The Six Semiosic Predicates

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Abstract

Information is understood as a mediated construction, the Sign, which is a cohesion of meaning, both material and conceptual, derived from the measurement within spatial and temporal parameters of energy/matter by six predicate relations. Three predicate relations enforce states; three predicate relations enforce dynamics. The Sign is understood as a triadic cohesion of three predicates.

1 INTRODUCTION

I am taking as a basic premiss that our universe consists of energy. The definition of energy is not Newton's kinetic force but Einstein's equivalence of matter and energy. Another hypothesis is that energy does not exist *per se* without dimensions but is able to exist only as matter, as a 'congealed' or dimensional energy. Energy is not an objective reality in itself; it is not a substance despite its permanence, for, as Peirce pointed out, "independence of time does not of itself suffice to make a substance; it is also requisite that the aggregate parts should always preserve their identity, which is not the case in the transformations of energy" (3.457). Energy is stabilized as a dimensional substance by being organized within codes of measurement. As measured in such patterns, energy is operative as "informed or interpreted" matter. The architecture of this transformation of energy into informed matter is semiosis or codification, which operates within a series of ontological and epistemological cuts that increase the asymmetrical gradients of energy which are then mediated or 'sewn back together' by complex semiosic relations.

2 A THOUGHT EXPERIMENT

Imagine a cohesive symmetry of uniformity, obeying the first law of inertia. As pure symmetry, it is indescribable and is essentially nothing and everything. Then, with the Big Bang, the tautological holism of symmetry was broken; the differential measure-

ments of space and time appeared, and asymmetrical energy appeared as matter. Despite its composition as energy, asymmetrical matter is not reducible to a state of pure symmetry of energy but is irreversible. Matter began to expand within these referential boundaries as energy cooled, setting up differential gradients of both the references and energy/matter. The second law of asymmetry had emerged within this cooling, permitting domains of energy that were organized differently from other zones. This is an irreversible event that enables description because there are now differences. You cannot remove that coefficient description from the equation because you cannot remove a description from the indescribable nature of unity. What can happen? Could our universe operate as a randomness of these differential gradients of energy? It doesn't happen, we observe a differentiated order. Why and how, does both order and differentiation exist?

2.1 A first option, *aggregate symmetry*, considers that order is a function of aggregation, where particles associate one to the other as dyads, by means of *philic* or iconic bonds (like to like). Iconic symmetry further reduces frictional entropy by its compilation of these philic sets into more comprehensive sets. Additional stability is achieved by the collation of these micro-bits into inclusive sets organized into master-slave relations by scalar and serial classifications.

2.2 A second option, *indexical symmetry*, rejects a universe composed only of philic bonds and focuses on the dynamics of *phobic* or opposite polarities. It relates dyadic points by temporal/historical connections. This theory considers that energy/matter exists within symmetry, then, over time or history, energy becomes asymmetrical or degenerate matter. It could remain in this 'savage state' or, with the addition of 'work', i.e., more energy, whether material or conceptual, this impure matter might possibly move back into symmetry. This theory, found within Hegelian/Platonic/Marxist analyses, considers that matter exists as a degeneration of an original radiant energy, but that its historic destiny is a return to its original point of origin as pure energy. The transformations between these states of organization would be periods of chaos, but the ultimate goal is that primordial symmetry.

2.3 Another response is to state that there is no way, outside of mysticism, to return to the original unity. The third option is the theory that our universe established a different mode of symmetry, which I will label as *interprative symmetry*.

3 INTERPRETIVE SYMMETRY

Interpretive symmetry operates as a dynamic semiosic network. Interpretation is understood as the transformation by codified measurement of uninformed random energy/matter to informed or bonded energy/matter, the Sign. Relations or Predicates measure energy within codes that define the spatial and temporal parameters of 'how' this energy exists. These measurements establish both a networked symmetry, and at the same time, ensure a networked asymmetry. Symmetry and asymmetry are fundamental properties of the interpretive network.

I suggest that once temporality had entered the picture, an infinite recursion to a unity of energy as a non-transformable substance was no longer possible. The universe rejected homogeneity as a definition of symmetry and developed an entirely new type of symmetry. Rather than an atemporal state of uniformity, our universe evolved the network, a dynamics of intricate connective interactions of energy/matter as measured within temporal and spatial values. Interpretative symmetry, the network, is achieved by two entailed modes of dynamics: **displacement** and **connection**. Displacement refers to the deconstruction of the morphological measurements, with a concomitant energy release and entropy increase; connection refers to the construction of new morphological measurements with a concomitant reduction of entropy.

4 MEASUREMENT

There are four spatial values and three temporal values. Of major importance to the establishment of an interpretive symmetry is that these seven measurement values are non-commutative and independent. Additionally, these values are not artificial, i.e., constructions of the human mind, but are natural properties of our material reality.

4.1 SPATIAL VALUES: INTERNAL, EXTERNAL, LOCAL, GLOBAL

The basic primitive spatial values of internal/external are formulated by *temperature*, understood as the heat energy available to a system or domain. Energy is differentiated into gradients by means of temperature, to establish domains of internal and external space, within which measurements can be carried out that are functional only within that domain. This differentiation means that measurement operations and the resultant network connections have, at a minimum, doubled. This first gradient differentiation, achieved within the first nanoseconds of the BigBang, can be called the ontological cut (Atmanspacher 1994, 1999, Farre 1998, Primas 1993, Matsuno 1999b) and is maintained either by

lowering temperature by dissipation of energy or by increasing temperature by insertion of energy from another source. This elementary differentiation establishes relatively discrete domains of energy which operate as morphologically distinct realms of matter, i.e., locally stable or bound energy. Local and global spatial values are achieved by the addition of *temporal* codification to the primary internal/external spatial measurement. Local space is a morphological measurement derived from the addition of present or perfect time, and global space is derived from the addition of progressive time.

4.2 TEMPORAL VALUES

Time is not an absolute scale independent of matter but is instead a composite part of matter. That is, its value is relative, as Einstein pointed out, to the other values with which it is entangled. Time has three values that act as differential codal measurements (Matsuno 1998, 1999a, Matsuno 2002, Taborsky 1998, 2002b). Using Matsuno's terms, these are progressive, perfect and present time values. [1]

Progressive temporality measures energy as a continuity of past-future, and as such, measures energy as operative within a general or universal propensity to, when actualized in matter, express that measurement. This functions as a strong anticipatory or focal constraint. Energy encoded in progressive time can be understood in itself as a Universal (Aristotle's *potentia*, Peirce's Thirdness). Universal measurements enforce continuity and as such, are realities, and are not conceptual models fashioned by humans.[2] The universal is not a psychological but a logical reality. Universal measurements provide symmetrical, which is to say, distributed, constraints that resist the dissipative forces of the asymmetric singular articulations that confront this resilience. The universal measurement is not invulnerable to alteration by its articulation within the concrete instantiations, and therefore, the codifying properties of progressive time must be understood as reflexively evolutionary and dynamic. To preserve this capacity, it is never actualized 'as such' in full or final discrete concreteness but remains non-concrete; that is, it remains non-local.

Present time measures energy within an alinear value of unity, i.e., a measurement with no intervals. Energy encoded in present time can be understood as a 'packet' of energy with a high degree of freedom as to its nature when 'cooled' or constrained. Energy encoded only within present time is beyond the perimeters of description, for description

[1] See also Atmanspacher's analysis, using Whitehead's term of the 'specious present' for the 'extended now' of present time, and the 'actual occasion' for a somewhat comparable perfect time with its finite duration (Atmachspacher and Ruhnau 1995).

[2] This argument , between the nominalists who reject the reality of universals, and the realists, who accept it as fundamental, is a basic theoretical and scientific conflict. Realists include Aristotle, Plato, Peirce, Popper, Einstein; nominalists form the majority of modern and postmodern theorists.

requires differentiation. However, energy/matter encoded in present time can be used, when linked with other energy/matter coded in present time, as a primitive yet powerful enforcement of symmetry by increasing the matter, such as raising the decibel level of a siren. It can be used, when linked with matter coded in perfect time as an emotive reinforcement, for example, as an adrenaline input to a skier or as a value to a politician's speech.

Perfect time measures matter as a fixed point value along an integer scale of plus and minus. Perfect time encodes matter as bonded to a local domain; as such, this energy is 'concrete' and morphologically differentiated as 'informed matter'. When linked with other matter encoded in perfect time, matter encoded in perfect time increases the kinetic force of that matter, as a kick propels a football. This is the basic Newtonian external force. When linked with progressive time, such matter computes its next state in terms of its past states and acts as serial continuity.

A network of interpreted energy, which itself is understood as 'informed matter', emerges within the operation of these seven spatial and temporal measurements. The two key functions of measurement are the establishment of symmetry and asymmetry within the actions of connection and displacement.

5 FUNCTION

5.1 SYMMETRY

Network symmetry is achieved, not as a result of iconic or indexical association of instantiations (Sections 2.1, 2.2) but by a dynamic metaview interpretation of emergent instantiations and the extraction and formation of a universal code operative in progressive time that constrains those instantiations such that random values are devalued, and become confined and operative only in present or perfect time/ local space, while the universal values operate in progressive time/ global space and dominate all codal activities. Note that this process of interpretation is not supplied by reference to an observer but by the gradient measurement architecture of the system itself.

5.2 ASYMMETRY

Given that matter exists within seven measurement values, this means that asymmetry is a fundamental property of our universe. Within the temperature and temporal tensions created by an actuality, gradients must be renegotiated and measured within relations that

induce displacement and then harvest and reconfigure the energy into consistent morphologies.

As an interpreted and negotiated symmetry, rather than a holistic or reductionist symmetry (aggregate or indexical), equilibrium and order co-exist with innumerable asymmetric gradients or 'clumps of diversity'. Each informs the other. For example, the production of an embryo requires transforming compressed data in progressive time/global space (the DNA) to fixed point information in perfect time/local space (the embryo). This requires the use of energy measured in present time/local space (heat, etc.) plus the release of compressed energy from progressive time/global space, along with the release of energy values from fixed point information in perfect time/local space (RNA, proteins, etc). A co-existent property of the network, given this diversity, is the evolution of morphologies within the temporal and spatial parameters, such that the multiple opportunities offered by a network results in innovative interpretations. The other two types of symmetry, aggregate and indexical, are unable to generate innovative interpretations and resort to, in the first case, revelation and in the second, accident, to explain the appearance of new morphologies.

6 THE NETWORK AND THE SIGN

Our universe operates as a 'complex adaptive system' which means that it must deal with the contradictory operations of symmetry and asymmetry. There is no such thing as a completely ordered or symmetrical state; there is no such thing as pure asymmetry or chaos. Reality operates in a borderline mode.

The only way to deal with the introduction, by virtue of differences in temperature and temporal values, of description or asymmetry and prevent the isolation of these descriptions is to develop a symmetry that does not operate as a uniform unity but rather as a distributive operation that functions by establishing connections or relations. The nature of this new type of symmetry is the network, a patterning process that ensures the stability of energy by developing connections between energy gradients. The focus is on the relations. "Where ordinary logic talks of classes the logic of relatives talks of *systems*. A *system* is a set of objects comprising all that stand to one another in a group of connected relations" (Peirce 4.5). This requires a codification of energy into values that can connect and disconnect. The first idea to understand is that semiosic relations are not non-evaluative connections of two things, for if that were the case, "all things would be connected" (Peirce 3.464) and this would "reduce relations, considered as simple connexion

between two things, to nothing" (ibid). Instead, "these different modes of relation are different modes of connexion" (ibid) and as such, the 'things' or clumps of matter emerge as unique end points from these relations. Furthermore, since the relations operate within measurement, and there are seven modes of measurement, this results in complex morphologies. Let me take the reader through this development of measurement.

7 THE TRIADIC ENERGY INFRASTRUCTURE OF THE SIGN

There are three basic transformative codal processes within an interpretive action. There is the 'this' which is an undescribed glob of matter; there is the model understood as the referential standard, and there is the 'that', which is the described or interpreted glob of matter. In Peircean semiotics, these are the object, the representamen and the interpretant. These three relations comprise the Sign. The Interpretant, using the referential Representamen, re-presents the Object. A famous example of a triadic sign is $E=MC^2$, with E understood as the Object and M as the Interpretant, as measured against the referential base, the Representamen, of C^2. The sign should not be thought of as a dyad, which would merely be an Interpretant signifying an Object. Rather the sign includes the function of the Interpretant presenting itself as a truthful representation of its Object and this requires a reference to a logical continuity of experience (Peirce 8.378).

The triad, as an irreducible process, includes codal processes that act to promote symmetry or cohesion. This is the referential focus, the **representamen**. And, it has two processes that measure instances or asymmetrical actualities; there is the measurement of the input energy, known as the **object,** which then becomes measured as th output, the **interpretant**. Two asymmetrical realities, object and interpretant, permits both iteration and also the diversification from, rather than iconic re-presentation of each other. A sign can be imagized as a triadic windmill of relations [Figure 1].

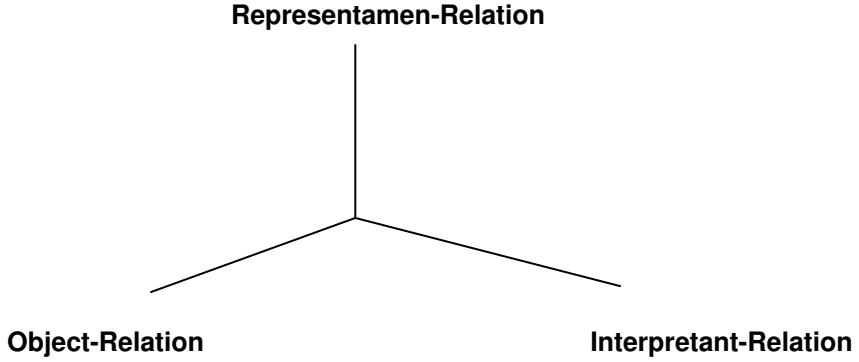

Figure 1: The Semiosic Sign: a windmill

Let us dispense with two invalid models of the sign. First, the Sign is not a line; that is, it is not a linear equation of three points connected in a one-dimensional mode. Such discrete points, operative in local or self-referential space and measured against absolute time, implies both a universe of discrete particles and a progressive scale of development. With this model, material changes will require the addition of kinetic force from external agents operating in scalar and serial hierarchies. The triangle is another frequently used yet invalid image of the sign. The triangle acts as a polygon line that moves through three phases that, in a Hegelian fashion, links its end point with its point of origin. That is, the line is reversible or recursive and this would mean that the Interpretant would eventually merge with its Object, a return to pure symmetry.[3]

The best model of a Sign is a parabola, which is able to move out of the fixation on the particle, understood as an end-point, and concentrate on the relations between these end-points. The x and y cuts (ontological and epistemological) establish spatial gradients but the line establishes an irreversible temporality. We can understand the sign as a conic matter, made up of triad of interacting measurements. There is (1) an eccentric or chance-driven asymmetry generating force, (2) a focal symmetry generating force, and (3) the insertion of an irreversible point of attention, a direction that generates a measured asymmetrical closure. In Peircean terms these are the Object-Representamen-Interpretant. These must be understood as relations plus end-points, not simply 'things' or end-points. We therefore have three relations or codifying interactions: that between the Object and Representamen O-R; that between the Representamen and the Interpretant R-I; and the Representamen R in itself. Interpretation is understood as the transformation of uninformed random energy/matter to informed or bonded energy/matter. The initial condition is an intersection of two energies/matters (the ontological cut); this intersection, also called 'preparation' [4] instigates the formation of a sign, which essentially means the development of a triadic morphological 'event' of energy/matter.

The *energy dynamics* of the Sign, viewing the sign as this triad of energy-relations, operates as Eccentrix-Focus-Directrix or Object-Representamen-Interpretant where energy moves from left to right. That is, the Representamen is a process of measurement that mediates between the Object and Interpretant; it is "the medium or connecting bond between the absolute first and last" (Peirce 1.337). However, the *energy content* of the Sign, viewed not as a dynamic action but as an informed matter, is: Directrix-Eccentric-

[3] See critique of line and triangle, in Peirce 1.429.

[4] The relation between Object and Representamen is referred to as 'preparation' by Christensen; the relation between Representamen and Interpretant is 'detection'.

Focus, or Interpretant-Object- Representamen, with the energy/matter increasing in codal content or matter from left to right.[5]. The Interpretant connection has a lower capacity to encode energy than the Object, and therefore, an interpretation requires dissipation of energy. The Representamen, acting as the mediating reference, encodes the most energy.[6] This also means that excess energy must be dissipated with an epistatic interaction where the dominant mode of codification suppresses the effects of the less dominant. Dominance is a factor of spatial and temporal codal capacity. Temporality increases from left to right, which means that the Interpretant codification has less longevity than the Representamen codification. Again, dissipation of energy is a result. There are two modes of dissipation: the frictional spatial dissipation (the external frictional dissipation of one matter randomly bumping into another matter); and temporal dissipation, which is internal to a unit, where a codal measurement can only encode the energy within unique spatial and temporal parameters. The codification of energy operates within three codal modalities, each of which functions within dissimilar spatial and temporal values.

8 THE SEMIOSIC CATEGORIES

There are three basic Peircean modalities of codal organization. They are a Firstness of possibility, a Secondness of individuality and a Thirdness of normative habits of the community. Measuring or codifying energy in these different modes means that our universe has a robust capacity to form complex relations of energy/matter. I posit ten basic Signs, triads of organized matter, that rely on six predicates or relations. It is again important to note that the infrastructure of the triadic sign must follow a dynamic linear energy set-up, where the energy-content of the interpretant-object-representamen architecture must be maintained as $\leq$ in that order.

Firstness is an internal codification that measures matter without references to gradients of space and time, and "involves no analysis, comparison or any process whatsoever, nor consists in whole or in part of any act by which one stretch of consciousness is distinguished from another" (Peirce 1.306). This codal measurement cannot produce discrete values (i.e., with duration) and cannot produce matter that is able to interact (because it does not have membrane closure or discrete property). This state of energy/matter has no access to other states and its energy remains in a continuous state of excitation, lacking

[5] This analysis is based on the work and theories of Peder Christiansen. The energy dynamics of the Sign operates within a left-to-right framework of Interpretant-Object-Representamen , where the energy content, as mass, is either equivalent or increases from left to right. That is, the Interpretant cannot encode more energy than the Representamen. (Christiansen 1997 and personal communications 2002).

[6] The nature of the Representamen as using a digital code, and the Object and Interpretant as using analog codes is discussed in Taborsky 2002b. See also Hoffmeyer 1996.

the capacity to move itself into discrete instantiations or measurements, i.e., descriptions. Matter encoded within Firstness, as "a mere sensation without parts" (Peirce 5.289) is unable to activate recording or descriptive systems, which are secondary referential codes that provide the stability of memory. Without these constraints, Firstness, as a codal process, sets up rapid non-reflexive relations with no descriptive values but with a high degree of freedom and a resultant strong capacity for expansive iteration, i.e., a radiant fractal (Christiansen 2002:350).

Secondness as a measurement collapses the expansive symmetrical capacities of Firstness, by providing spatial gradients and temporal parameters that act as proximate referential values to inhibit and constrain the energy encoded in Firstness. Secondness acts within the selection of a specific path, where a choice, random or intentional, is made by virtue of the attraction of another matter. A particular instantiation of matter emerges as differentiated, externally, from this other matter. Secondness refers to “such facts as another, relation, compulsion, effect, dependence, independence, negation, occurrence, reality, result” (Peirce 1.358). Matter encoded within Secondness is oriented and intimately linked to this local context, and we can assign a definite quantitative and qualitative description to its identity. That is, matter encoded in Secondness 'is' because it is connected to another matter, with a resultant drop in degrees of freedom. This is an externalist or non-interpretive mechanical measurement and we should remember that these discrete instances are brittle, contextually bound to those referential initial conditions and without, themselves, the stability of a memory.

Thirdness is a mode of mediate measurement that we have, as a result of the Cartesian and Newtonian focus on the division of energy and matter into, respectively, kinetics and the indexical orientation of discrete elements, ignored and indeed denied for years. However, “there is some essentially and irreducibly other element in the universe than pure dynamism or pure chance [and this is] the principle of the growth of principles, a tendency to generalization” (Peirce 6.322, 6.585), or more simply, the tendency to 'take habits', where that original random act that established discrete Secondness becomes habitual. Thirdness is a process of distributive codification, operative both externally and internally, that transforms the multiplicity of diverse sensory-motor data into universal diagrammes. Thirdness sets up a general model that works to glue, to bind, to relate, to establish relationships and connected interactions. It extracts descriptions from the diverse instantiations of experiences and ‘translates’ them into a syncretic diagramme such that subsequent local instantiations can emerge as versions or representations of these general morphologies. Thirdness is a “matter of law, and law is a matter of thought and

meaning" (Peirce 1.345). We must, however, insist that this force of symmetry-making, of generalization, has nothing to do with the human mind but is a natural force of symmetry within the universe.

9 THE PREDICATES OR RELATIONS

Predicates are dyadic actions that organize energy/matter to establish end-points of matter-in-connections or entwined morphologies of matter. They are actions of relating morphic mass, understanding each node or endpoint as a spatiotemporal domain of discourse, actual or potential, and, as well, understanding that in the act of relation, the predicates also form both endpoint morphic masses. I posit six basic codal predicates; that is, six different processes of spatial and temporal codification of connections or 'modes of relation' within these ontological and epistemological cuts. Predicates, as dyads, are actual 'facts' in themselves and are not conceptual abstractions. However, no predicate exists *per se* but only within the triadic Sign. They are:

Firstness-as-Firstness [1-1]	This develops a pure possibility.
Secondness-as-Firstness [2-1]	This develops a probable existent.
Secondness-as-Secondess [2-2]	This develops an irreversible existent.
Thirdness-as-Firstness [3-1]	This is a law of statistical probabilities.
Thirdness-as-Secondness [3-2]	This is a law of propensities.
Thirdness-as-Thirdness [3-3]	This is pure imagination.

Understand 'matter' as a Sign. It is triadic and will be made up of three predicates. This means that the same matter can be encoded within different and even seemingly oppositional temporal and spatial codes. Matter encoded by the predicate 2-2, which provides a morphic form operative in external space and in perfect time, can be also encoded as 1-1, which provides a morphic form operative in internal space and in present time. That same matter may be also encoded in 3-1, which provides a form encoded in external space and progressive time, and also in 3-2 which is internal and progressive time. Energy encoded as matter is and always has been, complex.

1-1 Firstness as Firstness	Internal Local	Present Time	Possible
2-2 Secondness as Secondness	External Local	Perfect Time	Discrete Actual
2-1 Secondness as Firstness	Borderline Interface	Perfect-Present Time	Attractor Phase
3-1 Thirdness as Firstness	External Global	Progressive-present Time	Statistical Average
3-2 Thirdness as Secondness	Internal Global	Progressive-perfect Time	Future Propensity
3-3 Thirdness as Thirdness	Aspatial	Atemporal	Imaginary

Figure 2: The Six Predicates

Elementary predicates include 1-1, 2-2, 3-3. Derived predicates include 3-1, 3-2 and 2-1. Elementary predicates encode matter as states, i.e., as matter in a state of equilibrium; derived predicates encode matter as dynamic, i.e., as matter in a state of non-equilibrium. The elementary predicate's dyadic nodes are in a symmetrical relation with each other; the derived predicate's dyadic nodes are asymmetrical. A universe of states is clearly incapable of evolution. The interaction of these two types of predicates forms the

basis of Gödel's statement that "it is impossible to find a system of axioms and formal rules from which, for every number-theoretic proposition A, either A or ~A would always be derivable" (1961:4). Equally, "the sensible world is but a fragment of the ideal world" (Peirce 3.527).

The sign as 'informed matter' is a triad of three predicates. A sign consists of energy encoded by three relations: Interpretant-Object-Representamen, [7]. We could posit a sign in the code form of: 1-1-2, with the numbers referring to the semiosic category of measurement (Firstness-Firstness-Secondness). An example of such a sign would be an individual diagramme. This sign is a result of three predicate connections, for example, of 1-1, 2-2 and 3-1. This means that this sign, 1-1-2, which in Peircean terminology is a 'rhematic iconic sinsign', must **displace** energy/matter from those three dyadic relations and **connect** and transform its resultant energy/matter, to arrive at a single triadic topology of 'informed matter'.

9.1 ELEMENTARY PREDICATES

Firstness-as-Firstness [1-1] is an interpretive measurement that rejects differentiation, and sets up matter in a continuous state operative in present-present temporality and internal-local space. The relations established by this measurement are iconic, short term and short lived. Matter formed within a present and internal codification is a qualitative 'felt' experience operative outside the capacities of description, which requires the differential closure of external space.

Secondness-as-Secondness [2-2] is an interpretive measurement which we are familiar with in classical mechanics as a discrete crisp, closed instance of matter in perfect-perfect time and local-external space. Our everyday experience of matter in this form leads us to conclude that the classical realm is mechanical, lacks emotion, subjectivity, imagination and all the other complaints we have against this mode of reality. There are only two possible interactions with matter encoded by this predicate, the brute force of physical or conceptual action-reaction, and aggregation by the statistical central tendency. Both are dyadic actions without interpretation. Matter encoded within this predicate interacts randomly without knowledge of its identities beyond an electromagnetic attraction or repulsion.

[7] The Interpretant measurement identifies the Representamen-Interpretant relation of detection. The Object measurement identifies the Representamen-Object relation of preparation. The Representamen is a relation as itself.

Thirdness-as-Thirdness [3-3] is an interpretive measurement that is completely aspatial and atemporal in the sense that it operates in progressive time and global space. As pure symmetry, it is a state of complete knowledge but without descriptive informational capacities, which require relations in perfect time and local space (Peirce 8.361). Being aspatial and atemporal it exists only when connected with such actualities, i.e., with predicates operative in local space and time.

Are these elementary predicates sufficient for our universe? They operate as isolate states rather than interactive functions. Predicate 1-1 acts as a qualitative monad of energy. A metaphor would be unadulterated Desire or Will. Such a pure state has never existed, outside of metaphysics, since the Big Bang. Predicate 2-2 operates as a closed dyad of discrete quantitative properties that interact by random kinetic electromagnetism. This predicate provides the ground for classical mechanics and all nominalist theories and despite its explanatory successes, has often been critiqued as inadequate. Predicate 3-3 operates as an idealism of laws, as pure Logic; however, the origin of this logical Design remains unsolved. [8] Additionally, there have been a variety of attempts to deal with the inability of states to explain dynamics. The Platonic/Augustinian model posited 1-1 as a monadic well of energy, merging it with the laws of 3-3 to set up essentialist Laws. Matter, encoded as 2-2, operated as a degenerate (sinful) version of these Laws. The Hegelian triad inserted serial progression, measured against abstract time, positing that each state supplanted the previous one in a dyadic conflict where the next phase arose out of the destruction of the previous 'less morphologically perfect' phase. The modern classical view rejected 3-3 as teleological, revised 1-1 to function as kinetic energy, and focused only on the reactive dynamics of 2-2. However, I am suggesting that these three predicates, as symmetrical states, are insufficient and uncritical explanations of the dynamics of a complex universe. An interpretive symmetry uses all six predicates.

9.2 DERIVED PREDICATES

The derived predicates insert dynamics into the network. A derived predicate is a dyadic relation in a mode of non-equilibrium, being made up of asymmetrical and even incompatible codal properties. As such, the derived predicate acts to reduce its own asymmetry by activating other modes of organization that increase symmetry.

[8] If this ideal or rational state is denigrated to a material spatiotemporal reality; that is, if mind is equated with spatiotemporal material dynamics in a mode of Secondness, this predicate functions, dangerously, as ideological truths, whether within science, politics or religion..

Thirdness-as-Firstness [3-1] is an interpretive measurement that operates in progressive-present time and global-local space. This measurement inserts the properties of an external and dominant model of the statistical average into the emerging instantiation, and by so doing, it constrains and inhibits any deviations from that normative template. It acts as a normalizing action, rejecting and effectively starving deviants into dissipative extinction by not recognizing them as 'connectible'. This symmetry generating model acts as a gravitational attractor towards the emerging half-formed singular instances and draws their emerging forms within the constraints of its majority codal formulae. As Kauffman said "in sufficiently complex systems, selection cannot avoid the order exhibited by most members of the ensemble" (1993: 16). This referential model functions as a kind of 'attractor-glue' (Paton & Matsuno 1998) to which the emerging nascent instantiations are attracted, and which they then take as their guide for their adult development. Does this cohesive process require a human agent as its collator and enforcer; that is, is aggregate measurement a referential concept governed by an external interpretor? The answer is, no, for a process such as natural selection achieves the same result, with its focus on the average and its indifference to the marginal.

Thirdness-as-Secondness [3-2] is a measurement, operative in progressive-perfect time and global-local space. As a relation, it sets up a measurement that connects, in an inclusive indexical manner (its Secondness), all propensities (its Thirdness), even in embryonic fuzziness, that are now existent (in perfect time-local space). This ergodic inclusiveness of unformed and non-habitualized propensities permits an emergent instantiation to bring with itself multiple alternative models of itself as a measurement 'offering' to the development of a new instantiation. I would compare this measurement with the theory of propensities as outlined by Popper (1982/2000), where the normative force is understood to enforce the viability of a "potential but unoccupied state", and, by virtue of its action as an entangled operative codal network, this potential yet unoccupied state can enable multiple "open possibilities for interaction" (2000:197, 198). Emergent matter in this measurement is not stabilized by being referenced to a normative or similarity-inducing top-down metamodel as found within the predicate of Thirdness-as-Firstness. In contrast to Thirdness-as-Firstness, this process of symmetrical cohesion is indexical, a 'bottom-up' process, physically linking without discrimination or judgment all and every potentiality in its domain.

The key predicate of the six is Secondness-as-Firstness [2-1], the interface, which is a measurement encoding matter within perfect-present temporality and, importantly, external-internal local space. This code, an absolutely vital process, has properties that are ex-

ternal, i.e., Secondness, and properties that are internal, i.e., Firstness. As an explicitly local measurement, it introduces spatiotemporal distinctiveness (Secondness) to potentiality (Firstness). It operates as an attractor, as a mode of prescission, a highly charged electromagnetic relation that focuses "attention to one element and neglect of the other" (Peirce: 1.549). Prescission, as a dyadic measurement operative within the external physical actualities of local time and space, and yet bonded to the vagueness of internal measurement, is profoundly asymmetrical. As a derived predicate, its two modes of codification are continuously entwined in their attempt to induce symmetry, and therefore, actuality is always exploring the new potentialities of vagueness. "Prescission is always accomplished by imagining ourselves in situations in which certain elements of fact cannot be ascertained" (Peirce 2.428). This is why this relation has always had overtones of 'phantasia' (Aristotle), imagination, emotion (Nietzsche); will (Aquinas, Heidegger's Dasein) and the misnamed 'self-organization'. There are, not explained in this paper, six types of interface relations, dependent upon their links with the other predicates. That is, the interface predicate of Secondness as Firstness [2-1] can operate as an isolate connector or it can guide actions of a matter on a particular path by means of additional connections with the other five predicates of 1-1, 2-2, 3-1,3-2 and 3-3 (Peirce 8.353-363).

10 INTERPRETIVE SYMMETRY

Interpretation is understood as the transformation of uninformed random energy/matter to informed or bonded energy/matter, the Sign. I am advocating an architecture somewhat like a moebius strip, where energy/matter is set up to operate as asymmetrical gradients filiated within a symmetry-inducing network. Both asymmetry and symmetry are achieved by spatial and temporal measurements of six predicate connectives. The resultant 'matter' is understood as 'informed matter', which means that it exists by virtue of its relations. It is a Sign. Uninformed energy/matter can be understood as existent within a near-symmetrical state,[9] which essentially means that it is 'uninformative'. The transformation must reduce this symmetry to asymmetry, which means that such matter will then endure by virtue of relations with, established by its differentiation from, other matter. This transformation is achieved by measurement, carried out within six predicates that by their diverse measurements, dissipate energy, add energy and connect energy within specific spatial and temporal perimeters or codal patterns. Since each predicate provides different properties, the resultant computation is a networked dynamics. An interpretation or Sign is a triadic relation of at least three or more predicates. A predicate is itself a dyadic

[9] I am claiming that pure symmetry or pure energy, as aspatial and atemporal, does not exist.

configuration. The Sign is not a cumulative set of three dyads but is an interpreted computation, a topological reality, of their properties. This means, as pointed out, that interpretation requires transformative actions [dissipation, addition, organization, connection] to reduce the three (or more) dyadic measurements to one triadic form.

For example, let us consider a set of three dyadic relations: 2-1, 1-1 and 3-1. We'll begin with 1-1 as a spontaneous action that could rapidly disappear. Let's say it is a spontaneous street gathering when news is heard of an athletic victory. It would actually be, as a sign in itself, 1-2-2, but I will focus on the relation of immediacy, 1-1, enfolded within that sign. 2-1 is an interface that can move that spontaneous act to a stronger reality by recognizing its crisp physical existentiality in time (its Secondness). That celebratory action is clearly differentiated from actions of other days. What could happen is that this predicate links the day to a calendar. This is an act of normalization within the 3-1 predicate. The result could be a sign of 2-2-3, a regular event in that community, that has moved from a spontaneous yet unique event (1-1 and 2-1) and been referenced to a normative template (3-1) and has ended up as an annual event. In so doing, the process had to completely dissipate spontaneity (Firstness) and move behaviour into physical links to a specific calendar date (Secondness) that became normative habits (Thirdness). The spontaneity and high excitation and emotion of the street party would be lost as it becomes a regular event. This is a common transformation, and when people despair of the loss of spontaneity, and the 'commercialization' of an event, this is the explanation. But, if that interface relation of 2-1 did not connect with 3-1 but with 2-2, and instead, the set remained at 1-1, 2-1, and 2-2 (that unique day), then, we could end up with a Sign of 1-2-2, which is a unique spontaneous day that does not become a habitual event, such as the outpouring of emotion at Princess Diana's death and funeral. The same predicates could be applied within the biological realm, where 1-2-2 would be a random mutation that could become a normative 2-2-3 pattern.

Another example is a set of three dyadic relations, 1-1 + 2-1 + 3-3, which can produce a final Sign 1-3-3, which is understood as a general ideology. In this case, the energy from not only spontaneous innovation (1-1) but also the particular experience of that innovation (2-1) must be dissipated and referenced to an ideal purity (3-3). An example would be a revolutionary era (1-1) whose activities (2-1) become transformed into laws (3-3) which act in future as an abstract domineering ideology repressing both spontaneity (1-1) and dominating all real activities (2-2). Note that these relations are primarily states and therefore require an external and powerful repressive agent to enforce such vast

amounts of energy dissipation and establish a habit as a symmetrical state rather than an asymmetrical dynamics.

The process of interpretation, a process requiring an interaction of at least three dyadic predicates that reduce to one triadic sign means that dissipation and reorganization of matter is a vital component of interpretation. This view of an interpretive symmetry also rejects the common conclusion that information is equivalent with 'negentropy', for this sees both energy and information as symmetrical states. Instead, interpretive symmetry posits that a complex universe rejects the separation of energy and matter, rejects pure symmetry and pure asymmetry and operates instead as a dynamic or interpretive filiated architecture with spatial and temporal values both operative as empirical realities.

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