

# Toward a Post-Quantum Noetic Ontology

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# I

## Being Here: Our Two Knowledge Paradigms

For no light matter is at stake. The question concerns the very way that human life is to be lived.

—Plato (*Republic*, Book I)

**A new scientific/cultural revolution.** There have been three great revolutions in Western science and culture: the Copernican Revolution of the 17<sup>th</sup> century, begat the Newtonian Revolution of the 18<sup>th</sup> century which begat the 20<sup>th</sup> century Quantum Revolution. The Copernican Revolution gave birth to the classical relativistic physics of Galileo, Newton and Einstein and, with the Newtonian Revolution, produced the cultural revolution called Modernity. The essential concern of Modernity: What shall we do about God? Meaning in a modern world without God was problematic, to say the least. A dualistic, separate theistic God was, as Hume has shown us, reasonable but not rational. The culture *imaginaire* of Modernity was supremely and compulsively rational in its flight from the tyranny of subjectivity that was the non-rational and irrational religious and political authority of the Age of Faith. Such incessant rationality, this idealization and valorization of reason with its desire to quantify everything, produced an adventitious grail quest for absolute deductive certainty that still infects our capacity to reason inductively, and to appreciate the stochastic nature of our scientific and spiritual knowledge of reality as it arises from its primordial ground. This cultural mass mind-state, rooted as it is in collective deep background Platonic and Aristotelian Realism and Cartesian Rationalism, has fabricated an unnatural, destructive, scientific and cultural metaphysic that has split science/matter from mind and spirit, resulting in terrible human alienation and suffering.

Thus emerge the two ostensibly incommensurable paradigms that we have come to know and love as the mind-body/spirit-science duality. The “mind-body problem” has been with us since our primeval beginning. The classical competing spirit/science paradigms have coexisted, uncomfortably, since Descartes, Galileo, Locke, Leibniz and Newton established our objectivist empirical, realist/materialist scientific paradigm in the 17<sup>th</sup> century. This unholy paradigmatic duality is still very much a part of our preconscious, deep background, intersubjective cultural “web of belief” and pervades every aspect of Western mind and culture.

In the 20<sup>th</sup> century the Postmodern, post-classical Quantum Revolution embraced the classical mechanics of the great mind of Isaac Newton, and of Einstein’s more inclusive relativistic mechanics, but transcended both their limits by subsuming and unifying their mathematics in this third scientific/cultural revolution, based in post-classical quantum mechanics which produced the notoriously recondite, indeterminist, acausal antirealist Relativistic Quantum Field Theory (QFT/QED), and the “spooky” metaphysics of quantum cosmology’s quasi-physical quantum vacuum potential that emerged from it. Most of those physicists who rejected Bohr’s and Heisenberg’s acausal, indeterminist, antirealist “Copenhagen Interpretation” of QFT adopted an epistemologically realist view (Scientific Realism) and became the ideologues

of the “Hidden Variables” view of QFT (Einstein, Bohm). Yet, it is not at all unusual to encounter scientists, and even physicists (but not philosophers of physics) who profess the Copenhagen Interpretation, as most of them do, yet assume and defend epistemological Realism, and its ontic sidekick, Monistic Materialism, in this case mechanistic Scientific Materialism which is the usually unexamined ideology—named “Scientism” by its critics—that has become the default ontology or metaphysic of the Western mind.

The Quantum Revolution is complete, if not completely played out historically. Now, on the cusp of the 21st century we enter our next evolutionary stage that is nothing less than a new scientific and cultural revolution, a post-quantum incipient integral Noetic Revolution in science, religion and culture (Boaz 2012). (“Noetic” here means the cognitive/emotive experience of transrational, nondual subject/object, mind/matter unity, ontologically prior to perceptual/conceptual and linguistic relative-conventional dualistic spacetime reality). Here we begin the urgent process of restructuring and unifying the two seemingly incommensurable paradigms as we nurture the seed of an integral, noetic science of matter, mind and spirit, and a heretical ontological relativity: what there is, is relative to and reified into an absolute, independent existence by our percepts, concepts and belief systems.

Ontological relativity, this urgent Postmodern truth (Bohr, Quine, Kuhn, Rorty, Habermas) has given birth to a new Science of Consciousness. This new integral noetic science is the long neglected study of the mind, our preconscious, conscious and supraconscious cognitive reference frames that comprise the natural subjectivity of mind beyond or ontologically prior to mere “scientific” objective conceptual cognition and electrochemical physical brain activity (or epiphenomena of brain activity). Such a science includes both Western neuroscience and Eastern contemplative science (*adhyatmavidya*), and shall not fail to further the vital project of unifying these hitherto apparently incommensurable knowledge paradigms that are Science and Spirit/spirituality.

Such a unified noetic Science of Consciousness is a precursor to an integral science of matter, mind and spirit and an augury to any provident fruitful integration of these two competing knowledge paradigms toward a higher, subtler post-realist, post-materialist unifying synthesis that furthers human happiness and well-being. The inevitable result shall be an enhanced lived experience of the two essential, inseparable and interdependent aspects of human being—physical and spiritual, matter and mind. Such optimism assumes we not lay waste to the civilizations of our earth through individual and collective/corporate/national desire-mind acquisitions of wealth and power. Collective conduct arises from the conduct of individuals.

Therefore, I shall here argue that such a paradigm shift—not toward one or the other pole, and not toward a revolutionary new paradigm, but toward a restructured unification of this bipolar, paradigmatic split—begins simply in the recognition, and then the *praxis* that is the cause the subtler realization that these two cognitive paradigms were never separate at all. Well, they certainly *appear* separate! And that is the point. As the Hindu, Buddhist and Taoist epistemologies have shown, the things of arising reality are *not* as they appear. As physicists, religious and contemplative mystics, and the human history of ideas attest, outer exoteric ap-

pearance may veil or cloak (*vikshepa*) a subtler, esoteric deeper truth as to the basis or foundation of appearing reality. This subtle cognitive process of obscuration (ignorance, *avidya*, *marginpa*) occurs at both the psychological level of the individual, and the psycho-social level of our collective unconscious. Knowledge and wisdom understand and express the great depth that abides beyond, or ontologically prior to the extrinsic appearances of arising spacetime reality. We shall see that this intrinsic ground of appearance is the very nature or essence of mind that is both origin and aim of all our happiness seeking strategies.

We will then, here explore these two ostensibly incommensurable paradigms—Science and Spirit/spirituality—through a very brief examination of the Standard Model of theoretical physics with its Quantum Field Theory and quantum cosmology, and their philosophical consequences. Here we shall perpetrate a little philosophy upon physics. One such perpetration is Rupert Sheldrake’s “Science Delusion”, the view that the waning Science/Scientism paradigm can understand the nature of reality through the metaphysical dogma of its mechanistic, materialistic “web of beliefs”. This exploration shall then immerse us in the Buddhist epistemology of middle way *Madhyamaka Prasangika*, and thus to the ontology of the “open awareness” that is the fully present knowing (*vidya, rigpa*) of the unbounded wholeness that is *Dzogchen*, the Great Perfection; this all toward a reconstruction that points the way toward an ultimate unification of these perennial paradigmatic Two Truths that are our objective and subjective relative-conventional material spacetime reality—the realm of Science—and its non-separate, perfectly subjective ultimate transphysical, transrational primordial ground, by whatever name—the realm of Spirit/spirituality.

So let us now invoke the *shoshin* response, the zen mind/ beginner’s mind that temporarily places in abeyance the inevitable attachment and defence of our present concept/belief systems, our “web of belief”, and then see what arises. Let us then open our minds and our hearts to a subtler unifying synthesis in the face of this, or *any* apparent duality. Just so, let us now imagine that matter and mind, Science and Spirit—these variations on the theme of our perennial “Two Truths”, relative and ultimate—are complementary aspects of a singular prior ontological unity of the ultimate or absolute perfectly subjective nondual enfolded unbroken and unbounded whole. This whole or ground or source of seemingly objective appearing reality continuously unfolds and arises, via the quantum vacuum potential (*akasha/namkhah/manakasha*, aetheric matrix which is analogous to Tibetan Buddhist basic space/*bying/dhatu*) as the two modalities of relative-conventional spacetime reality—the objective and subjective experience of our being here. The whole is greater than, and subsumes the parts. How shall we understand, and accomplish this?

**Praxis.** What I have termed the Integral Noetic Imperative requires that scientists, philosophers and those in the teaching and helping professions become familiar with philosophy of science and esoteric spirituality (and even exoteric philosophy of religion), that physicists become familiar with philosophy of physics and Eastern non-theistic religious studies, and that religious studies folks—theistic and otherwise—know a little of the “new physics”. And in all cases, practical, here now, non-transcendent, quiescent “mindfulness training”—

sectarian or non-sectarian—is requisite to such a holistic reality view, and its realization, and as an antidote to scholarly and therapeutic prideful paternalism and pretentiousness. Why?

Suzuki Roshi (1970) tells us that ninety-five percent of our thinking is in service of the self. Woody Allen quipped that “eighty percent of life is showing up.” Since most of our lives are spent in an atavistic, compulsive colloquy of past and future ego-self—the “wild horse of the mind” — “mindfulness practice”, not transcendence, enables us to “show up” for, and to be present to the selfless, timeless, peaceful *now* of our own being here, even in the chaos of the conventional world of the commonplaces of everyday “Relative Truth”. As the duality of self and other is here largely absent, “primordial wisdom” and kind, compassionate activity naturally and spontaneously arise together, we better accept the primal fear of our impermanence, the suffering of beings is reduced, and happiness increases, just as our Primordial Wisdom Tradition teaches. Indeed, recent research in neuroscience and cognitive science has shown that evolution has “hardwired” us for cooperation and compassion (HH The Dalai Lama 2012). In short, there is an evolutionary advantage in kind, compassionate activity. Therefore, we must learn to “mind the mind.” Such meditation or mind training in “being here now” is indeed imperative. And assuredly, such contemplative cognition is not what we think.

Anne Carolyn Klein, in the beautiful prose of her superb book, *Unbounded Wholeness* (2006), speaks of the “epistemology of presence” wherein ultimate meaning is inherently (*saha-ja*) already present in subjective mythopoetic space, prior to any temporal, discursive operation or dualistic linguistic, semiotic distance between subject and object, knower and known. In the “logic of the non-conceptual”, meaning, even ultimate meaning, is present in all cognition, and coexists with and pervades the relative-conventional logical syntax of language, whether or not this is recognized by a perceiving subject. Since Kant we have known that ontology—what there is—cannot be conceptually reduced to pure reason. This great truth of the wisdom traditions parallels the urgent Postmodern truth of “ontological relativity” (Peirce, Quine, Kuhn, Rorty, Habermas, and B. Alan Wallace) wherein we create our objective reality through what W. V. Quine called our deep background “web of belief”.

Thus, the unbroken whole of Reality Itself arises for us as intersubjective deep cultural, background-dependent, mythic, poetic, emotive, and aesthetic cognition. The seemingly objective facticity of human reason is relative to *That* (*quidditas, tathata, suchness*). This conventional knowledge is then incompletely logically and epistemologically unpacked through the reason of semiotic discursive mind. But something vital gets lost in translation; that something is the perfectly subjective here now direct presence of this subjective primordial *mythos* and *poesis*. These “two voices” together—objective and subjective—comprise an “epistemological unity” (Klein) that bestows “harmonic” and ultimate meaning for us.

Professor Klein reveals that “unbounded wholeness” is how and what reality is...Open awareness (*rigpa*), fully present to that state of wholeness, is the knowing of it...open awareness is uniquely authentic (*tshad ma*) for it alone is fully aware of its own nature as unbounded wholeness”. However, Professor Klein reminds us that to argue for the here now presence of wholeness through the separation inherent in the polarity of the dualistic syntax of language is problematic, to say the least. Yet we persist.

We must here remember that this non-conceptual, non-linear, non-transcendent open awareness of the now is essentially subjective and therefore cannot be fully described or explained by an objectivist physics, not even the subjectivist “lucid mysticism” (Pauli) of the Quantum Field Theory. The problem of subjectivity, this “problem of the now,” the problem of the nonlocal nature of time troubled both the great Zen master Dōgen and the great physicist Albert Einstein (Dōgen 1986, Boaz 2012 p68 ff). Mindfulness practice is a trans-conceptual way to enter into it, and see. Is not all of this—objective and subjective, matter and mind—a part of our participation in the diaphanous brightness of the world that is this vast mindscape of the unbounded whole of Reality Itself? We understand and accomplish this all inclusive truth through a balance of Aristotle’s three essential activities of human beings: *praxis*, *theoria*, and *poesis*. Let us then, first explore the *theoria* and *praxis* of the venerable Science (physics) paradigm.

**“Physics in trouble”: matter behaving badly.** Perhaps the greatest challenge facing theoretical physics today (notwithstanding our noetic imperative to remain open and skeptical regarding our personal and collective “web of belief”) is the undeniable incompleteness of its “Standard Model”—the Relativistic Quantum Field Theory (QFT) that became Quantum Electrodynamics (QED), with its “hocus pocus” (Feynman) renormalization fairy dust, leading then to the Electroweak Theory, which presumes to unify the Electromagnetic force with the Weak interaction. This challenge is intimately linked to physics’ Quixotic quest for “Einstein’s Dream,” a unifying Quantum Gravity that quantizes the Gravity Force of Einstein’s General Relativity, unifying it with the Quantum Field Theory and resolving the problem of anomalous quantum nonlocality or “quantum entanglement,” and with that the problem (for Scientific Realism) of anti-Realism, thus bridging the gap between the quantum world of the very small, and the cosmological world of the very large.

Unfortunately the Standard Model with its quantum gravity candidates—Superstring Theory/M-Theory with their necessary Super-Gravity/Super-Symmetry mathematics—still presumes (often pre-consciously, below the formalism of the mathematics) the point-like, non-zero mass structure of the fundamental quarks and leptons, or superstrings, or branes, as the case may be. That is to say, these are exoteric and esoteric realist/physicalist theories that assume or beg the question of the metaphysics of epistemological Realism with its correspondence theory of truth, and Realism’s ontic confederate, classical Substance Monism, in this case Materialism. Scientific Materialism brazenly utilizes Scientific Materialism to vindicate its Scientific Materialism. Science cannot be validated, or even vindicated via a circular appeal to science. Yet, there are centrist “middle way” non-realist, non-physicalist, non-idealist ontological offerings that avoid the epistemological problems of Scientific Realism/Materialism, as we shall see.

*What physics needs now is a cognitively courageous theoretical leap (in fear and trembling) from the 2400 year old self-sealing presumption of the metaphysical fundamentalism of foundational Scientific Realism and monistic Substance Physicalism/Materialism, toward a perspicuous new ontological relativity, and an interdependent, non-realist, non-materialist, non-idealist, nonlocal, acausal, indeter-*

*minate, top down, observer-dependent, theory-dependent, background dependent centrist middle way physics paradigm that avoids nihilism. That's all. Where does such noetic heresy lead us?*

The Nominalism and anti-Realism of the Copenhagen Interpretation of the Quantum Theory (Bohr, Heisenberg, Born, Pauli), along with W. V. Quine's (1969) work in logic and epistemology, and the mathematics of Gödel and Bell, are steps toward such a Postmodern ontological relativity in the brave new world of post-quantum physics and philosophy of science. *It is vital that we understand that we create and even reify our realities via the cognitive train of attention, perception, and our cultural intersubjective conceptual and belief systems, our cultural "web of belief."* This urgent Postmodern truth is the antidote to the Modernist "old paradigm" belief in a pre-given independently existing, separate "real world out there". This metaphysic of Realism seems to be a preconscious attempt to "save the appearances" ("the myth of the given") and is embedded in the ideology and belief system of Scientific Realism that is descended from the Platonic realism of Plato and Aristotle, and from the Orwellian logical empiricism of the Logical Positivist movement of the early 20<sup>th</sup> century.

It is through our various and sundry semiotic belief systems that mind, and therefore self, is spontaneously extended from brain and coupled to the multidimensional plurality of the external world, and beyond (Clark and Chalmers 1998). This breach in the Science paradigm of the limits of the "hegemony of skin and skull" opens a way to paradigmatic reconstruction and unification. Without knowledge of this urgent Postmodern truth that is ontological relativity, our current theory-laden, theory-independent, observer-independent science and philosophy will languish in the ideological grip of Modernist, separatist objectivist Scientific Realism/Materialism, greatly inhibiting theoretical, descriptive and explanatory reach, and the prospect of a new noetic ontology that is a rapprochement between these two paradigms that are objective Science and subjective Spirit/spirituality.

In his recent book *The Grand Design* (2010)—a very good popular read—Stephen Hawking proposes the scientific (physics) rudiments of such a view in his theory-dependent, "Model-Dependent Realism," which is an antirealist, ontologically relative, nominalist, perspectival philosophical view that denies any observer-independent, theory-independent reality, and therefore the possibility of any physicalist "theory of everything." Such a physicalist theory must be *ipso facto* a realist, theory-independent (e.g. M-Theory) reality. This is a bit perplexing because Hawking also here advocates M-Theory as the only viable TOE candidate. "We now have a candidate for the ultimate theory of everything, if indeed one exists, called M-Theory," (Hawking 2010 p. 8). Although Hawking here announces—for our philosophical edification—that "philosophy is dead," we can still hope that the recent perspectival shift displayed by this great mind (in a speech in 1980, and again in 1988 in his *A Brief History of Time* he predicted, contrary to his new MDR view, that a TOE is near at hand) portends his future openness to dialogue with philosophers of physics, and with Neo-Vedanta and *Madhyamaka* Buddhist studies specialists who do not conflate "philosophy" with the sterile, merely academic Western Analytic Tradition; and who do not conflate "God" with merely a dualistic conceptual theistic "God of the philosophers", a "God of the gaps." *In any case, non-theistic, nondual godhead conceptually and contemplatively transcends yet embraces both Western and Eastern dualistic ontologically*

*separate and therefore limited dualistic theistic God.* This dialectical distinction is all too often overlooked in science/religion dialogue. When science and religionists speak of God it need not perforce be a theistic God of which they speak. Any argument for or against some attribute of God, for example existence, is not to the point if "God" is presumed to be merely a theistic God. Pantheistic, panentheistic, panpsychic and other non-theistic views are part of the equation. However, all of these gods and non-gods are merely concepts. Clearly, the transrational truth is greater than our concepts and beliefs about God, or any other ultimate reality, perhaps even those "confirmationally biased" sacrosanct beliefs of which we are certain.

Back to Hawking. As this excellent book introduces Hawking's profound MDR turn to a theory-dependent, antirealist, ontologically relativist view from his previous scientific realist position, and since the educated "high culture" of the Westernized world receives much of its knowledge about "the new physics" from Stephen Hawking's exegesis, one cannot but wish that a bit more attention had been paid to the philosophical consequences of his and co-author Leonard Mlodinow's promising incipient MDR theory.

Further, neither MDR nor the Western mind need presume the mathematical necessity of hidden dimensions of the inchoate quantum gravity theories now on offer (Hawking loves Ed Witten's elegant synthetic M-Theory) to be *independently real, physical* reality dimensions. The many theorems of M-Theory too must be interpreted as observer-dependent and theory-dependent, and as describing an ontologically relative *interdependent* reality with no reification of, and no hidden metaphysical commitment to a merely physical "real world out there" (RWOT). As *Middle Way Buddhist (Prasangika) epistemology has so clearly shown in its explication of the perennial Two Truths, arising material reality is relative-conventionally real, but not independently ultimately real* (Garfield 1995, HH the Dalai Lama 2009). This is very a useful conventional duality, as we shall see. But with the hidden metaphysics of objectivist monistic Materialism (with its taboo of subjectivity) as the default ontology for the culture of the present physics Standard Model paradigm, most scientists and others under sway of what Shel Drake terms the "Science Delusion" shall never experience, or even suspect, any subjective or deeper, even spiritual reality beyond the merely spacetime physical dimension. If we are indeed more than mere physical beings, becoming paradigmatically mired in Scientific Realism/Materialism is indeed a sticky wicket. Hawking now seems to recognize this.

The hypothesized existence of such post-quantum hidden dimensions, and of the purely mystical dark matter/energy which is said to constitute 96 percent of the cosmos, should give us ontic pause. Therefore, remembering the Two Truths of the wisdom traditions, let the cosmos with its multiverse be theoretically, epistemologically, conventionally physical. Let appearing physical reality be really real. However, the Pythagorean *Kosmos* is that prior basal, transphysical, nondual singularity of the basal unbroken wholeness that is the very ground of being in which (in whom) this all arises and participates. This matrix ground embraces and subsumes all conceivable reality dimensions, objectively arising matter and mind, and their perfectly subjective source or ground by whatever name or concept. But this *kosmic* nondual "Supreme Source," this nonlinear, transrational *now* that transforms separate observer/researcher/theorist into included active participant in the whole, is ontologically prior to the

Planck Scale (Planck time, Planck distance, Planck energy) epistemic limit and thus cannot be objectified and described by physics, as we have seen. So we often do not recognize it. That is to say, this *kosmic* whole is utterly ineffable to conceptual mind, but not necessarily to the mind trained in our contemplative wisdom traditions.

Yet, the here now “open awareness” presence (*vidya, rigpa, shekina*) of the unbounded whole of this primordial ground or source of being abides and is cognitively embedded in the atavistic depths of human being. This “supreme identity” is the trans-conceptual primordial awareness wisdom of our elders outpictured in the body, voice and mind of humankind as the numinous primeval subject of our collective Primordial Wisdom Tradition in all of its Premodern, Modern and Postmodern raiment.

Such a perennial transrational “natural mysticism”—or “lucid mysticism” as Pauli called it referring to the inherent mysticism of the Quantum Field Theory—was well known to such great minds of 20<sup>th</sup> century physics as Eddington, de Broglie, Schrödinger, Pauli, Bohr and depending on his mood, Heisenberg (see Ken Wilber’s *Quantum Questions*). Even the inveterate realist Einstein had profound mystical moments. Such a post-quantum spontaneous natural mysticism is a harbinger of the demystification of mysticism as the emerging Noetic Revolution reconstructs and unifies the objective/subjective false dichotomy of our two competing paradigms.

If “Descartes’ Dream” was to provide metaphysics a supra-rational scientific foundation, Bohr has provided science with the “wisdom of insecurity” that is metaphysics through the “rational mysticism” (Pauli) that is the Quantum Field Theory. Bohr has demonstrated a thoroughgoing understanding of the logically circular complementarity—the mutuality—of reason and mysticism, that is to say, the prior unity, not only of the matter and energy of relativistic physics, but the unity of objective matter/energy and perfectly or ultimately subjective nondual spirit, the all-embracing *Kosmos* that is its primordial ground. Bohr anticipates the holism and ontological relativity of Quine, later Wittgenstein, Heidegger, Kuhn, and Habermas. Shall we expect Hawking to join this sterling company?

*We can now see that this notion of the complementarity of seemingly opposed or contradictory conceptual principles—the horns of dilemma—is key to a propitious pragmatic resolution of the Science/Spirituality, matter/mind conundrum.* All of this is food for epistemic thought as to the perennial mind-body duality, and the ostensible incommensurability of the Science/form and Spirit/emptiness paradigms. How so?

The nondual teaching of the Premodern wisdom traditions that comprise our Primordial Wisdom Tradition views these two conceptual paradigms as the perennial “Two Truths”—relative and ultimate—unified in the utter simplicity and symmetry of the trans-conceptual singular nondual one truth, the “one taste” of the unbounded wholeness of the perfect sphere of Buddhist *Dzogchen*—or of Essence *Mahamudra*, or of Shankara’s *Advaita Vedanta*—that is the fundamental ontic prior unity of all such truth-functional conceptual binaries. The relative-conventional world of Postmodern science and culture becomes so much more comprehensible when situated in its logically and ontologically necessary ultimate context, regardless what we name it. As to this *kosmic* singularity that transcends yet embraces the physical cosmic “Big

Bang,” it is the ultimate nature and ground of arising relative-conventional spacetime reality. Such radical perspicuity is bound to shake the “taboo of subjectivity” of our dogmatic cultural “web of belief” that persists in the belief in a separate, permanent, eternal, independently real, merely material/physical cosmos. And this courageous opening, beyond belief, welcomes the coming epistemic crisis and paradigm shift toward noetic method in the sciences and humanities (Boaz 2012 Ch. VI). “All that can be shaken shall be shaken” (Dōgen Zenji).

The emerging integral noetic science of matter, mind and spirit is an auspicious beginning to this urgent inter-dimensional, inter-paradigm project. Here the absolute dynamics of classical, relativistic pre-quantum physics yields to the interactive dynamics of the interdependent epistemology and ontological relativity (Bohr, Quine 1969, Kuhn, Hawking 2010) of the quantum field, and of the Indo-Tibetan Buddhist centrist *Madhyamaka Prasangika* epistemology that together constitute the incipient Noetic Revolution in science, spirituality and culture that is now upon us. Let us then consider some recent developments in theoretical physics, mathematical logic, and Buddhist epistemology that may further such an integral noetic view. First, physics.

There is presently a glaring inadequacy of the Standard Model of contemporary physics, founded as it is in Relativistic Quantum Field Theory, to explain 1) its free constants, the values of which define the properties of particles (their masses and the strength of the forces); 2) neutrino physics anomalies: neutrino oscillations and their non-zero mass (CP symmetry violation) i.e. the mass asymmetry between neutrinos and anti-neutrinos which violates Relativistic Quantum Field Theory (Special Relativity), and now the electrifying news of the apparent supraluminal velocity of neutrinos; 3) the continuing non-presence of the diaphanous, omnipresent Higgs boson (the “God particle”); 4) the Standard Model’s inability to explain, or explain away the utterly mystical Dark Matter and Dark Energy that together constitute about 96 percent of the known physical universe (the Cosmological Constant Problem); 5) General Relativity and the Quantum Field Theory—the two pillars of the Standard Model—are mathematically incompatible (attempts to merge the equations result in the “problem of infinities”) at or near the Planck length ( $10^{-33}$  centimeters) and the Planck time ( $10^{-43}$  seconds), precluding research on black holes and the Big Bang; 6) QFT/QED is untenable with its present “dippy hocus pocus” (Feynman) mathematics of renormalization, with the unhappy result that the Electroweak interaction theory is dubious, protracting into the far distant future any Grand Unified Theory (GUT) of the three fundamental forces of nature, namely the Electromagnetic, the Strong Nuclear, and the Electroweak forces, and without such a GUT a Theory of Everything (TOE)—that hubristic consummation to be wished—that unifies these three with Einstein’s Gravity Force is precluded; and finally 7) physics is unable to explain its Quantum Uncertainty Principle and quantum nonlocality (quantum entanglement).

Moreover, physics has failed to address the obvious reality of subjective human experience—the vexing “Problem of Consciousness”—the problem of objectifying our subjective, including spiritual, experience. What is it like to be in love? What is it like to be in god-consciousness? What is it like to experience the color red, or the taste of pineapple? How does objective electro-physical brain produce the subjective experience of red, or the felt quality of

emotion, for example compassion? Philosophers and neuroscientists tend to explain consciousness by explaining away consciousness. Thus neuroscience and cognitive science speculate that there is a purely physical objective “neural correlate” for each and every subjective experience. But even if this dubious conjecture were true, we could still ask, “what is it like” to have a toothache?

Neuroscientists admit that they have not a clue as to how a physical brain could be conscious, could produce consciousness. So this is the “hard problem” of the “explanatory gap” between matter and mind, that is to say, between second and third person exterior, objective physical electro-chemical brain states, and introspective first person private reports of interior subjective consciousness states (Searle 1997, Clark/Chalmers 1998, Boaz 2012 p. 89).

Further, if the recent (2011) astonishing Neutrino Sector revelation at CERN continues to be confirmed—that neutrino velocity is supraluminal, that is, exceeds Einstein’s Special Relativity light speed limit that is the very backbone of the QFT/QED Standard Model—then the Relativistic Quantum Theory that grounds the Standard Model is not just incomplete, but radically flawed.

And finally, there are far too many “elementary particles” in the cumbersome present version of the Standard Model. Could nature really be so complex at its most fundamental core? Surely there is symmetry and simplicity in heaven and earth undreamt of in our quantum philosophies. Such simplex is required by our mathematical intuition, and by the aesthetics of theory construction. Such a universal thesis, a physical theory that identifies and explains the very nature or essence of reality—its *quidditas*, *tathata* or suchness—has been the perennial aim of human beings from the beginning. Is such a Promethean quest a reasonable quest? Is it a rational quest? Yes and no.

**Is a physical theory of everything logically possible?** If it is not, it cannot be empirically possible, which is to say, it is not possible in any meaningful way at all. The essential mathematical principle of theory incompleteness expressed in Platonic/mathematical realist Kurt Gödel’s two 1931 incompleteness theorems—which proved the inconsistency of Russell’s and Whitehead’s monumental *Principia Mathematica*—points to the untenability of any pretense to a physical “theory of everything” (TOE).

Rigorously applied, these theorems are relevant to any axiomatic mathematical system that is arithmetically expressive enough to include the properties of natural numbers. Therefore, to the complex mathematics of Quantum Field Theory, Quantum Electrodynamics, String Theory/M-Theory, Loop Quantum Gravity, indeed to any hope for a self-consistent physicalist TOE, Gödel’s proofs are devastating.

Gödel’s two proofs are understood by mathematicians and logicians to prove that no complete axiomatic system can prove all of its logical/mathematical truths. Or worse (for Hilbert and logical formalism): *all axiomatic systems that are internally self-consistent are inconsistent!* Gödel’s two theorems state that 1) *any such system is either inconsistent (a proposition and its denial can both be deduced from the axioms), or 2) it is incomplete (there is a true proposition that cannot be*

*deduced from the axioms*).<sup>1</sup> Now, any Theory of Everything must be composed of internally consistent, non-trivial mathematical theories. Therefore they must be incomplete. Not only is QFT/QED incomplete (nonlocality; the renormalization problem), but any future TOE candidate is necessarily incomplete. Alas, this includes the mathematics of the component theorems of TOE candidates M-Theory and of Loop Quantum Gravity.

Both Stephen Hawking and Freeman Dyson (and many others) have been disabused of the TOE cognitive urge thanks to these seminal logico-mathematical proofs of Gödel and Rosser (Boaz 2012, “Post-Quantum Logic” p. 77). Most theoretical physicists however, hold to the TOE “hope for a miracle,” thus the evolution of M-Theory will continue, and an elegant, more inclusive theory—if not a TOE—will surely emerge.

**Bell’s Interconnectedness and the cloud of unknowing.** In 1964 physicist John Bell’s paradigm busting theorem (Bell’s inequalities) proved that no local, theory-independent realist model of reality—for example Einstein’s relativity theory—can explain the nonlocal “spooky action at a distance” (Einstein) of the Quantum Field Theory. In theory-dependent models—Quantum Field Theory and Hawking’s MDR version of it—reality is ontologically relative, that is, arising phenomena need not be reified into a separate, observer-independent “real world out there” (RWOT). In 1984, at the University of Paris, Alain Aspect (and later many others) experimentally confirmed Bell’s theorem.

Thus do Bell’s theorem and Gödel’s proofs together preclude the possibility of the Hidden Variables Realism of Einstein, Bohm, Penrose and Smolin (Boaz 2012 Ch. IV). At least this is the popular academic consensus. Is Hidden Variables Theory a Postmodern cognitive artifact of QFT/QED proffered in support of the realist-materialist metaphysic that undergirds Scientific Realism’s “myth of the given,” the “hope for a miracle” special pleading of a separate, independently real physical objective world that is the perfect “mirror of nature” (Rorty) foretold by Aristotle? This “science delusion” (Sheldrake) myth of the given—true or not—runs deep. Even Postmodern theory-dependent ontologically relativist realist physicists get mired in it, that is when they are not paying homage to Bohr’s antirealist Copenhagen Interpretation of the Quantum Field Theory.

**Ontological relativity, Quine’s quiet revolution.** Willard Van Orman Quine ((1908-2000), considered by many in the philosophy trade to be the most important philosopher of the 20<sup>th</sup> century, authored two monumental essays “Two Dogmas of Empiricism” and “Ontological Relativity. “Two Dogmas” presents Quine’s assault on scientific objectivity, demolished the distinction between science and metaphysics, and forever changed the empirical, realist, materialist character of Western philosophy and science, although this is not what he intended.

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<sup>1</sup> In 1936 J. B. Rosser discovered a variation on Gödel’s first proof that greatly expanded its reach of application to formal theories of various degrees of arithmetic expressiveness. This enhanced “Gödel–Rosser Theorem” relaxed the 1931 requirement for  $\omega$ -consistency, assuming only theorem consistency. Moreover, Gödel’s second theorem strengthens the first by formalizing the proof of the first theorem without recourse to any external axiom; and Rosser’s contribution extends the effectiveness of both theorems to all formally expressed theories whose axiomatizations are arithmetically expressive enough to satisfy Gödel’s first theorem hypothesis. And this certainly includes the requisite supergravity mathematics of M-theory.

In “Ontological Relativity “ (1969) Quine clarified the relation of ontology—“what there is”—to language, that is, to the intersubjective deep background cultural reality assumptions of our individual and collective “web of belief” as it arises and is instantiated in the logical syntax of language. For Quine, here are no objective facts, only linguistic meanings. When a theory postulates its existent entities in a given language, its “object language”, (e.g. English), it does so by translating its theory’s propositions about those entities into a more inclusive “meta-language”, *langue* (“Saussure), or subjective background matrix or web of prior assumptions, “auxiliary hypotheses” and beliefs. The ontological status of entities or objects in the object language are relative to and supervene or are dependent upon the intersubjective prior cognitive “coordinate grid” that are the preconscious assumptions and beliefs of the meta-language into which they are translated. Ontological relativity (indeterminacy of reference, indeterminacy of translation) then, is Quine’s view that the arising and appearing objects of our reality are relative to and depend upon our conventional and scientific concept and belief systems. Hence, it makes no sense to inquire about the absolute reality of an object, or the absolute meaning of a statement. Such absolutes are relative to and supervene on our entire “web of belief”. Thus, a scientific proposition cannot be empirically tested and shown to be true or false without referring to prior intersubjective deep background assumptions and beliefs in the basal meta-language matrix. In short, we create our reality through our language (Boaz 2012 Ch. I, “Quine’s Revolution”).

In “Two Dogmas of Empiricism” (1951), the most celebrated philosophical essay of the 20<sup>th</sup> century—required reading for both physicists and philosophers of science—Quine reveals his “radical nominalism”, which asserts that abstract terms, like “red”, do not entail physically real existents, like “house”. Language and thinking require no ontological commitment to a “real world out there”. In this essay he also develops his consciousness expanding epistemological holism (“confirmation holism” that is a semantic holism). The two essential precepts of this holism are, 1) interpretation of an empirical observation is “theory laden”, or theory dependent, that is, it is dependent upon prior assumptions, theories and beliefs, and 2) all theory is “underdetermined” by its evidential data, that is, empirical evidence in isolation—apart from its “auxiliary hypotheses” that comprise the whole of science—is not an adequate criterion of decidability as to theory verification, vindication or truth. Thus scientific statements and the theories derived from them face the crucible of experience, not as individual hypotheses or theories, but as the whole language “coordinate grid”. *No single theory can account for all of the data; bad news for “Theory of Everything” candidates.* Philosophers call this “hard underdetermination”.

Since the primary metaphysical assumption—the ontology of science—is the belief in foundational mechanistic Scientific Materialism/Realism, that is to say, an ontological commitment to an observer-independent, theory-independent separate RWOT, and as well, the methodological “Scientism” presumption that only empirical evidence is a suitable criteria for theory verification, Quine’s radical, naturalistic nominalist epistemological holism undermines both naïve Realism and Scientific Materialism. Sheldrake’s recent book, *Science Delusion* profoundly documents this dogmatic set of beliefs.

Therefore, ultimately, it is “total science”, the “field of force” that is the whole of science, if not the whole of reality itself, that verifies the theories that constitute the waning science paradigm. On Quine’s accord, “The unit of measure of empirical meaning is all science in its globality”. Such holism also undermines the perennial, artificial demarcation between philosophy, science and metaphysics, and thus offers epistemic and ontic support for our paradigmatic reconstruction project.

Hence, the accumulation of these physics anomalies, together with Quine’s germinal work in logic and epistemology, and Gödel’s and Bell’s theorems, along with the problem of consciousness, constitute a dark cloud on the horizon that portends at least a radical revision of the core assumptions of the venerable Standard Model. The Quantum Field Theory and Quantum Electrodynamics and Chromodynamics has failed to explain its many critical anomalies, and the astounding anthropic coherence of arising reality in both its quantum and cosmological bodies or dimensions.

Well then, do we abandon the venerable Standard Model of physics? Of course not. It has given us the computer, the laser and the quantum vacuum that is the key to the paradigmatic unification of science with the spirituality of the wisdom traditions. And old paradigm Newtonian mechanics got us to the moon and back. New knowledge paradigms transcend, yet embrace and include, not replace, the older paradigms.

Do we not limit ourselves most by our fearful, prideful attachment and defense of these concepts and beliefs of our paradigmatic “web of belief?” Would it not be wise to temporarily “bracket” (*shoshin/zen-mind*) or place in abeyance these cherished beliefs, that we may then reconstruct a more inclusive view? Perhaps then, it is time to surrender our attachment, not to the prodigious pragmatic successes of the quantum paradigm, but to the quite problematic *ad hoc* QED “renormalization,” and the other resuscitation efforts on behalf of this greatest accomplishment in human intellectual history, recognize its limits, and prepare to move toward a more inclusive post-realist, post-materialist, post-quantum noetic ontology that transcends yet includes the many marvelous truths of the now deconstructed and unstable Standard Model.

Indeed, we are now witnessing this gradual process of reconstruction unfolding in particle physics and quantum cosmology as physics struggles to quantize gravity through a unification of the Standard Model’s Quantum Field Theory with Einstein’s Gravity Force through the supergravity mathematics of M-Theory and Loop Quantum Gravity, and the rest. Does such a paradigm shift portend a Kuhnian “scientific revolution.”

“Why,” asks Lee Smolin (2006), “is physics in trouble?” Why is physics stagnant? Why is there so little new work on the renormalization problem? *I will here again argue that theoretical physics has at last “hit the wall” fabricated by its petrified, ideological clinging to a fundamentalist foundational realist/materialist orthodoxy grounded in the unproven and unprovable metaphysical dogma that the whole of appearing reality—from its microcosmic quarks, leptons and strings, to its macrocosmic quasars—is an objective, theory independent, observer independent (Realism), background independent, purely physical reality (Physicalism/Materialism (Boaz 2012, AppendixB, “The Idols of the Tribe”).* Relativistic Quantum Field Theory (Quantum Electrodynamics/QED) and quan-

tum cosmology (the quantum vacuum potential), along with contemporary philosophy of mind and philosophy of physics have refuted such prosaic Naïve Realism and Scientific Materialism (Scientism), and many astute theoretical practitioners now acknowledge it (Quine 1969, Bohr, Pauli, Hawking 2010, Wigner, Witten, Wheeler, Stapp, H. H. The Dalai Lama, Jay Garfield 1995, David Chalmers, Ken Wilber, Alan Wallace and many others).

However, most scientists and physicists don't think much about metaphysics. The metaphysics assumed by most is the preconscious, hidden metaphysics of our intersubjective deep cultural background Realism/Materialism Western ideology; and as Ken Wilber observed, "hidden metaphysics is bad metaphysics" (2006).

*Alan Wallace (2007) has pointed out that in order to adopt Scientific Realism as a metaphysical ontology one should make conscious the following usually unconscious assumptions: 1) reality is only physical and exists, not interdependently, as centrist Madhyamaka Buddhist epistemology would have it, but independently of an observer or experimenter; 2) this reality can be known conceptually; 3) of all of the theories of reality, only one can be true; 4) the view of Scientific Realism is that one true theory.* This ideological dogma—this infernal begging the question of Realism/Materialism—is called by its critics, "Scientism." Such unexamined preconscious metaphysical presumptions have the obstructive and destructive cognitive tendency to close the mind to any non-realist, non-physical explanation of the ultimate nature of reality, thus hindering a noetic rapprochement and restructuring of our two competing knowledge paradigms, Science and Spirit.

Let us here remember that the *fantasque* post-quantum gravitational quantization candidates—String Theory/M-Theory and Loop Quantum Gravity—are attempts to derive a mechanics that describes motion at the Planck Scale (strings are said to be of the Planck length), and therefore are not, even in principle, empirically or experimentally verifiable and thus necessarily beyond the empirical and theoretical reach of the methodology of materialist Scientific Realism. Of what use is the most elegant theorem of a truth-functional, two-valued propositional logic at the trans-propositional Planck Scale where the conceptual mind necessarily boggles and the laws of logic and physics of this universe utterly disintegrate? Physics alone cannot illuminate the cloud of unknowing that darkens unenlightened (*avidya, marigpa*) human consciousness. Let there be light through paradigmatic unification.

What more might we infer from these penetrating revelations of Quine, Godel and Bell? The quantum gravity theories now on offer are metaphysical theories. And rightly so. *Science's urge to explanation must no longer be constrained by mere third person empirical observation. Science must transcend its steadfast evidential modesty in a bold new explanatory ambition that permits the explanation of trans-empirical, subjective, introspective and contemplative first-person reports and data.* The further evolution of M-Theory, which becomes a noetic field theory, and the problem of subjectivity represented by the "problem of consciousness" will perforce facilitate this critical meta-cognitive paradigm shift from *apparent* material form to *absent* empty primordial ground in scientific theory and method. Buddhist *Madhyamaka Prasangika* epistemology and the inherent (*sahaja*) ontology of *Dzogchen Ati* can contribute to this emerging, background-dependent post-quantum epistemology and ontology (H. H. the Dalai Lama 2005; Klein 2006; Dowman 2010; Wallace 2007; Boaz 2012).

**Paradigm shift. Who is it?** The third great scientific revolution, the Quantum Revolution, is now complete, if not entirely historically resolved. The Standard Model of physics—with its Relativistic Gauge Quantum Field Theory—is now undergoing the Kuhnian “scientific crisis” that precedes a “paradigm shift” that shall, in due course, result in a “scientific revolution”.

Philosopher and historian of science Thomas Kuhn, in his paradigm shattering work, *The Structure of Scientific Revolutions*, demonstrated that “normal science” utilizes, refines and extends the theoretical and explanatory reach of science through the method of hypothesis appraisal based in objective factual propositions. The warrants for its claims are the formal factual content of its theories. Such theory is expected to explain anomalies in experimental results. When unanswered anomalies accumulate to a critical mass, as is the case with the Standard Model of physics, “revolutionary science” (crisis science) or meta-science (in this case meta-physics) enters the fray to provide critical appraisal and correction of the core assumptions and beliefs that guide theory construction within the paradigm. My thesis here is an example. Here the warrants are not the scientific facts that constitute Standard Model theory, but information concerning the model’s capacity to manage the anomalous data of the essential constituting body of theory and belief as a whole, in short, Quine’s “total science” or the “field of force” that is the “coordinate grid” or prior ontological whole of the current scientific paradigmatic “web of belief”.

Therefore, such meta-scientific intervention constitutes a “scientific crisis” that over time can be recognized to be a “scientific revolution”. Such revolutions are resolved, as in the cases of the Copernican and the Newtonian Revolutions, when a more inclusive paradigm gradually subsumes the old paradigm. Just so, the Quantum Revolution, as was pointed out by Max Planck, will be gradually resolved in two or three generations as the tenured ideologues of the old materialist paradigm expire.

The Western objectivist realist/materialist, science/culture paradigm is now shifting toward the Eastern subjectivist mind/spirit paradigm. The objectivist Western logical Law of Identity and the Law of Excluded Middle are yielding to, or being embraced by the more inclusive Eastern Law of Connection (both A and not-A) which does not exclude the natural subjectivity and even spirituality of human consciousness here in relative-conventional spacetime reality. As we shall see, under a unified paradigm that is the emerging Noetic Revolution, East is West and West is East, and ever the twain shall meet (J.R. Kipling forgive me).

However, we must remember that our goal is no more Eastern Idealism than it is Western Materialism. We need a centrist middle way view that furthers the pragmatic, theoretical and political *integration* of these two competing paradigms, these perennial Two Truths, objective matter and subjective spirit. Such a rapprochement may look like Alan Wallace’s (2007) “one truth, invariant across all cognitive reference frames” arising in the luminous unbounded whole. Let not our well-defended dualistic concept/belief paradigms, no matter how integral and elegant, become paradigmatic prisons.

Let us now pause a moment to introduce the essential question of human being in form namely, “Who is it” that is participating in this utter miracle of being here. And what is the es-

sence and nature of the cognition—the mind—of these participants? Is it mental or physical; both or neither? What is the ultimate nature of mind? Is it Professor Klein’s unbounded whole? Let us see?

These two paradigms—mental/spirit and physical/matter—constitute the classical “mind-body problem.” What is the relation of objective physical to subjective mental, of matter to mind and spirit, of form to emptiness? Where do we fit in? This is the soteriological *really* “hard problem of consciousness” for human beings. Can these two paradigms—body and spirit—be unified? If so, how? Perhaps this problem is not so hard after all, once we adopt a spacious, “Two-Truths”, non realist, quasi-materialist noetic view (Boaz 2012 Ch. V).

Well then, can these two incommensurable paradigms be integrated? But they were never separate. Are they not necessarily an ontological prior unity or unbroken, unbounded whole when we get our separatist, binary, either/or concepts out of the way? Do not the individual moments of arising reality necessarily participate in a whole that is greater, just as stars fill galaxies, and galaxies comprise the Pythagorean all-pervading *Kosmos*? As with many dichotomies, matter/science–mind/spirit is a false dichotomy, as I have suggested above. Let us now leave the Science paradigm and explore the Spirit/spirituality paradigm, toward the purpose of recovering this prior ontic unity. A brief epistemic digression is in order.

**Knowledge and liberation.** Human knowledge and experience is biological, individual, cultural, and historical. This knowledge has five aspects or bodies: preconscious, mythopoeitic/intuition/aesthetic/normative (*mythos*); authority/scripture (*ethos*); opinion/belief (*doxa*); reason/inference/verification (*logos, dianoia*); direct experience (*pramana*), both exoteric direct perception and esoteric yogic, contemplative/mind-spirit direct perception (*noesis, pratyaksa, epinoia*). Wisdom (*sophia, prajna*) is the discriminating and skillful use of these five. Primordial wisdom (*gnosis, jnana, yeshe*) is (roughly) knowing the interdependent prior unity of the *exoteric* (outer, waking state/gross body, facticity, information), *esoteric* (inner, dream state/subtle body, theory and belief) *greater esoteric* (deep sleep state/causal body, outer and inner knowledge), and *innermost esoteric* (*turiya/essence body, nondual/ advaya/ advaita*) elements of these five aspects (Boaz 2012 Appendix C). “Open awareness” (*vidya, rigpa, gzhi rigpa*) is the here now fully present and aware knowing presence of this primordial unbounded whole (*mahabindu*). Polarity or duality is a logically necessary category of exoteric and esoteric spacetime conditioned existence as this reality arises from its nondual primordial ground or “supreme source”.

If we find ourselves hung up in defense of a closely held dualistic exoteric or esoteric concept or belief, would it not be useful to ease into the deeper, subtler strata of ontic formation of a greater esoteric, or innermost esoteric unitary view wherein our “normal neurotic” egoic contraction from the flow of the great nondual truth is relaxed and open? Perhaps the best way to find out is to “check it out” for oneself by exploring the pragmatic meditative/contemplative injunctions—the mind training—taught by the masters of the wisdom traditions, that is, by those who know.

The conceptual/intellectual and contemplative/meditational awareness of the many mansions of the subtlety of mind—Minsky’s “society of mind”—that are this unbroken exoter-

ic, esoteric, innermost esoteric ontic processional, with practice gradually, then suddenly and directly deconstructs the dualistic narcissistic view and conduct of the separate self-identity that conceals or cloaks (*vikshepa*) our actual, essential mind-nature. It is this conscious opening or effortless (*aprayatna*) surrender (*wu-wei*) to fully present open awareness, “brief moments many times,” that situates us in the vast unbounded whole of our “primordially present” here now wisdom-mind. Then, it is good to remember it, each moment. The great truth, on the accord of the nondual teaching of the primary wisdom traditions, is this: open awareness (*vidya*, *rigpa*) is “always already” fully present to that prior “vast expanse” wholeness that is our actual identity as the very nature of mind. As Buddhist *Dzogchen* founder Garab Dorje told, “It is already accomplished”, deep within us.

Such “Buddha heart, Buddha mind” is, among other things, a moment-to-moment cognitive continuity, without dualistic distraction, of nondual primordial awareness wisdom mind. This realization, it is taught by the traditions, is the potential and ultimate fruition of all human beings. Mindfulness training is the beginning.

The resulting cognitive awakening that is this liberation/enlightenment (*bodhi*, *moksha*, Buddha cognition/*samatajnana*, *Kham Brahm*) from the adventitious, separate-self dualistic ignorance (*hamartia/sin*, *ajnana*, *avidya*, *marigpa*) is the lived realization of the ontological unity of indwelling acausal, nondual primordial awareness wisdom (*gnosis*, *jnana*, *yeshe*) with dualistic relative discriminating wisdom (*prajna/sophia*) and the enlightened kindness and compassionate (*ahimsa/karuna/nyingje/tugje/hesed/caris*) lifeworld wisdom conduct that spontaneously arises therein. This primordial wisdom is the place of transformation, relatively speaking, of the dualistic ignorance—the failure of recognition of the prior whole, the subject–object, knower–known unity—that is the cause, according to our Primordial Wisdom Tradition, of terrible human suffering in cyclic *samsaric* existence.

Moreover, it is told in the traditions, such psychospiritual awakening/liberation is the ultimate human happiness (*paramananda*, *mahasukha*), the happiness that cannot be lost. This happiness is freedom/liberation, not from the adversity that causes most human suffering, but from our emotional/physical response to life’s adversity. Liberation/enlightenment is not freedom *from* the inevitable physical and emotional pain of life. It is, rather, the disciplined freedom *to* translate pain into peace via mindfulness and other contemplative mind training. That this is possible is evidenced, not only by the accomplishment of the buddhas and *mahasiddhas* of the wisdom traditions, but by the recent prodigious success of “mindfulness training” in psychology and medicine.

Thus arises the auspiciousness of esoteric and greater esoteric contemplative mind training—rational/analytic and transrational wisdom transmission—under the guidance of a qualified teacher or master. In Buddhist practice this includes the *shamatha/vapashyana* (*shikantaza* in *Mahayana zazen* practice) of the *Vajrayana*, the tantric transformation foundational (*ngondro*) practice, and later, *Dzogchen* or Essence *Mahamudra*.

Through such quasi-conceptual analytic and non-conceptual meditative practice we grow beyond the ignorance (*avidya*) of our atavistic self-absorbed egoic destructive emotions and concept/belief systems individually, and thereby “evolve” collectively toward a more tol-

erant, kinder and more peaceful world, and ultimately perhaps, toward a new species—*Homo gnostica* or *Homo poeta*—that is if we can convince ourselves that we are not devolving into a dark age *Kaliyuga* karmageddon. One wonders what cognitive and behavioral states and traits would further such a speciation over phylogenetic space and time. But such evolutionary conjecture is always tricky for there is actually, always only the nondual luminosity of *now*. Perhaps some sunny day we will all shine through it. “Without past present future, empty awake mind” (Mipham Rinpoche). “Just being here is rapture” (Rumi).

Shakespeare told, “Nothing good nor bad, but thinking makes it so.” The semiotic, binary, dualistic structure of language fabricates, bifurcates and reifies apparently separate entities from the whole cloth of the vast unbroken whole that is the nondual basal primordial awareness emptiness matrix. It is however, useful to remember that such names are purely conceptual entities, empty of any logocentric existence. For the *Mahayana* this is the “emptiness of emptiness”. Such concepts and beliefs—Quine’s “web of belief”—separate things out from the great whole, and bestow our relative-conventional reality experience, our consciousness, with all its dilemma and competing paradigms. “Whenever we try to pick out anything by itself we find it hitched to everything else in the universe” (John Muir).

*We have seen that the mind-body “hard problem of consciousness” is subsumed in the really hard problem of soteriology. How do we unify the dualistic divided house of a lugubrious massmind human consciousness with the luminous “supreme source” that is our primordial home, and still “hue wood and carry water,” and balance our checkbooks? Thus we must explore a dualistic, causal, epistemologically pluralistic, but acausal ontologically monistic nondual centrist strategy that cognizes the reality of both our worlds, both being and non-being, both form and emptiness at once. After all, has not this unity—by whatever name—been our heart’s desire and ultimate quest from the very beginning? We have seen that such a centrist unifying strategy lies in the epistemology of Buddhist middle way *Madhyamaka Prasangika* and the nondual ontology of *Dzogchen*.*

We have thus far, all too briefly explored the two competing paradigms, Science and Spirit, matter and mind. We have probed the hardware of science, and the software of the subtle spirituality that is mind nature. We have indulged in a bit of unbridled ontic speculation; not for the metaphysically squeamish. Now then, without the faintest epistemic timorousness, let us speak further of this brave new world of unification.

**To be or not to be.** Who is it, this awareness being in human form? Being (*Sein, Bhava*) is the alpha and omega of meaning in religion and philosophy, that is, of human ultimate concern. This truth-functional binary equation—A or not-A, is or is not, *sat* or *asat*, *eka* or *shunya*, one or zero, existence or non-existence—expresses the cognitively contingent bivalence or duality of these perennial Two Truths—ultimate and relative—that constitute our being here in anthropic spacetime. We live in two dimensions at once! And our little lives are consumed with both the fear and hope of recognition of a refuge that might be a practical, happy middle way balance between them. For example, the *Mahayana* and *Vajrayana* Buddhist traditions offer a unity of “outer exoteric,” “inner esoteric,” and “innermost esoteric” or nondual Refuge. *Advaita Vedanta* and *Neo-Vedanta* offer *Nirguna Brahman*. Taoism offers “the Tao that is beyond

heaven and earth". It is taught by the traditions that from such a basic space naturally and spontaneously arises the kindness and compassion that is the cause of human happiness.

In the uncertainty relations of the Quantum Field Theory (QFT) this nonduality of the dualistically arising "productions" or manifestations of the ultimate ground or source of reality is expressed through the non-bifurcated superposition state—*both* "is" and "is not"—of the quantum information bits (qubits/*vasana*) that constitute the elementary particles (or strings or branes) arising from the Unified Quantum Vacuum. This quantum vacuum potential is analogous to, but not reducible to the Buddhist *Alayavijnana* and the Hindu "Akashic Record" (*nam-khah, manakasha*) that is the physical and quasi-physical aetheric cosmos matrix of all-inclusive *Kosmos* (the ontic prior unity of matter, mind and spirit).

Ervin Laszlo, in his far-reaching forthcoming book, *New Science for a New World*, utilizes this aether matrix "akasha paradigm"—the "basic space" (*dhatu, bying*), our very source or ground of being—in an inventive effort to both salvage Scientific Realism while also encouraging the paradigm shift toward Eastern subjectivity and spirituality that is now occurring in theoretical physics and cosmology (Laszlo 2012).

On the accord of most of the many interpretations of QFT/QED, at the collapse of the quantum wave function during a measurement (or a perception)—the "quantum measurement problem"—quantum uncertainty dissolves, along with the indeterminate wave nature of light. Now the acausal *subjective* superposition of the nondual being state that is *both* A and not-A (the Law of Connection), both being and non-being, both one and zero, collapses into the determinate particle nature of light that is the apparent causal *objective* duality of *either* A or not-A (the Law of Excluded Middle), of *either* being or non-being. (The European Logical Intuitionists notwithstanding, Western logic has largely ignored this unifying Eastern Law of Connection.)

In other words, the collapse of the quantum wave function (the state vector reduction) at the instant of a quantum measurement, or of a sentient perception, is an aperture for the apparent arising of objective quantum qubits (*vasana*) of physical/mental *form*—via the quasi-physical quantum vacuum potential—from its nondual transphysical perfectly subjective basal *emptiness* sourceground. Dōgen-Zenji (1986) called this event "a being-time flashing into existence" from the vast spacious emptiness ground of being that is his nondual "Being-Time." This is the *kosmic* acausal timeless Great Time of the *Kalachakra tantra* of Tibetan Buddhism that transcends yet includes our causal dimension of relative-conventional spacetime reality. This is perhaps analogous to what particle physicists see in their bubble chambers in the aftermath of "pair production" or pair creation (vacuum fluctuations) following a high energy collision event in a particle accelerator.

**On what there is: pretensions to rationality and the mind-body problem.** Our eternal fearful quest for the certainty and permanence of being that arises from this classical Problem of Knowledge as to the nature of mind and its perceived realities quickly becomes the post-classical problem of skepticism and nihilism. Epistemological strategies against these two have—in both the East and the West—often assumed forms of the perennial "mind-body problem," the infernal feud between epistemological realists and idealists. But, as Surrealist painter

René Magritte (1898–1967) observed regarding the problem of perception, “If the problem has no solution, then perhaps there is no problem.” As to our abiding in this nondual here now state of being the unbounded whole that is both being and nonbeing—both form and emptiness—Suzuki Roshi told, “There is absolutely no problem whatsoever in this world” (Suzuki 1970).

With the failure of the mind-body Substance Dualism of Plato (early and middle *Dialogues*; the later *Dialogues* reveal a nondual ontology), Descartes, Leibnitz and Locke to pass epistemological muster (the “interaction problem”), Epistemological Dualism has fallen on hard times. We are left then with classical Substance Monism, reality is one substance, either physical or mental, either matter or mind. (The logical Law of Connection—here remembering the Two Truths—suggests that reality may be both *and* neither. Logician and story teller Lewis Carroll would agree.)

Epistemological monistic Objective Idealism (Absolute Idealism) asserts that reality is mental or mind only (or Spirit only) and that matter does not exist, even conventionally (Hegel, Berkeley, Indian Idealism, Buddhist *Chittamatra*). The metaphysical creed of epistemological Realism, with its ontic cohort, monistic Materialism/Physicalism, asserts that yes, there is a separate, observer-independent, theory-independent, background independent “real world out there” and it is entirely physical. Most such materialists are Western reductive materialists wherein the subjective, mythopoetic higher mental, emotional and spiritual phenomena of human consciousness are reduced to objective, purely physical phenomena, or epiphenomena of merely physical electrochemical brain states. It’s all just physical. For the Eastern mind epistemological Idealism is the presiding ontology. Here, it’s all just mental. Matter is mind only.

With the apparent failure of Dualism, why Monism? The simplest answer lies in unity and economy of explanation. “An ontology that requires two radically different forms of reality—one physical, the other mental—is quite unbelievable” (J. J. C. Smart).

Clearly, our mental and physical dimensions causally interact. The “interaction problem” is that Dualism cannot explain this. Epiphenomenalism is the reductionist Scientific Realist/Materialist’s answer to the mind-body problem, the unproven, unprovable dogma that physical brain states are reducible to and *cause* mental states, but not the other way round. Here, mental states cannot cause anything. Here, the structure of mental phenomena is solely a bottom-up, physical to mental causal process, which precludes not only an acausal quantum explanation, and an acausal Buddhist *Dzogchen* explanation, but also a causal connection between our reasons for action and our actions. And this precludes human freedom—free will. This is the axiological problem as to how we are to derive human realms of value from Ken Wilber’s “dirt”, that is, from mere physical matter.

Is there then a top-down *causal* middle way between the dualistic bottom-up incompleteness of objective Science, and the subjective bright *mystisch* that is nondual Spirit? Yes, we have seen that the centrist position of the Middle Way Buddhist epistemology of *Madhyamaka Prasangika*, and the ontology of unbounded wholeness that is *Dzogchen Ati* provide a promising cognitive architecture and an inchoate model of reconstruction and perhaps, unification (Boaz 2012, Chapters II and V).

This perennial dualism of the paradigmatic perennial Two Truths, relative truth (*samvriti satya*) and ultimate truth (*paramartha satya*), objective form and subjective emptiness, have become a continuum of dialectic between the Realism/Materialism of Western Science (matter), and the Transcendental Idealism of Eastern spirituality. We have seen that this invidious conceptual duality is utterly deracinated in the prior unity of the transrational, post-transcendental, post-materialist nondual one truth, “the truth that is,” as Alan Wallace (2007) reminds us, “invariant across all cognitive frames of reference”, preconscious, conscious and supraconscious.

Sōtō Zen Patriarch Dōgen-zenji reveals the secret: “Cease to concern yourself with dialectics and instead learn how to look into your own mind” (*Fukan Zazenji*). Again, we accomplish this through engaging the contemplative, transrational practices of mindfulness (*shamatha*) and penetrating insight (*vipashyanā*), of Buddhism, or Neo-Vedanta yoga, or Taoist yoga, or *Kabbalah* or other nondual teaching with a qualified teacher. No sectarian or religious metaphysical assumptions are required.

Let us now more deeply probe the emerging integral noetic reconstruction and potential unification of our two competing knowledge paradigms utilizing Buddhist hermeneutics—*Madhyamaka* and *Dzogchen Ati*—and post-quantum theoretical physics and cosmology.

## II

### Competing Knowledge Paradigms: Toward a Post-Quantum Middle Way

Without past present future, empty awake mind.

—Mipham Rinpoche

**Varieties of Buddhist Experience.** In Buddhism the *Abhidharma* of the *Sarvastivada* and *Vaibhashika* Schools argue, with Western functionalist Material Realism (Scientific Realism/Scientism), the realist atomist position wherein reality consists of indivisible physical/material atomic particles that have an ultimately physical, objectively real, even absolute and eternal existence (some Buddhist schools believe that atoms are eternal; some particle physicists believe that electrons and protons never decay), separate or independently arising apart from a perceiving, experiencing or experimenting mind. Such realists are *essentialists*, believing that reality exists essentially and independently—not interdependently as centrist *Madhyamaka* Buddhists would have it—just as it appears from its own side, of its own power. In this view reality as it appears to our senses is a perfect “mirror of nature,” a kind of “immaculate perception.” This theory-independent, realist view is opposed by the Buddhist Idealists, the *Yogachara/Chittamatra* or “Mind Only” school of Asanga and Vasubandhu, along with Western Objective Idealists—Bradley, Royce, McTaggart—who explain arising material objective reality (roughly) as diaphanous subjective apparitions or illusions of a perceiving consciousness. For *Chittamatra* Idealism, appearing physical spacetime reality is relative and illusory (*avidya maya*), and it shares with its ultimate source a relationship of identity (*vidya maya*) and this ultimate nature is mind only. Yes, material reality is entirely illusory. Here the ultimate nature of reality is mind only.

Kant’s Transcendental Subjective Idealism—a duality of realist, material objective phenomena, and the perfectly subjective unknowable utterly transcendent *noumenon*—is a Western (Platonist) version of our Primordial Wisdom’s “Two Truths” duality, and resembles the “Neutral Monism” of William James, and the non-idealist, yet non-realist centrist Buddhist Middle Way *Prasangika* view of Buddhapalita and Chandrakirti. Can there be a middle way between this perennial bivalent, bipolar mind-body split? Is there a centrist position between the apparently competing paradigms of descending Science (form) and ascending Spirituality (emptiness)?

*Yes. Between these two extremes—the realist/materialist reification of an absolute and independent physical and mental phenomenal reality, and the idealist nihilistic negation of it—abides the mean that is the Madhyamaka Prasangika, the centrist, Buddhist Middle Way Consequence School, the theoretical basis, and complementary, according to Longchen Rabjam (Longchenpa 2007) and His Holiness the Dalai Lama, of the pragmatic view and practice of the Buddhist Nyingma School’s Dzogchen, the Great Perfection (Boaz 2012, “Principia Dharmata: The Buddhist View of the “Nature of Mind” p. 34 ff, and “A Glimpse of the Great Perfection” p. 45 ff). Here we have not only a centrist synthesis of the Two Truths that are exoteric Realism and esoteric Idealism,*

but an optimistic and freeing soteriology—a greater esoteric or innermost esoteric view and practice for human liberation and ultimate happiness.

Physics and Science are quantitative. “The qualitative” (value) has been active yet hidden and denied in Science. It must now be recognized and strategically developed. *What is urgently required is an integral noetic epistemology and ontology that accounts for a transrational, contemplatively if not conceptually knowable ultimate or universal trans-physical reality matrix base or sourceground—the “Supreme Source” of our wisdom traditions—in which objective physical relative spacetime particulars (energy, mass, force, charge, waves, particles and people) arise, interact and participate.* The quantum vacuum potential of Quantum Cosmology, and Buddhist openness/emptiness (*shunyata/dharmakaya/kadag*) in which it arises, is a good beginning. This of course requires noetic contemplative research methodologies that utilize both quantitative objective third person data and the qualitative subjective data of introspective/contemplative first person reports (Boaz 2012, Ch. VI).

Explaining consciousness need not be a philosophical explaining away of consciousness. First person introspective Buddhist middle way *Prasangika* contemplative technology, and the non-propositional, non-prescriptive “simply abiding” in the non-contrived “non-meditation” (Boaz 2012, Appendix D) of the perfect sphere of *Dzogchen* suggests such an integral, noetic rapprochement with neuroscience and the cognitive sciences. Indeed, Richard Davidson at the University of Wisconsin, in concert with H. H. The Dalai Lama is now doing this. Jon Kabat-Zinn, Robert Coghill, Fadel Zeidan, and B. Alan Wallace (2007) with their research in “mindfulness meditation” (*shamatha*), and many others are now well established in this paradigm changing work (the *Mind and Life Institute* publications, Wallace’s *Santa Barbara Institute*, *Dawn Mountain*, *Copper Mountain Institute*, *Tara Mandala*, the zen centers).

Moreover, quantitative Science, paralyzed by its deep background fear of subjectivity, metaphysical speculation and the qualitative (value), offers no soteriology, no way to the psychospiritual awakening and liberation of our great Wisdom Tradition, only a skeptical pessimistic determinism that borders on a pathological nihilism.

Physics has yet to bridge its anti-Realism/Realism dichotomy (Bohr’s and perhaps Hawking’s antirealist Quantum Theory vs. Einstein’s and Bohm’s realist Hidden Variables) with such a centrist middle way.

**Quantum emptiness.** The Copenhagen interpretation, Hawking’s MDR view of the Quantum Field Theory and the quantum vacuum potential, and the “consciousness causes collapse” interpretations (Schrödinger, Wigner and GRW) are Science’s inchoate acausal, metaphysical architecture for such a middle way methodology. The rub is that physics (frequently embodied by discursively self-reified relatively real but not ultimately real physicists) still clings to its orthodox, old paradigm dogmatic metaphysic of objectivist Realism/Physicalism/Materialism (notable exceptions being the antirealist view of Bohr, von Neumann, Wheeler, Stapp, post-MDR Hawking and others).

What might the culture of Postmodern physics look like with this methodological enrichment of the psychology and epistemology of Premodern—and now, with the rise of contemplative science—Postmodern Buddhist Middle Way contemplative science? This emerging

integral noetic ontology presents a propitious aperture for the centrist noetic science of matter, mind and spirit of our emerging Noetic Revolution, and the healing wisdom that abides therein.

The Buddhist Middle Way *Madhyamaka Prasangika* speaks of the perennial Two Truths: Relative Truth (*samvriti satya*, the cosmos of material spacetime form), and Ultimate Truth (*paramartha satya*, the *kosmic* emptiness expanse that transcends and embraces, and in which arises the dimension of Relative Truth). *First, Prasangika acknowledges the truth of Realism by granting an objective existence to appearing reality. Yes, arising phenomenal objects do have an objective reality. They are not illusory. They really are real. But this reality is not observer-independent, theory-independent or background-independent, existing merely from its own side. Rather, it is merely the nominal, contingent, relative-conventional reality of the spacetime dimension that is Relative Truth.* This observer-dependent, ontologically relative protean spacetime bound reality does not possess—is empty (*shunya, nirguna*) of—any intrinsic or essential permanent existence, essence, attributes or identity independent of related physical and mental causes and conditions (Garfield/Nagarjuna 1995). But this essential emptiness (*shunyata*) is not merely a “non-affirming negative,” a nihilistic nothingness, for its nature is luminosity, brilliant clarity. And its spontaneous expression is kind, compassionate activity. For *Madhyamaka* and *Vajrayana* Buddhists the actual “nature of mind” and its reality contents—all of our experience—is the numinous, radiant basal primordial awareness wisdom (*gnosis, jnana, yeshe*)—the vast causal nexus or ground of the bright (*prabha, prakasha*) unbounded whole—in which the consciousness of sentient beings and all relative-conventional phenomena arise and participate, without ever separating from this basal sourceground.

Is there a non-dogmatic reason that a similar interdependent centrist middle way view could not be developed by theoretical physicists and philosophers of physics—should they actually begin communicating—in their transition from the fundamentalist paradigm dogma of Realism/Materialism to a new more inclusive post-metaphysical, trans-materialist synthetic, noetic view that includes both the objective and subjective paradigmatic belief systems? Such a centrist view will decline to reify our experience—attention, perception, conception, emotion, belief, intuition and *samadhi/satori*—into an absolute *independent* purely objective, physical existence, yet will offer an *interdependently* real, non-idealist, non-nihilist ontologically relative (Bohr, Quine, Habermas, Hawking) explanation of reality, of what there is. With the inherent subjectivity and quantum emptiness/openness of physical reality demonstrated by the nominalism and anti-Realism of the prevailing Copenhagen Interpretation of Quantum Field Theory, the “consciousness causes collapse” (of the wave function) interpretations of the Quantum Field Theory, and Hawking’s promising incipient MDR interpretation, theoretical physics must now actively explore such an ontology if it is to contribute anything new (e.g. a centrist theory, or even a new GUT or quantum gravity TOE candidate) to our understanding of the multi-dimensional nature of appearing reality, and the numinous whole—the “nature of mind”—that is its “Supreme Source.”

However, Hawking’s (2010) metaphysical dread is troublesome. His “model-dependent realism” is necessarily a metaphysical ontology as to the nature of the reality that this “real-

ism” presumes to describe. In spite of his “philosophy is dead” rhetoric, Hawking’s MDR is an ontologically relative, philosophical metaphysic as to a reality that is theory-dependent—dependent upon the reifying concepts of our cultural “web of belief” (Quine)—precluding an old paradigm Scientific Realism, theory-independent separate reality existing *independently* of perception, conceptual theory and belief. Regarding such an observer-independent, theory-independent ontology, Hawking points out: “In philosophy that belief is called realism.” And this Platonic Realism has become Scientific Realism wherein an objective, spatially extended, external real world exists independently of any observer, theory of belief about it. Conversely, an observer-dependent, theory-dependent reality is ontologically relative as to the existence of any “real world out there.” That is to say, no independent, separate, real, physical reality is posited or assumed. Thus Hawking’s “theory-dependent MDR” is an antirealist philosophical position in the mode of Niels Bohr or Wolfgang Pauli, and in opposition to the theory-independent “hidden variable” realists (Einstein, de Broglie, Bohm, Penrose, Smolin). And that’s good news for Hawking, and for our purpose here. But MDR cannot be further developed, explicated and peer reviewed without philosophical (epistemological ontological) analysis and dialogue. Here, the intervention of philosophy of physics is required. Let theoretical physicists and cosmologists, and philosophers of physics hang out together over tea, or beer, or better yet, Vintage Port.

Further, while Hawking’s ontologically relative, perspectival anti-Realism is a courageous change of view from his earlier orthodox Scientific Realism, his “philosophy is dead”/ God is dead creed has no place here. Such destructive dogma represents the all too human dualistic attitudinal constellation that has obstructed the paradigmatic rapprochement between the seemingly incommensurable paradigms of Science and Spirituality. If MDR helps us to resolve, or to avoid the problem of “the meaning of existence,” as Hawking says it does, then such pronouncements are obstructionist. The meaning of existence necessarily involves, not academic philosophy, but *philo-sophia*—love and wisdom, and the “innermost esoteric” unity of these two that is the intimation of, if not the dualistic theistic God that Hawking objects to, then a nondual ultimate matrix ground of being (*cittadhatu*) that in *Dzogchen* is mind essence, the very “Nature of Mind,” and in the Buddhist *Mahayana* is *shunyata*/emptiness/*dharmakaya*, etc. Perhaps this is also the direction of an inchoate MDR as it matures into its holistic potential.

The rapprochement of our two paradigms then, requires such a centrist noetic epistemology and ontology in which nothing is taboo. Such a project will facilitate our next step in the evolution of the coming to meet of the causality of Western means and method (progress) with the seemingly inscrutable, acausal cognitive surrender (*wu-wei*) of Eastern Wisdom. And this will utterly change our dualistic goal-directed acquisitive and consumerist notions of “progress” in the physical and social sciences, in political economy, in ethical theory and practice, and in the false dichotomy between “gradualist” and “non-gradualist” spiritual practice.

The “Science” paradigm has begged the metaphysical question of Physicalism since the Pre-Socratic Atomists. “Hidden Variables” Realism (Einstein, Bohm, Smolin, Penrose) is the most recent version of this “hope for a miracle” special pleading. *To develop that next more in-*

*clusive theory requires that we relegate the truths of Scientific Realism and Materialism to the epistemic realm of spacetime dimensional relative conventional truth, and open up to the possibility of a centrist ontology that transcends, yet includes and contextualizes Realism/Materialism. Such a centrist view will be epistemologically pluralistic, yet ontologically monistic and nondual (“not one, not two”). Does not the burden of rejoinder here lie with the realists and materialists?*

Physics is now opening to this centrist view. (One hopes that physicists will do so as well.) The psychological and theoretical openness required by the development of M-Theory and quantum vacuum cosmology has made metaphysics and the natural or “lucid mysticism” of post-quantum mathematics a theoretical physicist’s daily yoga. Some have even acknowledged it.

As to the two paradigms, will this new holism of the “king of the sciences” generate a centrist view and *praxis* that tackles the separatist strategy of the “non-overlapping magisteria” (Stephen J. Gould) mentality, and of the all to real “spirituality gap” between teacher/doctor and student/client/patient that trickles down to the cognitive and biological sciences, and to medicine? Indeed, a consummation devoutly to be wish’d.

For the centrist Buddhist Middle Way then—as well as for the Quantum Gravity theorists—the contingent, dependently arising objects of phenomenal reality in mind are not *independent* but *interdependent* (“Interbeing”). Matter and mind are co-dependent (an ideal, non-pathological, perfectly happy co-dependence, to be sure). Again, this assumes Quine’s ontological relativity—reality is “theory-laden,” that is to say, appearing reality is relative to our theories and beliefs about it—that includes Bohr’s Copenhagen Interpretation, and perhaps Hawking’s new “model-dependent realism” version of the Quantum Field Theory. Thus the two paradigms, this duality of objective and subjective reality—the realm of spacetime Relative Truth (*samvriti satya*) and perfectly subjective mind nature or Ultimate Truth (*paramartha satya*)—are co-extensive, arising in and participating in the undivided, unbroken whole that is the one truth, “invariant across all cognitive frames of reference” (Alan Wallace 2007). This numinous one truth is the trans-conceptual, nondual ontic prior unity of the perennial conceptual paradigmatic “Two Truths” subject/object dualism. Just so, the *Madhyamaka* duality of the Two Truths is transcended and embraced in the “one taste” of the perfect sphere of *Dzogchen*, the Great Perfection that is the nondual unbounded whole or primordial base or source that is the very ground of being. Let us be clear about this.

Does this mean that for the *Madhyamaka Prasangika* and *Dzogchen Ati* this Ultimate Reality is utterly transcendent and unknowable, like Kant’s *noumenon*, or like the separate “other” God of the theists, somehow beyond relative spacetime reality? No. While “primordially pure” ultimate reality itself (*kadag*) is ineffable to our causally conditioned, discursive concept-mind, it is always spontaneously present (*lhundrub*) and self-liberated (*rangdrol*) in the unfolding of the enfolded figuring energy from the very ground of being. Again, this selfless, open awareness presence pervades all cognition, every percept, every concept, every emotion, every reference frame—preconscious, conscious, supraconscious. The recognition and realization of the prior unity (*yermed*) of these two—*kadag* and *lhundrub*—is free of an ego-self and of all bias, and results in great benefit for beings. We access this ultimate meaning through contemplative

cognition. Marketing Caveat: with such spontaneously present no-self help, what shall become of the noble, feel-good self-help industry?

*Nagarjuna makes it abundantly clear, "There is not the slightest difference between samsara and nirvana" (Nagarjuna/Garfield 1995). The Two Truths are "one taste," one whole immediate, ultimate ground of being that is invariant across all cognitive reference frames. We need not, indeed we must not attempt to transcend the Relative Truth of our ordinary mind of everyday spacetime reality for it is the samsara of this ordinary and natural luminous mind—this light of the mind—that is the very nondual Nature of Mind, Ultimate Truth, perfect (if unrecognized) exactly as it is. That is the great radical nondual realization, the Great (chen) Completion (dzog) or Perfection that is Dzogchen. This is the same nondual unity that is Essence Mahamudra of the Kagyu school; of the Madhyamaka of the Definitive Meaning; and of the Mujodo no teigen of Saijojo Zen. Although these nondual Buddhist teachings differ a bit as to the practice of the Path, they are, according to Tulku Urgen Rinpoche, identical as to this View, and as to the Fruition or Result, which is Buddhahood.*

Now, it is told, this ultimate happiness that we seek is "always already" accomplished, atavistically embedded and abiding deep within us. Indeed, this primordial imprint that is the nondual open awareness "state of presence" (*vidya, rigpa*) of the ground of being is our legacy—whether we're good or bad—as human participants being here in the infinite expanse of Dogen's timeless Great Time.

Is this radical teaching actually so radical? No. It is present in the extant scriptures of all of the primary wisdom traditions (the Sanatana Dharma, Buddha Dharma, Taoism, Judaism, Christianity, Islam). "What you seek is already here, yet you do not see it" (Jesus of Nazareth). And as Shakamuni Buddha told: "Rest your weary mind and let it be as it is; all things are perfect exactly as they are." This perennial wisdom is then, the common *wu-wei* (surrender) of our Primordial Wisdom Tradition that is the foundation of the nondual view, and the key to human freedom and happiness. We incessantly seek happiness outside this fully present here/now primordial awareness wisdom that is the very nature of our own mind. And surrender to this presence now, we are told, is the secret of human happiness. How shall we understand this?

**New Heresy: Ontological relativity and Buddhist Dzogchen.** This ultimate, intrinsically non-separate, nonlocal, transrational, essentially interconnected and interdependent unbroken, unbounded wholeness of appearing reality is merely and only here now relative-conventionally constituted by all interdependently arising phenomena (*pratitya samutpada/tendril nyingpo*) from the vast expanse of its basal primordial intrinsic awareness emptiness ground or source matrix (*cittadhatu*), and abides within itself in a relation of identity (panentheism, panpsychism). And this all is the *Madhyamaka* great emptiness (*mahashunyata*) of the *Mahayana* Buddhist sutras, and of *Ati Dzogchen*, the Great Perfection of the *Vajrayana tantras*. Dependent arising is emptiness. Emptiness is dependent arising. "Form is emptiness. Emptiness is form." Ultimately, there is no difference. Ultimately, these two paradigmatic realities participate in and arise together from the same (*samata*) ontic reality sourceground. According to the masters of this tradition, the recognition, realization and actualization of this is *sama-*

*tajnana* or Buddha cognition—which is trans-conceptual and acausal—is cognition that is not bound by cause and effect.

In acausal tantric *Dzogchen*, unlike the gradualist “causal path” of the sutras, Buddhahood does not have a cause. We cannot attain it through our armamentarium of seeking strategies: good, goods, gurus, virtue, ethical precepts, correct meditation and the rest. Why? Because it is “always already” present in each being. Perhaps we are looking for happiness in all the wrong places. Stated another way, the ultimate nature of mind—Buddha Mind, Tao, *Nirguna Brahman*, Christ Consciousness/Abba the Primordial Father—is non-propositional and non-prescriptive. Yes, it is veiled. We recognize it through training in quiescent selfless mindfulness (*shamatha*), and penetrating insight (*vipashyana*), the foundational *Vajrayana*, and other contemplative practices.

Therefore, according to the nondual teaching of the traditions, as this intrinsic awareness state, this presence or seed of Buddha nature—by whatever name—is “always already” present—if unrecognized—at the heart/*hridayam* of each human being, there is nothing to accomplish, nothing to desire and nothing to do (*wu-wei*/surrender), so that all that we do is open, authentic and kind. As this ground of being is “primordially pure from the beginning” (*kadag*), activity arising herein, directly, without conceptual elaboration, creates no karma. Moreover, it is—without reference to any ethical precepts—spontaneously kind and compassionate. So, “as it is” who we are—“as it is already accomplished”—we “simply relax into it.” No need to do anything (*wu-wei*). As change is the only constant, no need to change anything, and no need to *not* change anything. So we leave it alone. Indeed, every *samsaric* phenomenal percept and concept is an aperture opening into this primordial ground of our being, is not different or separate from it, indeed *is* it. How do we do this? Paradoxically, it is through the step-by-step practice of the causal “gradualist” path under the guidance of a qualified teacher, or master, as we have seen.

Such a seemingly radical view is indeed heresy to the *stasis* of the commonplace assumptions that comprise Naïve Realism, Scientific Realism/Materialism and its acquisitive consumerist political economy, and to the political/corporate leadership that attempts to manipulate and control the hearts and minds of the polity.

So this is the paradox of the spiritual path. We struggle to grasp a future happiness that is already present, here now and nowhere else. This is the simple recognition. Nevertheless, because without the practice of the Path all we can accomplish is brief glimpses of this great truth, practice is considered by the masters of the traditions to be absolutely necessary in preparing the mind to realize and stabilize this “View”. Such practice is auspicious (*tendril*) in allowing glimpses—“brief moments many times”—of this miracle, then, in due course and by grace, the continuity of recognition that only the buddhas and *mahasiddhas* understand and accomplish.

“Yes”, as Keith Dowman (2010) says, “there is some magic in it”. Again, primordial mind nature is utterly ineffable to the human intellect, but not to the trained contemplative mind. “This cannot be taught” (Shakyamuni Buddha). The intrepid acceptance of the deepest paradoxes of human understanding—and a courageous tolerance for the attendant fearful

cognitive dissonance—is a skillful utilization of this inherent magic of reality, and is as good a definition of a reasonable, if not rational mysticism as any. “Much obscurity, great hope” (Niels Bohr). Or, as the zen master told, “Open mouth, already a mistake.”

It is told in the traditions, that within the vast spaciousness of the “many mansions” of this *mystisch* awaits a profound clarity and peace for those who would enter in. Alas, most of us stay in the uncomfortable comfort zones of the house fabricated and well-fortified by our cultural semiotic, conceptual “web of belief.”

*Thus, the two paradigms are commensurate after all. Indeed they are a prior unity.* So there is no need for Science to deny or ignore the ultimate reality emptiness base—by whatever name—by reducing it to the comfort zone of mere physical form, or to mere physical-electrochemical brain activity. Conversely, there is no need for the intellect to pathologize itself and diminish the importance of science, philosophy and analytic meditation, even with all its tedious compensatory conceptual elaboration; perhaps not unlike this turgid thesis of mine.

The larger view, both *Dzogchen* and the mathematics of the Unified Quantum Vacuum (the *akashic aether* matrix) and of M-Theory, describe and even assume this prior nondual primordial unity of the two paradigms. And this unity, transrationally and transpersonally cognized, realized and even actualized in the lifeworld by highly trained contemplative subjects must now enter the universe of discourse of academic science and philosophy through the emerging noetic Science of Consciousness (Wallace 2003, 2007) that includes the sciences of contemplative neuroscience and neurobiology; contemplative medicine, clinical science, education and practice; and the contemplative philosophies and *praxis* of the wisdom traditions. It is imperative that scientists, philosophers and teachers review this mind-changing, paradigm changing work, and enter into cross-cultural and cross-paradigm dialogue, whether or not Kuhn believes it possible.

**Is there method to this madness?** The spacetime reality of Relative Truth (*samvriti satya*), with its wondrous micro and macro (anthropic) coherence, is relatively or conventionally real through our reified conventional consciousness imputations and designations (*nam-arupa*, naming of forms), while the ultimate nature and source of all empirical spacetime reality is metaphorically, semiotically described by the *Madhyamaka* luminous emptiness that is the potential fullness (*pleroma*) of *Dharmakaya*, Tao, *Nirguna Brahman* of Shankara’s *Advaita Vedanta*, Laszlo’s brahmanic *Akasha/aether* matrix, *Mahamudra* of Buddhist *Kagyū*, the *Nyingma* perfect sphere of *Dzogchen*, Ultimate Truth (*paramartha satya*), the radiant *En Sof* of *Kabbalah*, the nondual Christian Gnostic (Theodus and his heart son, Valentinus) *kosmic* depth (*bathos*) of the “ultimate mode of existing of everything” that transcends yet embraces and includes the cosmic source that is the quasi-physical quantum vacuum potential.<sup>2</sup>

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<sup>2</sup> Buddhist *Madhyamaka* epistemology has three classifications of knowledge: *evident* (empirical, representational knowledge; *hidden* (indirect inferential knowledge; *extremely hidden* (subjective and ultimately subjective spiritual knowledge beyond direct experience and inference for the average consciousness, but not for the trained contemplative mind.) For example, our knowledge of Ultimate Truth is hidden. The one truth that is nondual Buddha cognition (*samatajnana*) is extremely hidden. All of this shall be included in the arising, integral noetic Science of Consciousness.

Astonishingly, this non-theistic, perfectly subjective non-entity that is luminous emptiness—that is itself empty of any logocentric intrinsic existence—this clear light of the mind (*vidya/rigpa*) is intrinsically aware! And this primordial awareness is ontologically prior to, yet pervades and animates human consciousness. That is who we actually are. That (*Tat*), according to the deepest teaching of the traditions, is both origin and aim of human consciousness, and of all of our seeking strategies for relative and ultimate happiness.

Now where is the “hard problem of consciousness”? It cannot arise in a non-material, non-realist ontology. The “explanatory gap” between objective physical brain and subjective awareness states—between matter and mind—does not arise when we recognize the prior ontic nondual unity of these two paradigmatic realities, at least conceptually, if not always contemplatively. It is useful to remember that all of this theoretical speculation is merely conceptual. Let not these many concepts betray the non-discursive, nondual meaning that abides always at the mythopoetic spiritual heart (*hridayam*) of each human being, without a single exception.

So, what of the soteriological *really* hard problem of consciousness? Again, “It is already accomplished.” It becomes a *yoga/religio* continuity of recognition that all arising experience is not other than the “nature of mind” that is this bright nondual ground or source of the unbounded, unbroken wholeness that is reality being itself. And as we now understand, paradoxically this “always already” present truth is accomplished through the step-by-step practice of the Path.

This, our here *now* recognition, enters in the mindstream of all of the buddhas and *mahasiddhas* of all the world’s spiritual lineages (the world *Sangha*) of the “three times”—past, present and future—and thereby abides spontaneously in all sentient beings, at the Heart, whether or not we are aware of this. And again, according to the subtlest nondual teachings of our Primordial Wisdom Tradition, this presence is our numinous, bright indwelling actual nature, our dynamic intrinsic awareness mind nature, our “supreme identity,” by whatever name, whether or not we recognize it. All the Masters have told it; it is always here, that open awareness presence always present. *Tat Tvam Ami. That I Am!* This is the good news that the *mahasiddhas* of the wisdom traditions have foretold. Our human awareness is divine! Not if we’re good, not in the future, but here, now. Thus, our fully human legacy is not original sin, but original goodness.

Opening to such subjective numinous clarity cannot fail to shake us from our realist/materialist nihilist dogmatic slumber wherein we abide in separate and unconnected independent realities. Thus do we inter in that bright interdependent mind nature which abides ontologically prior to, and pervades all states of cognition. Herein our two paradigms—Science and Spirit, matter and mind—hang together.

Thus do we integrate a post-realist/materialist wisdom of ultimate spaciousness/emptiness/Spirit with the fullness of relative spacetime forms of the material reality of Modern and Postmodern Science. We can now more readily understand the subtle meaning of the words of *Dzogchen* founder Garab Dorje, “It is already accomplished,” within each human form, our shared interdependent collective mindstream that is now this primordial nature and

essence of mind. Thus, there has never been a moment's separation. Perhaps the here now presence (*vidya/rigpa*) of this timeless great primordial wisdom truth can provide solace when we feel separated from it, which alas, is most of the time.

**Conclusion: intimations of immortality.** By way of review, I have argued above—remembering the conceptual fabrication of the “Two Truths,” relative and ultimate, of the post-metaphysical nondual one reality—that the Neorealism of Einstein, Bohm, Smolin, Penrose and the Hidden Variables theorists on the one hand, and the nominalist, antirealist, ontologically relative view of the Copenhagen School of the Quantum Field Theory (QFT/QED), including Hawking's perspectival theory-dependent “Model-Dependent Realism,” the “consciousness causes collapse” (of the wave function) physicists (Schrödinger, Wigner), and middle way Buddhist hermeneutics on the other hand, are all transcended yet embraced and subsumed in our intimations of the numinous unbounded whole that is the very ground nature or essence of mind, an ontologically prior, monistic, quintessential, transrational, perfectly subjective, non-theistic, non-eternal, nonlocal, nondual ultimate reality—the one truth or “one taste”—that is the Absolute Spirit emptiness/openness mindstream of all the buddhas and *mahasiddhas* of our nondual East/West Primordial Wisdom Tradition. And that, on the accord of this Great Tradition, is our “supreme identity” (*cittata, cittadhatu*), without a single exception. This vast, bright Buddha heart/Buddha mind (“*samatajnana*”), by whatever name, “is already accomplished” at the Heart of each human form. And now, in compassionate mindfulness, we see it. Now we know it. Now we come home.

Thus it is, the seemingly incommensurable paradigms of Science and Spirit/spirituality are, in a non-relative ultimate view, an ontological prior unity, two truths, two views of a vast, open, singular nondual ground of reality. The particulars of dualistic, relative arising and appearing spacetime reality are, not independently real, but interdependently real, and their ultimate primordial ground is not separate. This is the epistemologically pluralistic, ontologically monistic or nondual, urgent, radical recognition. The moment-to-moment realization of this nondual cognitive state of open awareness (*vidya, rigpa, shekina*) is the meditative stabilization that is *samadhi/satori/moksha*, the ultimate happiness that cannot be lost.

This “radical” view is not as exotic as it may initially appear, and it is no more mystical than the natural “lucid mysticism” of the Quantum Field Theory, or post-quantum M-Theory. The individual moments of arising, appearing reality are parts of a whole, just as individual stars comprise an entire galaxy, and galaxies participate in a physical cosmos that is ultimately a conceptually, but not contemplatively ineffable nondual *Kosmos* that transcends, yet embraces and includes the Planck Scale epistemic limit and a cosmos of merely physical things and processes. These physical things and the great wholeness that is the very nature of mind are “not one, not two” but nondual. Yet, we must relative-conventionally, epistemologically, discursively unpack it all, develop integral noetic methodologies, and come to understand, individually and therefore collectively, the exoteric, esoteric and innermost esoteric meaning of this profound transrational nondual one truth that embraces the perennial duality of our two paradigms, our Two Truths—Relative and Ultimate, Science and Spirit, matter and mind. This is the paradoxical, radical liberating truth, “invariant across all cognitive frames of refer-

ence" — exoteric, esoteric, greater esoteric, nondual; egocentric, ethnocentric, worldcentric, theocentric—whose recognition makes us happy, and whose realization sets us free. Such an understanding is the meta-cognitive basis of a "rising culture," this latter day Postmodern plurality of voices that defines a new meta-narrative of human body/mind/spirit evolution—a noetic revolution—and its requisite post-quantum noetic ontology.

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