. Another Origin might be chosen as the indexical centre for a different Inertial Frame of

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[4] Bohm, David. *The Special Theory of Relativity.* New York: Routeledge, 1996. I will work from the Special Theory, rather than the General Theory, because I will be calling into question Einstein's notion of *Generality*.

[5] Bergson, Henri. *Duration and Simultaneity*. Transl by Leon Jacobson. New York: The Bobbs-Merrill Company Inc., 1965.

[6] Birchell, B.C. Hegel's Notion of Aufheben. *Inquiry* 24(1):75-102,1981.

[7] For additional clarification and rationale regarding the way I am using the terms *Origin*, *Rest, and Light*, see *On the Embodiment of Space and Time: Triadic logic, quantum indeterminacy and the metaphysics of relativity* or *The Proximity of Light: a deconstruction of space*.

Reference. This would result in a different description of the embodied Universe. However, only one Origin can be operative for any given description. To that Origin corresponds its Inertial Frame of Reference. A particular Origin cannot be co-present *bodily* with another Origin, nor can a particular Inertial Frame of Reference be co-present *bodily* with another Inertial Frame of Reference. The Origin is like the *Subject* as discussed in section 2. The rest of the Universe is objective for that Subject.

For an Inertial Frame of Reference, the Origin is said to be at Rest and an Inertial Frame of Reference is a Rest Frame. What does it mean to say "at Rest"? *Rest is a Special relationship with the Infinite*. In Special Relativity Theory the mediator of this relationship is Light. There are two aspects to this special relationship. First, an Inertial Frame of Reference is not accelerating which is to say that it does not experience the non-inertial forces that result from acceleration; this means that the embodied universe does not disturb the Origin. Rest is an equipoise that allows a direct relationship with the Infinite that is not disrupted by other bodies in the universe[8]. Second, the speed of Light is a universal constant for any Inertial Frame of Reference. This means that Light mediates finitude.

The mediation of Light is *immediate proximity*—a null measure that overcomes spatiotemporal difference (the relevant metric of Special Relativity Theory). When the Origin is at Rest, the Light cone brings it into immediate proximity with the Infinite[9]. Light additionally generates and sustains relationality for an Inertial Frame of Reference through the process of synchronization. Synchronization involves signaling between Frames of Reference. In Special Relativity Theory all Inertial Frames of Reference are equivalent. Light is the mediator that brings different Inertial Frames of Reference into relationships of equality; it brings them into sameness or unity. The relationship of equality is Rest.

What might Einstein say?

An Inertial Frame of Reference can be mapped out like a Cartesian coordinate system to create a Minkowski Diagram[10] as shown in Figure 1.

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[8] This notion of Rest can be traced back to Newton. For Newton, Rest was a relation to the Absolute that is not defined by other bodies. For him, there was no direct physical access to this Absolute. Rather, it is an asymptotic ideal that is the result of an iterative process that starts with an assumed inertial frame and then successively incorporates non-inertial discrepancies to move to a more accurate inertial frame. [Christopher Smeck, "Newtonian Time", oral presentation at *Time: A conference in the history of metaphysics*, Toronto, April 30, 2017].
[9] This is another way of saying that the metric *for the entire light cone* is null. Unlike the case with the Euclidean geometry of Newton's spacetime, with Special Relativity Theory the "infinitesimal neighbourhood" around the Origin is a grain (not a Euclidean point) that extends to Infinity along the Light cone. For additional explanation, see *The Proximity of Light: a deconstruction of space.*
[10] See also *The Proximity of Light: a deconstruction of space* (Figure 5).
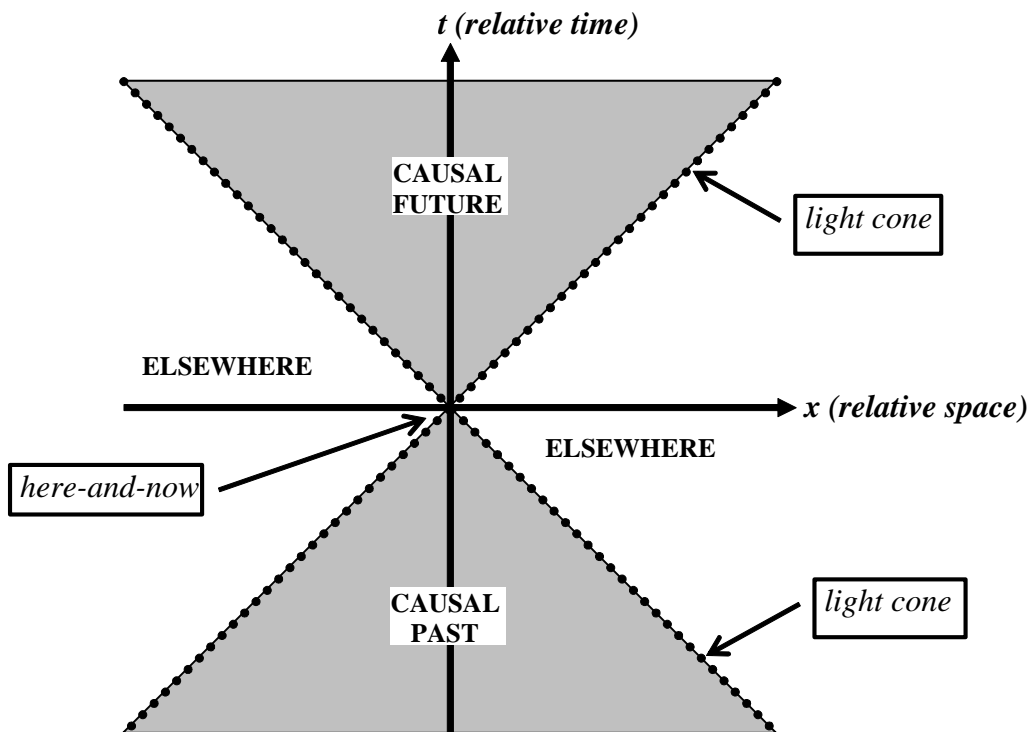
Figure 1 : Minkowski Diagram of an Inertial Frame of Reference

In this diagram, the Origin is the centre of the Inertial Frame of Reference—the local *here-and-now*. The vertical and horizontal lines represent locally constructed time and space coordinates that are mutually orthogonal in the Inertial Frame of Reference. The diagonal lines represent the invariant speed of Light. The figure they form is called the *Light cone*. The Light cone is absolute in the sense that it is independent of any particular Inertial Frame of Reference. The shaded area within the Light cone corresponds to all events that are causally[11] connected to the Origin or the local here-and-now. The domain of such events is divided, by the Light cone, into the *causal past* and the *causal future* of the local here-and-now. All events that impact the local here-and-now (events in the causal past) and all events that the local here-and-now can impact (events in the causal future) must lie within the Light cone. There is also a domain of causal indeterminacy—labelled *Elsewhere* in the diagram—which is not accessible to the local here-and-now. It is not accessible in the sense that there is no causal signal that can link events in Elsewhere with the Origin of the Reference Frame. No event in Elsewhere can causally affect the local here-and-now. Such events are non-causal events that can only impact the causal future of the frame, if at all. The local here-and-now cannot causally impact any event in Elsewhere.

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[11] In this context, the term "cause" refers to *efficient* cause. Efficient causes sequence events into prior causes and subsequent effects, resulting in an irreversible chain of action-reaction relations.

The Minkowski Diagram represents the vantage of an Inertial Frame of Reference on the embodied Universe. It is a system of coordination in which space and time are the coordinates. In Special Relativity Theory, this coordination is particular and relative to the given Inertial Frame of Reference. That means that each Inertial Frame of Reference has its own proper time and relative space. The coordination of time and space happens through the mediation of Light. Unlike with Newton's theory in which (absolute) Time and Space are absolutely "given", with Einstein's theory it is the process of mediation or synchronization of coordinates by Light that is absolute. Special Relativity Theory describes a *relational ontology* and therefore it is necessary to consider the manner in which different Inertial Frames of Reference are brought into relationships of *Synchronicity*.

For Einstein, synchronization happens through the exchange of signals of Light in accordance with the premise that Light is an absolute mediator. To speak of synchronization, we need to consider two Inertial Frames of Reference that are exchanging Light signals between one another as shown in Figure 2. (For simplicity, I refer to an Inertial Frame of Reference as simply a "Frame").
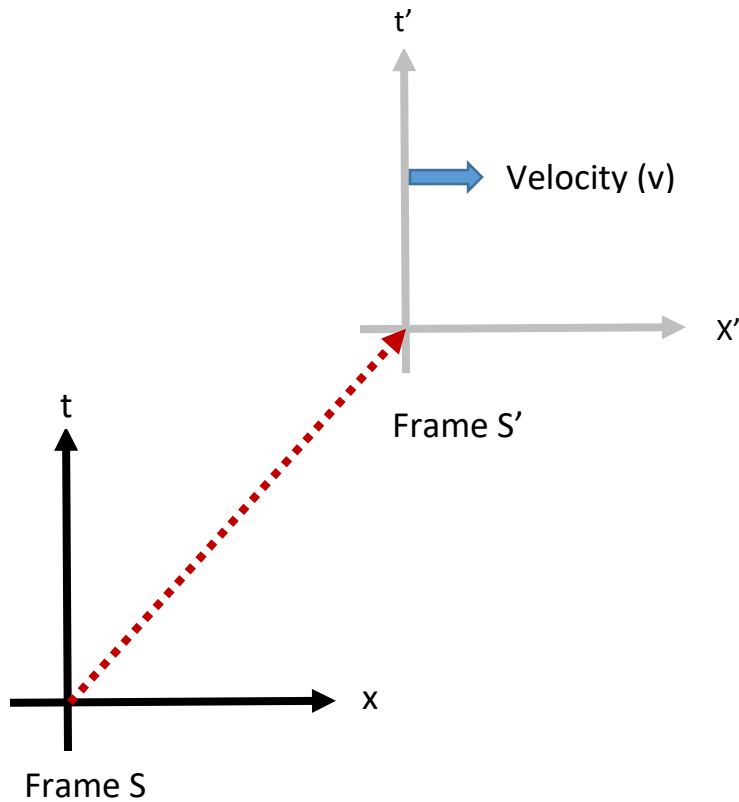

Figure 2: Inertial Frames of Reference (S and S') connected by a Signal of Light (Dashed Arrow)

Considering the Frame S in Figure 2 as an index, it is then possible to coordinate points (x', t') in the Frame S' with points (x,t) in the Frame S. If the Frame S' is not moving with respect to the Frame S, then the coordination is taken to be a form of identity because each point in S' rests upon an equivalent point in S. In this case, spatial and temporal intervals are the same for the two Frames. However, if the Frame S' is moving at a (nonzero) velocity v with respect to S, then the coordination of spatiotemporal points results in a contraction of space in the direction of motion and dilation of time in the Frame S' as measured in the Frame S. This transformation is a consequence of the uniform and finite speed of Light c, as measured in either Frame. Constant velocity—a finite image of the constant speed of Light—*equalizes* relationships such that all Inertial Frames of Reference move at a constant velocity with respect to one another and form an equivalence group.

For Einstein, the transformational relation of space and time between the Frames (the Lorentz transformation) is a real consequence of the relative motion between the two Inertial Frames of Reference. *Time slows down in Frame S' according to Frame S*.

What might Bergson say?

An Inertial Frame of Reference cannot simply be taken to "rest in itself". The Origin of the Frame—the assumed still point—is more elusive and circumspect. It is misleading to use the Euclidean point as an image of absolute rest in the way that Einstein does. His "implicit notion of absolute rest confuses the interpretation of reciprocity"[12]. A Frame of Reference is the ground of an observer's perspective where the observer is always embodied and constitutionally related to what is observed. The Origin discloses this *interiority*.

Rest should be defined with respect to the placement of the observer. When we speak of Frame S as the indexical Frame, we mentally take our place within this Frame. We are able to imagine a second, doubled Frame S' in motion because we relate it back to the Frame S in which we have imaginatively placed ourselves. We can then speak about changes to space (x') and time (t') in the second Frame S'. That is to say, we can *interpret* the spatial and temporal intervals in the second Frame *according to our indexical Frame S*. However, our interpretation is not the same as the experience of an observer that is placed within the second Frame S'. The changes we interpret for the Frame S' according to the Frame S would "escape the observer who is part of the moving system. Only the stationary observer is aware of them"[13].

Once we acknowledge that observers are constitutionally related to what they observe, then we need to be aware of our own vantage for observation. We might choose Frame S as our vantage. We might choose Frame S'. But we cannot choose both Frames at once. Only one Frame of Reference can be the Subject; all other Frames become objective in relation to the chosen Subject. The way in which we interpret Frame S' (the Objective frame) from the indexical Frame S (the Subjective frame) is not the same as the embodied experience of an observer in Frame S'. Something escapes our interpretation. Namely, the embodied experience of the Subject in their own Frame S'. It is the *particularity* of the Subject in Frame S', the way in which the Subject is a

[12] Bergson, *Op Cit.* p34
[13] *Ibid*, p22

locus of meaning in relation to themselves that cannot be subsumed into the description according to Frame S. We might call this the Subject's *interiority*.

Why does the particularity of the Subject matter? Isn't everything laid bare in a universal objective perspective? Don't we just need to find the right Frame of Reference that provides God's Eye View on all possible Frames of Reference? Can't we just transcend embodiment to see the world as pure objectivity?

In fact, *Special Relativity Theory explicitly denies the possibility of such a "universal vantage"*. As shown in Figure 1, an Inertial Frame of Reference always has an elusive "Elsewhere" that is a domain of indeterminateness for that Frame. Universal totality cannot be accessed from a single Inertial Frame of Reference; it is a deferred construction or interpretation made possible through the synchronization of the observations from all possible Frames of Reference. As Bohm writes: "projections from our absolute past to our absolute elsewhere are necessarily incomplete. There is … always much that is unknown in our absolute elsewhere; and, for this reason alone, predictions concerning the future will be subject to contingencies, arising from what is unknown at the moment when the prediction is made. Of course, we may come to know about these later (when they will have become a part of our absolute past), but then there will be a new absolute elsewhere, not known at the moment in question. So there will always be that which is unknown … It can be seen that all these considerations arise out of the need to take into account the important fact that the observer is part of the universe … As a result, because of the very form these laws of physics, which imply that no physical action can be transmitted faster than light, there are certain limitations on what can be known by such an observer at a given moment."[14]

What happens if we try to transcend our embodied vantage? Suppose we begin by taking Frame S as "at rest"—the Subjective frame—and then imagine the perspective of Frame S' that is in motion with respect to Frame S. We might then turn back and imagine Frame S as the one in motion with respect to Frame S' which we now take to be "at rest". That is to say, we might change our perspective so that Frame S' is the Subjective frame. In considering this dynamical change of indexical relation between two Frames, we don't need to place ourselves in a third objective Frame of Reference to index our thoughts or interpretations. Instead, suppose our imagination "oscillates between the two, immobilizing them by turns through goings and comings so rapid that it entertains the illusion of leaving them both in motion. It is in this precise sense that we speak of a 'system of references'"[15]. A gap of indeterminacy remains in the oscillation back-and-forth and this gap *is temporality*. Origins can no longer be said to rest in-themselves. Instead "nodes" are formed in the repeated movement of our imagination as it differentiates the *Other* Frame and returns back to the *Same*. These nodes are images for which *we are the subject*. The system of references is held in synchronicity by our oscillating movement from one Frame S to the other Frame S' and back again. This oscillating movement is what is meant by *Reciprocity*. Reciprocity is not equality; it is the process of equalization that happens in repeated differentiation and return to the Origin. Reciprocity involves an interior, Subjective dynamic of oscillation between the Origins of two Frames which through expression becomes external or Objective.

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[14] Bohm. *Op Cit.* p117
[15] Bergson. *Op Cit.* p41

What differentiates a Frame of Reference as *Subject* from a Frame of Reference as *Object*? The Subject possesses *interiority* and has *duration*. Interiority holds together or sustains Reciprocity as repeated differentiation and return to the same. Duration is the Subject's experience of temporal passing and is always particular. It is a continuation of what no longer exists in the local here-and-now into what does exist. Duration creates a self-image for the Subject in the back-and-forth of oscillation. In the simple example of the spatiotemporal Reference Frames that we are considering, this "self-image" is *extension*. The self-image is given to the Subject, as it were, through its constitutional relationship to other Frames of Reference. This self-image can then be projected onto another exterior or Objective Frame of Reference as an image of its Origin. In this way, the Subject can *interpret* other Frames of Reference as images or doubles or repetitions of itself. The other Frames of Reference, according to the Subject, are external and Objective. However, this Objectivity is incomplete. The *Otherness* of the other Frames of Reference eludes complete determination by the Subject. What is elusive is the particularity of the Other as Other, its indexicality as a locus of relations, its Origin or here-and-now. This particularity is the formal basis of proper time.

Figure 3 diagrammatically represents the "stilling" of two Frames of Reference in Reciprocity by a Third. In the back-and-forth movement, the two Frames of Reference (S and S' in figure 2) become external Objects for the Third. The interiority of the Third—the *Subject*—forms the image of the Origin which can then be projected back onto the two (external or Objective) Frames of Reference. This Origin might be interpreted as the vacuum state or ground state and has the extensive form of vibration. The ground state is the state of Rest which is a Special relation between the Origin of the Inertial Frame of Reference as Subject and the Infinite.
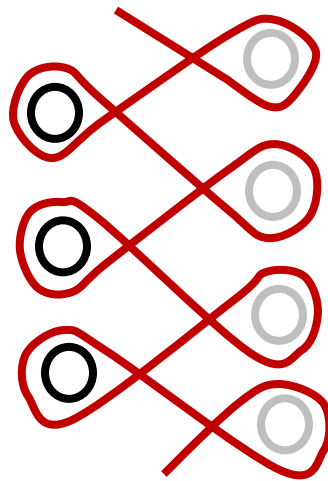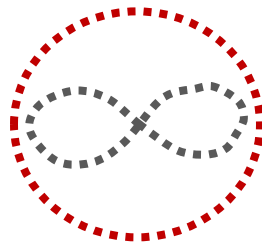
Origin of
Frame S

Origin of
Frame S'

Image of Origin
(Index or Local *Here-and-now*)

Figure 3: Reciprocity as dynamical relation: Exterior and Interior Forms

How might Bergson provide an opening to Einstein?

Embodiment is always experienced as Particular and Subjective. The Subject's Frame of Reference is unique. It sustains the index or locus to which everything else in the universe is related. This index or locus of relationality is what is meant by the notion of Origin.

When Einstein speaks of a second Frame of Reference moving with respect to a given Frame of Reference, the two Frames cannot be assumed as either equivalent or reciprocal *in themselves*. One Frame is taken as the Subject, either explicitly or implicitly. The other Frame then becomes the Object. The Subject has duration, acts, and experiences events. The Object, however, is merely an image that is formed by the Subject. It is a projection onto the Other of the experience of the Subject. It is an *interpretation* of another potential Subject that is like me.

Interpretations are always incomplete. They are incomplete because it is impossible to fully enter into the Subjectivity of another Subject. An interpretation eludes full determination *in principle* because of the particularly of every Subject as an embodied entity that forms a unique index or locus of relationality within Creation.

In speaking of "observation" as if it were universal and independent of the Frame of Reference of the Subject, Einstein underestimates the radicalness of *relationality* in Special Relativity Theory. Objects are interpreted entities that enter into determination and observation by way of their relationships.

The problem posed to Einstein by the radicalness of relationality in Special Relativity Theory is evident when we consider the Origin of an Inertial Frame of Reference. *The Origin cannot have the form of a Euclidean point*. A Euclidean point is the (spatialized) image of infinitely fast synchronization and therefore it is not consistent with the premise of Special Relativity Theory that the speed of Light is universal and finite. The Origin must involve a spatio-temporal process. It must have *duration*.

If the Origin cannot be taken to have the form of a Euclidean point, then neither can any other location in the spacetime manifold because each of these locations must be an image of the Origin. Each must be an original image because the Origin is the indexical reference for anything that might be taken to "rest in itself" in the manifold. The Origin is the source of Rest. Through this indexical pro-type, the spacetime manifold becomes an interpretational framework of the universe as a relational matrix of images of the Origin.

At the Origin is the Subject's interior experience of duration. Duration is universal. Time is. Time is for all Subjects.

How might Einstein enter into this opening?

Suppose we accept Bergon's challenge that the Origin to a Frame of Reference is more elusive than we have supposed until now. Special Relativity Theory tells us that Time is always particular. If the

Origin is an origin by virtue of its temporality, then there can be no generality, there can be no form, there can be no interpretation. How could anything be communicated?

In Special Relativity Theory, it doesn't make sense for us to take Time to be the mediator of universality as Bergson seems to do. But we can also see that Bergson takes experience as primary and we know *from experience* that the speed of Light is constant for Inertial Frames of Reference. Light presents itself to us as the mediator of universality, that is to say, the mediator of the *General*.

Suppose we try to think with Bergson, but we consider *Light* as primordial (an image of Arche) rather than *Time*.

In Figure 2, we considered two Frames of Reference in reciprocal relation. We unified this reciprocity by assuming their Origins could be brought together under a unifying gaze as identical in form. The form we chose was based on the assumption that we could spatialize the Origin as a Euclidean point and represent the two Frames of Reference as related *spatially*. Bergson says that this is not legitimate because it violates the principles of relativity theory. Namely, we would be required to assume infinitely fast synchronization between the two Frames when, in fact, synchronization happens through the exchange of Light whose speed is finite.

Bergson isolated the elusive back-and-forth of Reciprocity as the image of an Origin, a form of Subjectivity. Let's call this back-and-forth of reciprocity *Resonance.* An Origin *resonates*. Bergson locates Resonance within our Subjectivity; *we* are the interpreters who are imaginatively moving back and forth between two disjointed Frames of Reference.

Suppose instead of locating Resonance within our Subjectivity, we think of it as a form of interiority that might be located elsewhere. And instead of focusing on *where* it might be located, we ask *how* it might be located.

Figure 3 re-presents the mediated process of Resonance whereby the index of Subjectivity shifts between the Origin of Frame S and the Origin of Frame S'. Let's re-interpret this figure such that it is Light that mediates the process and it is the interior of something which has yet to be determined that is resonating. In other words, lets shift our focus from objects to mediation and see if it tells us something about what it is that is mediated.

In Figure 2, we represented a Subjective Frame of Reference (S) for which a moving Frame of Reference becomes its Objective *Other* (S'). The Other Frame is an image of the Subjective Frame (the Same in relation to the Other). If we imagine one Frame is moving with respect to the Other, then the velocity breaks the symmetry of the two Frames, it differentiates the two Frames such that the Same is stationary and the Other-to-the-same is moving. The reason why we identify with the stationary Frame, as Bergson notes, is because we are the arbitrators of difference.

But what about the case where the velocity is zero. Then the two Frames are identical and the separation of their Origins is purely spatial. In this special case, the reciprocal dynamic represented in Figure 3 is a back-and-forth process of exchange between two identical forms for which there is no manifest differentiation. Let this vantage be the vantage of Light. Light is the infinite mediation of the relation between the two identical original forms. The relation is one of Proximity because

there is no spatiotemporal separation for light (i.e. the metric is null). What is identical is form and form is general. The identity of Form is symmetry. What is different is the particularity or indexicality of form when it is the embodied Origin of a Frame of Reference. Light mediates this relation between particulars and their common form. This mediation involves the breaking of symmetry.

Light creates and breaks symmetry.

To illustrate how Light both creates general form and also breaks its symmetry, let's we consider created Light in the image of spinning photon. This image combines spatiality and temporality, such that the spinning photon has the potential to differentiate and return as it spins in a circular motion. To be sure, in itself this image is meaningless because there is nothing by which the spinning might differentiate or return—there is no indexicality or Frame of Reference. However, suppose we bring two spinning photons into Resonance. Now we have two Origins in Resonance, like the representation in Figure 3.

Next, instead of imagining that the Resonance is a back-and-forth of our subjective gaze as we move between the two Frames of Reference, suppose we take the back-and-forth to be an indeterminate exchange between two spinning photons such that their spins are always in opposition. The opposition is what allows the spins to be differentiated: if one is **+**, then the other is **-** where the names **+** and **-** reference the poles of an opposition that has yet to be determined. In the opposition is the potential for differentiation by means of orientation—a breaking of the symmetry—but that differentiation remains unexpressed.

Finally, suppose we synchronize the Resonance by means of a Third such that cycles of oppositional exchange repeat themselves in synchronicity with the Third, creating the rhythm of back-and-forth in Bergson's discussion of Reciprocity.

What results is a Three-form, a *relational object* with *interiority*. The lastly named synchronizing Third opens the possibility for the embodied resonance of two coupled photons in opposition or complementarity and brings the coupled photons into external relationships of general form. The Third sustains the interior form of the relational object. The indeterminate exchange of opposition for the coupled photons is the interiority of the object. This object might be called an electron. The object does not rest *in-itself*. The object is sustained in and through the relational integrity of the *Three as a whole*. This relational integrity is interior to the object. The object is an image of the Original spinning photon. This image might be thought of as a folding back upon itself of the photon to create a spatiotemporal knot.

The Three-form becomes the starting image of an Origin to a Frame of Reference, where the Three-form possesses an indeterminate interiority that has the potential to come into determination with exteriority. But in order to come into determination, the Three-form must be related to other Three-forms. Just like the image of a spinning photon is meaningless in itself, so too the image of a knotted Origin is meaningless in itself. As a relational object, a Three-form must also be in *external* relation with images of itself.

Like internal relations, external relations are also mediated by Light. A given electron exists in Resonance with other electrons and the totality of electrons forms the external system of which they are a part. The system, as system, holds together the external relations between electrons as relational objects. The interior form of the relational object—its in-formation—reflects the exterior form of the relational object—its spatiotemporal image or signification, and the Third mediates between interiority (the Same) and exteriority (Other-to-the-same).

What would result is a system of entanglement in which Light mediates relationships of interiority in synchronicity with the mediation of relationships of exteriority. This system of entanglement would be a semiotic system of signal exchange in which the signs (external images) point to external manifestations of interior formation. It would be a system of binary differentiation between **+** and **−** that manifests *orientation* as broken symmetry.

The Three-form of Special Relativity Theory has spatial extension by virtue of the back-and-forth of exchange of the Same and the Other-to-the-same held in reflective relation by the Third, as represented in Figure 3. Spatial extension differentiates identical forms as potential particulars in time (images) and manifests as vibrational modes. The Three-form also has duration or temporality by virtue of the synchronization of the Three—the Same, the Other-to-the-same and the Third. Temporality *orients* the Three-form towards exteriority and is the substrate for image formation. The Three-form of Special Relativity Theory is a simple example of a relational object.

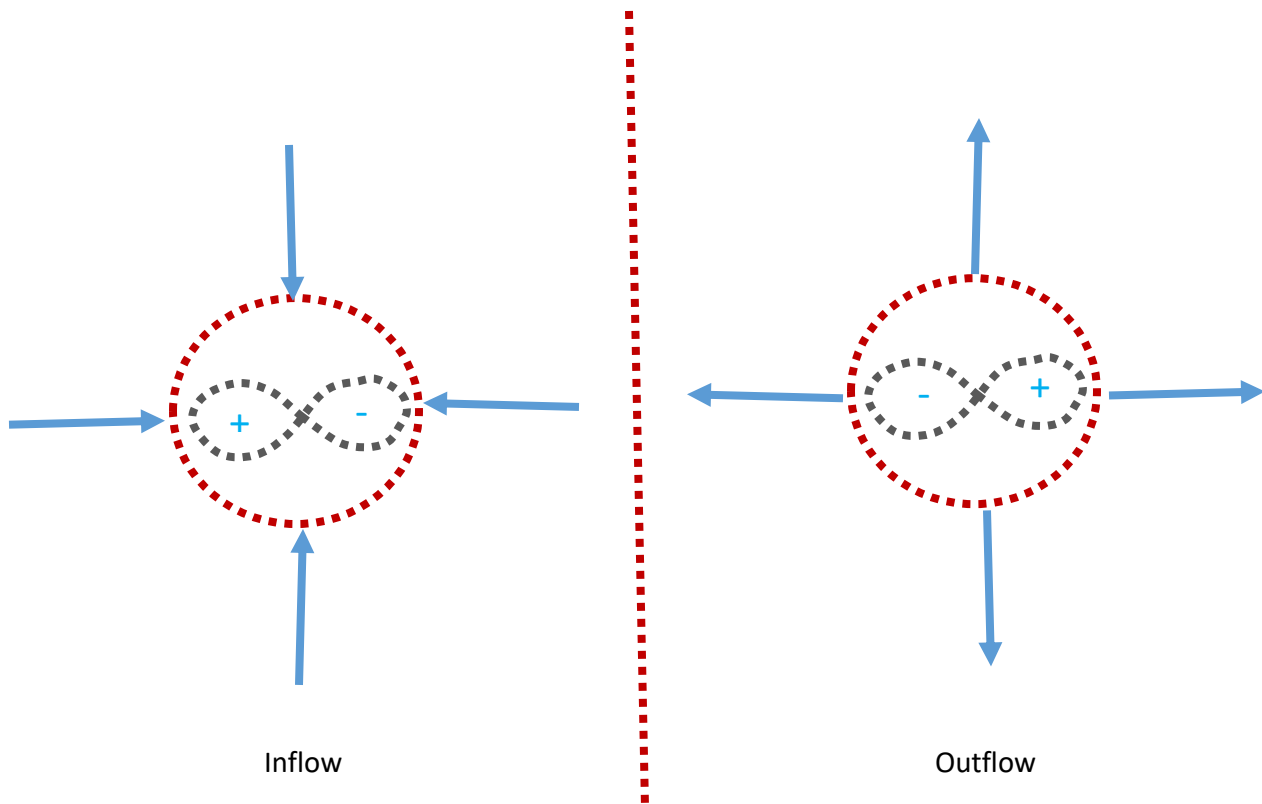Inflow   Outflow

Figure 4: Original Three-form of Special Relativity Theory

The coupled photons (encircled lemniscate) are formally held in unity by the inflow and outflow of the Third which also brings them into relationship with exteriority. The alternation between inflow and outflow happens in synchronicity with the exchange of spin or orientation between the coupled

photons, where the polarities of orientation are represented by + and -. Figure 4 re-presents the synchronization of Figure 3 by Light. It can be interpreted as the Origin of an Inertial Frame of Reference (see Figure 1) in which the Third (blue arrows in Figure 4) is the Light Cone. The Third is an asymmetric relationship (an oriented relationship) whose image is velocity as represented in Figure 2.

Re-solving Einstein and Bergson

Einstein begins with the assumption of an exterior Origin of general form that can be taken to rest in itself (a Euclidean point) and then derives a geometry of Being as a system of relational equality whose foundational spacetime points are perfectly synchronized *a priori*. All is Space.

From the experience of Subjectivity, Bergson deconstructs Einstein's original form by showing that it can never be located within a system of relations because it has no relation outside of itself. Yet it is only by relating beyond itself that the Origin can signify a particular location in a Frame of Reference. The *ad absurdum* result is that the original form cannot be taken to rest in itself because it is not related to itself. Bergson concludes that we must begin in the particularity of Time.

In Special Relativity Theory, Light embraces this paradox. Light has a threefold logic that:
- sustains the interiority or duration of the particular as unique *stasis*.
- relates the particular reflexively to other particulars of the same kind—as internal image to external image—such that other particulars are *paradigmatic manifestations* of interiority.
- brings a system of particulars into *communion as indwelling* such that particulars become the fulfilling of a general or common form

The general or common form is enacted by each particular through its relationships. The general or common form belongs to the community of particulars as mutually interacting interpreters. The common form bears the interior indeterminate form (impression or seed) of a particular and brings that interiority into relations of significance with the external determinate form (expression or body) of other particulars in the community.

Particulars are interpreters in communion. Each particular has its own Frame of Reference that has significance for that particular and only represents part of Creation. The significance comes from the process of creating generalizing forms that occurs as particulars interact in communion. The generalizing forms are constituted and sustained through the community.
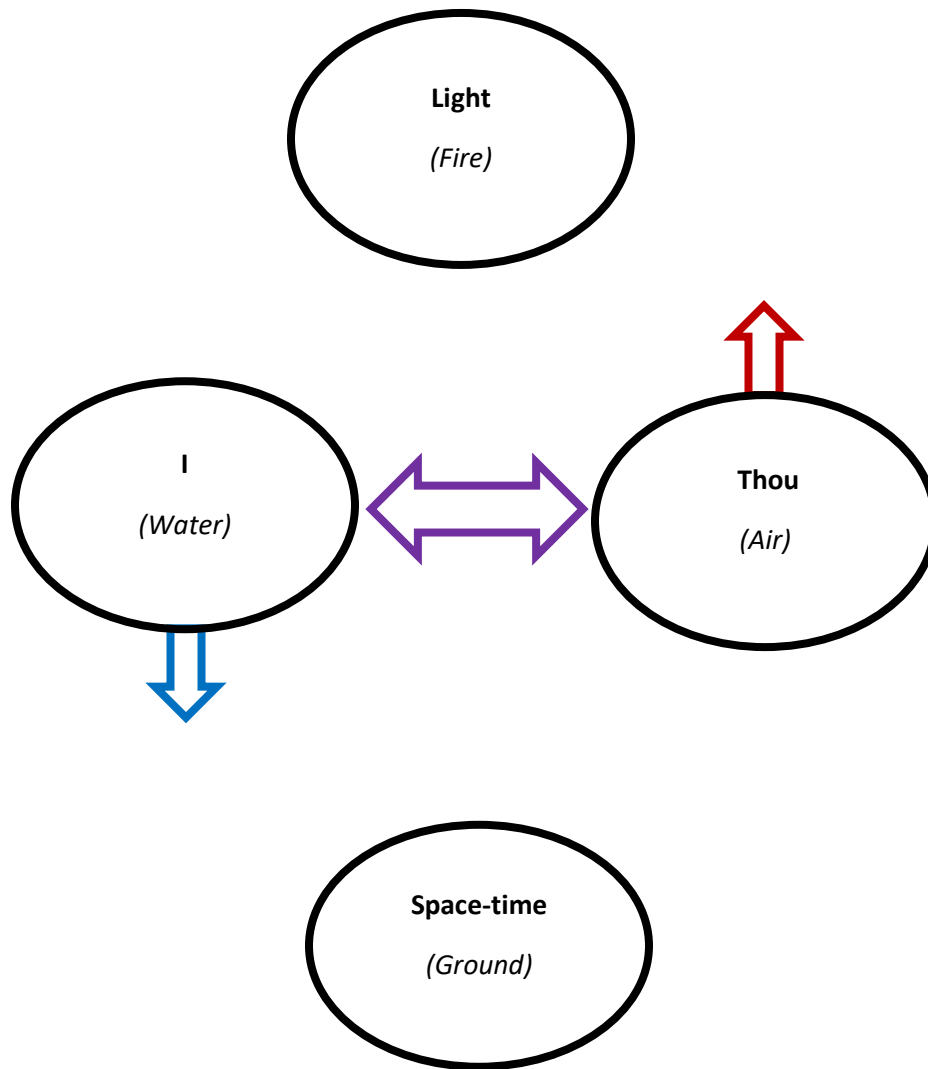
Further reading

A Thought Experiment with Light: How the ontological form of quantum mechanics is consequent to the principles of relativity theory

Triadic Logic of Spacetime (Part One): Extension and duration

Triadic Logic of Spacetime (Part Two): Quantum logic of orientation

Appendix: Three Aspects of Identity

Firstness: **Creative Source**
    Aesthetic (cf. perichoresis)
    Beginning, Arché
    (Identity, Difference, Return)
    Identity as completion or fulfilment

Secondness: **Formative Mediation**
    Ethic (cf. paradeigma)
    Forming through relating
    (*Same/Other : Subject/Object*)
    Identity as difference

Thirdness: **Receptive Interpreter**
    Ontic/Epistemic (cf. hypostasis)
    Rest, stasis, focus of relations
    (Individual in relational communion)
    Identity as sameness

Light

(Fire)

I

(Water)

Thou

(Air)

Space-time

(Ground)

Theological concepts that are imaged in the diagram as metaphors

Perichoresis (Maximus Confessor) – refers to the relationship of the three persons of the Trinity. *Intimacy, indwelling, interpenetration*. Augustine speaks in terms of the Lover, the Beloved and Love, for example. In this way, it is possible to understand that Perichoresis is irreducibly threefold and yet can also refer to the relationship between the Father and the Son which presents on the surface as a duality. Thus, duality is fundamentally and dynamically embedded in Three even if the Third is not expressed outwardly.

Paradeigma (Anthanasius) – according to Torrance "it is essentially an operational term in which some image, idea or relation is taken from this-wordly experience to point beyond itself to what is quite new and so to help us get some kind of grasp on it … It fulfills its function while making evident its inadequacy by pointing". In this way, it is possible to understand Paradeigma as *Sign* or *Word*. More explicitly it is the function of pointing or intending something beyond itself that is constitutional for signs; it is the dynamic of *intentionality*. In order to function as the intentionality of sign or Word, however, Paradeigma also implies a kind of "self-emptying" such that the image, idea or relation does not rest in itself but "gives itself up" in order to refer beyond itself.

Thus, irreducible duality is pure relation. It is dynamical and *asymmetrical.* From "above" relating is the creative outflowing from the Source or Arché; from "below" relating is the intentional pointing "beyond itself" of the receptive sign or Word. The duality of relating creatively mediates form through the balancing of complementarity (eg. above:below; interior:exterior)

Hypostasis (Cappadocians) – refers to the individual personhood of the persons of the Trinity. Thus, as Zizioulas explains, hypostasis refers to an individual as an "entity that is relational but at the same time ontologically integral". Relation is constitutive of the hypostatic individual yet the individual is not the relation itself. When thinking about individuals in this way, what the individual is—substance or essence—is irreducibly related to how the individual exists—mode of being or relation. The hypostatic individual is the focus of relating, where relating involves an outflowing (as from an active source) and an inflowing (as to an interpreting receiver).

What does this mean for modern physics?

In *binary logic*, we begin with the timeless individual as a given entity (for example, a fundamental particle, a Euclidean point, a stationary state). The identity and the sustaining of the individual as a finite entity in relation with other individuals is take for granted and relationship is a derivative concept. Relationship is built from mutuality and equality. However, the way in which equality or mutuality is held in infinite synchronicity is not addressed in binary logic, it is merely assumed. Thus the finite individual is the metaphysical basis or source or arché, the

relationship of equality is derivative and from it systems of law are deduced. The being of laws that are formed through threefold relationships is taken to be eternal and closed to transcendence.

In the *logic of three*, we begin with the interpenetration or *entanglement* of Three as a circular dynamic of self-othering and return. (This dynamic is captured, for example, in the infinite renormalization process through which self-energy becomes defined in field theories.) From this dynamical interpenetration of Three, the asymmetrical relating of Two is induced (not sequentially in time or determination or causation, but rather synchronously and constitutionally). Pure relating is asymmetrical – outward flowing as from a source and inward flowing as to a receiver. (That is to say, *relating* "looks different" depending on which of the two possible orientations is considered). The asymmetry differentiates relata (that which is related) as dualities in complementarity. For example, Spin Up and Spin Down; Above and Below; Yin and Yang. The duality of relata is constitutionally held together by virtue of mutuality whereby Two give themselves up, each for the other, and so sustain one another relationally. This mutuality is what is intended by the notion of "equality" in binary logic, although with the logic of Three "equality" is an enacted process that is sustained by the Third. From the equality of mutuality, the hypostatic individual can be created and sustained as an individual in relational communion. This notion of individuality in terms of hypostasis is radically different from the concept of an "entity" or "thing" or "object" or "state" or "particle" in binary logic because it is not timelessly given. In the logic of Three we must grapple with the fact that the hypostatic individual is created and sustained by perichoresis and paradeigma, where all three terms are to be understood metaphorically as "traces" of Trinity. The hypostatic individual has no being "in-itself". It's being is constitutionally determined by its relationality.

So binary logic (as it is currently understood and used in modern physics) begins with the finite individual to which all can be reduced. Individuals derivatively are embedded in relationships of equality that are determined by laws. By contrast, the logic of three begins with the interpenetration and circularity of Three, from which the asymmetric relating of Two flows outward to form the possibility of relationships of reciprocal mutuality, and these possibilities creatively allow or "let be" individuals in communion.

Further Reading

Beyond Space and Time: Unity and form in Augustine's Confessions.

Acknowledgements

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