

Article

The Myth of Mind-Independent Reality & the Metaphysics of Nondual Epiontic Quantum Mindnature

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Abstract

In this paper I shall argue that the notion of the ‘existence’ of a ‘Mind Independent Reality’ (MIR) is ill conceived if one understands this concept as indicating that there is some ‘ultimate’ or final aspect of reality which is absolutely and totally beyond the mind’s comprehension or experience. By elucidating the central features of the Buddhist Mind-Only metaphysical account of the operation of the ‘three natures’ of fundamental Mindnature in the context of modern quantum physics and quantum field theory I set out to show that a ‘Metaphysics of Nondual Epiontic Quantum Mindnature’ provides a comprehensive and exhaustive account of the process of reality; an account which has no room or necessity for a mind-independent reality (MIR).

Keywords: Mind independent reality, mind dependent reality, Mindnature, Yogacara, Cittamatra, Mind-Only Buddhism, Madhyamaka, Middle Way Buddhism, Nonduality, two truths, two realities, three natures, emptiness, inherent existence, epiontic paradigm, quantum Darwinism, quantum field theory, nondual quantum duality, Nagarjuna, Vasubandhu, Zurek, Stapp.

In this paper I shall argue that the notion of the ‘existence’ of a ‘Mind Independent Reality’ (MIR) is ill conceived if one understands this concept as indicating that there is some ‘ultimate’ or final aspect of reality which is absolutely and totally beyond the mind’s comprehension or experience. Such a view seems to be implied, for example, by the use of the term ‘Mind Independent Reality’ (henceforth referred to as MIR) as opposed to ‘Mind Dependent Reality’ (MDR) by Ram Lakhan Pandey Vimal (Vimal 2010, 2011) in his various expositions of what he calls the ‘Dual Aspect Framework’ (DAM), which appears to be a metaphysical doctrine which asserts the existence of an unknowable reality lying beyond and inaccessible to all conceptual formulations. Thus Vimal appears to question the view held by many physicists that quantum physics provides us with an ‘experimental metaphysics’ (Shimony 1984) that reveals an ultimate aspect of reality. Thus Vimal asserts that:

MIR is unknown, but physics assumes MIR~MDR, which is debatable.¹

The symbol ‘~’ indicates approximation.

There many examples of contemporary physicists who, contrary to Vimal’s position, do consider that who do consider the results now uncovered by physics are indicative of something ultimate concerning reality. Thus Henry Stapp is quite clear that we must consider that Cartesian-Newtonian type matter does not exist in nature and reality is mind-like:

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There is, in fact, in the quantum universe no natural place for matter. This conclusion, curiously, is the exact reverse of the circumstances that in the classical physical universe there was no natural place for mind.²

On this view, which indicates that in a quantum universe the ultimate nature must be mind-like, it would seem that the notion of a MIR can only lead to an oxymoronic mire of confusion.

Furthermore Vimal seems to consider that his MIR is inaccessible, or partially inaccessible, to any 'mystical' or meditational state, however refined, a view which is contrary to the claim that Buddhism makes that the ultimate nature of reality can be directly known within experience for an enlightened being. Thus when discussing the nature of 'Reality' Vimal writes that:

It is good idea to define the term before using them to avoid confusion for readers. Which reality you have in mind: CMDR, (our daily conventional mind dependent reality), UMDR (samadhi state ultimate MDR where subject and object unify), or MIR (mind independent reality which is unknown or partly known via CMDR and UMDR because mind is also a product of Nature)?³

The terminology used here is indeed leading into a mire of confusion, does it really make sense to speak of a MIR which can be 'partly known' by mind, surely that bit of the MIR would not actually be MIR!

The terminology used by Vimal in the above observation is derived from Buddhist philosophy which asserts that Reality has two ontological natures ('truths' or 'realities') – *samvrti-satya*, the 'conventional' or 'seeming' nature, and *paramartha-satya*, the 'ultimate' nature. Vimal is using this distinction in his use of the terms 'Conventional Mind Dependent Reality' (CMDR) and 'Ultimate Mind Dependent Reality' (UMDR). Vimal, however, adds a third nature, MIR, which does not fit into this particular Buddhist metaphysical perspective, which is the *Madhyamaka* or 'Middle Way' metaphysical perspective. But, by what I imagine is a strange coincidence, Vimal's proposal is reminiscent, when properly rectified, of the Buddhist *Cittamatra* (pronounced and sometimes spelled as 'Chittamatra') or 'Mind-Only' analysis of the metaphysical structure of reality into 'three natures', which we shall examine later.

The two *Madhyamaka* aspects, the 'conventional' (sometimes referred to as the 'seeming') and the 'ultimate', are often called the 'two truths' but are more appropriately termed the 'two realities'. In his elucidation of this issue the Buddhist philosopher and translator Karl Brunnhölzl refers to 'the pervasive and unquestioned, but nonsensical, renderings "the two truths" or "the four noble truths"'⁴ and he quotes from the *Sravakabhumi* (roughly speaking 'Sravaka' = hearer and subsequent realizer of the Buddha's doctrine, 'bhumi' = mode or ground of experience, so this text is an elucidation of the experience of those who have put the Buddha's doctrine into practice and then directly realized the ultimate nature of reality) concerning the four noble realities (*Dukkha*: the reality of suffering, *Dukkha Samudaya*: the source of suffering, *Dukkha Nirodha*: the cessation of suffering and *Dukkha Nirodha Gamini Patipada Magga*, the path which leads to the cessation of suffering):

You may wonder, 'Why are they the realities of the noble ones alone? They are called 'the realities of the noble ones' because the noble ones, by virtue of these realities being real in that they precisely accord with true reality, realize and see

them in accordance with what is real, whereas childish beings do not realize or see them in accordance with what is real. By virtue of the nature of phenomena, these realities are indeed real for childish beings too, but not by virtue of their being realized by them. For noble persons, however, they are realities by virtue of both being realities and being fully realized as such.⁵

In other words the ‘noble ones’, who are fully ‘realized’ and thereby ‘liberated’ beings, are directly and continuously aware of the true or ‘ultimate’ nature of reality whereas ‘childish beings’ are completely unaware of the true nature of reality. In fact their appreciation and experience of ‘reality’ is upside down in that they mistake happiness for suffering and suffering for happiness:

What the noble ones speak of as happiness
Is perceived as suffering by others
What others speak of as happiness
Is perceived as suffering by the noble ones⁶

This is because enlightened beings have transformed their minds through training to *experience* the way reality really is on all levels (*yathabhuta*) and because of this they naturally experience the deep and profound peacefulness of the unconditioned ground of phenomenon, and the deeply and continuously satisfactory nature of this ground neutralizes the allure of conditioned and fleeting phenomena of the conditioned realm. Another Buddhist text describes the nature of the cessation of craving which leads to the sphere ultimate as follows:

The reality of cessation is the ultimate’s own essence being seen as the actuality of nonorigination since this is how it is seen by the noble ones.⁷

In other words enlightened beings directly see and experience the ‘actuality’ of the ‘ultimate’s own essence, which is the fact that all phenomenon are actually ‘nonoriginated’ precisely because they have no essence of their own which is separate from the ‘ultimate’ nature. Once this ‘reality’, which is the true nature of reality, is ‘realized’ then the phenomena of the conventional, conditioned and ‘seeming’ realm appear as nothing more than irrelevances floating within the vast peaceful nature of the unoriginated ‘ultimate’ nature. Thus the sixth century Buddhist philosopher-practitioner Candrakirti (Chandrakirti) wrote (Manjushri is the Buddha of omniscient wisdom⁸):

Then Manjushri explained to the Buddha that he believed the dreams and imaginings of hellish tortures were equally illusory. ‘And precisely in this sense, illustrious one, did the illustrious Buddhas proclaim their doctrine for beings deluded by ... mis-beliefs. In this world there are no women, men, individuals, eternal souls or persons. All such putative realities are erroneous, unreal and confusing; they resemble a conjuring trick or a dream or an apparition or a reflection of the moon in water. Those who have listened to this teaching of the perfectly realized one look on all things as purged of desire and delusion, that is, as without self-existence and free of false appearance. Such meet their death with their spirits at home in the infinite; after death they will all enter the realm of perfect nirvana.’⁹

Enlightened beings, noble ones, then have actually moved their minds into the unconditioned realm of the ‘unoriginated’ and ‘deathless’ ultimate sphere of reality; in a sense one can say that they inhabit an entirely transformed existential condition because they are ‘at home in the infinite’ and have therefore ‘gone beyond’ the finite. The Buddhist scholar Sara L.

McClintock tells us that for the eighth century Buddhist philosophers Santarakshita (Shantarakshita) and Kamalasila:

Omniscience is not one doctrine among others for these thinkers but rather the highest good and final destination of all those who seriously value and practice rational enquiry.¹⁰

Omniscience in this context should not be construed as knowledge of such items as ‘the number of bugs in the world’ but, rather, a direct knowledge of the nondual nature of the ground of reality. The important point in this overview is that there is no intimation of any MIR beyond the existential condition of enlightened beings; they have found their home in the ultimate.

In his paper ‘Dependent Co-origination and Inherent Existence: Dual Aspect Framework’ (henceforth referred to as DCIE) (Vimal, 2009) Vimal tells that:

Our daily reality is based on our minds and hence it is mind-dependent reality (MDR) or subject-inclusive reality (SIR). Mind-independent reality (MIR) or subject-exclusive reality (SER) is not known- Even then physics assumes that $MIR = MDR$ because physicists assume that laws although derived from human mind are independent of mind. If somehow we understand MIR and its relationship with MDR, we can get insight into subjectivity (subjective experiences or SEs, intentionality, and so on) because subjectivity = $MDR - MIR$.

At the end of our investigation we shall be able to modify Vimal’s equation SE (subjective experience) = $MDR - MIR$ in some detail from the perspective of the Cittamatra three natures analysis; but for the moment it is necessary to point out that were one to accept this equation as being valid then it would require the conclusion subjective experiences have nothing in common with MIR, i.e. there is some structure or aspect of ‘Reality’ which is forever beyond the realm of experience, which would also mean that MIR could not be of the same nature as experience, for if it were of the same nature as experience then it would be within the realm of experience. But if this mind independent bit of reality really were totally beyond experience in such a fashion, then, as it is totally beyond all experience it has nothing whatever to do with experience and thereby nothing whatever to do with *our* reality. Such a ‘reality’ just dematerializes of its own accord.

A consideration of quantum physics in the context of Vimal’s proposal also leads us into some confusion as to the nature of MIR. For if we accept Bernard d’Espagnat’s assertion that for anyone wishing to comprehend or investigate nature of reality, even philosophically, an understanding of the nature of quantum physics and theory is essential¹¹, what are we to make of Anton Zeilinger’s remark about the work of John Wheeler, where he speaks of Wheeler’s:

...realisation that the implications of quantum physics are so far-reaching that they require a completely novel approach in our view of reality and in the way we see our role in the universe. This distinguishes him from many others who in one way or another tried to save pre-quantum viewpoints, particularly the obviously wrong notion of a reality independent of us.¹²

If Vimal’s notion of a mind independent reality is valid then what becomes of Zeilinger’s conclusion, drawn on the basis of quantum theory that the “notion of a reality independent of us” is “obviously wrong”? Someone must be wrong!

In his exposition of dual aspect monism Vimal seems to conceive of subjective experiences (SEs) as almost atomic bits of reality which eternally exist in potentiality as Potential or Proto Experiences or PEs). Indeed he leaves the distinction between PEs and SEs strangely ambiguous. We are told that they have a dual aspect in that they have a mental aspect and material aspect ‘glued’ together in some mysterious fashion. In his response to a critique of his perspective, which suggests that Vimal’s viewpoint requires that “proto-self awareness ... exists simply in itself, free floating in the universe, disembodied, not necessarily attached to any living thing,”¹³ Vimal writes:

In my dual-aspect dual-mode PE-SE framework ... (i) potential SEs pre-exist in *superposed* form in the mental aspect of each entity ... or SEs can be derived from a PE and 3 gunas ..., (ii) all things are carriers of potential SEs in superposed latent unexpressed form, which is different from ‘all things have experience’, and (iii) mental and material aspects never get separated. In other words, SEs do NOT exist simply in-itself and free-floating in the universe: SEs are NOT disembodied: they are necessarily attached to each living thing. Potential SEs are superposed in the mental aspect, which is permanently ‘glued’ with physical aspect of each entity. Thus my framework is not panexperientialism, where *only experience permeates the universe*; rather the mental aspect of my framework is somewhat similar to panexperientialism, and the physical aspect of my framework is complementary to panexperientialism. In my view, matter (thing-in-itself) is the property of unknowable mind independent reality (MIR); experiences construct the appearance of matter, which is consistent with my framework.¹⁴

The first point to note here is Vimal’s determination to distance his viewpoint from panexperientialism in order to deflect the charge of resorting to some kind of nebulous ‘disembodied’ universal proto-awareness. However, the details of his proposals, although appearing very precise and detailed, are actually not as clear as they first appear. His first possibility is that SEs pre-exist in the *mental* aspect of each ‘entity’. But what type of ‘entity’ are we talking about? Can we suppose that Vimal is referring to a quantum type particle which has a mental and a material component, which seems to be what is being suggested. Well surely not, because Vimal later says that SEs “are necessarily attached to each living thing.” But perhaps he means that the SEs are carried by quantum type particles and when they collect together to create ‘living things’ the SEs become actualized within the living things which they make up and so on.

Vimal’s overall framework simply does not seem to be worked out with the precision that he is attempting to convey. For instance he gives his viewpoint several possibilities which actually seem contradictory. Potential SEs might “pre-exist in superposed form” or “SEs can be derived from a PE and 3 gunas” and so on. In Indian Samkhya philosophy the gunas are the fundamental ‘operating principles’, ‘tendencies’ or functions of *prakṛti*, the universal nature. These are called: *sattva guṇa* which is preservative, *rajas guṇa* which is creative, and *tamas guṇa* which is destructive. So Vimal in this version is proposing that the ultimate constituents of reality are PEs and a kind of universal field of guna-tendencies (rather akin to the Higg’s field) acting upon the PEs. Furthermore the PEs seem to be atomic like proto-experiences which have a ‘material’ aspect ‘glued’ onto them. It seems that in order to avoid the charge of being a proponent of panexperientialism Vimal has decided to ‘glue’ on an ‘unknowable’ bit of mind-independent materiality in order to give his experientialism a bit of weight so to speak.

However, there is a very serious problem with this proposal. What kind of ‘matter’ is this added extra ‘material’ component? As we have seen in the accompanying paper ‘*The Matter of Mindnature*’ it is now clear that Cartesian-Newtonian type has been shown not to exist, the experiments demonstrating the quantum violation of Bell’s inequality have completely eliminated the possibility of the existence of such stuff. So what kind of extra ‘stuff’ is getting glued on to the proto-experience? The only possibility is that it is a sort of weightier type of experience; but even weightier bits of experience are still bits of experience. The notion that some sort of material aspect can be “permanently ‘glued’” onto experience just cannot be viably maintained. One clear reason for this impossibility, beyond the fact of the non-existence of matter, is the fact that our usual concepts of ‘experience’ and ‘matter’ have antithetical natures and thus have no common qualities. This means that there is nothing common between them for any kind of ‘glue’ to get a hold on. An experiential kind of glue could not stick to matter, and material type of glue would definitely miss any hold on the experience.

In his DCIE Vimal tells us that “subjective experiences (SEs)/proto-experiences (PEs) are fundamental and irreducible and hence inherently exist”. ‘Inherent existence’ is a Buddhist technical term (*svabhava*) which indicates entities which are eternal and changeless, entities which have their own fixed and changeless, ‘inherent’, nature, a fixed internal essence which makes them what they are and also fixes what they are for all time. In Vimal’s scheme of things inherently existent proto-experiences actualize as actual experiences when the dependently-originated conditions are ripe:

a specific SE occurs in brain when (i) relevant neural-net is formed via neural Darwinism, (ii) the specific SE is selected via matching and selection mechanisms, and (iii) the necessary ingredients - such as wakefulness, reentry, attention & working memory, stimulus at above threshold and neural-net PEs are satisfied. If this is true, then only experiences (PEs/SEs in superposed form) are inherently existent and other entities have dependent co-origination.¹⁵

But this means immediately that such entities (SEs or PEs – take your pick!) cannot be ‘inherently existent’ precisely because they do, and must, change in order to take part in “matching and selection mechanisms”. This is actually a fundamental argument of *Madhyamaka* philosophy, so it would appear that Vimal does not fully appreciate the Buddhist notion of ‘inherent existence’ or *svabhava*.

In this paper Vimal tells us that he is setting out to “critically analyze, extend and examine Nagarjuna’s philosophy of dependent origination”.¹⁶ The great Buddhist yogi and philosopher Nagarjuna is considered to be the founder of the Buddhist Mahayana *Madhyamaka* or ‘Middle Way’ school of metaphysical analysis. The doctrine of *shunyata* developed by Nagarjuna, on the basis of the many insights into the insubstantial and ‘empty’ (neither existent nor non-existent) nature of phenomena in the Pali Canon, asserted *unequivocally* that *all* phenomena are devoid of inherent existence, there is not one miniscule piece of the process of reality which is not ‘empty’ of inherent existence. *All* phenomena whatsoever lack, or are ‘empty’ of a solid independent core of self-contained existence, *all* phenomena in their ‘ultimate’ nature ‘hover’ between existence and non-existence. The following is a passage from Nagarjuna’s remarkable work *Mulamadhyamakakarika* or *Fundamental Verses of the Middle Way*:

If there were even the slightest bit nonempty,
Emptiness itself would be the slightest bit existent.

But when there is not even the slightest nonempty thing,
How could emptiness exist?¹⁷

This verse demonstrates the razor edge precision of the Madhyamaka style of analysis to perfection. If there were something, anything, somewhere, anywhere in the universe of reality, or multiverse of realities, that was actually just slightly nonempty this would mean that this thing would be inherently existent with an inner core of unchangeable independent 'reality' of its own, so then there would be at least one tiny aspect of reality which would be inherently existent, in contrast the concept of emptiness. If this were to be the case then emptiness itself would be projected into inherent existence because all the 'empty' phenomena would have to 'exist' within the same domain of existential possibility as the nonempty phenomena. And this domain is that of inherent existence and inherent non-existence. Therefore the lack of inherent existence would become an inherent lack, which is the inherent existence of a lack.

You have to follow this logic with attention to appreciate its beauty. Emptiness asserts that there is nothing whatsoever that is inherently existent and there is nothing that is inherently non-existent. So if there were to be something inherently existent then emptiness must also become 'the slightest bit existent' in contrast. But something which is 'the slightest bit existent' is not empty of inherent existence, so emptiness cannot exist in a reality which contains inherently existent bits and pieces. But when there is nothing 'the slightest bit nonempty', emptiness itself remains empty!

It quite clearly follows that Vimal's suggestion that his notion that there are bits and pieces of reality which are inherently existent can in no way 'extend' Nagarjuna's philosophy, if there actually existed bits and pieces of reality that are inherently existent then Nagarjuna's philosophy would be really, truly and inherently empty of validity. However, the universality of quantum non-locality has clearly indicated that there is not "even the slightest bit nonempty"; the demonstration of the quantum violation of Bell's inequality has chimed in favor of Buddhist metaphysical analysis!

It is worthwhile taking sometime to comprehend exactly what the Buddhist concept of 'emptiness' (*shunyata*), which must not be confused, as is sometimes done, with the concept of 'nothingness', which indicates an absolute lack of anything whatsoever, a lack of even potentiality or appearance. The Buddhist notion of emptiness implies a field of potentiality which in its essential nature is 'empty' of any particular nature precisely because it provides the ground for the manifestation of all manifested entities. One recurring image that is employed to illustrate the situation is that of a mirror which in its own nature is 'empty' of any particular reflection but provides the functionality to reflect whatever comes before it:

Just like a reflection in a mirror,
I understand that the nature of appearances is empty.
Just like seeing some spectacle displayed in a dream,
I understand that the nature of being empty is to appear.¹⁸

In this illustration, however, the reflected appearances are a product of the potentiality for reflection provided by the mirror and the entities which come before it to be reflected. In the case of the basis for the appearances which appear within 'emptiness', however, there are no external entities which act upon the fundamental field of emptiness. The second example in

the above quote indicates that the appearances within emptiness manifest in the same way as a dream.

Dreams are generated within the clear awareness of sleep consciousness on the basis of previous thoughts, intentions, and actions of the individual concerned, they are, in a very complex fashion, reflections of the mental and physical activities of the individual, over an infinite number of lifetimes. The same is true of the manifestations within emptiness that make up the appearances of the apparently 'material' world, they are 'epiontically' (epistemology producing ontology) generated as a vast interconnected 'reflection' of the activities of the minds of all sentient beings over vast time periods:

..all these various appearances,
Do not exist as sensory objects which are other than consciousness.
Their arising is like the experience of self knowledge.
All appearances, from indivisible particles to vast forms, are mind.¹⁹

Because this is the fundamental nature of appearances, they are dream like appearances within a field of fundamentally 'empty' mind-awareness which are generated by previous mental activities, it must be the case that all phenomena are 'empty' of inherent existence. Anything which had inherent existence could not be part of such a dream-like 'epiontic' process.

In this context it is worth repeating a couple of quotes which the reader will find liberally scattered over my writings because of their immense significance in indicating just how powerfully the quantum evidence supports the Buddhist metaphysical vision of the 'epiontic' process of reality. The originator of the 'quantum Darwinism' paradigm, Wojciech Zurek, formulated his central insight of the quantum epiontic dream-like nature of the process of reality as follows:

...quantum states, by their very nature share an epistemological and ontological role – are simultaneously a description of the state, and the 'dream stuff is made of.' One might say that they are *epiontic*. These two aspects may seem contradictory, but at least in the quantum setting, there is a union of these two functions.²⁰

Quantum states constitute the 'information' pool which is interpreted ontologically by observers as constituting the external world of apparent materiality. But these states have been generated through the epistemological activities of those very observers acting within the 'dream stuff is made of.' The dream-like stuff is the quantum field which is devoid of substantiality, and within this quantum dream-like field the only way that 'entities', or 'quantum states' or 'quanta'²¹ are produced, as described 'objectively' by the mathematics of quantum field theory, is via 'creation' and 'destruction' operators. But what mechanism in 'Reality' could these operators possibly be a reflection of? Well, as John Wheeler pointed out:

Directly opposite to the concept of universe as machine built on law is the vision of *a world self-synthesized*. On this view, the notes struck out on a piano by the observer participants of all times and all places, bits though they are in and by themselves, constitute the great wide world of space and time and things.²²

Thus the quantum field operators can only be objective reflections of the 'epiontic' mechanism which enables sentient beings, Wheeler's 'observer participants of all times and all places', to strike out notes and chords within the 'empty' quantum dream-field, and this mechanism is quantum 'epiontic' perception.

However, because these epiontic perceptual ‘notes struck out’ which build up the appearance of the apparent ‘material’ world do not have their own internally-abiding substantial essence they are a matter of ‘emptiness’; they do not have their own internal self-contained and unchanging ‘nature’, a fact about reality which is clearly established by the demonstration of quantum non-locality; a fact which indicates a remarkable interconnectedness at the quantum level which undermines any notion that phenomena have completely isolated and self enclosed independent substantiality. Furthermore the quantum demonstration of the violation of Bell’s inequality also indicates that phenomena are dependent in a remarkable way on the process of observation which indicates a dependence upon mind, and according to Buddhist philosophy anything which depends upon mind in this way cannot be inherently existent.

In the following discussion of one section of Nagarjuna’s *Fundamental Verses of the Middle Way* or *Root of the Middle Way* (*Mulamadhyamakakarika*) the term ‘nature’ must be understood as indicating the presence of an internal substantiality within phenomena which give them ‘inherent existence’ (*svabhava*); the entire point of Nagarjuna’s work is to indicate that all phenomena are empty of any such ‘nature’ or ‘essence’. We shall examine some passages from the fifteenth chapter of the *Fundamental Verses* which is the ‘Analysis of Nature’ or ‘Examination of Essence’²³. The reason for this investigation is primarily to show the astonishing manner in which Nagarjuna’s analysis prefigures fundamental aspects of quantum field theory. We shall also note in passing some serious misunderstandings on the part of Vimal’s understanding of Nagarjuna’s intention and the concept of emptiness in general.

The twelfth century Tibetan Buddhist philosopher-practitioner Mabja Jangchub Tsonдру explains the notion of an inherently existent nature as follows:

In the world, people speak of a thing’s “nature” with reference to something that is essential to the thing in question, as when heat is considered to be the nature of fire. This nature or essence cannot be removed and by being intrinsic, the entity that possesses it is not mistaken for anything else.²⁴

In the case of ‘matter’, the stuff which is supposed to make up the external world, an inherently existent type of matter would be precisely Cartesian-Newtonian type ‘matter’ which is conceived of as having an internal solidity which is independent of mind and independent of other material objects which are seemingly unrelated. The metaphysical deconstruction which Nagarjuna carries out, however, applies to the conception of any independent “nature” or “essence” which is fixed, changeless and enduring through time, as any ‘really’ ‘existent’ ‘nature’ must be in order to be a truly inherently existent ‘nature’.

Nagarjuna poses the question: ‘Can such a fixed, changeless nature be produced by causes and conditions?’:

Essence arising from
Causes and conditions makes no sense.
Essence arises from causes and conditions
Would be created.²⁵

Really essential essences should be self-enclosed and immutable in all respects; they cannot be dependent on other things. A ‘created’ essence, however, would be dependent on the originating causes and conditions and therefore such an entity really could not be considered to be an ‘essence’. Mabja Tsonдру writes concerning this that:

...nature must be something such as the heat of fire or the fluidity of water, something that does not arise due to contact with other causes and conditions, and which is, thus, not fabricated. For instance, if water is hot, or earth is moist, then that is the result of other causes and conditions, then that is the result of its contact with other causes and conditions. Such qualities can be removed, they are not intrinsic ...

Furthermore, according to Nagarjuna's analysis:

A nature which undergoes change
Would never make any sense.²⁶

And Mabja Tsondu comments:

As explained above, the nature of a given entity cannot be removed, and by being intrinsic, ensures the entity is not mistaken for anything else. Hence if a quality undergoes change, as is the case with the heat of water or the five tongued design of a fire, then it cannot constitute the nature of the entity in question.²⁷

The important point here is the observation that inherently existent, intrinsic natures cannot be removed without destroying the thing that the nature is a nature of. If one removes the heat from a fire then the fire will not be a fire (but this does not mean that fire is an inherently existent entity because fire is clearly changeable, Mabja is using illustrative examples). However it is possible to remove heat from hot water without destroying the water, it becomes cold water. So anything which can be removed from something else cannot constitute the things nature or essence.

Now Vimal, contradicting Nagarjuna, asserts that there are inherently existent entities, subjective experiences (SEs) of all things (and note that it appears that Vimal is claiming that individual momentary flashes of subjective experience are 'inherently real', which is close to the Buddhist *Sarvastivada* school of philosophy, which asserts that atomic experiences are eternal realities which change mode when actualized within a mental continuum):

Thus, the dual-aspect-dual-mode PE-SE framework is consistent with Nagarjuna's dependent co-origination except the PEs/SEs superposed in the mental aspect of strings, elementary particles, inert matter and the components of neural-nets. One could critique: why some constructs (SEs) are "inherent, fundamental and irreducible" and why don't SEs face the problem that Nagarjuna raises for other constructs? This is addressed by the observation that SEs are fundamental and irreducible in our conventional reality; this is the real fact: how can we reduce SE redness to any other entity? This has been argued by many philosophers such as Chalmers (Chalmers, 1995; Chalmers, 1995, 2003) and also in (Vimal, 2008b). Since PEs/SEs are fundamental and irreducible, they cannot be produced or destroyed and hence they inherently exist in all realities (MDR, MIR conventional and ultimate realities).²⁸

However, there surely seems to be a confusion of contexts in this assertion. For example David Chalmers nowhere argues for the *inherent* existence of consciousness, let alone individual subjective experiences (SE's). Chalmers' discourse is placed within the context of Western philosophy within which the more subtle distinction of the Madhyamaka between 'conventional' and 'ultimate' reality are not resorted to (must to the detriment of Western philosophy). His work is placed within the conventional level of reality and he argues that consciousness must be accorded an equally, if not more, ontological or 'real' status as/than the world of materiality. He even very effectively argues a quantum consciousness account of

the way that the world of actuality and apparent materiality arises from quantum potentiality, but nowhere does he assert the inherent and eternal existence of individuated particular PEs or SEs waiting to actualized.

Vimal states that “SEs are fundamental and irreducible in our conventional reality; this is the real fact”, but if we take quantum field theory seriously then it is most definitely not a real fact at all. Consider the following account of the implications of quantum field theory in the light of the above outline of Nagarjuna’s refutation of the possibility of inherently existent ‘natures’. Jonathan Allday in his book *Quantum Reality: Theory and Philosophy* writes concerning the insubstantiality of the quantum field:

Now, from a philosophical point of view, this is rather big stuff. Our whole manner of speech ... rather naturally makes us think that there is some stuff or *substance* on which properties can, in a sense, be glued. It encourages us to imagine taking a particle and removing its properties one by one until we are left with a featureless ‘thing’ devoid of properties, made from the essential material that had the properties in the first place. Philosophers have been debating the correctness of such arguments for a long time. Now, it seems, experimental science has come along and shown that, at least at the quantum level, the objects we study have no substance to them independent of their properties.²⁹

Here we find that we find that there is no substance upon which we can ‘glue’ properties, but Vimal tells us that in his scheme of things he is able to ‘glue’ substance onto SEs (subjective experiences). It just doesn’t seem likely; all the evidence for such a notion is as insubstantial as the quantum field itself!

Allday continues:

Let’s say that we have two particles with substance, but with different properties. We can imagine a process in which we remove the properties of both particles to leave the featureless substance and then replace the properties again, but the other way round (giving A the properties that B used to have and vice versa). Now, if the two particles are identical bosons, we know that the state we end up with has to be the same as the one we started with (symmetrical under exchange). In this case, what’s the point of the labels A and B? As far as the physics of the situation concerned we’ve made no difference to the state of affairs, so is the substance actually real?

The argument is even more striking for two identical fermions, as in their case nature clearly forbids them to be in the same states. But, if we’re stripping the properties from them one by one, it’s entirely possible that at some point their remaining properties might add up to them being in the same state (all the differences having been removed). What us stops doing that? Or, imagine that we had a fully featured particle and a lump of featureless substance and we started gluing properties to the lump. We’re not allowed to make this lump into a new fermion in the same state the one we already have. Does the lump vanish if we manage to do this by mistake? What suddenly prevents us from applying the final property make the lump a fermion in the same state?

This isn’t a purely philosophical debate as it impinges directly on physics. If there is no featureless substance, then how can we even in principle apply labels to particles ...

In other words when all the labels are removed, and it seems that they can be all be removed, or swapped over, exactly as indicated by Mabja Tsondru as being indicative of non-inherently

existing entities, then what is left at the end beyond a ground of ‘emptiness’ which is empty of any specific labels which can be inherently glued on or in?

In his commentary to Nagarjuna Mabja quotes a sutra:

What can be heard or taught
About phenomena that are letterless?
Aside from superimposition there are no letters.
This, however, is still heard and taught.³⁰

The term ‘letterless’ does not literally mean lacking graphic symbols. The term ‘letters’ can be interpreted in this context as indicating the properties which appear to ‘exist’ independently in an external reality. How can someone talk or teach about phenomena which in their ultimate ‘nature’ have no ‘inherent’ properties, or ‘letters’. What appear to be properties existing ‘out there’ are actually ‘superimpositions’ of mind.

Mabja comments upon this observation and I shall elucidate upon Mabja’s comments as we go through them:

*Thus, since the real nature of phenomena is not established as an object of speech and mind, it cannot be shown in terms of any essence of its own.*³¹

In the sutra quote above the term that is used to indicate how the ‘letters’, which we should interpret as ‘marks’ (*lakshana*) appearing before the mind which seem to indicate the presence of independent ‘objects’ acting as external sources of experience, arise is ‘superimposition’. The point here is that there actually are no such absolutely independent objects or properties of objects; hence “the real nature of phenomena is not established as an object of speech and mind” because they are not ‘objects’ they are ‘superimpositions’.

This, of course, does not mean that they do not *appear* to be ‘out there’ as independent ‘objects’, the point is that the way they appear is not the way that they actually ‘exist’.

Yet those who are to be influenced can still realize the unmistakable nature of things, within which none of the constructed marks remain in any way at all.

The ‘marks’ which seem to indicate the presence of external objects are actually not ‘out there’ at all because they are superimpositions into the empty potentiality of the fundamental quantum field within which minds can and do ‘construct’ such marks.

Obviously the 12th century Mabja Jangchub Tsondrü would not have been aware of quantum field theory and would not have knowledge of the nature of reality in anything like the same mathematically precise way that modern physicists do, but I am drawing out the astonishing metaphysical isomorphism (same structure) between the description of quantum field theory above and this Madhyamaka analysis of the metaphysical functioning of reality. Allday has clearly told us that the ‘properties’ within the quantum field are not ‘glued’ on to any kind of substance, so we seem to be dealing with ‘marks’ which have in some way been ‘superimposed’ by mind. The question is how?

To facilitate this realization, there is a teaching that uses conventional superimposition to explain the characteristics of the true nature of phenomena, the object of undefiled wakefulness.

Although the appearances of the conventional realm are in fact ‘superimpositions’ and therefore do not ‘exist’ in the way that they appear to, it is sometimes necessary to behave as

if they had a reality in order to teach the true nature of phenomena, which is their lack of independent reality – they are ‘empty’.

The true nature of things possesses three qualities: a) It is not produced by causes and conditions b) it is independent of any other phenomena in the form of conventional designators, and c) it does not change into anything else. Throughout the three times, this is the unmistakable innate essence.

This really is a difficult point to grasp even intellectually, to know it directly is to be enlightened. The true and ultimate nature of all phenomena is nothing more than, and nothing less than, the inexpressible and directly experienced qualitative experience of *tathata* or ‘thusness’ which might also be said to be pure unconditioned awareness itself, a primordial awareness which is devoid of any of the ‘marks’ of particular experiences.

Concerning the bearer of these characteristics, it is taught:

Whether or not the Thus-Gone ones appear, this intrinsic nature of phenomena thoroughly remains.

Whether enlightened beings arise or not, the intrinsic nature does not change.

Thus, the bearer of the characteristic of the true nature is phenomena’s natural emptiness, which is not established in the manner of any of the marks of mental construction, such as negation and affirmation, and which is the object of the noble ones’ nonconceptual wakefulness during equipoise.

The mind of an enlightened being is able to rest in a nonconceptual state of focused awareness in meditative ‘equipoise’ which is void of any ‘mental construction’ at all. It simply rests in primordial empty awareness knowing the nature of reality as it truly is, beyond any extremes of ‘negation or affirmation’, or any extremes, such as ‘existence’ and ‘non-existence’.

Phenomena’s nature is not produced and not created.

The primordial nature of phenomena could not be ‘produced’ or ‘created’ because if it were then it would not be a ‘nature’.

In other words, all phenomena are primordially emptiness. It is not that they are made emptiness by something else. Thus:

*Recognize that all things
Are empty of their very essence.
“Empty” also is empty.
Thus, there is nothing that is not empty.*

This is an astonishing conclusion for Buddhist philosopher-practitioners, through philosophical analysis and direct insight, to have come to. The ultimate field of reality underlying the appearance of all phenomena is ‘empty’ of any substantiality, just like the quantum field. But despite this empty nature it, again just like the quantum field, is capable of producing a phantasmagoria of appearances which give the impression of being far from empty, the realm of appearance really does appear to be quite substantial!

In the following passage, taken from the commentary to the *Diamond Sutra* by the contemporary Chinese Buddhist teacher Hsing Yun, the epiontically produced ‘floating’ information that underlies the appearance of the ‘material’ world is compared to ‘dust’ floating within ‘clarity of perfect awareness,’ the term ‘*lakshana*’ indicates activated

‘characteristics’ or ‘marks,’ or Mabja’s ‘letters’ which we may interpret as activated ‘bits’ of quantum information:

Dust clouds the metaphorical pool of enlightened awareness. ... Lakshana rush into the mind and appear before it like clouds of dust-like lakshana; impure intentions are based on deluded visions of dust. Dust clouds the mind on all levels; matter is dust, illusion is dust, and thoughts and perception also are dust. Only the Tathagata sees the ‘vast realm of emptiness’ in which all of this floats in the clarity of perfect awareness.³²

And in the directly following paragraph Master Hsing Yun relates this mechanism to the Mind-Only (*Cittamatra*) ‘three natures’ metaphysical perspective:

...the metaphor of dust is used to reveal three levels of truth: 1) the false level of ordinary reality which is nothing but dust, 2) the level of emptiness in which that dust has no fundamental reality, and 3) the level of ultimate truth that merges and transcends these two levels. All Buddhas dwell on this third level, simultaneously in both ordinary and ultimate awareness.³³

In other words Buddhas see through the illusion-like informational ‘dust’ of the dualistic ‘conventional’ ‘seeming’ realm which ‘floats’ within the ‘clarity of perfect awareness.’

The three levels of truth referred to by Master Hsing Yun are the ‘three natures’ which comprise the *Yogacara-Cittamatra* (Mind-Only) metaphysical analysis of the process of reality. In his introduction to his translation of Vasubandhu's *Treatise on the Three Natures* (*Trisvabhavanirdesa*) (Garfield 1987) Jay L. Garfield's points out that the Fourth or Fifth century CE Buddhist philosophers Vasubandhu and his older brother Asanga are usually regarded major philosophical rivals of the older *Madhyamaka* tradition, which was established by Nagarjuna. Nagarjuna argues that emptiness, the lack of essence or substantial, independent natures, applies to all things, including both external phenomena and mind. Vasubandhu, however, reinterprets the emptiness of the object as being its lack of external reality, and presents purely mind-dependent account of external entities. For Nagarjuna, however, even the mind itself is also ‘empty’.

Vasubandhu is supposed to have argued that that the foundational mind is non-empty since it truly exists as the substratum underlying the apparent reality of our experience; as we shall see, however, this is not the whole story. As Garfield indicates Vasubandhu's position appears to be similar to the idealisms proposed by Western philosophers such as Berkeley, Kant and Schopenhauer. The Mind-Only ‘idealism’ of Vasubandhu, however, has a very distinctive account of the mechanisms involved in the generation of the realm of apparent dualistic experience which prefigures certain central aspects of quantum theory. The ‘three natures’ metaphysical account, furthermore, is highly compatible with the modern ‘epiontic’ and holographic paradigms. Garfield tells us that Vasubandhu's text is “structured so as to reflect the ontological and phenomenological theory it articulates. The language is as spare and vibrant as the radiant mind-only ontology it presents”³⁴. However, as we shall see, the radiant Mind-Only account is presents a metaphysics of ‘epiontology’.

Vasubandhu's *Trisvabhavanirdesa* explains the concepts of the three natures (*trisvabhava*) or three distinguishing characteristics (*trilaksana*). It is an exposition of the ‘epi-ontological’ basis of the subject-object dichotomy as described from the *Yogacara-Cittamatra* metaphysical perspective. It describes how the dualistic world of experience that all unenlightened

beings ‘inhabit’ arises from a foundational non-dual realm of potentiality and awareness. According to the *Yogacara-Cittamatra* view the subject-object dichotomy, which is termed ‘grasper’ (*ghahika*) and ‘grasped’ (*grahya*), emerges from an All-ground Consciousness (*alaya-vijnana*) which itself is an aspect of the non-dual ground of all phenomena (*dharmadhatu*). The functioning of the *alaya-vijnana*, which gives rise the world of illusory dualistic experience is born from a misapprehension of the single reality of the *dharmadhatu*. The non-dual experiential nature of the *dharmadhatu* is called *tathata* or ‘thusness’, which indicates that its nature can only be known through direct experience. According to the *Yogacara-Cittamatra* the ‘entities’ which misapprehend the fundamental non-dual reality are all sentient beings born in the world, but the root of the misapprehension is created by the all-ground consciousness itself, which “acts as a kind of spell enchanting beings into believing in the facticity of the world in which they live.”³⁵

The three intrinsic natures posited by Vasubandhu are:

1. *Parikalpita*: the ‘conceptually-constructed’, ‘imaginary’, or ‘imputational’ nature;
2. *Paratantra*: the ‘contingent’, ‘other-dependent’ or ‘other-powered’ nature;
3. *Parinishpana*: the ‘perfect’, ‘actual’, ‘consummate’ or ‘thoroughly-established’ nature.

Garfield says of Vasubandhu’s exposition of the ‘three natures’ doctrine of the *Yogacara-Cittamatra* school that it:

clarifies in remarkably short compass its relations to the other principal doctrines of that school -- that all external appearances are merely ideal and originate from potentials for experience carried in the mind. The central topic of the text is the exposition of how this view entails the *cittamatra* theory of the three natures -- the view that every object of experience is characterized by three distinct but interdependent natures. Vasubandhu's idealism is distinctive in its insistence that a coherent idealism requires the positing of these three natures, and in its subtle analysis of the complex relations between the natures themselves, involving the thesis of their surface diversity but deep unity. This text also presents a creative union of ontology and phenomenology. Vasubandhu's characterization of the status of the objects of experience is at the same time self-consciously a characterization of the character of subjectivity itself. Not only will Vasubandhu argue that we can only make sense of objects if we ascribe to them these three triune natures, but he will argue that a complete account of experience -- especially of the experience of a sophisticated and accomplished philosopher or meditator -- requires an account of three distinct kinds of subjectivity, which are related to one another as are the three natures themselves.³⁶

So the three natures are all modes of ‘subjectivity’, or ‘mind’, modes which are ‘interdependent’ and, furthermore, as we shall see, this view of the process of reality is metaphysically comprehensive and exhaustive, it is a full account of the process of reality as a interdependent interaction of levels of mind, it leaves nothing out. There is no necessity for any ‘Mind Independent Reality’ (MIR). Garfield, furthermore, actually comes close to indicating the ‘epiontic’ interlinking of epistemology and ontology when he speaks of the Mind-Only view as a “creative union of ontology and phenomenology”, a comment reminiscent of Zurek’s observation that “quantum states, by their very nature share an epistemological and ontological role.”³⁷

Vasubandhu explains the three natures with the illustration of a magician conjuring up an illusion of an elephant:

These three natures have the characteristics of being non-cognizable and non-dual. One is completely non-existent; the second is therefore non-existent. The third has the nature of that non-existence.

Like an elephant that appears through the power of a magician's spell -- only the percept appears, the elephant is completely non-existent.

The imagined nature is the elephant; the other-dependent nature is the visual percept; the non-existence of the elephant therein is explained to be the consummate.³⁸

Because of the spell the magician has cast, affecting the minds of an audience (one might think of Derren Brown here), the visual perception of the elephant does appear as if there is an elephant 'out there' in an apparent external 'reality'. This image, however, appears not because of a real elephant actually existing in an external reality independent of the minds of the audience, it 'exists', or rather 'non-exists', as a magical creation dependent upon the causes and conditions of the minds of the audience and the magic spell.

Vasubandhu tells us that all these natures in themselves are "non-cognizable and non-dual", in fact they are dualistically non-cognizable precisely because their nature is non-dual and cognition is dualistic. Their effects, of course, appear to be cognized. The 'imaginary' or 'imputational nature' is, of course, the 'superimposition' by dualistic consciousness that an elephant does exist 'out there'. The 'other-dependent' or 'other-powered nature' is the appearance which arises on the basis of the causes and conditions which gives rise to the appearance. Thus the appearance does not appear because of its own internal nature, it appears, rather, because of 'other' factors, the causes and conditions; so it is 'other-dependent' or 'other-powered'. The 'actual' or 'thoroughly established' nature is the fact of the absence of the imputation within the causal generation of the illusion of an external object. According to the Mind-Only school when a practitioner fully realizes this fact not just intellectually but directly and existentially they are approaching enlightenment.

It is remarkable that the Mind-Only school gave this account of the process of reality in the fourth century C. E. because it so precisely prefigures the metaphysical structure of the process of reality as revealed by quantum theory. Vasubandhu likens the way in which reality functions to a magic show and this was echoed by John Wheeler who, speaking in April 2003 to the American Physical Society, made the following remarkable; perhaps one might say 'mystical', sequence of remarks:

The Question is what is the Question?
Is it all a Magic Show?
Is Reality an Illusion?
What is the framework of the Machine?
Darwin's Puzzle: Natural Selection?
Where does Space-Time come from?
Is there any answer except that it comes from consciousness?
What is Out There?
T'is Ourselves?
Or, is IT all just a Magic Show?³⁹

And Wheeler wrote in 1978 that:

The universe does not ‘exist, out there,’ independent of all acts of observation. Instead, it is in some strange sense a participatory universe.⁴⁰

Wheeler suggests that quantum theory requires a participatory universe, which means that somehow phenomena which appear to be external and independent of the minds of sentient beings cannot be so. Buddhist philosophers have made a similar point for at least two thousand years:

...when we see houses and fields in dreams, we think of them as being external objects that are not created by the mind, even though they are nothing other than projections of our mind. All that we see when we are awake is also nothing other than a creation of the mind.⁴¹

And this is now indicated by quantum theory, which is why Zurek refers to the quantum realm as ‘the dream stuff is made of.’⁴² Quantum physics clearly shows that we are epiontically involved, or are participators, in the existence of objects.

The first stanzas of Vasubandhu’s text (as translated by Garfield) are:

The imagined, the other-dependent and the consummate. These are the three natures which should be deeply understood.

Arising through dependence on conditions and existing through being imagined, it is therefore called other-dependent, and is said to be merely imaginary.

The external non-existence of what appears in the way it appears, since it is never otherwise, is known as the nature of the consummate.

If anything appears, it is imagined. The way it appears is as duality. What is the consequence of its non-existence? The fact of non-duality!

The Mind-Only view of the three natures then asserts that the process of reality involves an illusion-like production of the appearance of a dualistic world from a deeper nondual layer of mind; and it is nothing less than shockingly remarkably how closely the Mind-Only account prefigures some presentations of the quantum situation. In his short essay ‘*Nondual Quantum Duality*’, for instance, Stapp writes that:

Von Neumann (orthodox) quantum mechanics is thus dualistic in the pragmatic and operational sense that it involves aspects of nature that are described in physical terms and also aspects of nature that are described in psychological terms, and these two parts interact in human brains in accordance with laws specified by the theory. This is all in close accord with classic Cartesian dualism. On the other hand, and in contrast to the application to classical mechanics, in which the physically described aspect is ontologically matterlike, not mindlike, in quantum mechanics the physically described part is mindlike! So both parts of the quantum Cartesian duality are fundamentally mindlike. Thus quantum mechanics conforms at the *pragmatic-operational* level to the precepts of Cartesian duality, but reduces at a deep *ontological* level to a fundamentally mindlike nondual monism.⁴³

Such a quantum viewpoint of “mindlike nondual monism” corresponds precisely with the Mind-Only analysis of the process of reality.

As Vasubandhu describes the situation:

*Through the root consciousness
The nonexistent duality appears.*

*But since the duality is completely non-existent,
There is only a percept.*⁴⁴

The Mind-Only view of three 'natures' which give rise to the 'nonexistent duality' can be outlined as follows:

- **imputational nature** – an imaginary, and therefore mistaken, perception which imputes an independent existence to an 'object' which is in fact illusory. The imputational nature imputes an object as existing independently by its own force or character.
- **other-powered-nature, or dependent nature** – what appears as independent entities are actually devoid of self character, they seem to arise as self contained entities because of the intersection of other causes and conditions. The other-powered, or dependent, nature resides in the complex field of interweaving causes and conditions which supply the potentialities for possible imputational experience.
- **thoroughly established, or perfect nature** – the fact that the other-powered-nature is 'empty' of the imputational-nature is called the 'thoroughly established nature', 'perfect nature', or 'consummate nature'. This is quite a subtle definition to grasp – it is the relationship of the absence of the imputational nature from the other-powered, dependent nature which is the 'thoroughly established nature'.

The **imputational nature**, or **imaginary nature**, consists of the imputed and mistaken appearances of definite, inherent and independent entities that are conceived of as existing in an external realm separate from the perceiving consciousness. According to the Mind-Only perspective, the way that the entities of everyday life are imputed as existing independently and substantially from the mind is, from an ultimate point of view, mistaken. The **dependent nature** is closer to the way reality actually is, it is a ground of potentiality which arises from the multitudinous perceptions and activities carried out by all sentient beings. It is a vast karmic echo of potentiality for dualistic experience. The final nature, the **thoroughly-established-nature** highlights the fact that the **imputational-nature** is an ultimately illusory imputation, or superimposition, by imagination into the potentialities of the **other-powered-nature**, or **dependent nature**:

The non-existence of such an imaginary nature in a dependent nature is a thoroughly established nature. ... An object which is a different entity from a subject does not exist; a subject which is a different object from an object does not exist...⁴⁵

An example which is often used to illustrate the three natures is that of a mirage. The three natures may be likened respectively to (a) the mistaken belief that water exists in a mirage; (b) the appearance itself of the mirage, dependent on atmospheric causes and conditions and the presence of the observer, and (c) the empty nature of the mirage, inasmuch as it is completely dependent on causes and conditions, including the observer. The belief that water exists in the mirage is completely false and is similar to the imaginary, or illusory, nature. The causes and conditions which give rise to the appearance of the mirage is similar to the dependent nature. The empty character of the mirage, inasmuch as it is dependent and conditioned and exists nowhere except in the mistaken mind of the observer, is similar to the thoroughly-established-nature. The belief in the mind of the observer that there is water in the distance corresponds to the imputational nature.

This analysis can be likened to the quantum situation. The realm of quantum potentiality which includes the observing consciousness or consciousnesses, provides the interdependent

ground of potentiality which constitutes the other-powered nature and, because there is a tendency within the process of reality for the inner nature of this ground to misperceive itself, a realm of seemingly independent and inherently existent phenomenon manifests within an illusory field of duality.

It is important to comprehend the fact that the ‘three natures’ analysis describes a deep process of reality functioning at a level of mind corresponding to the quantum level. The Mind-Only analysis asserts that the play of the dualistic world of appearance emerges from a deep nondual realm because of an internal function of cognition which misperceives itself. The dualistic world is the illusory domain of the ultimately non-existent imputational or imaginary nature, which is the domain of experienced duality of apprehender-apprehended, subject-object, or ‘grasper’ and ‘grasped’. The relationship between the conventional arena of the experienced ‘material’ world, which seems to emerge through the apparent transition from the quantum state to the ‘classical’ state, which is called the ‘collapse of the wavefunction’, can be likened to the ‘superimposition’ of the imputational nature onto the field of other-powered potentiality.

Another illustration which is often used to illustrate the operation of the three natures is that of a rainbow, all phenomena, including enlightened beings and ordinary sentient beings arise through the illusion like process of causes and conditions, which are themselves ‘empty’ of independent substantiality, creating the illusion of a dualistic world through imputation:

Within that birthless wide-open expanse of space,
Phenomena appear-like rainbows, utterly transparent.
Pure and impure realms, Buddhas and sentient beings
Are seen brilliant and distinct.⁴⁶

And:

By virtue of its all-penetrating freedom this Awareness that has no centre or circumference, no inside or outside, is innocent of all partiality and knows no blocks or barriers. This all-penetrating intrinsic Awareness is a vast expanse of space. All experience of samsara and nirvana arises in it like rainbows in the sky. In all its diverse manifestation it is but a play of mind.⁴⁷

The Mind-Only model of the functioning of reality can be compared with the ‘rainbow’ illustration of the quantum situation (figure 1) offered by d’Espagnat. In this analogy the sun, raindrops and observer correspond to the other-powered realm of interdependent phenomena and the appearance of a seemingly external rainbow corresponds to the imputational nature. The Mind-Only perspective uses the term ‘imputational’ to indicate not just a surface conceptual imputation but a directly experienced sensory imputation such as the rainbow example. The rainbow does not exist at all as an independent phenomenon, it is therefore ‘imaginary.’ This corresponds exactly to the quantum situation because, although all the phenomena of the everyday world clearly are overwhelmingly convincing as being independent of mind and therefore self-existent phenomena, quantum theory tells us this is not so at all. Furthermore quantum theory tells us that *all* phenomena are like this; they are ‘illusions’ generated out of the quantum realm of potentiality by the operation of mind.



Figure 1

D'Espagnat uses the example of a rainbow to describe the way that the 'classical world emerges out of the quantum realm:

...a rainbow, obviously, may not be considered an object-per-se. For, indeed, if we move it moves. Two differently located persons do not see it having its bases at the same places. It is therefore manifest that it depends, in part, on us. ... But still, even though the rainbow depends on us, it does not depend exclusively on us. For it to appear it is necessary that the sun should shine and that raindrops should be there. Now similar features also characterize quantum mechanically described objects, that is, after all ... any object whatsoever. For *they* also are not 'objects-per-se.' The attributes, or 'dynamical properties,' we see them to possess depend in fact on our 'look' at them...⁴⁸

In other words *all* the entities and objects of the 'classical' world emerge from the potentiality of the quantum realm in a similar fashion to the way that rainbows appear. They are brought into experienced reality through an interaction of a deep level of consciousness and an environmental realm of potentiality, a realm of potentiality which 'does not depend exclusively on us.' This is an important point, for on first appearance this statement by d'Espagnat that the way that the classical apparently material world emerges from the quantum realm of potentiality does "not depend exclusively on us" seems to contradict the assertion by Anton Zeilinger, an equally respected physicist, that the "notion of a reality independent of us" is "obviously wrong."

The notion that there is some kind of extra ingredient, the bit which, as d'Espagnat puts it, "does not depend exclusively on us" would seem to vote in favour of the 'existence' of an MIR. Zurek also has indicated a similar point when he wrote that:

whilst the ultimate evidence for the choice of one alternative resides in our elusive "consciousness," there is every indication that the choice occurs much before consciousness ever gets involved and that, once made, the choice is irrevocable.⁴⁹

However, this conundrum only arises because of the fact the word 'consciousness' is being used in two senses, the first indicating individual consciousness and the second using the term as a general term applying to an inter-subjective or 'collective' realm of consciousness. To see the significance of this understanding it is only necessary to consider Wheeler's assertion that the potentialities for the appearance of the material world are produced by the perceptions of the sentient beings, or 'participators', of "all times and places", for if this is the case then many of the potentialities that might have been available for current partici-

pators will have been weeded out by the epiontic activities of previous participants. This perspective which derives from Wheeler also clearly conforms to the more recent proposal of Hawking and Mlodinow in their book *The Grand design*:

The histories that contribute to the Feynman sum don't have an independent existence, but depend on what is being measured. We create history by our observations, rather than history creating us.⁵⁰

In other words the observers, or what Wheeler called 'observer-participants,' are able to weed out possible potentialities, and thereby select those which remain in the possibility mix, thus one of the central chapters in *The Grand Design* is entitled 'Choosing Our Universe':

The idea that the universe does not have a unique observer-independent history might seem to conflict with certain facts that we know. There might be one history in which the moon is made of Roquefort cheese. But we have observed that the moon is not made of cheese, which is bad news for mice. Hence histories in which the moon is not made of cheese do not contribute to the current state of our universe, though they might contribute to others. This might sound like science fiction but it isn't.⁵¹

This perspective, which is clearly consistent with both Wheeler's views and also Zurek's epiontic 'quantum Darwinism' paradigm, indicates that once the process has been 'evolving' for a long period of time then the quantum potentialities which underlie the manifestation of the apparently independent material world, including the non-cheese moon, are pretty well established enough as to appear immutable to the participators at that particular time, and future times. The chance of a vast number of them getting together to epiontically produce a cheese moon is, of course, not worth mentioning (unless in an extreme many-worlds multiverse, or for an extreme Humean sceptic like Ellis, but I won't go there in this article). The crucial point is that the apparently independent 'material' world is a collective illusion-like epiontic construction on the part of innumerable numbers of 'participants' over vast time scales, including the lifetimes of innumerable universes, so it will appear to pretty independently substantial to individual observers.

Zurek writes concerning the quantum structure of potentiality that underlies the apparently material world that:

The main idea of quantum Darwinism is that we almost never do any direct measurement on anything ... the environment acts as a witness, or as a communication channel. ... It is like a big advertising billboard, which floats multiple copies of the information about our universe all over the place.⁵²

Zurek and his associates do not make clear the mechanism by which various quantum states may become the 'fittest', but the implication clearly is that the 'relationship between the state of the observer and the rest of the universe'⁵³ is a central aspect of the process.

It is by actively 'observing' the 'advertising billboard' of the material world, thus buying into the illusion of its independent existence that the 'communication channel' of the appearance of materiality is kept in operation. This process involves, of course, vast numbers of sentient beings, every perception strengthening the quantum 'advertising billboard'. It is quite clear that the quantum epiontic advertising billboard would not have been around at the inception of the universe, so in an epiontic universe the kind of 'epiontic' perceiving activities on the part of vast numbers of sentient beings (and potential sentient beings at the time when such beings were not fully manifested, I have dealt with this issue in

detail in another article⁵⁴) over vast time scales must be the origin of the current quantum advertising campaign for our current material world. This perspective clearly leaves the avenue open for the view that other kinds of material worlds and inhabitants of those worlds might have come into being. This suggests the process of reality is a quantum epiontic constrained relativism (constrained by the nature of the potentialities available and necessity of coherence) as regards the kinds of worlds and inhabitants of worlds that might be possible (although personally I am very doubtful about cheese moons!)

Returning to Vasubandhu's text, the next stanzas (after the assertion of '*The fact of non-duality!*' which indicates the non-dual nature of the ultimate and thoroughly established nature) are:

What is the imagination of the non-existent? Since what is imagined absolutely never exists in the way it is imagined, it is mind that constructs that illusion.

Because it is a cause and an effect, the mind has two aspects. As the foundation consciousness it creates thought; known as the emerged consciousness it has seven aspects.

The first, because it collects the seeds of suffering is called 'mind'. The second, because of the constant emergence of the various aspects of things is so called.

One should think of the illusory non-existent as threefold: Completely ripened, grasped as other, and as appearance.

*The first, because it itself ripens, is the root consciousness. The others are emergent consciousness, having emerged from the conceptualization of seer and seen.*⁵⁵

Here Vasubandhu indicates the operation of the *alayavijnana*, the ground consciousness, which provides the ground from which mind operates in its mistaken mode. Once again we are reminded that the *Yogacara-Cittamatra* metaphysical viewpoint conform to Wheeler's notion of a self-synthesizing universe and Zurek's epiontic paradigm. The mind is both "cause and effect". As the ground, or foundation, consciousness it provides the motive force for the entire process, and when it manifests into dualistic experience is has "seven aspects", ear, eye, nose, tongue and body sense-consciousness and two mental consciousnesses, which will be elucidated shortly.

The *alayavijnana* or foundation consciousness is the way in which the process of reality 'seems' to function when sentient beings engage with reality from the mistaken attitude. It functions as a deep aspect of psychophysical embodiment, of clinging to existence from the point of view of 'me' and 'mine', not realizing that they are simply part of a universal flow of illusion-like appearance from the deeper nondual ground. The clinging involved within this mode of engagement with the flux of reality constantly produces an appearance of independent solidity within the flux of experience. And the more this process occurs the more resilient becomes the illusion of the solidity of the seemingly external realm of materiality. This happens because the 'seeds' for future actualisation within the foundation consciousness of reality become amplified the more they are activated; in this way the essentially 'pure' nondual nature of the fundamental ground of awareness becomes 'stained' with the 'adventitious' potentialities for future dualistic experience:

What is naturally pure ...

Is not seen because it is obscured by a beginningless cocoon, ...

The dhatu of time without beginning

Is the matrix of all phenomena.
Because it exists, all beings
And also nirvana are obtained. ...
Sentient beings are buddhas indeed.
However, they are obscured by adventitious stains.⁵⁶

The designation 'buddha' indicates a fully awake, fully aware, and thereby completely enlightened sentient being. The path of transformation towards buddhahood requires that a sentient being 'purifies' his or her own structure of consciousness to remove the 'defilements', the deep clinging structures of mentality, which are themselves quantum structures of consciousness.

The *alayavijnana* is described by Buddhist writer Walpola Rahula as:

The deepest, finest and subtlest aspect layer of ... consciousness. It contains all the traces and impressions of past actions and all ... future potentialities.⁵⁷

Buddhist philosopher William Waldron refers to the *alayavijnana* as '*The Buddhist Unconscious*'⁵⁸ thus equating it with the ideas of Freud and Jung; however the fact that the *alayavijnana* clearly stores all perceptual movements of consciousness, including emotionally neutral perceptions of the appearance of the material world, suggests that it operates at a much deeper level than the personal unconscious, the racial unconscious, or even species unconscious. All these 'implicate' spheres of potentiality will themselves be enfolded into the overarching structure of consciousness of the foundation consciousness, which can be identified with the objective wavefunction of reality. The *Yogacara-Cittamatra* perspective describes the world of psychophysical embodiment as being comprised of seven consciousnesses, which are driven by, and emerge from, the eighth consciousness, which is the *alayavijnana* itself. The seven consciousnesses which are other than the ground consciousness comprise firstly the five basic sense consciousnesses which are associated with the faculties of sight, hearing, touch, smell, taste. As the *Yogacara* metaphysical analysis considers that 'consciousness', or 'mind,' is the fundamental category of reality, all the senses, as well as their objects, are not other than fundamental consciousness functioning on the level of gross cognition:

Both faculties and objects arise from the mind.
The manifestation of sensory objects and faculties
Is dependent upon an element that has been present
Throughout beginningless time.⁵⁹

Figure 2 shows the perceptual 'cycle of existence' due to the functioning of the sense field consciousnesses, mental consciousness and the *alaya* consciousness. The direct experiences of the five sense consciousnesses are gathered into a perceptual unity by the functioning of the sixth consciousness, the non-conceptual and then the conceptual mental spheres:

Even though the sensory consciousnesses perceive external sense objects they are not recognised or perceived as a solid external objects until this perceptual process reaches the mental consciousness and the object is identified.⁶⁰

The sixth consciousness, then, embraces both non-conceptual and conceptual aspects, which operate in that order, the non-conceptual aspects can be thought of as conveying the sense-consciousnesses to the conceptual aspect.

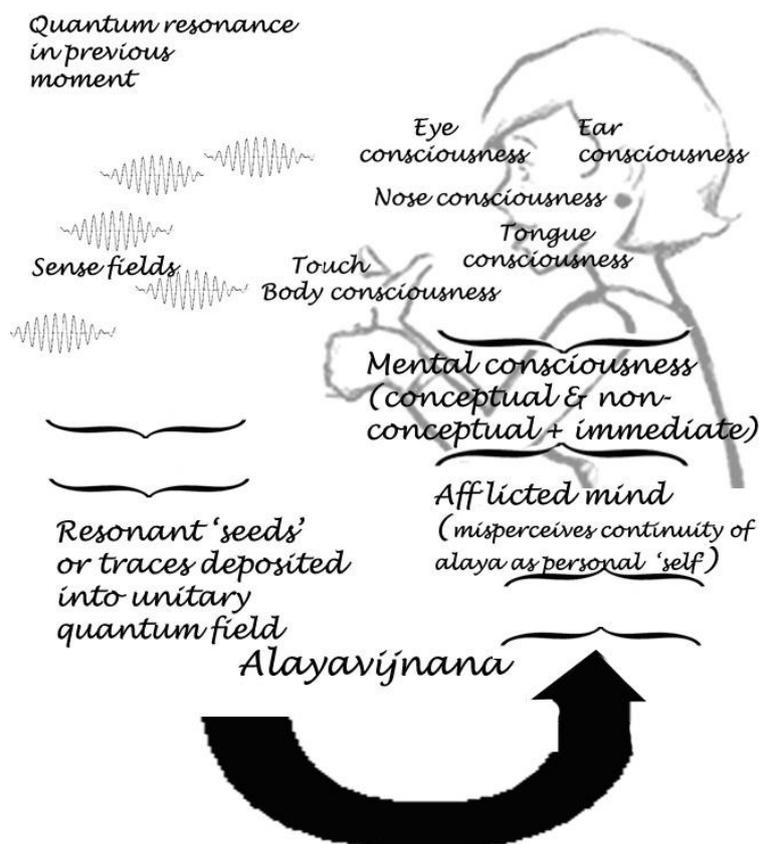


Figure 2

The seventh consciousness supplies the immediate awareness of continuity which acts as a condition for the functioning of the previous consciousnesses. This is called the 'immediate mind consciousness' and it functions as a gateway between the 'upper' dualistic consciousnesses and the ground consciousness:

The immediate mentality is the condition for all appearances to arise from any of the consciousnesses and to settle into the ground consciousness.⁶¹

The seventh consciousness also has an aspect which is termed the 'afflicted mind consciousness.' The afflicted consciousness arises because of the function of the seventh consciousness as the supplier of continuity to the other elements of consciousness which are all momentary, rapidly arising then ceasing. Because of this characteristic of continuity the seventh consciousness also causes an illusory experience of selfhood to arise:

It is called the afflicted-mentality because
It believes the mind as self, possesses pride,
Has attachment to the self, and has ignorance...⁶²

Within all Buddhist schools the notion that there is a fixed, enduring 'self' is repudiated. Because attachment to the innate feeling of 'self' is, according to the Buddhist worldview, the source of all suffering, this aspect of the seventh consciousness is described as 'afflicted.'

This aspect of the seventh consciousness is also the source of all afflictions because it is responsible for the generation of the karmic mechanism; it acts as the gateway for 'seeds' to be deposited into the foundational 'store' consciousness:

Every action we take creates a latent karmic imprint and these tendencies automatically flow into the ground consciousness where they are stored. These karmic imprints do not, however, remain stored because they manifest sooner or later.⁶³

These karmic impressions are evocatively called *vasanas* or 'perfumings'. The Britannica Online Encyclopedia offers the following dramatic description:

The universe consists of an infinite number of possible ideas that lie inactive in storage. That latent consciousness projects an uninterrupted sequence of thoughts, while it itself is in restless flux until the karma, or accumulated consequences of past deeds, is destroyed. That storage consciousness contains all the impressions of previous experiences (*vasanas*, 'perfumings'), which form the germs (*bija*) of future karmic action, an illusive force that creates categories that are in fact only fictions of the spirit.⁶⁴

Although this process is said to be illusory and fictional it is important to hold in mind that this is asserted only from the ultimate point of view. From a conventional point of view, which is the everyday point of view for all except a few enlightened beings, the process of reality must be taken very seriously indeed. As Aldus Huxley is said to have said:

The world is an illusion, but it is an illusion which we must take seriously, because it is real as far as it goes...⁶⁵

In his commentary *Transcending Ego: Distinguishing Consciousness from Wisdom* Khenchen Thrangu Rinpoche explains the fundamental karmic operation of consciousness as follows:

The ground consciousness is the foundation and location for mind because all karmic latencies are stored in the ground consciousness. A momentary visual consciousness instantly ceases (when the next instant appears). Similarly, a mental consciousness is created and ceases instantly; sometimes a mental consciousness does not appear at all. However, the latencies for the arising of these consciousnesses are contained within the ground consciousness. Thus we can remember a visual perception that occurred in the past; and remembering it, strengthens the latency.⁶⁶

According to the Yogacara view a fundamental feature of consciousness is that even the tiniest movement of energy within the structure of consciousness leaves a trace within the ground consciousness *which increases the probability that the same movement of energy will occur at a later point in time*. This reinforcing process takes place at all levels of consciousness, including those deep structures of psychophysical embodiment not available to direct awareness. This mechanism, described by *Yogacara-Cittamatra* Buddhist philosophy, is exactly the quantum mechanism which produces the probability distribution within wavefunctions; the repeated quantum epiontic activity of perception, a mechanism which is clearly indicated by the 'collapse of the wavefunction' builds up the potentialities for future experience. The actual mechanism which is responsible for the unfolding of potentialities within the quantum ground consciousness would have to be some form of quantum resonance. This is the most appropriate mechanism by which karmic cause and effect operates to

unfold the enfolded karmic 'seeds'. The universe, then, is not only a 'self-excited' phenomenon, as Wheeler described it, is also a 'self-resonating' universe.

The next set of stanzas from Vasubandhu we shall consider are:

Since it appears as existent though it is non-existent, the imagined nature is said to have the characteristics of existence and non-existence.

Since it exists as an illusory entity and is non-existent in the way it appears the other-dependent nature is said to have the characteristics of existence and non-existence.

Since it is the non-existence of duality and exists as non-duality, the consummate nature is said to have the characteristics of existence and non-existence⁶⁷.

In these stanza's the metaphysics of the *Yogacara-Cittamatra* Mind-Only perspective links up and interpenetrates the earlier *Madhyamaka* 'Middle Way' perspective, within which all phenomena are said to be neither existent nor non-existent, but, rather, hovering between the two, in the same way that a quantum superposition 'hovers' between all the possibilities within the superposition.

Although from one, rather dogmatic, point of view the two perspectives, Mind-Only and Middle Way, are considered as being antagonistic, it is in fact quite possible to see them as complementary, rather like the notion of the quantum complementarity of wave and particle, although both perspectives would deny any notion of the 'ultimate' existence anywhere in the universe of 'inherently existing' particles, whether they be putative particles of 'matter' or SE's (subjective experiences) or, even, particles of SE's with a material aspect 'glued' on. A crucial point, however, is that the operation of the three natures, comprehends the entirety of the process of reality in its mistaken aspect, there is no MIR beyond this process, it is all a process of a fundamental nondual Mind which gives rise to an illusory realm of apparent dualistic experience because of its own internal cognitive nature. This is a very subtle point; it is because it is the nature of mind to 'know' that it creates an illusory realm of phenomena within which its knowing capacity operates. As Schrödinger wrote:

Mind has erected the objective outside world ... out of its own stuff.⁶⁸

And Max Planck came to a similar conclusion:

All matter originates and exists only by virtue of a force... We must assume behind this force the existence of a conscious and intelligent Mind. This Mind is the matrix of all matter.⁶⁹

However, both subject and object, grasper and grasped, arise within the field of nonduality; the appearance of duality is entirely illusory, although very persuasive.

When enlightenment takes place and the illusion is seen through, the appearances of duality simply arise, and are directly seen as illusory, within a direct fundamental existential insight into the nondual nature of the process of the Mind-Only process of reality. Vasubandhu describes this:

*Knowledge is non-perception;
Abandonment is non-appearance;
Attainment is accomplished through non-dual perception.
That is direct manifestation.*

Direct nondual knowledge of the ultimate nature of reality is ‘non-perception’ precisely because it is nondual and is therefore objectless. The objects of ordinary perception are directly seen to be illusory and the duality of subject and object, perceiver and perceived, grasped and grasped that underlies the mechanisms of ordinary perception are transcended. The instinctive attachment to dualistic imagined phenomena is abandoned at the deepest level of the practitioner’s psychophysical being, and this attainment is accomplished through the direct, immediate experiential insight into the nonduality which underlies and pervades the operation of the three natures. This mode of direct cognition is direct, intuitive, and immediate and therefore not just a consequence of philosophical analysis and reflection, it is a deep transformation of consciousness.

*Through the non-perception of the elephant,
The vanishing of its percept occurs;*

...

This is how it is in the magic show.

In this restatement of the magically conjured elephant analogy it is striking to find the same phrase ‘magic show’ which was used one and half thousand years later by John Wheeler to describe the functioning of quantum reality as it gives rise to the appearances of the ‘classical’ world:

Is there any answer except that it comes from consciousness?
What is Out There?
T’is Ourselves?
Or, is IT all just a Magic Show?⁷⁰

It is remarkable that Wheeler is here actually saying something very similar to Vasubandhu, the entire phantasmagoria of the dualistic experiential world arises from the internal ‘afflicted’ operations which take place within a deep level of nondual consciousness or awareness:

*In the same way through the non-perception of duality
There is the vanishing of duality.
When it vanishes completely,
Non-dual awareness arises.*

Enlightened beings directly see through the ‘magic show’ of ordinary dualistic experience and see phenomena as they are, without duality and ‘empty’ of independent reality. All phenomena are experienced within the overall perspective of the ultimate nondual awareness of the ‘consummate’ nature.

*Through perceiving correctly,
Through seeing the non-referentiality of mental states,
Through following the three wisdoms,
One will effortlessly attain liberation.*

By perceiving phenomena correctly as being productions from a deep level of mind and do not constitute an independent reality and directly seeing the operation of the three natures, attachment to objects as genuinely real, and as objects of craving, ceases. Enlightened beings directly see only dream-objects, which have no hold on their mentality. Such dream-objects experienced, as Hsing Yun says, as “dust” which “clouds the metaphorical pool of enlightened awareness”.

The ‘three wisdoms’ are as follows:⁷¹

1) Before enlightenment there is only discursive everyday wisdom which is applied in the everyday world. When this everyday wisdom is directed towards enlightenment, it becomes a preparation for acquiring fundamental wisdom. In the state of enlightenment there is only pure wisdom which has two aspects; fundamental wisdom and subsequently-attained wisdom.

2) Fundamental wisdom is the foundation. It is insight without distinction-making and is non-discriminative, so it is knowledge without subject/object duality. This is wisdom that is beyond words and concepts; it is direct experiential insight that non-dualistically perceives the ‘Suchness’ (*tathata*) that is the basis of reality.

Fundamental wisdom then brings forth:

3) Subsequently-attained wisdom is a pure form of knowledge that flows out of non-distinction making, so it is "purified mundane knowledge." This is an expedient wisdom that can analyze phenomena without becoming attached, so it can eliminate confusion about the nature of phenomena. Although this discriminative knowledge is at a lower level than fundamental wisdom, it is used by the Buddha for the purpose of benefiting others; all the Buddha's teaching is attained wisdom. This kind of wisdom explains how, in enlightenment, a person can still deal with relative appearances in the everyday world.

*Through the perception of mind-only
One achieves the non-perception of objects;
Through the non-perception of objects
There is also the non-perception of mind.*

Once a practitioner has seen the reality of the fact that all phenomena are of the nature of mind, it is necessary to examine the nature of mind itself. When the nature of mind is examined with penetrating and focused insight it is found to be also insubstantial and ‘empty’ of any fixed and abiding nature. Thus we see that Vasubandhu, whilst being a *Yogacara-Cittamatra* practitioner, anticipates the later synthesis of *Yogacara-Cittamatra* and *Madhyamaka* by the later (eighth century) Santaraksita (Shantarakshita), who wrote:

By relying on the Mind-Only system know that external objects do not exist. And by relying on this Madhyamaka system, know that no self at all exists, even in that mind.⁷²

Vasubandhu’s next stanza is:

*Through the non-duality of perception,
Arises the perception of the fundamental nature of reality.
Through the perception of the fundamental nature of reality
Arises the perception of the radiant.⁷³*

Here Vasubandhu clearly indicates that the state of transformed consciousness that constitutes enlightenment bestows upon the practitioner “the perception of the fundamental nature of reality”. When this occurs the ‘afflicted’ operation of the foundational consciousness ceases and because of this cessation the true nondual, yet radiant, nature of the *dharmadhatu* becomes operative.

One aspect of the enlightened state is the arising of the ‘mirrorlike wisdom’ (*adarsajnana*), which is described by Karl Brunnhölz:

Since it focuses on the completely pure dharmadhatu, it is free from all conceptions of apprehender and apprehended. This refers to the change of state of the alaya-consciousness, through which the reflections of all phenomena appear as clearly in it as anything can appear in a polished mirror⁷⁴.

The point here is that the mind rests in its fundamental nondual ‘empty’ yet ‘self-luminous’ nature in which there are no disturbances, it has achieved a state of imperturbable stillness and luminous clarity which simply reflects whatever arises without being in any way attached or disturbed by appearances. Such a mind directly knows the reality of its own nondual state of awareness to be ultimate reality, there is no mind-independent reality beyond or within the ultimate reality of Mindnature. In terms of quantum field theory one might say that the enlightened mind becomes identical to the quantum field in its ground undisturbed state and experiences the pure awareness which resides as the basis for all experience.

At the outset of this investigation (on page 3) we saw a quote from Vimal which presented the equation ‘subjectivity = MDR - MIR’ (mind-dependent-reality minus mind-independent-reality). As was indicated at that point such a view would mean that MIR becomes paradoxical as to what is nature could be. In a quantum universe and, as Zurek says, “the Universe is quantum to its core’ we cannot allocate materiality as the ultimate nature because, as Henry Stapp says, classical type matter “does not exist in nature”. So we are only left with some notion of an ultimate Mind nature, or Mindnature. As we have seen the Buddhist Mind-Only account provides a comprehensive and exhaustive metaphysical description of the process of reality in terms of three levels, aspects or natures of Mindnature. The correct equation, provided by the Mind-Only analysis is, then:

Ultimate Nondual Mindnature = Interdependent field of dependently originating appearances - False imagination of inherent existence

Once the non-existent ‘false imagination’ is removed (although paradoxically in fact it was never inherently there!), the nondual luminous ‘purity’ of the primordial Mindnature shines forth. There is nothing missing or extra in this fundamental metaphysical account of Mindnature reality. As the Zen master Hung Po explains from a core Zen Mind-Only perspective:

This pure Mind, the source of everything, shines forever and on all with the brilliance of its own perfection. But the people of the world do not awake to it, regarding only that which sees, hears, feels and knows as mind. Blinded by their own sight, hearing, feeling and knowing, they do not perceive the spiritual brilliance of the source substance. If they would only eliminate all conceptual thought in a flash, that source substance would manifest itself like the sun ascending through the void and illuminating the whole universe without hindrance or bounds.⁷⁵

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¹ Vimal, R. L. P. (2010), p679

² Stapp, Henry (2004) p223

³ Vimal, R. L. P., (2011)

⁴ Brunnhölzl, K (2010) p680

⁵ ibid

⁶ ibid – the quote is from the *Samyutta Nikaya*

⁷ ibid

⁸ Of course all Buddhas have omniscient wisdom, but in the Mahayana certain Buddhas are given primary responsibilities so to speak.

⁹ Sprung (1979) p48

¹⁰ McClintock, Sara L. (2010) p13

¹¹ d'Espagnat (2003) pxvi

¹² Barrow, John D., Davies, Paul C. W., Harper, Charles L. (eds) (2004) p201 – Anton Zeilinger: 'Why the quantum? "It" from bit"? A participatory universe? Three far-reaching challenges from John Archibald Wheeler and their relation to experiment.'

¹³ Adams – quoted in Vimal, R. L. P. (2010)

¹⁴ Vimal, R. L. P. (2010)

¹⁵ Vimal, R. L. P. (2009)

¹⁶ Vimal, R. L. P. (2009)

¹⁷ Garfield, Jay L. & Geshe Ngawang Samten (Translators) (2006) p 297

¹⁸ Brunnhölzl, Karl (2007)

¹⁹ Thrangu Rinpoche, Kenchen (2001)

²⁰ Barrow, John D., Davies, Paul C. W., Harper, Charles L. (eds) (2004) p136 – Wojciech H. Zurek: 'Quantum Darwinism and envariance.'

²¹ Allday, Jonathan (2009).

²² John D., Davies, Paul C. W., Harper, Charles L. (eds) (2004) p577 – Wheeler, J A (1999)

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²³ I shall be using the *Ornament of Reason: The Great Commentary to Nagarjuna's Root of the Middle Way* by the 12th century Buddhist practitioner-philosopher Mabja Jangchub Tsondu which has recently been translated by the 'Dharmachakra Translation Committee, with additional material from Geshe Ngawang Samten and Jay L. Garfield translation of the 14th century commentary by rJe Tsong Khapa called the *Ocean of Reasoning*, in this work the fifteenth chapter is entitled 'Examination of Essence'

²⁴ Tsöndrü, Mabja Jangchub (2011) p324-5

²⁵ Garfield, Jay L. & Geshe Ngawang Samten (Translators) (2006) p315

²⁶ Tsöndrü, Mabja Jangchub (2011) p328

²⁷ ibid

²⁸ Vimal, R. L. P. (2009)

²⁹ Allday, Jonathan (2009) p493

³⁰ Tsöndrü, Mabja Jangchub (2011) p326

³¹ ibid – all the comments come from this source.

³² Hsing Yun, Master & Tom Graham (trans)(2010) p113

³³ Hsing Yun, Master & Tom Graham (trans)(2010) p113-114

³⁴ Garfield, Jay L. (1997)

³⁵ See <http://www.dharmafellowship.org/library/essays/yogacara-part3.htm>

³⁶ Garfield, Jay L. (1997)

³⁷ Barrow, John D., Davies, Paul C. W., Harper, Charles L. (eds) (2004) p136 – Wojciech H. Zurek: 'Quantum Darwinism and envariance.'

³⁸ Garfield, Jay L. (1997)

³⁹ Sarfatti, Jack 'Wheeler's World: It From Bit?' - Internet Science Education Project,

San Francisco, CA.

⁴⁰ Dolling, L.M.; Gianelli, A. F. & Statile, G. N. (eds) (2003) p491 – John A. Wheeler (1978): ‘The ‘Past’ and the ‘Delayed Choice’ Double-Slit Experiment.’

⁴¹ Thrangu Rinpoche, Kenchen (2001) p16

⁴² Kaufman, Marc: ‘Shining a Light on a Dream’ – FQ(x) (The Foundational Questions Institute) February 8th 2008.

⁴³ Stapp, Henry – ‘Nondual Quantum Duality’

⁴⁴ Garfield, Jay L. (1997)

⁴⁵ Hopkins, Jeffrey (1996) p389

⁴⁶ Ricard, Mathieu (1996) p92

⁴⁷ Dowman, Keith – Flight of the Garuda (<http://www.keithdowman.net/books/fg.htm>)

⁴⁸ d'Espagnat, B (2006) p348

⁴⁹ Zurek, Wojciech. Decoherence and the Transition from Quantum to Classical – Revisited p4

⁵⁰ Hawking, Stephen & Mlodinow, Leonard (2010) p140

⁵¹ *ibid*

⁵² ‘The Evolution of Reality’ – www.fqxi.org/community/articles/display/122 (The Foundational Questions Institute) November 10, 2009.

⁵³ Zurek, Wojciech H. ‘Quantum Darwinism and Envariance’ in Barrow, John D., Davies, Paul C. W., Harper, Charles L. (eds) (2004). *Science and Ultimate Reality*. Cambridge University Press.

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⁵⁵ Garfield, Jay L. (1997)

⁵⁶ Brunnhölzl, Karl (2009) p353

⁵⁷ Walpola, Rahula (1974)

⁵⁸ Waldron, William S. (2003)

⁵⁹ Thrangu Rinpoche, Kenchen (2001) p34

⁶⁰ Thrangu Rinpoche, Kenchen (2001) p36

⁶¹ Thrangu Rinpoche, Kenchen (2001) p37

⁶² Thrangu Rinpoche, Kenchen (2001) p38

⁶³ Thrangu Rinpoche, Kenchen (2001) p38

⁶⁴ Britannica Online Dictionary

⁶⁵ Spotted in advertisement in Hi-Fi magazine – source no longer known.

⁶⁶ Thrangu Rinpoche, Kenchen (2001) p43

⁶⁷ All italic quotes from this point are from Garfield, Jay L. (1997)

⁶⁸ Schrödinger, E. (1944) p121.

⁶⁹ ‘Das Wesen der Materie’ (The Nature of Matter), speech at Florence, Italy, 1944 (from Archiv zur Geschichte der Max-Planck-Gesellschaft, Abt. Va, Rep. 11 Planck, Nr. 1797)

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