

# Our Emerging Noetic Revolution

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

—Plato, *The Republic*, Book I

**Kosmic prelude.** On the cusp of the 3<sup>rd</sup> century CE two great scholar-masters—Nagarjuna in the East and Plotinus in the West—began the noetic nondual knowledge revolution for our species that is just now re-emerging as the new Noetic Revolution of the 21<sup>st</sup> century. ("Nondual" is prior subject/object unity, *advaya*"not two/not one, but nondual"; nondual wisdom is trans-conceptual *noēsis/noetic* knowledge with no essential subject/object, spirit/matter separation.)

Ultimately viewed, the experiential bricolage of our physical, social, and deep background cultural relationships are necessarily subsumed and embraced by an interconnected matrix of Relationship, the vast unbounded whole, by whatever name or concept. This perfectly subjective, nondual ultimate reality itself, is "primordially pure" being itself, the inherent ground and basal source condition of all interdependently arising relative-conventional reality. In this holistic view spacetime stuff—conscious subjects and their objects—like you and me, all arise, appear and participate in That. The *kosmic* primordial ground subsumes and embraces the whole of its physical and mental cosmic particulars.

Mereologically, wholes include their parts, and parts arise and participate in their wholes. No part; no whole. No whole; no part. And every part is itself a "holon" (Ken Wilber) of an ever more inclusive whole, from top down all-embracing physical/mental/spiritual (body/mind/spirit) *kosmos* ground or base of everything; ultimate reality itself, to participating quark and lepton quantum bits (qbits).

*Kosmos* may here be understood to include not just the physical cosmos, but all that is—the great mystery, our nondual multidimensional, non-reducible, physical/mental/spiritual whole itself. Hence, the parts, while *relatively*, conventionally differing within this vast unbounded whole (*mahabindu*) are not *ultimately* separate from it. There obtains herein an *ipso facto* prior intrinsic ontic and epistemic present unity. Logically, we cannot be separate from that great whole, by whatever name, in which we arise and participate. We are not separate from That. Who am I? *Tat Tvam Asi*. That I Am! The recognition of this mereological and ontological truth of the trans-rational and trans-conceptual cognitive dimension should make us feel better already.

In the beginning, neutron star born stuff arises as heavy elements which 1) become planets, 2) coalesce into life, 3) evolve consciousness, then 4) dualistic self-consciousness (with a bit of free will), then 5) nondual enlightened consciousness, liberated compassionate Wisdom Mind; Christ/Buddha Mind. It is the realities *chosen* by the fourth of these evolutionary consciousness stages that begets the inherent happiness of the fifth stage. How shall we understand this?

As the developmental dialectic of humanity's intellectual, emotional, spiritual and ethical evolution proceeds, and the ontological estrangement of the present Modern Enlightenment scientific materialist worldview, and the nihilism of its postmodern reaction recedes, this incipient global noetic reformation in religion, science and culture has reintroduced to humankind an urgent, integral, transpersonal, trans-rational nondual knowledge paradigm. This process may be viewed as a scientific and cultural revolution knowledge "paradigm shift", in the mode of Thomas H. Kuhn (1962).

I shall herein argue that such *relative* conventional knowledge, and nondual *ultimate* wisdom, is discoverable and attainable for human beings through exegesis of the contemplative injunctions of the esoteric and nondual wisdom paths of our species' premodern esoteric wisdom traditions—Hinduism, Buddhism, Taoism, Judaism, Christian Mysticism and Christian Hermeticism, Islam, and Neoplatonism. All of this toward uncovering inherent meaning, even ultimate meaning in our lives.

The primary injunction in this great tradition is usually a quiescence practice for taming the narcissistic self-ego-I that is this obsessive, discursive "wild horse of the mind". Neuroscientists and Zen Masters agree: the content of this conceptual mind is said to be at least 90 percent negative (fear/anger/hostility, pride, grasping, greed), and 90 percent self-centered—I, me, mine—(Suzuki Roshi 1970). (Monitor your own mind for an hour, or a day and see what you think.)

**The collapse of objective certainty and the current crisis in Western culture.** We shall see that with the failure of the Scientific Materialism/Physicalism Western scientific and cultural meta-narrative upon the advent of 20th century 1) quantum uncertainty, 2) mathematically consistent alternative geometries to Euclid's mainstay, and 3) 25 year old Kurt Gödel's two 1931 Incompleteness Theorems, our four century Modernist Enlightenment Age of Reason quest for absolute objective certainty has at long last run its course.

No wonder we're in such an anxious state. Our certainty about the objectively certain existence of a really "real world out there" (RWOT) is utterly kaput! Our scientific and cultural "global web of belief" (Quine 1969) has been shaken to its cognitive core. A first order global cognitive crisis is the ominous result. Handling the resulting fear/anger and compensatory grasping-greed and pride is now more urgent than ever.

Here indeed is the current crisis of Western culture. The Modernist "Enlightenment Project" with its valorization of pure reason and mathematics, and its idealized "scientific" certainty has utterly collapsed. Uncertainty indeed. Enter stage left, the rather spooky

"wisdom of uncertainty". Not to worry. Herein abides a surprising, though trans-conceptual peace (cf. Mindfulness below, and Ch. VIII).

Moreover, our hyper-rational Modern scientific knowledge paradigm has successfully inveighed against our in-dwelling, transpersonal premodern primordial wisdom tradition. Objective science without subjective wisdom is a recipe for disaster, as we have experienced through the horrors of the first half of the 20th century.

It is most urgent that we now discover and embrace a new 21st century scientific noetic ontology, a new cultural metaphysic as to what all of this reality really is, and how it is; of what being here now actually means to human being in time.

*Who is it*, this impermanent and unprovable self-ego-I that desires to know, and to be happy; that is born, suffers and dies; that shines through the mind, and abides at the heart of all beings, always liberated and fully awake? Who is it that arises and appears to or in our human consciousness as trees, stars, and other human beings? That is the question.

So, this new holistic ontology sees all of this as *relative* conventional spacetime instantiations—arising through relative participating human consciousness—of *ultimate* primordial awareness-consciousness itself, *kosmic* unbounded whole, basal ground of being that subsumes and embraces relative physical cosmos and everything in it.

Our indwelling Wisdom Mind, open Presence of That—*vidya, rigpa*, Buddha Mind, Wisdom Mind, I Am That I Am of Moses and the Prophets and of Jesus the *Christos*—receives and knows this nondual wisdom. It is not conceptualobjective information, knowledge, or belief, but trans-conceptual wisdom that satisfies our transpersonal, deep ontological impulse to know the originary nature of mind, primordial ground in whom human mind and its objects arise and participate.

In the meaning vacuum of this new cultural crisis human alienation and human evil loom large. Thus, I shall herein suggest elective Wisdom Mind support for our emerging integral, noetic meta-narrative. Let us discover a way out of the cognitive gloom of our human predicament—this balancing act between our objective relative spacetime existence, and our perfectly subjective "supreme identity" that is identical with the vast boundless whole that is our spiritual home. And this way out is a mindful path back into: what? Boundless whole, primordial ground, trans-conceptual, transpersonal ultimate being itself.

Four centuries of our old Modernity meta-narrative—the cognitive cloak of the European Enlightenment—the Age of Reason—was a reaction to pre-modern Medieval arbitrary traditional political and religious external *authority*. Thus it idealizes and valorizes the ideals (idols) of "pure reason", individualism, progress, scientific objectivity, deductive objective certainty, and an angry, reactionary, compensatory spiritual/religious skepticism. Refreshingly, Wisdom Mind requires only one's own authority, and a bit of contemplative practice.

Just so, the postmodern hermeneutic circle that arose with the advent of 20th century relativity theory, and with the quantum theory, and as well, with the rise of postmodern "critical theory"—the Marxist normative, pragmatic social philosophy of the Frankfurt

School—all constitute intellectual reactions to these Enlightenment Project ideals, the *grands recits* of Modernity.

Postmodernism is generally subjectivist, ontologically relative (Quine), perspectival (Nietzsche), pragmatic (Peirce, James, Habermas) and neopragmatic (Rorty). In its Poststructuralist garments (Derrida, Foucault) it is a denial of any objectivist, "logocentric" religious or scientific ontology or absolutely existent, permanent observer-independent separate reality "out there". The postmodern poststructuralist mind denies any intrinsic truth connection between semiotic/linguistic meaning and an absolute objectively real world out there (RWOT). Here, even science itself becomes a subjective social process (Kuhn 1962).

Well and good. Unfortunately, reactionary postmodern skepticism, so far from a healthy self-reflective skepticism, has become a procrustean nihilistic dragon that has devoured itself.

Case in point: during the surrealistic "science wars" of the 1990s scientific realists accused its postmodern antirealist critics of rejecting scientific objectivity altogether, and even scientific knowledge itself (Goldman 2004). Postmodern cognitive bipolar disorder indeed. John Dewey's quasi-instrumentalist pragmatic critique of this invidious postmodern knowledge paradigm is definitive (Dewey 1929).

The upshot of these two seemingly incommensurable paradigms—objectivist Modernity and subjectivist postmodernity—is this: we cannot escape our all too human cognitive structures, our "egocentric predicament" to an observer-independently existing, absolutely inherently existing "God's eye view" "real world out there" (RWOT).

The seed of truth in this postmodern quantum meta-narrative, along with pre-modern middle way Buddhist epistemology is rather, that arising physical and mental phenomenal objects are indeed *observer-dependent*, that is, dependent upon the consciousness—perception, concept and belief—of a present observing subject. This is the view of ontological relativity; that is to say, "what there is" supervenes or depends upon our preconscious, deep cultural background linguistic "global web of belief" (Quine). Let's unpack this a bit.

On the accord of the great gravitational physicist John Wheeler, the universe cannot arise from the vast face of the Deep until an observing consciousness arises and evolves. Why? *In the beginning was the quantum wave function—Schrödinger's  $\Psi$* . The merely physical universe is described in relativistic quantum field theory (QFT) by this probability wave function; and an observing, perceiving consciousness is required to "collapse" or "reduce" (the "state vector reduction") this strange wavelike ontic limbo state of neither existence nor non-existence into particle-like spacetime eigen-states of existent matter, an objectively really real merely physical cosmos; just as Schrödinger's cat is neither dead nor alive until its black box is opened.

We shall herein interview Schrödinger's inscrutable Cheshire cat, "Wigner's friend" (the cat's colleague in the box), and Hugh Everett in a parallel universe, all in order to ascertain the spectral "fact-value gap" of this wondrously vexing "quantum measurement problem".

The "fact-value gap": a proposition judged to be a "fact" cannot be value free, for a value judgment has already rendered it a "fact". As early cosmologist Herman Bondi told, "Science does not deal with facts; indeed fact is an emotionally loaded word for which there is little

place in scientific debate". Paradoxically then, "facts" are value judgments. Socratic irony indeed.

Consciousness (often embodied in carbon 12 based sentient central nervous systems) is inherently self-reflexive. For example, as we evolve to reflect upon the Big Bang state genesis we bring a conscious conceptual cosmos into existence that was absent hitherto. Much recent philosophy of cosmology promulgates this "ontologically relative" view (Carroll 2012). Not what Newton, nor Einstein, nor their acolytes had in mind with their Modernist, "classical" (non-quantum), absolutely existent, observer-independent space and time that bestowed upon us our materialist Western scientific, intellectual and cultural legacy—in a word, Realism.

Beyond healthy skepticism, *radical skepticism* questions even this, our obsessive cultural metaphysic that is our well defended belief in observer-independent Scientific Realism, and monistic physicalist Scientific Materialism. Radical skepticism questions even one's own closely held "web of belief". Now that's radical! I shall term such brave new cognition, Zen Mind/Wisdom Mind wherein we reflexively self-censor our egoic tendency toward a grasping bias regarding our own wondrous concept and belief systems. Well, can we really do this? Notwithstanding this present wondrous thesis, not too well. Yet it's a beginning. And peer review sure helps. Transpersonal food for thought, in any case.

**The problem and opportunity of consciousness.** We shall herein all too briefly explore the reflexively vexing "problem of consciousness"; first toward an understanding of its role in the "consciousness interpretation"—one of many—(e.g. Wigner's "consciousness causes collapse" of the wave function) of the quantum theory. Schrödinger's wave function ( $\Psi$ ), inexplicably superposed in subjective ontic limbo until an observer's consciousness peeks at it during an experiment. This observation then "collapses the wave function" revealing, viola!, an objectively really real thing/object for all and sundry to admire. Ontology meets physics—and all heck breaks loose.

But perhaps more importantly, we wish to understand the prodigious "hard problem of consciousness", this "explanatory gap" between the subjective "feeling of being" that is the immediate, direct "qualia" of our experience, and an objective physical/material explanation of it. This is the "hard problem" of objectifying our inner subjective lifeworld, with its "qualia" states—the lovely scent of a rose—including of course, our emotional and spiritual experience. Indeed, this is the primary perennial metaphysical or ontological aporia—the lubricious mind-body problem itself. Is the ultimate nature of appearing stuff mind/mental, or is it physical/material? Further, is there a middle way that dodges the prickly "interaction problem" of Cartesian Dualism, and David Chalmers' Neodualism?

We shall discover, not so surprisingly, that holistic monistic cosmopsychic Buddhist *Dzogchen*, the Great Completion provides a nondual proto-idealist panpsychic centrist middle way between Metaphysical Idealism and Metaphysical Materialism, and completes the duality of the Buddhist Two Truths trope—Relative Truth and Ultimate Truth—that lies at the heart of the Mahayana (Boaz 2019 Ch. XIV). Heady consciousness wine indeed.

We shall then address the *really hard problem* of consciousness—the lived unification of the primordial "Two Truths" of our being here, namely, objective Relative Truth, and perfectly subjective Ultimate Truth. This duality defines our life in the finite dimension of relative-conventional spacetime existence, and our inherent relationship to the ultimate, the infinite awareness-consciousness whole that is the very ground in which, or in whom this world of relative truth arises and participates. I have suggested above that refining and balancing this absurd relationship is the human condition.

On gravitational physicist John Wheeler's view, ontology—"what there is" (Quine)—is ontologically relative to, and supervenes upon, or is dependent upon the consciousness of an observer. Planck, Bohr, Schrödinger, Quine, the mature Wittgenstein, and Buddhist Middle Way *Madhyamaka Prasangika* view would agree. Reality cannot, and does not exist absolutely "out there", observer-independently of mind—the consciousness—of a sentient observer. Our premodern wisdom tradition, and post-postmodern quantum mechanics agree.

Scientific objectivist/materialist critics of such a subjectivist antirealism see this view as nihilistic. But it can be nihilistic only if *both* observer-independent *and* observer-dependent reality are denied. We shall see that on the panpsychic view of Leibnitz, James, Whitehead and Chalmers each quantum qubit of reality instantiates some degree of the consciousness of the whole shebang in whom these parts necessarily arise and participate. We have just seen that Buddhist *Madhyamaka* Middle Way epistemology, which culminates in nondual monistic cosmopsychic *Dzogchen* view and praxis has much more to say in this regard.

**The Buddhist View.** On this centrist ontologically relative view (reality is observer-dependent, concept/theory/model dependent) of the Buddhist Middle Way (*Madhyamaka prasangika*) an objectively real, observer-dependent reality arises and appears to a perceiving subject from its ontologically prior unified consciousness base or ground, the unbounded whole itself. This is a realist view; but not an observer-theory-independent Scientific Realist view because this often all too real arising appearing reality is relative to an observing participating consciousness. Spacetime reality may be delusory as to its *ultimate* nature, but appearing *relative-conventional* "scientific" reality is not illusory (*avidya maya*) for it appears as real objective touchable stuff. The Two Truths again. This is a quite different view as to the illusory face of reality than the often nihilist Metaphysical Idealism of Hindu *Sanatanadharma*, and of the Western philosophical idealists would have being be.

So, on this centrist Buddhist view, appearing reality cannot be intrinsically or absolutely or independently real "from its own side", nor is it purely and only physical/material, as we shall see.

Therefore, all-pervading awareness-consciousness itself, Suzuki Roshi's "Big Mind" is ontologically prior to, and embraces and subsumes the "Small Mind" of the things of material spacetime existence that arise therein. As Shakyamuni Buddha told in his great nondual *Heart Sutra*, "Form is empty, emptiness is form". And for discoverer of the quantum of action Max Planck (1900), "Mind is the matrix of all matter".

This then is the centrist middle way Buddhist *Madhyamaka* view of (observer-) "dependent arising" (*pratitya samutpada*), the causal interdependence and interconnectedness of all arising physical and mental phenomena. And this is as well, the view of quantum theory pioneers Bohr, Heisenberg and Schrödinger, and indeed of Bohr's foundational instrumentalist Copenhagen Interpretation of quantum mechanics. (Instrumentalism in philosophy of physics is the view that physical theory cannot presume to describe the nature of physical reality itself, but is rather, a mere instrument for making scientific predictions.)

This view pretends to avoid troublesome ontic metaphysical questions as to the ultimate nature of the reality, and its observers, that the theory presumes to describe or explain, or explain away. We shall see however, that metaphysics is inescapable. Relativistic Quantum Field Theory, QFT and QED, is a metaphysical statement as to the nature of reality.

Middle Way Mahayana *Madhyamaka* Buddhism utilizes qualitative, causal, pragmatic first person consciousness states—the Eightfold Path—to liberate the mind from the afflictive causes of human suffering, and of human evil. Science utilizes quantitative, causal, third person, physical/material methodologies to explain physical and mental phenomenal experience.

These two knowledge paradigms are in no way incommensurable. An integral noetic science requires the epistemic noetic doublet that is both objective and subjective, as we shall see. The constructive intellectual tension between our objective and subjective voices is a cognitive blessing. Indeed, to paraphrase Whitehead, "A clash of paradigms is an opportunity for growth".

**Mindfulness: being the whole.** How shall we relax our ironic postmodern anxiety? We learn to rest in the quiescent peace of the natural state of the mind; this vast basic space of mind (*chittadhatu*). Psycho-emotional-spiritual change rides the breath (*prana, chi, pneuma*). We learn to simply be present to our breath. We learn to surrender the wild horse of our concept-mind as we ride the breath.

On the accord of the contemplative teaching of some of our primordial wisdom traditions, this natural, transpersonal, trans-conceptual interval, gap or "space between your thoughts" is inherently free of both negative and positive afflicted emotional mindstates: *avoidance* (fear, anger, aggression), and *attraction* (pride, greed, obsessive narcissistic grasping at things for the self).

The natural, spontaneously arising qualities of this spacious basic wakefulness are fivefold: 1) deep bodymind relaxation; 2) appreciation for one's life; and the goodwill intention for the benefit and happiness of other beings; 3) non-conceptuality or temporary freedom from the stress of discursive, obsessively thinking "monkey mind" that often functions as the cognitive vehicle for the afflictive emotions; 4) an awake vividness, clarity, mental acuity; 5) peace, a sense of happiness and well-being; the yogi's bliss; a *feeling* awareness of the inherent perfection of the whole of this great objective/subjective unified process; direct trans-conceptual experience of bright Presence that I Am (*vidya, rigpa, christos*) of this primordial wisdom source or ground of everything that arises and appears through the mind.

As we abide here, in this spacious moment now, spontaneously, effortlessly arises kind, compassionate conduct, the very cause of human happiness and freedom. This freedom and happiness is a choice. We cannot *become* happy later. We can only *be* happy now. Seeking happiness is a kind of unhappiness, is it not? As Shakyamuni Buddha told, expressing not the relative, but the ultimate view: "Rest your weary mind and let it be as it is; all things are perfect exactly as they are".

Such cognitive discipline or yoga is called "mindfulness practice", or contemplative (*vis à vis* discursive thinking) meditation practice, or contemplative prayer (Appendix II, "Let It Be: A Basic Mindfulness Practice").

Such a practice requires no natural nor supernatural belief, no metaphysics, no intelligence or authority other than one's own. Such practice provides a foundation, for one so inclined, for a profound holistic, even holographic lifeworld view, practice and happiness result that is a benefit for everyone—both self and other. This *awareness management* is easy to learn, but difficult to master. Anyone can do it, and it changes everything. Such is the essential "logic of the non-conceptual" (Klein 2006) as we tame the "wild horse of the mind" of self-ego-I and open to receive our innate Wisdom Mind—Presence of That (*tat, sat*).

What is the meaning of life in this constant presence of our death? What are the causes of human happiness? The causes of our unhappiness, and suffering; of human alienation and human evil? Who am I? What shall we do with this precious life we've been given? The big questions ask of our origin, our identity and our destiny. Such ultimate questions orient us toward the recognition, then recovery of the ineffable mystery of both relative and ultimate meaning and happiness for one who considers them. We shall herein consider some of them. Is not such a holistic, noetic view now our urgent 21st century knowledge imperative?

**The Fundamental Two Truths of our wisdom traditions.** Several of our premodern primordial wisdom traditions teach of the profound knowledge/wisdom dialectic of our "Two Truths"—our two ways of being here. 1) There is objective experience with its social/informational, linguistic, interobjective voices. There is subjective experience with its deep cultural intersubjective voices. These two constitute the dimension of Relative Truth (*samvriti satya, avidya maya*, the conventional, nominal spacetime dimension of form). These objective and subjective worlds arise causally and interdependently (*pratitya samutpada*) from their primordial ground via a vast but finite, relative-conventional causal spacetime matrix.

For *Madhyamaka* Buddhists for example, phenomena arise in dependence upon this great network of "causes and conditions" in dependence upon mereological part-whole relationships, and upon observer-dependent conceptual imputation and designation.

2) Then there is Ultimate Truth (*paramartha satya, vidya maya*) in which, or in whom, all of the realities of the spacetime dimension of the conventional "concealer truths" of Relative Truth arise and participate. This vast inter-dimensional unbounded whole (*mahabindu*) has many names and ambiguous conceptual definitions: *shunyata/emptiness/boundlessness, dharmakaya, kadag, Tao, Nirguna Brahman/Parabrahman, Ein Sof, Abba/God the Father*, and many more. "Truth is one; many are its names" (*Rig Veda*).

We should remember that these names (*namarupa*) are merely concepts, Blake's "mind-forged manacles", or Whitehead's reified "misplaced concreteness", or Kantian mental constructions veiling (*avidya maya*) the direct trans-conceptual noumenal truth at the emotional/spiritual heart of the matter. This spiritual heart (*hridayam*) is the very heart of the human beholder, always at play (*lila*) in the continuous display of our sacred dance of geometry, this vast unbroken whole itself (*mahabindu*). Is not *that* who we actually are?

Moreover, each concept/name or experience or category of understanding generally has at least *three degrees or dimensions of subtlety of understanding*—an exoteric, often doctrinaire and dogmatic outer meaning; an esoteric, more directly experiential inner meaning; and a greater esoteric, innermost, or "innermost secret", even nondual, transpersonal, trans-rational or trans-empirical meaning. If we conflate these levels of meaning through mere intellectual conceptual understanding, we tragically limit our potential depth of *direct* knowing experience (*yogi pratyaksa*), and argue at cross purposes with our interlocutors, resulting in emotionally reactive grasping at destructive dogmatic beliefs, and deepened ignorance (*avidya, marigpa hamartia/sin*), the very causes of human suffering.

For example, religious studies dialogue often confuses objective and subjective modes of being, the two faces or voices of our being here in spacetime. We must avoid conflating a dualistic, exoteric, anthropomorphic objectively "other" or separate theistic Creator God, whether Western or Eastern, with greater esoteric nondual godhead, an "empty of attributes", perfectly subjective, trans-conceptual, all embracing, panpsychic primordial awareness ground, the unbounded whole itself. To enter into this "category mistake" is to miss the prior, ontic sameness or unity entirely. We miss the ultimate truth of the matter; the truth that we are not separate from *That*.

So let us not throw out the baby of our ultimately subjective nondual primordial wisdom ground, with the bathwater of a lesser, conceptual, dualistic theistic Creator God. After all, the latter transcends and embraces the former.

Let us here recall that "panpsychic" means that all physical and mental phenomena have some degree of—are instances of—consciousness or mind, Big Mind itself. More holistically viewed, spacetime physical and mere conceptual phenomena are but a diaphanous reticulum veiling the infinite nondual unbounded whole that is all-embracing consciousness being itself. The ontic view of the Mahayana, *Advaita* (nondual) Vedanta, Parmenides, Neoplatonism (Plotinus), Spinoza, Leibniz, James, Nagel, Chalmers and many others is panpsychic. That is to say, if we conflate the objective and subjective faces of our experience of being here, the subtle non-physical/material, even spiritual aspect of appearing reality is obscured or denied.

Let us also remember that the Two Truths of this prodigious epistemic duality—relative and ultimate—are not essentially separate. These Two Truths of appearing reality are always already an ontic prior unity. We must remember this. We must abide in this wisdom understanding. Why? From the epistemology you choose, comes the ontology you deserve. How then shall we understand this great unconditioned nondual truth, Bohm's holographic "implicate order", the unbroken whole itself that we are?

Ultimate Truth (*paramartha satya*) thus may be broadly construed as our primordial perfectly subjective ultimate reality base, the basal emptiness "groundless" *ground*, supreme source, nondual being itself (*OM*), prior to any relativistic spacetime manifestation, physical, emotional or mental. This great truth necessarily transcends, yet embraces and subsumes all of the conventional spacetime phenomena (*AH*) of the luminous spacetime reality dimension of Relative Truth (*samvriti satya*), wherein  $E=mc^2$ .

This ultimate truth, Big Mind, consciousness whole is the primordial basis in which this all arises, descends and appears as human experience, human consciousness, Small Mind, the spacetime instantiation of the vast unbounded whole itself. And this is expressed spontaneously and effortlessly in human conduct as kind compassionate activity toward reducing the suffering of beings. And this is the consciousness continuum that is *HUM*, or Buddha mind.

Thus does this View, Path and Result/Fruition become the primeval liberating mantra *OM AH HUM*. It is liberating and healing to practice it, to voice it, to glimpse it "brief moments, many times". The bountiful *yes* of *OM AH HUM*.

Again, it is useful to understand that these perennial Two Truths represent an exoteric, dualistic conceptual knowing of a yet greater esoteric, trans-rational, even nondual prior unity. It is this trans-rational unity that we must be present to now, and now, in this chaos of relative spacetime everyday experience.

Ordinary mindfulness practice supports this process of egoic moment to moment awareness, this self-reflexive consciousness, this Path that awakens our always present indwelling Presence of the very "groundless" ground that is nondual (subject/object unity) being itself. *Tat Tvam Asi*, That I Am! Without a single exception.

Our premodern wisdom traditions, East and West, have told it: this vast ultimate ground of the basic primordial space of everything (*dharmadhatu*, Tao), unbounded whole of reality itself, is "non-propositional" and "non-prescriptive." That is to say, such luminous cognition is trans-rational or trans-conceptual, acausal (non-causal) and not conceptually reducible to mere causal objective, material, electro-chemical physical brain matter or brain states; and thus we cannot derive or infer rational, conceptually based ethical principles from it; try as we may. Again, the prodigious wisdom "logic of the non-conceptual".

We've seen that this vast whole, the basal nondual primordial ground or base of it, is known directly through our inherent, mindful, contemplative "primordial awareness wisdom" that transcends yet embraces human linguistic, cultural concept/belief systems—our deep background socio-cultural cognitive net, *langue*, Saussure's synchronic language of semiotic signification and meaning.

Without the subjectivity of *langue*, the objective, ideational utterance that is *parole* (speech acts) would not be possible. *Parole* instantiates *langue*. *Parole* is utterance; *langue* is its deep background consciousness matrix. *Langue* is ontologically and epistemologically prior to *parole*. This primordial web of meaning constitutes for Quine, and Wittgenstein our essential reality-constituting "global web of belief", or "form of life", and for Peter Berger our encompassing societal worldview or "*nomos*". So meaning (*ethos*) is bestowed through *both* our

objective, and cultural inter-subjective experience as this all arises from its prior basal, perfectly subjective ground (Tao, *shunyata*/emptiness, *parabrahman*).

Unfortunately, such subjective primordial wisdom experience remains taboo to our prevailing zeitgeist that is obsessively objectivist, realist/materialist "Science", the materialist metaphysic of our "common sense realism" and our materialist, consumerist view of reality—Bertrand Russell's "metaphysics of the stone age".

**Soteriology: the human condition, and a reality choice.** We shall see that our precious lives are an opportunity and a choice to "ascend and return" to this basal "groundless ground" that we are (evolution), not as a self/ego-I, but as the on-going essential luminous clear light of the mind, the very nature of mind, the noetic presence of that. "The future of human beings lies in the clear light nature of mind" (H.H. the Dalai Lama). It is this "Bright" (*kham brahm*) that continues.

Again, on the accord of the "innermost esoteric" and nondual teaching of the traditions, That/*tat* source or ground, the bright presence of that—by whatever name—is our actual "supreme identity" as human beings. Through such a wisdom understanding lies great benefit for all beings. Here, within the nondual teaching of our wisdom traditions, lies both relative happiness, and the liberation/enlightenment that is ultimate happiness itself, the happiness that cannot be lost.

Therefore, our *human condition* is this: we must abide in and balance these two worlds, these two faces, these two voices of our actual unitary nature, our relative/objective/quantitative, and our ultimate/subjective/qualitative—at once! Indeed, an epistemic and ontic happiness sticky wicket.

But wait! Perhaps there's a simpler, centrist middle way choice between the dark ontic extremes of the objective permanence that is Metaphysical Scientific Materialism, and subjective nihilism of Metaphysical Idealism. We shall herein explore this impetuous brightness of our Great Wisdom Tradition's centrist, middle way views.

So the perennial dilemma for science, religion/spirituality and culture is the resolution of this invidious *apparent* duality, the essential relationship of our objective finite material existence—body and mind—to perfectly subjective all-embracing nondual "spirit", infinite ground/whole in which, or in whom, this all arises and participates.

Such is the "problem" of soteriology, the individual and thus collective challenge of human psycho-spiritual liberation/awakening (full *bodhi*) to the always already present indwelling Presence of this unbroken whole shebang that we actually are. The choice of recognition, or the choice of avoidance of *That* is the rub for human beings; is it not?

*I shall herein argue that the rigorous cognitive coupling of our objective and scientific understanding, with the deep trans-rational and trans-conceptual subjective realization of this momentous principle of the indivisible unity and coalescent dimensional interdependence of these two seemingly incommensurable paradigms—these perennial Two Truths, relative and ultimate—is the inherent treasure of mind, our heart's desire, and both origin and aim of all our hedonic/material and eudaemonic/spiritual happiness seeking strategies.*

To this end I shall enlist, for ultimate soteriological as well as relative polemical and pedagogical ends, the sublime intertextual epistemological dialectics—both conceptual critical analysis, and contemplative mindfulness and insight practice—of 2000 years of the great centrist Mahayana Buddhist Middle Way *Prasangika Madhyamaka* philosophy of Nagarjuna, Chandrakirti and Tsongkhapa, exemplified by the eclectic pragmatic perfect Buddha Mind of the Vajrayana's 14th century *Dzogchen* master Longchenpa. Today, on the cusp of the 21st century Noetic Revolution in matter, mind and spirit, H.H. the Dalai Lama, and other living *mahasiddhas* continue this august tradition.

Moreover, we shall see how the *Madhyamaka* Two Truths duality (exoteric objective relative and esoteric subjective ultimate) is resolved in the highest or subtlest ultimate nondual *Dzogchen* (and Essence *Mahamudra*, and *Saijojo Zen*) view and praxis. Indeed, the ultimate happiness consummation devoutly to be wished.

We shall in this connection, encounter the recent radical Neodualism of philosopher of mind David Chalmers' proto-idealist panpsychism—all matter is intrinsically endowed with degrees of mind or consciousness—from quarks and leptons, to sparrows, to compassionate Buddha Mind. We shall see that the great whole, ultimate reality, being itself—in which all of this stuff of reality arises and participates—is much more than mere material/physical substance, or physical/chemical brain structure and function.

Thus do we seek a balance, a centrist, noetic view toward the understanding of our objective physical and subjective mental and spiritual realities, these two voices of our inherent nature as human beings. Again, this balance represents a middle way *choice* between two cognitive metaphysical extremes, namely, an objectivist physical material existence, and a subjectivist mental idealist, nihilist non-existence. Will this twenty-four hundred year old dualistic Platonist/Cartesian cognitive legacy be never ending?

Thus, with the dialectical causal Buddhist Mahayana Sutra foundation we shall glimpse the non-dialectical acausal Vajrayana tantric view of the always already directly present immanent unity of objective material form (energy/matter), with the ultimate, spacious, perfectly subjective sphere of *Dzogchen*, the Great Completion that is both pinnacle and base of Mahayana *Madhyamaka* Buddhist view and practice. The greater esoteric view and praxis of both Christianity and Buddhism agree: "What you seek is already present.... the Kingdom is within, and all about" (Jesus); "What you seek is already accomplished from the very beginning" (*Dzogchen* founder Garab Dorje).

We shall see that the prior ontic unity of the two Buddhist truths, causal relative and acausal ultimate, have much to offer the 21st century rapprochement of our two seemingly incommensurable paradigmatic realities—objective Science with its beautiful Concordance Standard Model  $\Lambda$ -CDM (lambda cold dark matter) cosmology—and subjective, even ultimately subjective Spirit (whether exoteric religion, or more subtle esoteric spirituality). An epistemic choice; and an ambitious agenda, to be sure.

Thus shall we engage the ultimate meaning of the inherently vexed (to mere concept mind) profundity of the perennial duality that is these perennial Two Truths, objective form/matter and subjective boundless luminous emptiness/spirit as they arise from their spacious

causal matrix ground, remembering all the while our primordial unifying nondual wisdom that “form is empty; emptiness is form” (from the Buddha's *Heart Sutra*). We shall see that, far from being incommensurable, objective science and subjective spirit are a prior and present ontological unity.

Again, knowing subject and perceived object, while appearing separate to relative conventional perception and conception, are ultimately a prior epistemic and ontic *selfless* unified whole. Such a holistic understanding of the inherent ontic prior unity of subject and object has great benefit for beings. “All the trouble of this world is a result of serving the self. All the happiness of this world is a result of selfless, compassionate service to others” (Shantideva).

The practice of this lifeworld wisdom Path is the inherent potential of the liberating result or fruition, the very liberation from suffering that is ultimate happiness itself. This great completion is, we are told by those who know (the masters and *mahasiddhas* of our Great Tradition), always here now fully present, when we remember (Plato's *anamnesis*).

The ever present reality of this great nondual truth that is vast unbounded whole itself (*mahabindu*) is a trans-rational unity of the duality of being and non-being. Indeed, this is that most pragmatic “one truth”, invariant through all cognitive state and trait changes—exoteric/outer, esoteric/inner and greater esoteric “innermost secret”/nondual—of the sublime asymmetry of our human cognition, our objective rational and subjective emotional/spiritual experience. The path to the realization of this truth is our choice.

**Ontological relativity in science and culture.** To the same end we shall briefly explore an important bit of 20th century intellectual history, namely, an urgent postmodern yet non-nihilist “ontological relativity”, or ontological interdependence; in short, “what ultimately exists” that is “real” is relative to and dependent upon our linguistic, semiotic (syntax, semantics, pragmatics) pre-conscious deep cultural background (Greek/Hebrew) assumptions and beliefs that is our “global web of belief” (Quine 1969).

In the West this generally unexamined semiotic cultural background is substantialist Metaphysical (Platonic) Realism with its ontic cohort, objectivist monistic Materialism/Physicalism (it's all just physical). We shall consider the socio-cultural and ethical consequences (karma) of such an adventitious, potentially destructive ontology; but also its profound value as relative-conventional scientific truth. Again, on the Middle Way Buddhist view, arising appearing spacetime reality is objectively, really real; just not inherently (*sahaja*), intrinsically (*eigen*), or absolutely real. Rather, it is real through our linguistic and conceptual imputation and reification/objectification.

Here lies an opportunity to demonstrate a healthy but radical skepticism. (Is not all real psycho-emotional change radical?) We have seen that this is a skepticism of one's own closely held and well defended egosyntonic, preconscious “global web of belief”. In the West our prevailing ontology—Metaphysical Scientific Materialism/Physicalism—includes a firm belief in a permanent, observer-independent, theory-independent, separate material/physical existence, a “real world out there” (RWOT). Such unexamined, deep cultural background belief

systems have a profound impact upon our view and therefore our acts (karma) in the world, with the requisite happiness/unhappiness consequences.

In the East the prevailing cultural metaphysic is the inherent non-existence of the world, a subjectivist, often nihilistic Metaphysical Idealism (it's all just mental). There is of course, no empirical or logical evidence for either view. Even the necessary truths of deductive logic and therefore of mathematics are based in unproven and unprovable foundational axioms (Gödel 1931). Just so, the scientific method itself is founded not in the deductive certainty of mathematics and logic, but in stochastic inductive logic. The premises of inductive logic do not result in the certainty of its conclusions; only probabilities.

These inductive arguments of science cannot bestow logical certainty upon even our most cherished theories as to a really real, mathematically certain, entirely physical, purely objective, utterly observer/theory-independent "real world out there" (RWOT). The relative truths of science provide instrumental and operational truths that describe reality, build theory and models and make predictions, but can confirm nothing as to the ultimate truth of reality itself, ontology, of what actually is.

*Thus, neither physics nor metaphysics can provide objective certainty.* Does this logically entail that nothing exists? Not at all. Absence of evidence does not entail evidence of absence. The world is so much more than mere binary, two-valued "either/or, black or white deductive logic. There's plenty of meaningful grey out there, and in here.

Thus, the phenomenal existence of anything—quarks to *kosmos* to God—admit of no logical nor empirical proof. The Buddhist *Madhyamaka* middle way "Two Truths" epistemology handles this metaphysical conundrum quite nicely (H.H. The Dalai Lama 2009). So once more, we shall see that the stuff of spacetime relative truth, the very furniture of reality, are objectively real, just not intrinsically or absolutely real. Well then, how *are* things real?

Both objectivist physics, and subjectivist metaphysics are unproven mass mind metaphysical assumptions embedded in our cognitive "form of life" (Wittgenstein). Most philosophers of physics and cosmology, and a few particle physicists and cosmologists acknowledge this present limit of our intellectual, relative conventional knowledge (Carroll 2010).

Once again, is there a centrist middle way view between these two epistemic extremes—objective physical/material existence, and subjective mental non-existence; between the invidious duality of materialism and nihilism?

The prevailing philosophical/ontological interpretation of Relativistic Quantum Field Theory (QFT, based in the non-objectivity of the instrumentalist Copenhagen Interpretation)—the core of the Standard Model of particles and forces of recent particle physics with its Concordance Model Big Bang cosmology—is refreshingly subjectivist in its denial of "scientific" causality and of the classical, Newtonian absolute objectivity of space and time. We see this inherent subjectivity in Heisenberg's Uncertainty Principle, Bohr's Principle of Complementarity, and the quantum wave function  $\Psi$  of Erwin Schrödinger.

Yet unfortunately, the realist physicalist metaphysic of local Scientific Realism and of monistic Scientific Materialism/Physicalism remains deeply embedded in the proto-religion

that is the anti-scientific dogma of ontologically reductionist, fundamentalist "Scientism". Here, everything is assiduously reduced to the mere objective physical; and the sciences and humanities are reduced to mere physics. Our subjective voice—our love, compassion and spirituality—is missed almost entirely. Is this not the tragic cultural legacy of the materialist Western Tradition?

Fortunately, as Physicists, philosophers of physics and cosmology, and Buddhist scholar-practitioners begin to dialogue, the ontic grip of such habitually objectivist "scientific" fundamentalism upon our epistemic access to a profoundly pluralistic reality is yielding to the *ontologically relative* view that is now shared by individuals of the high culture humanities and sciences, especially the philosophy of physics and of cosmology. This ascending, high cultural integral noetic view I have termed the Noetic Revolution in religion, science and culture.

By these lights let us then revision our prodigious, but waning Standard Model intellectual masterpiece. This perforce includes a holistic new look at the magical-mystical trans-empirical metaphysic of our prevailing "scientific" creation myth that is recent post-Standard Model ultra-low entropy Big Bang cosmology—the current Concordance Model—with its utterly *fantasque* dark matter and dark energy—which leaves 95 percent of the physical cosmos utterly unexplained!

We then take a fresh look at the Planck nature of space-filling zero point vacuum energy (ZPE, quantum foam) that is Einstein's diaphanous cosmological constant  $\Lambda$ , mystical dark energy itself. We shall in this connection consider the mainstream Big Bang state problems, or paradigm busting "puzzles", as Thomas Kuhn would have called them. Just what is it that banged; how and how did it bang; what happened before it banged; and were there prior (or present) multi-bangs? We shall here explore the philosophy and physics of time.

**Toward a "post-empirical" science of matter, mind and spirit.** Let us now embrace the emerging post-empirical world of highly speculative physical and cosmological exploration; even when such conjecture is in principle beyond our objective epistemic reach. Let our epistemic reach exceed our current empirical grasp; for example, the highly conjectural but urgent post-cosmocentric multibang multiverse.

Human beings cannot be privileged observers of the cosmos. It seems that this non-logocentric Copernican Principle continues into the very depths of timeless consciousness-being itself. Human concept-mind, with all its intellectual virtuosity, is mediocre beside the nondual primordial wisdom that abides inherently, always at the heart of the human being. The knowing this is Wisdom Mind. Or so the wisdom masters of our great wisdom tradition have told.

Perhaps the Oracle of Delphi was correct when it pronounced Socrates the wisest of all earthly beings. He is wise beyond measure, because he knows relatively that ultimately, he knows not. That is, he understands the cognitive limit of human relative, objective, quantitative, conceptual knowing. He understands that our quest for mere objective certainty is illusory; that we have the inherent capacity for a yet more profound trans-rational, wisdom (*The Timaeus*), beyond the atavistic darkness of our middle Platonist cave of ignorance. Our

human trans-conceptual nondual contemplative wisdom traditions—Buddhist *Dzogchen*, Kashmiri Shaivism, *Advaita Vedanta*, *Saijojo Zen*—are cases in point.

So let the emerging noetic resolution to the scientific "problem of demarcation" demarcate not only science from pseudo-science, but as well, let it adjudicate between old paradigm positivistic science and new paradigm post-empirical, post-Popperian relaxed scientific testability criteria. Let naturalness and explanatory elegance suffice in the face of the inherently vexed scientific metaphysical conundrums that admit of no empirical testability nor experimental, observational or logical proof; as evidenced in, for example, post-Standard Model multiverse theory, and Superstring/M Theory.

The intrinsic limit of semiotic language, of dualistic, binary discursive mind must not restrain our subjective, intuitive, introspective trans-rational innate capacity to know that which transcends our small conceptual web of belief. So let us transcend our cognitive uncomfortable comfort zones, and in fear and trembling explore and practice trans-conceptual contemplative noetic knowing and explanation, as Mahayana Buddhism has done.

But God deliver us from the hubristic pixie dust of pop "scientific" mysticism (e.g., *What the Bleep do We Know*), and from "pop *Dzogchen*" pseudo wisdom, and from a contrived and impudent, logically impossible purely physicalist Theory of Everything (TOE). Again, from the epistemology you choose, arises the metaphysics you deserve (and vice versa).

Hence, we shall herein explore the logical and empirical possibility—or impossibility—of a physical/material "Theory of Everything." We shall see that Kurt Gödel's two Incompleteness Theorems (1931), with the greatly enhanced Gödel-Rosser Theorem (1936), demonstrate that a physicalist/materialist TOE,—besides its inability to produce the perfect omelet—is not mathematically, logically, or empirically possible. It is here that I shall criticize, as have many others, the alienating, destructive result of Modernist Enlightenment, determinist, reductionist, mechanistic, "Metaphysical Scientific Materialism/Physicalism which has nearly entirely colonized the Western mind and lifeworld in a lubricious orgy of narcissistic consumerist greed.

Thus shall we revisit the postmodern, pragmatic and perspectival *ontological relativity* of Nietzsche, James, Peirce, Bohr, Gödel, Quine, Wittgenstein, Derrida, Wheeler, Bell, Kuhn, Rorty and the Neo-pragmatists, Fuchs and Quantum QBism. We shall, as well, probe the very pragmatic Zen mind of premodern Zen master Dōgen, and a centrist Buddhist "Two Truths" *Madhyamaka Prasangika* anti-essentialist, relativised, observer-dependent middle way Realism.

We've seen that this centrist Buddhist middle way between substantialist, eternalist absolute existence, and idealist, nihilist non-existence holds that the world is indeed real, just not absolutely or intrinsically real. How then is it real? Once again, on this interdependent (*pratitya samutpada*), ontologically relative view, and in agreement with Quine, Wittgenstein, Bohr and other postmodern views, the world is real by way of our preconscious deep cultural background "global web of belief" (Quine 1969), that is to say, by our habitual semiotic/linguistic perceptual, conceptual and belief imputations and designations (Chomsky 2002). What we think and believe is what we get, for better or worse. Ontological relativity indeed.

And all of this toward a phenomenological, post-Kantian, post-materialist, noetic reconstruction and unification of our two knowledge paradigms, exoteric objective Science and esoteric subjective Spirit. We shall see that, so far from the ostensible incommensurability of Science and Spirit/spirituality, these two paradigms are a necessary requisite prior ontic unity. Let us then recognize this unity, moment to moment; "brief moments, many times", and be really smart, and truly happy. As Buddha told, "Don't believe what I teach; come and see".

**Gravity behaving badly: post-empirical quantum spookiness.** Isaac Newton—"the greatest and rarest that ever arose for the ornament and instruction of the species" (Hume), considered his great theory of gravity (G)—"action at a distance"—to be an "Absurdity", beyond all conceptual elaboration, explanation and understanding. This troubled the great master to no end. Indeed he finally bequeathed his beautiful gravity to posterity confessing "*hypotheses non fingo*" (I do not venture hypotheses).

Three hundred years later, even after Einstein's General Relativity tweaks, great gravity, this most perplexing creator and destroyer of worlds, still remains an utter mystery. Einstein labeled it "spooky action at a distance" in his effort to relate it to Bohr's quantum theory.

Perhaps, in due course, that prodigious unification of the gravity (G) of Newton and Einstein with quantum field theory (QFT, QED) shall illumine some of nature's conceptual absurdities. In any case such a quantum gravity theory is now Science's ultimate grail quest, and the final consummation to be wished for gravitational physics and cosmology.

The great Scots polymath David Hume told that this gravity "absurdity" of Newton's has "restored nature's ultimate secrets to that obscurity in which they ever did, and ever will remain". Hume and Kant were among the first to recognize this limit of the Enlightenment ideal of "pure reason"; the limit of human discursive conceptual mind. Ah, the wisdom of uncertainty.

In this regard we shall explore a promising new post-Standard Model anti-realist quantum interpretation from a philosophically recalcitrant Stephen Hawking with his "Model Dependent Realism" or MDR (*The Grand Design* 2010). Hawking here abandons the *observer/theory-independent* orthodox Scientific Realism (a RWOT) of his justly famous *A Brief History of Time*, for a healthy, ontologically relative, proto-Buddhist centrist *observer/theory-dependent Realism*. Here, reality depends upon our theoretical conceptual "models", that is to say, our concepts, theories and beliefs about it, not upon an absolute, permanent, observer-independent RWOT.

In short, Hawking's scientific ontology is relative to, and dependent upon the perceptions, language and beliefs—Quine's "global web of belief"—of the consciousness of a participating observer/model/theory fabricator. Orthodox scientific realist Hawking, and the ontological interdependence of Buddhist epistemology—strange bed-fellows indeed! Religion and Science together at last. What hath God wrought!

Furthermore, we shall see that it is not philosophy (the unity of love/*philo* and wisdom/*sophia*) that is "dead", as a philosophically naive Hawking claims. (Shakyamuni

Buddha told that the secret of human happiness is the realization and compassionate expression of the prior and present *unity* of love and wisdom.) Hawking has inveighed against what he believes to be philosophy for forty-five years. Yet his own "Model Dependent Realism" is *ipso facto* a philosophical position, namely a species of Philosophical Realism. Let us hope that this very interesting MDR metaphysic of his is not so facilely pronounced dead. Perhaps it would be useful for scientists of all ideological persuasions to understand that philosophical analysis is inherent in all peer reviewed theoretical effort. Indeed, it is present in each of our value judgments as to goodness, beauty and philosophical/scientific, even religious ultimate truth. "I am now convinced that theoretical physics is actually philosophy" (gravitational and quantum physicist Max Born). For better or worse, philosophy as metaphysics is here to stay.

Historically, science has always been a branch of philosophy. Now, science, especially physics, cosmology and mathematics need the intervention of professional philosophers of physics, cosmology and mathematics to logically unpack and discipline prevailing theoretical models, particularly where physics and cosmology must necessarily, inevitably engage metaphysics/ontology, as to the very nature of both relative and ultimate reality itself. And here syncretic Buddhist Middle Way philosophy of mind can contribute.

As philosophy is exoterically the love/*philo* of wisdom (*sophia*), and esoterically the prior ontic unity of love and wisdom, we can expect it to continue to play a seminal role in explicating and synthesizing Big Science's amazing feats of unification—and away from the dualistic hierarchies of old paradigm "scientific" reductionism.

For example, post-Standard Model Multiverse theory, and Superstring/M Theory are metaphysical/ontological assumptions (ontology is metaphysical conjecture about "what exists"). And of course, the quantum theory, in all of its 20 or so atavistic vestiges—even the instrumentalist tactic of the foundational Copenhagen Interpretation—are necessarily philosophical assumptions about ontology, what ultimately exists, the nature of reality; of being itself.

Let us recall again that the very nature of being itself, reality itself, admits of no empirical proof; no deductive nor inductive certainty, though we might wish, and argue as if it did. There is, nor can there be, any logical nor empirical proof for any of it, try as we may.

Philosophers of physics and cosmology agree, the foundational assumptions and ideologies of prodigiously resourceful and constructive science—not to mention philosophy—are metaphysical (beyond physical) assumptions! That the ultimate nature of our appearing realities is merely material/physical (Materialism/Physicalism), or that it is only mental (Idealism), or that it is a nice amalgam of these two (Neodualism)—these are all post-empirical metaphysical presumptions.

Perhaps the incipient collegial alliance of newly cooperating scientists and philosophers of science shall avert some future discomfiting errors in scientific reasoning. The history of science is replete with them. Let's remember that science and philosophy are not, and should not be competing disciplines. Indeed they are, and have ever been, an epistemic unity. So let

scientists, and philosophers of science, and Buddhist scholar-practitioners dialogue over pizza and ale.

Therefore, "scientific" reports of philosophy's death have been greatly exaggerated. But what *is* dead is nearly 2400 years of the culturally received metaphysic of Platonist/Christian Foundational Realism (Augustine), which is Scientific Local Realism, and its ontic cohort Aristotelian monistic Scientific Materialism/Physicalism (Thomas Aquinas). The great 20th century mathematician-philosopher Alfred North Whitehead has told us correctly that "The history of modern philosophy is a footnote to Plato".

With the 20th century advent of the postmodern, non-objectivist quantum theory all of this has changed. Indeed, it is "old paradigm" Scientific Realism and Scientific Materialism with its proto-religious fundamentalist Scientism—derived as it was from now defunct Logical Positivism—that must now be surrendered (*wu wei*) to the theme of that next more inclusive, yet ever incomplete knowledge paradigm. After all, as Thomas Kuhn (1961) pointed out, is not the end stage of any paradigmatic "global web of belief" the prelude to that next elusive, more inclusive, yet ever incomplete knowledge paradigm?

The emerging noetic knowledge paradigm transcends, yet includes the previous paradigm. We shall explore this dialectal structure of scientific and spiritual revolutions in some detail.

Just so, our three scientific knowledge revolutions—Copernican, Newtonian, and Relativistic/Quantum—have abundantly demonstrated this Kuhnian sociological truth. We shall see that our next scientific cultural revolution—an integral noetic revolution—is an ontologically relative middle way between these paradigmatic Two Truths that are our culturally received exoteric objective and esoteric subjective reality experience. And from such fluent cognition shall spring, in due course and by grace our Fourth Scientific Revolution in physics, cosmology, philosophy and culture—complete with that knowledge desideratum devoutly to be wished—a mathematically consistent quantum description of Einstein's gravity. Such a view may well be grounded in a "QBist" version of Boltzmann's entropy formula  $S = k \cdot \log W$ , an equation equal in importance to Einstein's  $E = mc^2$ , although not quite as famous.

Alas, do we not limit ourselves most by our emotional grasping and attachment to, and defense of our current paradigmatic, cherished "global web of belief"? Is it not our urgent knowledge imperative to evolve beyond mere habitual conceptual theory to a post-rational, post-critical, middle way neo-realist, centrist noetic understanding? Most philosophers of physics and cosmology now understand this. Let us then practice the radical skepticism that cognitively "brackets", suspends or mitigates our own well defended concept/belief systems, that we may intellectually, emotionally and spiritually grow beyond them; unify them.

Again, we shall see that causal Buddhist middle way *Madhyamaka*, and acausal *Dzogchen* view and praxis have much to contribute to this urgent evolutionary epistemic process that is an integral understanding of that wondrous noetic doublet, the prior epistemic and ontic unity of immanently commensurable science and spirit/spirituality. New paradigm indeed.

We shall then visit some recent problematic developments in philosophy of physics and philosophy of cosmology. These are mainly epistemic problems arising from our "taboo of subjectivity" (Alan Wallace) that results in our refusal to non-objectively tweak either Einstein's objectivist understanding of gravity, or the sacrosanct but inherently vexing subjectivity of Quantum Electrodynamics (QED), or both. Perhaps it is time (if there is any time) to surrender our bias for an objectivist interpretation of inherently subjective QED.

These Kuhnian "puzzles" include cosmology's pressing problems as to the origin and fate of the universe, including philosophy of time, and time's entropic arrow; the spooky, mystical zero point vacuum energy (ZPE) dark energy conundrum that is the problem of the cosmological constant; the several Big Bang state problems, including the problem of the ultra-low entropy of a pre-inflationary Big Bang cosmos; cosmic inflation itself; and the now nearly orthodox view of a super-spooky post-empirical infinite multiverse—a preposterous ensemble of utterly trans-empirical, non-falsifiable "bubble", "baby" or "pocket" universes.

Adding insight to injury, we shall briefly survey the post-Standard Model supersymmetry, Superstring/M Theory; "ontic structural realism"; then on to post-quantum Quantum Bayesianism (QBism, Fuchs 2013) which offers a subjective, centrist, "personalist" and realist Bayesian probability theory rescue of the nearly century old, prevailing instrumentalist Copenhagen Interpretation of the quantum theory from its maddening logical paradoxes, including Schrödinger's neo-orthodox infamous inscrutable cat.

After 2400 years of Western logical intellectual endeavor, postmodern QBism places the long neglected, always epistemologically and phenomenologically removed knowing subject—the ontologist philosopher and the empiricist observer-scientist—back into the ontologically relative scientific subject-object knowledge equation, where she/he inherently belongs.

**Toward a quantum theory of gravity.** First, let's understand that physics cannot provide metaphysical explanation as to the actual ultimate nature of matter. Rather, physics describes the *behavior* of matter in a causal matrix of space and time. The domain of physics describes what matter does, not what it is. That physics practitioners conflate these two has resulted in all manner of misleading and discomfiting presumptions. So let us be vigilant to this crucial distinction as we explore great gravity's effect upon matter. A cognitive misstep may protract or derail our noble grail quest for a mathematical quantization of gravity.

The above noetic, self-reflexive quantum knowledge breakthroughs portend a revolutionary resolution to physics' and cosmology's primary conundrum, namely, the perennially vexed problem of a *quantum theory of gravity*. In short, there exists a present mathematical incommensurability of the two epistemic pillars of theoretical physics and cosmology, namely, relativistic quantum field theory (QFT, QED), the world of the very small, with Einstein's General Relativity Theory (GRT) of gravity, the intergalactic world of the very large.

After all, the furthest and innermost reaches of gravity—the great creative and destructive force of the cosmos—is quantum in nature. Indeed, *everything* of physical reality is

quantum in nature. All matter, micro-particles to galactic large scale structure, has a gravitational field and gravitational affects. And this all is quantum in nature.

Cosmologists and particle physicists agree that GRT is incomplete insofar as its capacity to describe this quantum nature of reality at the micro-particle scale. Just so, relativistic quantum field theory is incomplete in that it cannot provide a mathematically consistent quantum field description of Einstein's Riemannian/Ricci curved spacetime. Clearly, QED, GRT or both need a qbit of philosophical tweaking.

We shall in this regard revisit Mordehai Milgrom's heretical, but not easily dismissed Modified Newtonian Dynamics (MOND). MOND tweaks Newton's  $G$  term in Einstein's sublime General Relativity field equations eliminating the need for dark energy models with their utterly preposterous fine-tuning requirements. Thirty years of research have failed to disprove MOND; and it "has predictive power equal to dark sector models which have problems of the same magnitude as MOND" (Jacob Bekenstein).

Perhaps the really hard problem of gravity is a sociological one. This concerns the usual taboo upon considering *any* modification to sacrosanct General Relativity, the primary pillar of the prevailing Concordance  $\Lambda$ -CDM Big Bang Standard Model of cosmology; our best hope of salvaging the dualist Platonist/Cartesian ideal of local Scientific Realism, a separately existing, only physical "real world out there" (RWOT).

Yet, the future of particle physics and physical cosmology rides upon this prodigious unification of GRT and quantum theory. We must have a new integral theory that quantizes great gravity, this enigmatic creator and destroyer of worlds. And of course this requires GRT modification, and probably, as Roger Penrose (2004) proposes, QFT/QED tweaks as well. We must have a quantum understanding of Newton's gravitational constant  $G$  in Einstein's GRT field equations. And yes, this grand desideratum portends our incipient noetic Fourth Revolution in physics and cosmology—the emerging Noetic Revolution that is now upon us. Let us then throw off the pernicious parochial yoke of "theory confirmation bias" (we believe it because it's habitually familiar) and open to receive a qbit of noetic consciousness wisdom.

As to this uneasy alliance of these two monumental pillars of physics' Standard Model of particles and forces—QED and GRT—no physics dialogue was ever so intelligent and exotic as Einstein's thirty year debate with Niels Bohr, a founding father, as was Einstein himself, of the utterly *fantasque* subjectivist quantum theory. We shall indulge a bit of it.

**In the beginning was the wave function  $\Psi$ : making sense of "spooky" quantum entanglement.** In Chapter VIII we shall see that Einstein's main problem with the evolution of the quantum theory that he helped to found and develop was the surrender of the Principal of Causality, the essential scientific logic of cause and effect. Einstein's inner local realist profoundly disagreed with the relativity violating nonlocal "spooky action at a distance" required by the acausal or non-causal antirealist, instrumentalist view of the quantum Copenhagen Interpretation of Bohr and Heisenberg. Pauli referred to this radical acausal random ontology as "lucid mysticism". And Einstein refused to believe that some physical events are uncaused; and that the properties—for example electron spin—of subatomic

particles of physical matter are indeterminate, that is, that they do not exist until observed and measured—the notorious "quantum measurement problem".

Quantum mechanical action that exceeds the Special Relativity light speed limit? Utterly random uncaused particle decay? The ostensible Schrödinger, von Neumann, Wigner wave function collapse/reduction from a superposition of many virtual eigenstates to a single "objectively real" eigenstate at the instant of an observation or measurement by a sentient consciousness? This all points to a view of nature as inherently stochastic, indeterminate and (Gasp!) conscious; an exceedingly sticky wicket for four hundred years of hitherto determinist, realist, physicalist Modern physics. Quantum uncertainty has infected the good common sense of imperious empirical Science! Spooky indeed.

At one point in the protracted Einstein-Bohr debate the inveterate scientific realist/determinist Einstein is said to have exclaimed, "God does not play dice with the world!" Bohr purportedly replied, "Oh Einstein, stop telling God what to do."

Surely, Einstein thought, there must be some "hidden variable", something that is not utterly random and acausal that could determine or cause such spooky antirealist nonlocal particle behavior, and thereby save the prodigious Principal of Causality upon which the entire edifice of physical science, and "common sense" reality is founded. As Plato might remind us, "No small matter is at stake". The entire endeavor of science, even human rationality, is at stake.

The scientific realists were here desperate for a strategy to refute Bohr's antirealist, *observer-dependent* view that spacetime reality does not exist until its wavelike ( $\Psi$ ) quantum "superposition" is collapsed into a particle-like "real" objective physical event via a measurement by an observer/experimenter; that is to say, by a perceiving consciousness. Einstein's cherished belief/bias was cognitively entrenched in the realist, *observer-independent* physical existence of a separate, objectively real world out there ("RWOT"). There *must* be a way. Philosophical, ontological, local realism versus nonlocal antirealism. This perennial debate is now no longer at the margin of philosophical inquiry. The Einstein-Bohr Debate is continues today as an urgent philosophical debate.

The Einstein-Bohr plot thickens. Enter, stage right, the 1935 Einstein, Podolsky, Rosen (EPR) thought experiment. It was here argued that the spooky mechanism of nonlocal "quantum entanglement" of spacelike separated electrons necessarily implies that the quantum theory is an incomplete ontology as to the actual ultimate nature of physical reality.

Was Einstein right? As the question is a post-empirical metaphysical one, it admits of no empirical, logical or mathematical proof. So don't even think about it! Yet history has come down on the side of Bohr. How?

In 1964 Irish physicist John Stewart Bell set out to prove Einstein right as to such hidden variables. However, his definitive mathematical analysis (Bell's inequalities) of the EPR argument proved, to everyone's surprise, that no mechanism of "local hidden variables" could be logically consistent. No theory of *local* realism can be tenable! Bell proved that there must indeed be super-luminous (faster than light) connectedness between "spacelike separated" spacetime objects in the vast universe of inquiry that is nothing less than spacetime itself.

Then, in 1984 French physicist Alain Aspect, and later many others, have demonstrated that any logically possible hidden variable is mathematically precluded. Therefore, the infamous "spacelike" separated electrons of EPR's great "locality" hope can have no spin prior to an observer's measurement. More recent research (2015) has again supported this heretical antirealist conclusion (Ronald Hanson, Kaull Institute, arXiv.org).

So Einstein was wrong, Bohr was right, God does play dice with the world, and that is the end of the matter. Or is it? If we surrender the obsessive "scientific" metaphysic of the purely objective physicalist local realism belief paradigm (H. Putman's "view from nowhere"), a new centrist middle way paradigm dawns. We shall see that the Two Truths view—objective form, perfectly subjective emptiness (Buddha's "Form is empty; emptiness is form)—of Buddhist *Madhyamaka Prasangika* suggests such an ineluctable unitary mean that is nothing less than a middle way centrist epistemological Realism.

We shall conclude that Einstein was right about at least one thing. The vexing paradox of the "quantum measurement problem" renders the Copenhagen Interpretation of quantum theory an incomplete ontology of physical reality. This of course was Einstein's intent from the beginning.

In any case, we shall herein enjoy a bit of spooky quantum fancy in the hope of taming the wild horse of discursive scientific mind; and perhaps thereby do some ontological good.

And what of fiendishly vexing quantum gravity, Wheeler's "Great Smokey Dragon" that cognitively precludes our mere objective understanding?

Some recent theorists have suggested that gravity is essentially a spacetime expression or result of Boltzmann's entropy formula—the second "law" of thermodynamics where entropy, a measure of matter's microscopic, sub-molecular disorder, cannot decrease. It is entropy—particularly the ultra-low entropy of the very early universe—that is responsible for time's seeming asymmetry, our experience of Arthur Eddington's one way Arrow of Time. We remember the past, but not the future. Humpty Dumpty's affliction is inherent in the spacetime dimension of form. So, is gravity's inscrutable macrocosmic nature ultimately reducible to a microscopic entropic force? (Verlinde, arXiv.org). Is the long sought desideratum that is quantity gravity near at hand? We shall explore.

With the advent of the emerging 21st century post-postmodern ontological relativity paradigm in science and culture we shall witness the gradual surrender of the old Modernist Enlightenment paradigm with its big money, "Big Science" orthodoxy. This anachronistic, obsessive, theory-independent, observer-independent purely objectivist ontology—the phenomenologically impossible "Gods eye view", or "view from nowhere" of foundational scientific Realism and monistic Materialism/Physicalism is no longer tenable.

Monistic Metaphysical Scientific Materialism/Physicalism is a failed ontology as to the ultimate nature of not only appearing physical cosmos, but as well of the trans-physical noetic body-mind-spirit unbounded whole that is ultimate reality itself, *kosmic* primordial ground of the whole shebang in which, or in whom this all arises.

We have seen that this amounts to a Kuhnian scientific paradigm shift and an academic and scientific surrender to our emerging noetic theme, not of observer-independent, but of the

interdependent ontological relativity of Middle Way Buddhist philosophy; and its completion in panpsychic/cosmopsychic *Dzogchen*.

**"Something that we all have missed"**. At the end of his magnificent epic of 20th century physics and cosmology—modestly designated, *The Road to Reality: A Complete Guide to the Laws of the Universe*—Roger Penrose poignantly laments our present lack of understanding of that most profound mystery of all, to wit, gravity, Big G, the very key to our knowing of relative, physical spacetime reality itself. "...Our present-day theories are powerless to describe (it)...we shall need powerful new ideas...a radical conceptual renewal...perhaps what we mainly need is some subtle change in perspective—something that we all have missed...." (Penrose 2004, p.1045).

Perhaps what "we all have missed" by our obsessive grasping at the descending merely objectivist, observer-independent realist/materialist/physicalist knowledge paradigm—with its existential dread of subjectivity—is the "powerful new idea...the subtle change in perspective" provided by this emerging holistic noetic ontology of science—what the inherently subjective nature of the quantum theory has pointed to all along—namely, the ascending observer-dependent, theory-dependent, interdependent ontological relativity paradigm in science and culture as described above.

In short, what "we all have missed" is a centrist, unifying middle way between the inherent objective and the subjective voices of human cognitive life, of our understanding, the prodigious next step in scientific unification that is none other than a paradigmatic noetic unification of Science and Spirit.

We've seen that this waning conceptual paradigm that is the current failed ontology of Science, especially physics and cosmology, is a metaphysic of positivist, objectivist, even proto-religious fundamentalist Scientific Realism, and a monistic Scientific Materialism (Appendix I, "The Idols of the Tribe"). Scientific ideology must now soften, or even surrender its habitual physicalist, absolutist belief in its grail quest for absolute objective certainty, to the emerging theme of ontological relativity as suggested in the fluent nominalist perspectives of Bohr, Quine, Gödel, Kuhn, Bell, Wheeler, Nagel, Chalmers, Buddhist Middle Way *Madhyamaka* epistemology, Dōgen's entoxic Zen ontology, and H.H. The Dalai Lama's *Kalachakra* tantra view of time and cosmology. We shall in turn engage some of these ontologically relative views. I shall argue that it is from such a syncretic unifying methodology that the new integral paradigm in Science shall arise.

We'll then see just how it is that this objectively softened, ontologically relative, post-Standard Model science and philosophy profoundly furthers both conventional human flourishing, but as well, our ultimate liberation from the narcissistic self-ego-I grasping and hostility that is ignorance (*avidya*), the root cause of human suffering and human evil. We shall explore the idea of "no self", the perennial view that a permanent self-ego-I existing through time is utterly illusory. Here we shall query Hume, Kant, Buddhist Middle Way *Madhyamaka* epistemology, and the "selflessness" view of philosopher of mind Derek Parfit (*Reasons and Persons* 1984).

*A robust, integral noetic science of matter, mind and spirit must utilize the phenomenological "doublet" of both objective third person exoteric quantitative Science, and subjective first person interior, introspective, esoteric qualitative spirit/value methodologies.*

Such an integral noetic research program is required to guide our evolution—that cognitive procession of preconscious, conscious, and supraconscious experience—individually and thereby collectively through the ascending life stages of human psychological/emotional/ spiritual development. The end point of this evolutionary process is nothing less than the awakening or liberation of the individuals of our species; which is to say, in due course and by grace, the long deferred nativity of *homo gnostica*, an ever imperfect bright new species. A really big picture indeed. Perhaps it is this premodern wisdom—our very indwelling Wisdom Mind—"that we all have missed".

**Toward an integral, noetic science of matter, mind and spirit.** I have here and elsewhere referred to this evolutionary reformation in religion, science and culture as the emerging Noetic Revolution of the 21<sup>st</sup> century. This evolutionary process—and its relative flourishing, and even ultimate human happiness result—liberation, enlightenment—shall herein be our ultimate concern.

Hence, such a non-androcentric, integral noetic science requires the perennial cognitive dialectic (*pramana*) of both objective reason (*doxa, vikalpa, anumana*), and subjective yogic direct perception (*yogi pratyaksa*) of, and mindfulness meditation (*shamatha, sati, bhavana*) upon our indwelling inherent (*sahaja*) nondual primordial awareness-consciousness wisdom (innate *gnosis, sahajajnana, yeshe*). And That (*tat, sat*) is the very *ultimate* nature of mind, luminous emptiness ground, ontic basis and ground of human consciousness, our *relative* mind. How shall we accomplish this?

As suggested above, these two intertextual complementary knowledge paradigms—these perennial "Two Truths", objective relative and subjective ultimate—together enhance the mundane, everyday practice of the relative socio-cultural and "spiritual" path to the recognition, then realization of our "supreme identity" with that primordial, perfectly subjective basal ultimate reality ground.

The primordial teaching is this: we the parts, are not separate but indivisible from That, the holographic, all-embracing unbounded whole itself. Once again, by the lights of our primordial wisdom traditions, that prior ontic unity is who we actually are, our "supreme identity", beyond our mere physical, mental human being here in relative space and time.

Be that as it may, it is this numinous, post-empirical primordial base (*gzhi rigpa*), "supreme source" or spacious "groundless ground" (*dharmadhatu*)—the "always already" present Presence of that—in which, or in whom all descending spacetime relative things and beings arise and participate.

"Form is empty; emptiness is form. Form is not other than emptiness; emptiness is not other than form" (Shakyamuni Buddha's *Heart Sutra*). Is this integral denouement not abundantly obvious? Such is the prodigious and compelling "logic of the non-conceptual" (Klein 2006) of the radically nondual *Dzogchen* and Essence *Mahamudra* views.

Once more, relative, objective, empirical, physical spacetime matter and its trans-conceptual, non-rational (but not irrational) perfectly subjective ground—*these primordial two truths—*are, to contemplative, and even ordinary cognition, simply one truth, an ontic prior unity, invariant through all of our binary cognitive reference frames—our enduring state and trait changes—objective and subjective; preconscious, conscious and supraconscious; exoteric outer, esoteric, and nondual; egocentric, worldcentric, and theocentric.

Yes, on the profundity of the greater esoteric and nondual view of our premodern nondual wisdom traditions this—realization and its spontaneous effortless actualization in everyday lifeworld kind compassionate conduct—represents, through cause and effect (karma), step by step—our relative, but also ultimate individual and collective meaning that is ultimate great happiness itself (*mahasuka, paramananda, ultimate eudaemonia, beatitudo*), the human happiness that cannot be lost. Indeed, has this not been the ultimate concern of our great wisdom traditions from the very beginning?

**What to do?** As Shakyamuni Buddha told, "*What you are is what you have been; what you will be is what you do now*". As good a picture of cause and effect/karma, as ever was told. And yes, the understanding and compassionate expression of this profound truth of reality requires the establishment of a contemplative mindfulness practice, under the guidance of a qualified master. We listen to the wisdom injunctions of those who know. The masters and *mahasiddhas* of "the three times" (past, present, future) have always told it: the very secret of human happiness lies in the recognition of this prior unity of the Two Truths—relative and ultimate—then thought, intention and action for the benefit of all beings. On the accord of H.H. the Dalai Lama, "If you wish to help others, begin with yourself". So arise, and do some good.

In other words, our genuine happiness lies in selfless, wise, kind compassionate service toward others in order to reduce the suffering, and enhance the happiness of beings. "We are happy when we can bring others to happiness" (Jay Garfield). By this light we shall explore this great primordial wisdom injunction in some of its socio-cultural, scientific and spiritual raiment.

So let us now engage our two ostensibly incommensurable knowledge paradigms—objective Science and subjective Spirit—so that we may better understand their "already accomplished" coming to meet in this 21st century Noetic Revolution that is now upon us.

A billion stars spin through the night  
blazing high above your head.  
Deep within us is the Presence that  
will be, when all the stars are dead.  
— Rainer Maria Rilke

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