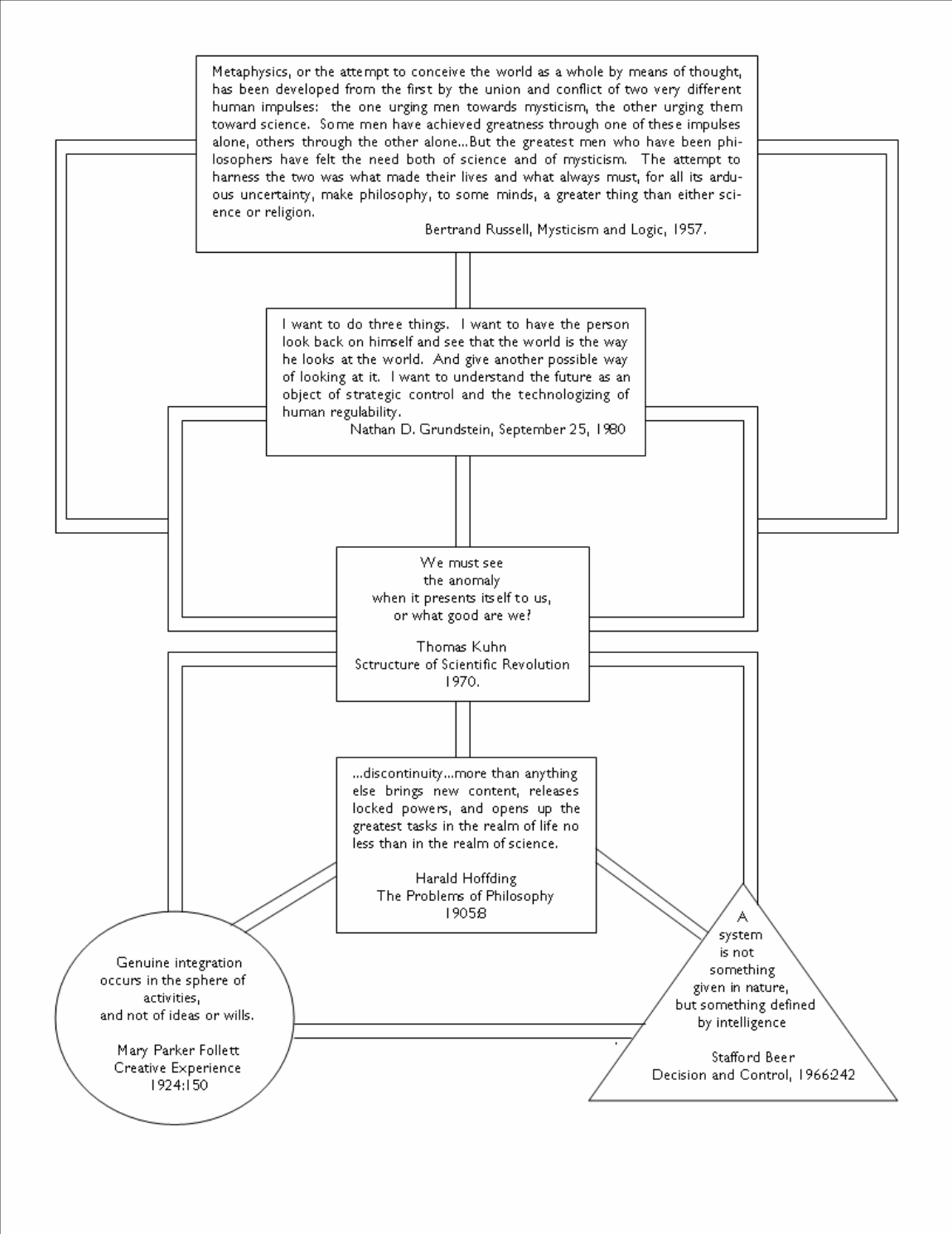


# STRATEGIC DISCONTINUITY

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Youngstown, Ohio

Keywords: thought experiment, cosmoplastics, foundational heuristics, evolutionary consciousness, species intelligence, quantum strategy, quark economics, strategic discontinuity, mediate natures, regulative intelligence, beyond zero, unified field theories.



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## ABSTRACT

This is a thought experiment in cosmoplastics, the independent and operative power by which a cosmos as a material order is originated and brought into being.<sup>1</sup> It sets the ground for a science of strategy as a constitutive nature of systems, extending the discourse on strategy beyond military, industrial, and capital interests, into the domain of pure science, self-organizing systems, and the theory of everything. The treatise is predicated on the assumption that a breakthrough in species intelligence is imminent. As the number of knowledge systems rotating toward the same directional teleology multiplies, oscillation along architectonic identity continuums increases in parametric spin potentials, setting the stage for strategic discontinuity in scientific paradigms specific to time, space, energy, number, and function. This treatise is an experimental proof of the validity of strategic discontinuity as *both* heuristic and algorithm with which to explore the natures of evolutionary consciousness. The thought experiment employs Beer's viable system model through which to transverse the cognitive distance from quantum science to revolution in species intelligence. It employs Follett's conflict resolution methodology to re-align foundational heuristics which currently seek to define nature through time, space, energy, number, and function. If the thought experiment works, species intelligence (as a derivative of evolutionary consciousness) should propel the mind of the reader into and through an evolutionary spin, thereby opening the way for a metaphysics of regulative intelligence.<sup>2</sup> The treatise positions management as a surrogate of regulative intelligence in the design of mediate natures. It is mediate natures through which desire reasons and reason desires – the origination vortex for a theory of everything.

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<sup>1</sup> Nathan D. Grundstein, The Futures of Prudence: Pure Strategy and Aristotelian and Hobbesian Strategist. (Hudson, Ohio: Enterprise Achievement Associates, 1983), p. 160.

<sup>2</sup> Ibid, The Managerial Kant: The Kant Critiques and The Managerial Order. (Cleveland, OH: Weatherhood School of Management, Case Western Reserve University, 1981) p.xx.

## INTRODUCTION

In 1955, theologian paleontologist Teilhard de Chardin boldly hypothesized that an evolutionary leap in the level of species consciousness had taken place at the end of the eighteenth century. He contended then that human consciousness was already functioning with greater powers of reflection (hominisation), organization, and telepathy. de Chardin proposed that *from* this evolving consciousness, science and metaphysics would one day unify the dichotomy between empirics and idealism in “a kind of phenomenology or generalized physic in which the internal aspect of things as well as the external aspect of the world will be taken into account.” Without this convergence, de Chardin believed it would be “...impossible to cover the totality of the cosmic phenomenon by one coherent explanation such as science must try to construct.”<sup>3</sup>

Since de Chardin’s appraisal, metaphysics and empirics have sought to reconcile the contradictions raised by relativity theory, quantum gravity, non-linearity, and chaotic systems. These efforts have generated networks of interdisciplinary sciences, channeling the vernacular of quantum physics through most scientific research, including theory in the social sciences and management.<sup>4</sup> The output from this scientific collaboration is markedly synthetic and synergetic – generating meta theory about invisible processes emanating from invisible entities.

Simultaneously, behavioral and applied sciences have been ambushed by the praxis of social control under the guise of artificial intelligence research, driven by the

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<sup>3</sup> Teilhard de Chardin, The Phenomenon of Man (New York: Harper & Row, 1955) p. 53

<sup>4</sup> Fritjof Capra, The Web of Life (New York: Anchor Books, 1996), p.39

imperatives of global capitalism and hegemony. Economic functions have enslaved social relations, at even the most personal recursion. Social structure is destabilizing as nuclear relationships collapse from the pressure of cultural implosion. The black hole of deficit financing is heralded as a structural necessity of market economics. Reason and fantasy blur as capital markets penetrate them both for product innovation. Everyday experience becomes a psychic drain as internal to external adjustments grow increasingly osmotic and mediated.

These geopolitical and socioeconomic dynamics have complicated the practice of pure science, and abrogated morality in the design of technological innovations. Modern thought is at points of inertia, inversion, implosion. Reasoning through functions of space time now subsumes the categories of consciousness.<sup>5</sup> Linear analysis along dialectic continuums has led to the adoption of architectonics which are portrayed as the antithesis of what they are not. Energy as the continuum of both matter and anti-matter mandates creative destruction for species viability. Evolutionary intelligence is stuck in the tricky quagmire of abstract mathematical constructs. It can not make sense out of itself.

When evolutionary intelligence is governed by constructs which are defined as what they are not, the species is confronted with a *surrogate rationality*, the capability of an external regulative intelligence to take the place of reason in the person.<sup>6</sup> The malaise of the quantum era, its science and culture, is the experience of a species whose

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<sup>5</sup> Roger Penrose, *The Large, The Small, and the Human Mind* (Cambridge, UK: The Cambridge Universit Press, 1997) Chapter 3.

<sup>6</sup> Nathan D. Grundstein, *The Managerial Kant: The Kant Critiques and The Managerial Order* (Cleveland, Ohio: Weatherhead School of Management, Case Western Reserve University, 1981) p. 85.

*collective will has been inverted by a system of causality, a regulative intelligence, which has taken the place of reason in the species identity of itself.*

At the foundation of the dilemma is the obligation of a salvation continuum.<sup>7</sup> This theological imperative mandating oneness of mind, body, spirit, particle, wave, and gravity has fueled the synergistic drive for a “unified theoretical framework to explain all of the forces of nature”<sup>8</sup> - a grand unified theory - a set of primal equations - a theory of everything. Solving quantum gravity through the abstract logic of supersymmetry, string theory, branes, quantum loops, or spin networks<sup>9</sup> may or may not resolve the mysteries of the universe. Nor may these bring about a theory of everything. Is it possible that the negative, anti-materiate, non-luminous pulsation within dark matter is a primal generative force field?

Even if there is only one possible unified theory, it is just a set of rules and equations. What is it that breathes fire into the equations and makes a universe for them to describe? The usual approach of science of constructing a mathematical model cannot answer the questions of why there would be a universe for the model to describe. Why does the universe go to all the bother of existing? Is the unified theory so compelling that it brings about its own existence?

Up to now, most scientists have been too occupied with the development of new theories that describe *what* the universe is to ask the question *why*. On the other hand, the people whose business it is to ask *why*, the philosophers, have not been able to keep up with the advance of scientific theories...However, if we do discover a complete theory, it should in time be understandable in broad principle by everyone...Then we shall all, philosophers, scientists, and just ordinary people, be able to take part in the discussion of the question of why it is that we and the universe exist.<sup>10</sup>

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<sup>7</sup> J. T. Fraser, The Genesis and Evolution of Time (Amherst, Mass: University of Massachusetts Press, 1982) p. 198.

<sup>8</sup> Julian Barbour, The End of Time: The Next Revolution in Physics, (Oxford, England: Oxford University Press, 1999), p. 190.

<sup>9</sup> Amanda Gefter, “Throwing Einstein for a Loop,” Scientific American 287, No. 6, December 2002, p.40.

<sup>10</sup> Stephen W. Hawking. A Brief History of Time. (Toronto; NY: Bantam Book, 1998) p. 174-175.

Having been guided to a point of synergy, probability increases for a breakthrough in species intelligence. As the number of knowledge systems with the same directional teleology increases, oscillation along integrative Identity continuums intensifies. Identity continuums at the level of evolutionary consciousness comprise architectonics and their parametric spin potentials.

Every system, including evolution, has a strategic function which allows it to transform itself. That strategic function can be thought of as an epigenetic landscape or a predisposition toward variety. The strategic function *positions a system to become its future*. The thought experiment hypothesizes that when a strategic function rotates toward freedom, strategic discontinuity occurs. The internal regulative intelligence of the system, that which governs its evolution, is swept as if by a mega photon, and spun into alternative rotations, positions, and powers. Architectonic phase transition occurs as a recursion of evolutionary consciousness.

The thought experiment hypothesizes that evolutionary consciousness comprises the understanding and experience of *time, space, energy, number, and function*. Since de Broglie's Nobel Prize winning doctoral dissertation in 1924, quantum field theory has established the oscillatory nature of each of these five synthetic constructs. Each of them, from time to function, can be understood as oscillating along the same Identity continuum. When systems *science* defined time, space, energy, number, and function as *information*, evolutionary consciousness moved into higher orbit. When an electron moves into higher orbit, all it knows of inertial potential is wider spin. As evolutionary consciousness ascends into higher orbit, the potential for wider spin can be anticipated.

Still a matter of speculative reason and simulation is the *mechanism* whereby evolutionary consciousness regulates the various natures of itself. The thought experiment proposes an heuristic and algorithm with which to explore the nature of evolutionary consciousness, so that species intelligence can propel itself into and through a higher recursion of evolutionary spin. At the core is the *mystery of consciousness*, and its relation to evolution. Our knowledge of consciousness is limited by the regulative intelligence of the mediate natures circumscribing human experience, and by logical progression, the intelligence of the species. For evolutionary intelligence to undergo phase transition, mega system heuristics must be released from their relative positions in species consciousness, and ignited through revolutionary spin. *Once in orbital spin, they will reconnect as other than what they were, providing understanding of what they no longer are.* The thought experiment proposes that the freeing of architectonic heuristics from current orbit is a function of strategic discontinuity operating to disengage the grip of regulative intelligence from its present mediate natures.

Ironically, the organization of complex *social* systems may provide missing links to unify metaphysics and empirics. David Bohm intuited this in his 1980 treatise on Wholeness and The Implicate Order. Physics, he said, was...

faced with deep and radical fragmentation, as well as thoroughgoing confusion, if we try to think of what could be the reality that is treated by our physical laws....[reality must be] considered as in essence a set of forms in an underlying universal movement or process, and then asks how our knowledge can be considered in the same manner. Thus the way could be opened for a world view in which consciousness and reality would not be fragmented from each other.”<sup>11</sup>

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<sup>11</sup> David Bohm, Wholeness and The Implicate Order (London and Boston: Routledge & Kegan Paul, 1980) p. xii - xiii.

Bohm's challenge was an echo of deChardin's thirty years earlier. "Through human socialisation, whose specific effect is to involute upon itself the whole bundle of reflective scales and fibres of the earth, it is the very axis of the cosmic vortex of interiorisation which is pursuing its course."<sup>12</sup> In 2001, evolutionary futurist, Erwin Laszlo called for "a fundamental shift in the dominant mindset: the evolution of the basic tenor of human consciousness."<sup>13</sup>

Research suggests that a set of forms relevant to an underlying universal movement and shift in mindset is already apparent in a metaphysics of regulative intelligence. Emerging from management philosophy, the metaphysics is an architectonic which subsumes the inherent contradictions between idealism and empirics. In this sense, this treatise must be judged as an experiment in cosmoplastics, "an independent and operative power by which a cosmos as a material order is originated and brought into being. It is in this sense that strategy is cosmoplastics."<sup>14</sup>

Grundstein's explication of a metaphysics of regulative intelligence is comprised of three volumes, The Managerial Kant, The Futures of Prudence, and The Knowledge of Strategy. The Managerial Kant explicates the metaphysics as a mechanism of social organization which comes into being as a separate nature. Mediate Nature resides *between* the imperated nature of the person and that of physical matter. Mediate Nature takes whatever form of organization its regulative intelligence designs. The Futures of Prudence infuses Mediate Nature with actuality through the introduction of both actor and cosmology. Aristotelian and Hobbesian prototypes are cast as

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<sup>12</sup> Teilard de Chardin, The Phenomenon of Man (New York: Harper & Row, 1955) p.306.

<sup>13</sup> Erwin Laszlo, "Human Evolution in the Third Millennium." *Futures*. (September 2001) Vol. 33, #7, 650.

<sup>14</sup> Nathan D. Grundstein, The Futures of Prudence: Pure Strategy and Aristotelian and Hobbesian Strategist (Hudson, Ohio: Enterprise Achievement Associates, 1983), p. 160.

oppositional regulative intelligences, with designs on strategic control of the future. The Knowledge of Strategy dissects the generative capability of strategy and its relationship to regulative intelligence. The ultimate challenge is the evolution of “a regulative intelligence that preserves imperated nature.”<sup>15</sup>

Revolutionary science can be characterized as a race between stalking horses. The Knowledge of Strategy conveys a certain urgency in the race for dominion between artificial and evolutionary intelligences. Sixth Generation Computers, or expert systems, are a surrogate for the “mental powers of human understanding...the current stalking horse of this brain model for computer design is the biological model (molecular computer) and its ideal goal of an artificial brain”.<sup>16</sup> With the merger of electrical engineering and biotechnology, the capability to build “sophisticated [computing] devices from biological parts” intensifies.<sup>17</sup>

The charge is to make a metaphysics of regulative intelligence comprehensible for ordinary human understanding. Such an endeavor requires a device that *frees* quantum science from its current evolutionary spin, and its commitment to aging and involuted foundational paradigms. Such a device must ensure that “the anomalies that lead to paradigm change will penetrate existing knowledge to the core.”<sup>18</sup> Strategic Discontinuity is hypothesized to be such a device, and the thought experiment its proof.

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<sup>15</sup> Ibid., “Notes on Regulative Intelligence”, September 25, 1980.

<sup>16</sup> Ibid., The Knowledge of Strategy: Foundation for an Intelligence of Strategy (Cleveland, Ohio: Weatherhead School of Management, Case Western Reserve University, 1992) p. xxxii - xxxv.

<sup>17</sup> Baker, David and Church, George, et. al. “Engineering Life: Building a FAB for Biology.” *Scientific American* (June 2006), Vol. 294, #6, 44-51.

<sup>18</sup> Thomas S. Kuhn, The Structure of Scientific Revolution (Chicago, Ill.: The University of Chicago Press, 1962), p. 65

## MANAGEMENT PHILOSOPHY

The conundrum for management is one of domain. Positioned as a functional derivative of business, its stature as an integrative, scientific discipline is hardly significant. This has not always been the case. From Taylor through Simon, management philosophy has been pivotal in enlightening systems science, and reorganizing society. As the empirics of operations research and decision support sciences stimulated the technologizing of capitalism, managerial praxis subsumed the need for substantive theory.

Porter's analysis of industry structure and competitive practice dominates strategic management research. In value chain analysis, management becomes a set of secondary infrastructure activities, the value of which lay in cost containment and sustainable competitive advantage.<sup>19</sup> Attempts at management philosophy come from the organic school which depicts organized systems as "learning communities capable of discovering innovation potential in the collective intelligence of systems thinking."<sup>20</sup> A small cadre of management scholars are calling for the application of complexity theory and temporal analyses to organization research, in addition to the design of new theoretical frameworks incorporating layered methodologies and cross-paradigmatic perspectives.<sup>21</sup>

Oddly enough, management qua management is one of the few sciences which constitutively transverses multidimensional experience simultaneously. Organizationally,

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<sup>19</sup> Michael E. Porter, Competitive Advantage: Creating and Sustaining Superior Performance (New York and London: The Free Press, 1985) p. 43

<sup>20</sup> Peter Senge, The Fifth Discipline: The Art and Practice of the Learning Organization (New York: Doubleday, 1990) p. 45.

<sup>21</sup> Ofori-Dankwa and Scott D. Julian. "Complexifying Organizational Theory: Illustrations Using Time Research." *Academy of Management Review* ((2001), Vol. 26, #3, 415.

management extends its reach to every recursion, every decision, every operation, and every function. Organized systems, human or otherwise, do not exist without management. Helena Knyazeva acknowledged a relationship between management and synergetics in evolutionary theory. “Synergetics discovers principles of management, economy, and acceleration of evolution....[it] builds a new notion of discrete spectra of evolutionary paths....[it] reveals evolutionary laws of nonlinear systems.”<sup>22</sup>

An ephemeral element of organized systems, management *creates the infrastructure* for a mediate nature.

Mediate nature is a causally connected nature characterized by its own system of laws. It is not just a nature with mechanism. It is also a nature with a regulative intelligence. Management philosophy is the philosophy whereby a regulative intelligence establishes and maintains the dominion of an external structure of imperation, one which regulates the acts of persons as part of a system of cooperative action.<sup>23</sup>

Mediate natures originate organized systems. Hence, the domain of management extends to organized systems of every dimension - mega, cosmic, macro, micro, molecular, or atomic in scale. Precedent for applying theory and processes to systems *on a multi-dimensional scale* exists in synergetics, where deterministic and stochastic processes are applied to determine how “the cooperation of subsystems such as atoms, molecules, cells, animals, or humans may produce macroscopic spatial, temporal, or functional structures.”<sup>24</sup> Synergetics seeks to understand self-organizing principles and non-equilibrium phase transitions in the behavior of systems as small as molecules and

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<sup>22</sup> Helena Knyazeva. “Synergetics and The Images of the Future.” *Futures* (April 1999) Vol. 31, Issue 3-4, 289.

<sup>23</sup> Nathan D. Grundstein, *The Managerial Kant: The Kant Critiques and The Managerial Order* (Cleveland, Ohio: Weatherhead School of Management, Case Western Reserve University, 1981) p. xx.

<sup>24</sup> *Springer Series in Synergetics*, Ed. Hermann Haken, Volumes 1- 54, 1977 – 2001.

as large as cities or economies. The very organization of synergetics as a stream of intellectual thought is a function of a mediate nature.

Regulative intelligence defines the infrastructure of mediate natures. To have dominion, “regulative intelligence must traverse person consciousness, cognition, telic-knowing, experiencing, desire, and reason. Without so doing, it cannot establish an external structure...that regulates...volition.”<sup>25</sup> Management becomes the instrument of regulative intelligence, with constitutive powers core to mediate natures. Such a proposition speaks directly to the neglected discipline of management philosophy, which stands with one foot in the grave awaiting its funeral procession. Here this treatise may represent management philosophy’s swan song, or its reincarnation as the stalking horse of another nature - a rapidly evolving phase transition in social structure, spearheaded by the dramatic technologizing of work and social relation.

The treatise hopes to make significant contributions in other ways. Two sets of seminal management theory supply the *methodology* for organizing the thought experiment, and educing the heuristic and metaphysic. Follett’s discourses, including those on integrative unity, self-creating coherence, and constructive conflict resolution comprise one set of seminal theory.<sup>26</sup> Beer’s cybernetic system analysis and viable system model comprise the other.<sup>27</sup> Beer and Follett alter the landscape of management philosophy in unique and powerful ways. Implementing their methodologies as the

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<sup>25</sup> Nathan D. Grundstein, Managerial Kant: The Kant Critiques and The Managerial Order (Cleveland, Ohio: Case Western Reserve University, 1981) p.xxi

<sup>26</sup> Follett’s body of work will be referenced, including Creative Experience (Longmans, Green, and Co., 1924; reprinted by Peter Smith, 1951), and Dynamic Administration: The Collected Papers of Mary Parker Follett, ed. E. M. Fox and L. Urwick, (New York: Hippocrene Books, Inc., 1973).

<sup>27</sup> Beer’s full body of work will be referenced, including Cybernetics and Management (1959), Decision and Control (1966), Brain of the Firm (1972), Platform for Change (1975), The Heart of Enterprise (1979), Diagnosing the System for Organizations (1985)

unifying structure of the thought experiment may demonstrate the significance of each in new applications and new contexts.

The Knowledge of Strategy sets the ground for a science of strategy as a constitutive nature of systems. The treatise hypothesizes that strategic intelligence may alter the course of species evolution, and that strategic discontinuity is a transformational heuristic of a new metaphysic. This component of the treatise seeks to extend the discourse on strategy beyond the pragmatics of military, industrial, and capital interests and into the realm of pure science and self-organizing systems.

### PROOFS AND METHODOLOGY

The thought experiment is structured as a set of proofs. The objectives are:

- a) to demonstrate the construct validity of strategic discontinuity as a foundational heuristic, with directional teleology toward a metaphysics of regulative intelligence; and,
- b) to demonstrate the empirical validity of strategic discontinuity expressed as an algorithm.

As an experiment in cosmoplastics, the experiment must generate an *operative power that brings into being a material order in thought*. The operative power must reside within the structure of the experiment itself, so that as one reads, one's understanding and experience undergoes phase transition. Only in this way, can the metaphysic be educed from the mind of the reader, and the experimental proof of strategic discontinuity as its heuristic validated.

The thought experiment is organized as a laboratory in the mind, leading cognition, one recursion at a time, into and through architectonics of evolutionary consciousness *as mediate natures*. Operationalizing strategic discontinuity is a function of

increasing oscillation along identity parameters in bounded sequence, so that these parameters spin out, *simultaneously*, into an increasing order relation, transforming the nature of identity and the identity of nature. The treatise shifts between operational constructs and exploratory structures specific to time, space, energy, number, and function – the five Identity components of evolutionary intelligence. Evolutionary spin results when cognition, telic-knowing, experience, desire, and reason simultaneously *will* awareness of time, space, energy, number, and function to converge as *regulative intelligence*.

Beer's viable system model is called upon to transverse the cognitive distance from quantum to revolutionary science. Beer defines a viable system as an entity which is "able to maintain a separate existence."<sup>28</sup> Viable systems are self-regulating, self-referential, recursive, and homeostatic. Beer's model defines five components which make up system Identity, with Ashby's Law of Requisite Variety providing the regulative criteria for viability.<sup>29</sup> System One is the operational component where the work of the system is done. System Two is the regulative, anti-oscillatory component, dampening variety which threatens homeostasis. Metasystem Three is the design component, providing coherence, channeling information, engineering variety, and insuring the autonomy of operational elements. Metasystem Four is the strategic component, positioning the viable system toward its potential. Metasystem Five is the primal

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<sup>28</sup> Stafford Beer, The Heart of Enterprise, (Chichester & New York: John Wiley & Sons, 1977), pg. 24

<sup>29</sup> Stafford Beer, Diagnosing the System for Organizations, (Chichester & New York: John Wiley & Sons, 1985), pgs. 1-35.

component, giving closure to the system by defining its Identity as a *resource bargain* between Metasystems Three and Four.<sup>30</sup>

The logic derived from the viable system model obeys Gödel's Incompleteness Theorem, i.e. the consistency of a logical system cannot be proven within the logic of that system. Each viable system contains, and is contained in, a viable system.<sup>31</sup> The rules and parameters of recursiveness also apply here, including structural isomorphism. Douglas Hofstadter ruminated in his groundbreaking treatise on artificial intelligence, that the next step in scientific research might be "science studying itself as an object."<sup>32</sup> The treatise takes as given that such a study is the domain of evolutionary consciousness. Evolutionary consciousness, then, is the viable system *in focus*. It is contained within the meta-recursions of the thought experiment itself.

The experiment begins by explicating system recursions of evolutionary consciousness: cognition, telic-knowing, experiencing, desire, and reason. These recursions *enmatter* volition, the operational element for evolutionary intelligence. They regulate how evolution knows or is conscious of itself. They regulate how consciousness inhabits matter *and* mediate natures. "In fact, cognition involves two kinds of activities that are inextricably linked: the maintenance and continuation of autopoiesis and the bringing forth of a world."<sup>33</sup> The recursions of evolutionary intelligence are structured in isomorphic suspension, balancing five oscillating elemental constructs -

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<sup>30</sup> Stafford Beer, *The Heart of Enterprise*. (Chichester & New York: John Wiley & Sons, 1977), pgs. 141–275.

<sup>31</sup> *Ibid.*, pg. 311.

<sup>32</sup> Douglas R. Hofstadter, *Gödel, Escher, Bach: An Eternal Golden Braid* (New York: Vintage Books, 1981), pg. 699.

<sup>33</sup> Fritjof Capra, *The Web of Life* (New York: Anchor Books, 1996), p. 268. Citing The Santiago Theory

time, space, energy, number, and function. These five elements are core. Without them, thought is discontinuous; existence indeterminate, recognition unbounded.

Determining the constitutive natures of these five elemental constructs requires resolution of architectonic heuristics concerning each one and their relationship to one another. As these foundational heuristics are resolved, awareness of time, space, energy, number, and function expands in requisite variety, oscillation, and order relation. The suspension of these foundational heuristics will rotate, illuminating mediate natures. If the logic of strategic discontinuity works, Identity of evolutionary consciousness will spin toward regulative intelligence.

Follett provides the formula for rotating foundational heuristics. First, their differences must be brought out into the open. This involves a re-evaluation of the entire field of desire and interest, and is facilitated by finding the significant, rather than dramatic features of their conflicts. As re-evaluation of desire and interest takes place, a realignment of groups emerges around common ground.

The next step is the breaking up of wholes. Breaking up of wholes requires the examination of symbols, and a careful scrutiny of the language used to see what things really mean. While one is breaking up wholes, it is necessary to simultaneously uncover the real whole, the *first principle*, which might be obscured by miscellaneous claims or ineffective presentation. This includes anticipating the response of conflicting heuristics to one another, and identifying how each one transduces that which conflicts with itself.

The final step toward freedom is to make apparent the total field of control, with all of its emergent variables. This creates potential for unifying apparently opposing

desire and interest, and for passing from one field of control to another.<sup>34</sup> Identifying the total field results in a proliferation of possible states and alternative solutions to scientific quandaries and metaphysical contradictions.

Well, the big questions are, I think...Can we understand where space and time come from?...How many of the things that we rely on at a very deep level in any physical theory that has a chance of being right – such as space, time, quantum mechanics – are truly essential, and how many of them can be relaxed and potentially still yield the world that appears close to ours?...How much of what we believe is truly fundamentally driven in a unique way by data and mathematical consistency, and how much of it could have gone one way or another, and we just happened to go down one path because that's what we happened to discover?<sup>35</sup>

Three [questions] that I find fascinating are: What is the nature of dark energy? How can we reconcile black hole evaporations with quantum mechanics? And finally, do extra dimensions exist? They are all connected. And they are all going to require some new insights into quantum gravity. But someone is going to have to come up with a totally new and remarkable idea....I think the resolution to these problems is likely to be theoretical and experimental...I'd also bet that the solution to these problems is not going to resemble anything being done now, including string theory.<sup>36</sup>

In order to channel and absorb proliferating variety, evolutionary consciousness must amplify the *resource bargain* between its present and future Identities, making it possible to spin toward revolution in science and social structure. This is the point of no return. Quantum thinking challenges the limits to pure reason imposed by Kant, blurring the distinction between a priori and a posteriori knowing.<sup>37</sup>

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<sup>34</sup> Mary Parker Follett, Creative Experience (Longmans, Green, and Co., 1924; reprinted by Peter Smith, 1951), and "Constructive Conflict", "Business as an Integrative Unity", "The Psychology of Control", Dynamic Administration: The Collected Papers of Mary Parker Follett, ed. E. M. Fox and L. Urwick, (New York: Hippocrene Books, Inc., 1973).

<sup>35</sup> "The Future of String Theory: A Conversation with Brian Greene." *Scientific American* (November 2003) Vol. 289, No. 5, 73.

<sup>36</sup> Lawrence M. Krauss, "Questions that Plague Physics." *Scientific American* (August 2004) Vol. 291, No. 2, 82.

<sup>37</sup> Immanuel Kant, The Critique of Pure Reason [translated by J. M. D. Meiklejohn] London: J. M Dent and Sons, Ltd (1789), 1934, 25-40.

There is strategic intent in making the viable system model and constructive conflict methodology structural componentry of the thought experiment. First, Follett and Beer make it possible to include human experience within the total field of control, integrating human matter and consciousness into the equation of a grand unified theory. Doing this is consistent with the "...necessity of studying and understanding phenomena at multiple scales, simultaneously, rather than reducing them to the laws of physics."<sup>38</sup> Second, Follett and Beer combat dichotomous thinking. Dichotomous constructs have a stranglehold on evolutionary intelligence and quantum science. The dualism of modern science which is "permeated by the dichotomy between subject and object, or observer and observed,"<sup>39</sup> leads to...

the illusion that the world is actually constituted of separate fragments and...this will cause us to act in such a way that we do in fact produce the very fragmentation implied in our attitude to...theory....What is called for is not an *integration* of thought, or a kind of imposed unity, for any such imposed point of view would itself be merely another fragment. Rather all our different ways of thinking are to be considered as different ways of looking at the one reality, each with some domain in which it is clear and adequate....The whole object is not perceived in any one view, but, rather, it is grasped only *implicitly* as that single reality which is shown in all these views.<sup>40</sup>

It is no accident that, with rare exception, the search for a theory of everything ignores that which is instinctively human. Scientists who explore the evolution and constitutive nature of mind, matter, and consciousness, fail to take into account their own experience as human minds and social beings. Modern science imposes an artificial distance in relation to itself. In so doing, scientific exploration eliminates a rich field of

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<sup>38</sup> Robert Costanza. "A Vision of the Future of Science: Reintegrating the Study of Humans and the Rest of Nature." *Futures* (August 2003) Vol. 35, Issue 6, 653.

<sup>39</sup> Douglas R. Hofstadter, Gödel, Escher, Bach: An Eternal Golden Braid (New York: Vintage Books, 1981), pg. 699.

<sup>40</sup> David Bohm, Wholeness and The Implicate Order (London and Boston: Routledge & Kegan Paul, 1980) pg. 7-8.

possibility that fails to see that "...along with the new vision of the evolutionary future is coming a re-visioning of the evolutionary past and present, with a different sense of the boundary between - or inseparability of - organism and artifact, nature and technology."<sup>41</sup>

The questions are haunting. Why is it permissible to apply natural science theory to the domain of social science, but never the other way around? Why does mathematical formalism and quantitative analysis carry greater credibility than human experience and qualitative data? Why is science grounded in the uncertainty of statistical probability more valid than science grounded in intuition or an implicate order?<sup>42</sup> The dark matter of the mind may be no different than the dark matter of the cosmos. How does a bio-electrical impulse become Idea? How might non-linear continuums be represented as suspended in consciousness? How does consciousness inhabit matter? Might matter also inhabit consciousness? Are not the answers hidden in evolutionary consciousness itself? Who is to say that a metaphysics generated from an obscure management philosophy might not inform a theory of everything and transform the intelligence of the species?

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<sup>41</sup> Walter Truett Anderson. "Augmentation, Symbiosis, Transcendence: Technology and The Future(s) of Human Identity." *Futures* (June 2003) Vol. 35, Issue 5, 543.

<sup>42</sup> David Bohm, *Wholeness and The Implicate Order* (London and Boston: Routledge & Kegan Paul, 1980) pg. 149.

