The Fall of Man

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Introduction

In this essay I am going to examine the Buddhist Dzog Chen view of the universe and how sentient beings develop as part of the universe (at least as I understand it). My goal is to compare select Buddhist ideas, such as consciousness and mind, to their contemporary Western science and philosophy counterparts and to try to clearly define a set of issues that need to be explored in order to harmonize or understand each perspective, in terms of the other. I want to start by discussing some key ideas about mind.

Two States

Buddhist philosophers postulate at least two different states of mind: the enlightened mind of a Buddha or realized being, and the "fallen" state of a sentient being. To understand the difference it is helpful to consider the Buddhist conceptualization of the universe and particularly the Buddhist Dzog Chen school's view of "space".

In the day-to-day Western view of space, space is empty; it is similar to an empty container that can contain both "solid" things such as objects, and emptiness itself (i.e., empty space). But in Western science, a different view of space emerges: What we perceive as empty space is actually filled with various types of energy and matter (e.g. the space around us is filled with air molecules), and it is nearly identical in density to the composition of solid objects. There may not actually be any truly empty space anywhere: Even between the stars there is matter, albeit, of a lower density than found on our planet, or sun. What is special about the concept of empty space, and why we create this construct within our minds, is that “empty” space *affords* us the opportunity to

move through it, whereas "solid" objects do not. Even if objects actually consist of 99.999…9% empty space, they appear solid to us because we cannot move through them. So the day-to-day Western view of empty space is based on the functional properties of solidity.

In contrast, in Buddhist Dzog Chen thought space serves as a metaphor that points towards the original state of mind: mind before the “fall” (Rabjam, 1998; Dalai Lama, 2000). From this perspective the original state of mind is a state of unity beyond concept, thought, and differentiation. It is similar to space in that it extends throughout the universe (in fact, it actually could be considered to be the universe).

Further, this unity is "alive", not in the traditional sense applied to biological systems where an entity takes in energy from the environment and uses it to grow and maintain a biologically based structure, but rather in the sense that the universe itself is primordial awareness. Primordial awareness encompasses both of what we think of as matter (or solid objects) and empty space. That is, from a Buddhist perspective, what we perceive as matter is simultaneously *matter and awareness*. Now it is important to stress, that we do not mean that matter is aware in the sense that there is an entity that is aware of something. Here we distinguish between a process or activity (a verb), and a thing (a noun). If we think of the term *awareness* as a process, the meaning of it is something like: "I am aware." or "It is aware". An agent of the action is implied. But I also want to introduce the idea of awareness as a thing: In this usage, there may not be anyone that is aware, but just awareness, per se.

Saying this slightly differently, matter, in addition to having physical properties that are best described by chemistry and physics, is also "awareness". This idea should not be perceived as too radical; some contemporary (and ancient) theories of philosophy make similar claims (Skrbina 2007). Below we will discuss the implications of this idea for the concept of mind.

In sum, in the Dzog Chen conceptualization of "space", there actually is not any truly empty space: it is all just primordial awareness. In addition, space is not the empty container of things, to include objects and empty space, as it is in the Western conceptualization of it (Tarthang Tulku, 1987). Rather it is a dynamic field from which all

arises. Further, everything that arises from the field never departs from it, because the field is all encompassing. That is, the concept of "arising" is similar to part of the field temporarily taking on a form of structural coherence; but nothing can ever leave the field physically.

There are multiple reasons why the term emptiness is used as a pointer to the Buddhist concept of primordial awareness. First, within the unity of existence there are no separate objects. The underlying primordial wisdom encompasses everything. Using the term emptiness to characterize objects helps point to this unity because in emptiness there are no distinct things. Second, the sense of I, its attendant mental concepts, and the underlying cognitive processes that support them, are what prevent you from experiencing the field (i.e., only within our minds are there distinct objects and empty space). Describing the field as empty helps loosen the role of conceptual knowledge in cognition because no additional concepts apply to a field that is empty, beyond the concept of emptiness itself. And while emptiness is a concept, it does not point to many other concepts so it helps dampen the activity of the conceptual mind, which likes to proliferate mental constructs.

The Buddhist position, while different from the most widespread Western views of emptiness, does seem to have some ideas in common with modern physics-based models of the universe. For example, one such model argues that there is a field that extends everywhere throughout the universe, and that matter arises spontaneously from this field and eventually decays or dissolves back into it (Economist, 2015). This model is popular because it accounts for the different quantities of matter and anti-matter by arguing that greater amounts of anti-matter fall back into the field, perhaps as a result of interacting with black holes. The Buddhist Dzog Chen model that we are discussing is similar to the field model in that it too postulates a field that extends everywhere throughout the universe, although in the Buddhist view the field is luminous awareness and not just a field of "dead matter". From awareness, apparent phenomena seem to arise in a manner similar to the way matter arises from the field postulated by modern physics.

This understanding of emptiness clarifies why the Mahayana Buddhist term Sunyata is frequently translated as emptiness, when in reality it represents a state of being where one is experiencing the empty luminous clarity that underlies all existence (i.e., the primordial awareness). Another term that is used is the Sanskrit word tatagatagarbha (womb of potentiality). This term is used to focus on the "aliveness" of space, or space's role in enabling all things to come into being.

I next discuss the concept of "unity" of the primordial wisdom in more detail, knowing that any description of it is severely limited because it is a state that is beyond conceptualization (to include such concepts as unity and field). I then discuss the "fall of man", the process through which sentient beings become separated from this unity and become lost in samsara. Finally, I will discuss how these Buddhist ideas relate to select Western ideas about the mind and define some issues that need to be clarified to more fully understand the processes through which the open luminosity becomes a sentient being.

To begin, let us consider conceptual knowledge and its basic component, a concept. It is impossible within the domain of conceptual knowledge for there to be a state where there is just one concept because concepts exist only in relationship to other concepts (Tarthang Tulku, 1987). For example, for there to be the concept of "one" there must also be either a concept of two, or none. For there to be hot, there must be cold (or at least a concept of not hot), for there to be short, there must be a long, etc.

Sometimes grasping a concept is dependent upon utilizing more than one other concept. As discussed above, space is an interesting example of this. The Western concept of space is thought of as a vacuity that can hold both things and emptiness. It therefore seems that a minimum of three concepts are needed to grasp the basic notion of space (i.e., space as a container, empty space, and filled space). Further, to measure space requires at least three concepts: a here, a there, and a distance concept with which to measure the distance between the two objects. Emphasizing this point further, without at least two separate existents (or things) you cannot measure out, or even define, the idea of distance.

Within the underlying field[1], space, per se, does not exist--at least in the way we conceptualize it in the West--since within the unity there are not two things (but neither is there only one thing, since that too is a concept). It is only when you take a conceptual step away from the field and take a dualistic stance of two of more things (usually a "you" and a separate universe), that you can create a concept of space as a place that holds things. Consequently, space is a metaphor that points to the field because the original state, the "unity"--which itself is a concept--exists beyond or prior to all concepts. That is why the original state is regularly described as being permanently beyond intellectual understanding. It is said that our intellectual minds cannot grasp nor comprehend it because the intellectual mind uses concepts (to grasp things) and words (embodying concepts) which can only point towards this unity. According to Buddhist teachings, to understand the unity, it must be directly experienced.

The unity, or ground of all being, is described as being primordially pure (Taye, 1995). It transcends limitations of existence or non-existence, and it cannot be reduced to objective features. This ground is spontaneous (in being an open dimension) and it surpasses the limitations of being permanent or subject to annihilation. Since it is devoid of any substantiality, it is indivisible from emptiness. Existing as neither cyclic existence, nor perfect peace, it is described as radiant intrinsic awareness.

The energy of the ground is described as a quality of knowing or clarity that manifests in various ways. It is portrayed as clear and unobstructed, and does not involve a dualistic experience of an observer and an observed object. Experiencing the ground is described as similar to looking into a mirror that reflects back your own features, although you may not recognize them as such. Further, the Buddhist Dzog Chen teachings suggest that the state of being in union with the field is a state of wonderment. Nothing is perceived as ultimately real or fixed, but rather all is seen as being similar to a dream, an echo, or a mirage (Guenther, 1976). Mind itself is a luminous cognitive capacity that gazes at itself in wonderment. It is also characterized as supreme bliss; an intensely "alive" state of being.

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[1] There are several terms I use synonymously in this essay. These include: ground, field, unity, primordial ground.

The Fall of Man

The "fall of man" occurs when you fail to recognize the intrinsic ground (i.e., the primordial awareness) as your own being. The process has been described as dancing with energy when you temporarily black out (Trungpa & Guenther, 1975). When you wake up, you no longer identify with the ground, but instead you have created a concept of "I". There is now a you, and a universe of things that are not you. Further, a space that contains you and the universe has now come into being. From an experiential perspective, the "fall" results in your perceiving forms (including yourself) as separate and distinct things, and then introducing concepts to characterize these things. This, in turn, starts a cognitive process that perceives and reacts to this "world" as if it were real and actually existed as other than, and separate from, the basic unity or primordial ground of being.

The original concept is "I". As Buddhist philosophy discusses, when you introduce an I, you are defining yourself and the rest of the world simultaneously. Whatever you identify as "I" is you, and the rest of the world is other. It is the negation of "you".

Now the proliferation of concepts does not stop with the introduction of these two things (you and the world). As you look at the world, you can see "things", which are really just forms within the field, and you choose one and say "Not me, and not the rest of the world either" (i.e., not the other forms either), and this results in that form becoming some new "thing" that is defined by the concept you assign it. Initially, the concept you assign to the form might be as simple as liking or disliking it; later on you might enrich the concept by further characterizing it. This process of creating things through negation continues until you define a representative set of forms. They are all defined by "not me, not the world, and not these other things" (i.e., not the other concepts you have created). At that point something happens that is similar to using a calculator when you have a negative number that you want to get rid of. Mentally you push the plus/minus key and all the negatives (i.e., all the "not this" and "not thats")

become positively defined as existents, and you have created both "a you" and "a world you inhabit". It seems to be a real world that you perfectly fit into. It consists of things that you recognize and that have utility for you.

During this process, we do not just randomly create forms to assign concepts to. Rather, we choose forms to assign meaning to based upon what *affords* us opportunity (Gibson, 1979). We are embodied physically. Some things we can stand on, other things we cannot. Some things we can put things on, other things we cannot. Some things are good for pounding (or holding water, or burning, or eating, etc.) and other things are not. Those things that we can use and that we fear, we assign elaborate concepts to. Other things that provide us less utility we might just assign names to (and perhaps a minimal concept) or ignore them all together.

This process of naming forms and associating concepts (or knowledge) with them is co-existential with becoming "conscious". Consciousness is a characteristic of individuals wandering in samsara; consciousness does not exist in the state of unity. Individuals who have "fallen" are conscious of a specific world: the specific set of forms, concepts, interrelationships, and meanings they have created. They are no longer aware of all the myriad possibilities that exist in the unity or ground. Further, what we normally think of as mind (Tibetan: sems) is just this process of naming, characterizing, and reacting to forms. It is an intentional process that creates and perpetuates the dualistic self. This view of consciousness as a property of “fallen beings” is in sharp contrast with Western philosophy which views consciousness as the pinnacle of evolutionary development.

More formally, in Buddhism this process of becoming an individual who inhabits a specific world is described by The Twelve Links of Dependent Origination (Kalu, 1997). The process begins with ignorance (1), a basic forgetting of the fact that we are the ground. Formative factors (2) then move the basic openness in the direction of thinking "I am" (e.g., imagine a dust devil just beginning to form). The formative factors agitate the fundamental ground like waves on water. Conceptually, they are a type of volitional process that pushes us toward a specific type of being based upon how we react to things. This push results in consciousness (3), a subjective I that perceives what

appears to be (in the deluded state) external objects. What are experienced subjectively are names and forms (4), and the start of the process of assigning concepts and meanings to these forms. The next stage is the six realms (5), where the consciousnesses of sentient beings develops in six varieties and begins to tie together the fives senses and the grasping mind into a specific embodiment (e.g., the dust devil starts to become coherent). Contact (6) is the connecting of "external" forms and consciousness. It is the start of the process that creates conceptual knowledge. Sensation (7) is the initial subjective experience of objects and sense consciousness coming together. Some things are perceived as pleasant, others unpleasant, and still others in a neutral fashion. Thirst (8) is an urgency that provokes a subject to seize the form as a real object, existing independently of other things. Grasping (9) is the subjects' fixation on the object as a conceptual thing; it involves an examination of it. Becoming (10) is the beginning of the process of concretizing a whole world, while birth (11) is your discovery of this world and the reality of your inhabiting it. Eventually, however, this process ends in death (12) and the process starts over during the experience of the bardo (i.e., the transitional state of experience after death).

Overall, desire and craving for coveted objects and experiences, and the rejection and pushing away of unpleasant objects and experiences drive this process. It is a process through which our karmic tendencies (in part, our habitual ways of reacting to experiences and the attitudes we possess at the time of death) exert themselves to create our world. The liking and not liking of specific objects combined with conceptual knowledge creates a volitional like process that propels each of us into samsara. When we see things we like, we are drawn towards them, we think about them, and fantasize what it would be like to posses them. This mental energy creates the volitional/behavioral tendencies that in the right situation are acted out (i.e., they are, in some sense similar to (fixed) action patterns that are triggered by appropriate sign stimuli). This acting out, in turn, creates stronger tendencies in whatever behavioral direction was expressed via self-conditioning. In a similar fashion, we also see things that repulse us and we want to get away from them; this creates, or strengthens, a "repulsive" tendency towards that class of object. This aggregate "reactiveness" to

forms and objects is what drives the continual mentation, or thinking, that goes on in our heads. It is the process that we know of as mind, and it is the process that traps us in the fallen state.

The Buddhist path is a way to undo or stop this process. It is a way to rediscover our original mind (i.e., the connection to the ground or unity), and find a way back to the original state. The Buddhist path is predicated on the idea that we can slow down the mental processes through the application of various types of meditation and other techniques. Specifically, mindfulness meditation enables one to see the conditioning (or volitional) process in action and allows one to deliberately chose a different path by not reacting to a particular situation with the typical habitual response. Calm-abiding (Shamatha) meditation slows the mind which enables one to better resist the tendency to behave in habitual ways, while insight meditation (Vipasyana) provides the knowledge (or wisdom) to know which behaviors will eventually lead you to freedom (i.e., a return to the original open state). Using these three forms of meditation to slow down the habitual mental processes eventually produces gaps in the mentation that continually occurs in our minds. The gaps, which may take several years of practice to initially arise, will be experienced as luminosity, non-conceptuality, or bliss (collectively known as rigpa), and represent "progress" along the spiritual path. Such gaps are experiential evidence that other states of being exist. The whole Buddhist path represents a complete dismantling, or wearing out, of the limited discursive mind and rediscover your original state of being.

Comparison to Western thought

Modern Western science basically divides the study of the mind into two streams of research. One stream deals with the phenomenological aspects of the mind: the subjective (or first person) sense that we personally are aware and have mental states such as thoughts and emotions. Typical questions investigated by this line of research include: What does it mean to be conscious of a world? Are there species other than our own that possess consciousness? If yes, how is their consciousness similar and

different from ours? How can one determine if another species possesses consciousness? Can non-living objects possess consciousness? What do we mean by living? What do we mean by consciousness?

The other stream of research investigates the functional or computational architecture of the brain, with an emphasis on studying how the brain processes information under varying conditions. Typical questions investigated by this line of research include: What are the key functional components of information processing (e.g., working memory, motor centers, visual centers, etc.)? How do the brain architectures of different species compare to one another? What differences in information processing capabilities result from such architectural differences? What limitations and advantages are offered by other architectures? How do specific functional properties map onto the brain? In this stream of research, the phenomenological aspects of the mind are usually minimized.

It should be noted that researchers in both of these areas of investigation do not normally use the term mind. Rather, the term consciousness is used when discussing the phenomenological aspects of experience, and the term information-processing characteristics is used when discussing the functional aspects of how information is extracted from the environment and used to guide behavior. The primary reason for this is that the term mind is undefined, in a scientific sense.

Mind is a term that belongs to a folk model of Western civilization. A folk model is a widely held set of beliefs in the population that has never been examined critically to determine whether or not it is true, or to what extend it is true. The Western folk model largely implies a dualistic perspective. That is, the concept mind is usually defined in relationship to the concept of matter. Within the folk model, mind and matter are fundamentally different substances: mind is animate whereas matter is inanimate. Most scientists do not believe in dualism, and as a result they have sought words to characterize their research that do not imply a dualistic stance.

A second reason that the term mind is normally not used in science is that in the folk model, the term mind is frequently used loosely to explain behavior (e.g., “I have made up my mind so, that is that.”) Modern science is normally not interested in

subjective explanations for behavior. Subjective reports typically are not clear-cut enough to be accurately characterized (i.e., categorized and measured), and frequently the reason, or rationale, the subject reported can actually be demonstrated to be false (i.e., the reported reason is not the real reason the subject engaged in the behavior).

Due to these difficulties associated with the term mind, scientists prefer to study "behavior" and/or "consciousness" and to either link these terms to brain areas and brain states, or hypothesized functional capabilities such as memory and attention. Further, scientists try hard to define exactly what they mean when using specific terms (e.g., behavior and consciousness), although they have not been particularly successful in doing so in either stream of research.

Returning to the discussion of consciousness, Western scientists commonly postulate that consciousness is a property that arises from the "computational complexity" of a system. That is, Western science (for the most part) believes that consciousness *emerges* (almost magically) from complex systems when they reach a certain level of sophistication. Modern scientists, however, are divided as to what type of complex systems can give rise to consciousness. Some scientists believe that any truly complex system (i.e., imagine an extremely complex computer system) will become conscious, whereas other think only complex biologically based (i.e., living) systems can give rise to consciousness. Recently, "computational complexity" as an explanation has been challenged by some Western scientists who believe that almost all living creatures, including very simple ones, possess consciousness. However, the jury is still out on the relationship of system complexity to consciousness, and computational complexity remains a dominant view.

In contrast to Western science, Buddhism has well defined definitions for consciousness and mind, although what they imply is a very different viewpoint from the beliefs of Western science. As discussed above, Buddhist thought[2] argues that possessing consciousness is a product of the "fallen condition". One has become

[2] In the vast majority of Buddhist writings, possessing consciousness refers to the "fallen condition". There are, however, a couple of instances where the teachings of the higher tantras refer to consciousness in a non-dualistic fashion.

mentally/perceptually separated from the primordial ground and this process changes open awareness into consciousness. Instead of being aware of myriad possible worlds, (fallen) sentient beings know only one world.

Further, in Buddhist thought there are eight types of consciousness associated with sentient beings (Kala, 1997). They are visual, auditory, olfactory, gustatory, tactile, conceptual, self-consciousness, and the repository or storehouse consciousness. Consciousness, per se, is the aspect of the dualistic mind that knows objects of perception and internal states of mentation. The five sensory consciousnesses know perceptual objects, the conceptual consciousness knows the knowledge activated when perceiving an object (both the denotative and connotative aspects), the self consciousness is the sense of "I-ness" and will, and the storehouse consciousness contains intentions to act and respond in certain ways that are not now active (i.e., it contains habitual propensities to respond in certain ways under select conditions; it contains the seeds of karma). The concept mind encompasses the dualistic process (i.e., the fallen condition) where we perceive separate objects through the senses, activate knowledge corresponding to the objects, respond to the them in our specific fashion, and by doing so strengthen some aspect of our habitual propensities.

To summarize the differences between Buddhism and Western science, Buddhism holds that the universe is awareness, per se. In this usage, awareness is (primarily) a noun (i.e., the universe is not a mind in the sense that we would normally use that term, although it might be sentient). Awareness is the stuff the universe is made of. It is an open dimension that allows things to manifest. Most likely, it is an attribute of energy, or alternatively, energy and awareness are two terms to describe the same thing.

Consciousness represents a degenerate, or "fallen" condition. The open dimension of awareness has "collapsed" to become a specific world consisting of separate distinct objects to include what appears to be inanimate things and animate, consciousness possessing, sentient beings. Fallen beings are aware (verb usage), but they are aware of a distinct world.

Buddhism postulates that there are many types of minds, with the two major classes being minds of enlightened beings and minds of sentient beings (non "fallen" and "fallen", respectively). Further, among the class of sentient beings there are further differentiations of types of minds, with some linked to physical bodies, while others are not. Once again, each class of beings perceives a specific "world" based upon their karma and the way they are embodied. Sentient beings can be contrasted to Buddhas and advanced Bodhisattavas who perceive the world their physical form body (Nirmanakaya) resides in, as well as those worlds perceived by other classes of beings.

In the Western scientific worldview, consciousness is the pinnacle of evolutionary development. Consciousness arises from the brain and confers some evolutionary advantage in adapting to the environment. Man, as the most evolved creature, definitely possesses it, and perhaps several other well-evolved species possess it as well (probably Bonobos, orang-utans, elephants, dolphins and magpies). In Western science awareness is not a noun, it is only a verb. It is the act of (a being) being aware. Further, modern Western science does not normally use the term mind since from a scientific perspective it is not well defined. These differences are summarized in the table below.

Table 1 Summary of Differences Between Buddhist and Western Thought

	Awareness	**Consciousness**	**Mind**
Science	The process of being aware; verb usage only	Pinnacle of evolutionary development; possessed by man and probably a limited number of other species; arises from the brain	Not a term normally used by modern science

Buddhism	The stuff the universe is made of, and the process of being aware; both verb and noun usage	A degenerated state or fallen condition; sentient beings are conscious (Buddhas are not)	There are many types of minds, with the two most important categories being enlightened minds and sentient beings

We will now shift the focus of the discussion to more carefully consider the concept of mind and briefly explore the process it represents. We will start with historical Westerns ideas, and then consider the Buddhist conceptions of mind in slightly more detail. This discussion will be conducted at a "high level" with the goal of identifying issues that need further study, development, and discussion. As will be seen, some of the issues are quite complex and require significant additional study to clarify them. We begin with a discussion of where the Western concept of mind comes from.

Where does the Concept of Mind Come From?

Mind is an interesting concept. As described above it seems to imply the existence of a "not mind", or the world of inanimate matter. Historically, the concept of mind includes both a thinking, or noetic, component (i.e., that which thinks) and a sense of subjective experience (i.e., my experience). The concept of mind starts to become the standard philosophical way of thinking about the sense of self in the 16th century (Audi, 1995). This shift in thought is associated with the beginning of materialistic thinking (i.e., discovering chemical substances that can be combined to make other substances) and attempts to locate the mind in the body. Prior to that, the concept of a soul, which is the idea that there is an aspect of myself that transcends life and will continue after life has ended, was dominant in many parts of the world (and is still popular today). The concept of a soul is at least as old as Greek thought where it is

found in Plato's writings. The "modern" version of mind, and the concept of mind - body duality, originates substantially from the writings of Rene Descartes (Audi, 1995).

Descartes divided the world into two separate realms, or dimensions, based upon their essences. Descartes argued that the essence of physical things is that they are extended in, or occupy, space. In contrast, the essence of the mental substance (i.e., the stuff that minds are made out of) is to think and have subjective experence. Descartes was also among the first to seriously consider how these two distinct substances might interact. In his view, they interact through the pineal gland; this has obviously been shown to be not true. How the body and mind interact is a key problem for all dualistic models. No real satisfactory proposal has yet to be put forth, although many philosophers have tried.

The Western folk model of mind is in accord with the Descartes' model. Mind is a separate substance that does not occupy space. Further, the mind moves through space just by thinking. A given mind thinks of a place and it is immediately transported there. Physical barriers do not impede it and the move occurs instantaneously (i.e., it does not take longer to go farther).

Buddhist thinkers propose an interesting variation of the interaction of mind and body based on the concept of a subtle body. A subtle body consists of channels, centers (charkas), and winds (Ponlop, 2006). The channels connect the centers and the winds flow through the channels. The subtle body plays a major role in animating the body and controlling bodily functions. In this framework, instead of the mind/body being connected at one point, the subtle body is said to connect to the body at seventy-two thousand points.

What is not clear is, what is the subtle body? Is it part of the "mind" (i.e. a specific way the mind manifests itself), or something completely different? For example, Buddhists believe that entities exist in both our realm (i.e., the realm of normal matter defined by the standard model of physics) and other more subtle realms (i.e., realms or dimensions that cannot be directly perceived by physical entities like ourselves). One possibility is that mind might be a process or activity that can manifest in either normal

matter or “subtle matter". In this case, the subtle body is analogous to the physical body, but it exists in another realm.

The Buddhist position is different from the traditional Western model derived from Descartes, which only sees two substances in the universe: mind interacting with normal matter. At a minimum, the Buddhist viewpoint includes a realm (or state of matter) that is different from that defined by the standard model of physics. In addition, it is not clear if "mind" is the subtle body, or a separate essence. In the teachings known popularly as the Tibeten Book of the Dead, there is a section that states we have a physical body and subtle body, both of which dissolve or disintegrate at the time of death, and an additional subtle essence which travels between lives. We will return to this discussion below, after we introduce some additional information.

Can Minds Exist Independently of Physical Embodiment?

Having established some understanding of the difference between Buddhist and Western views of space and mind, we can now address Buddhist systems of cosmology. To a Western scientist, the universe is an empty external container (space) filled with things (e.g., galaxies, stars, black holes, etc.), and the scientist wants to create an inventory of what is out there and to understand the origin and relationships between these things; that is a what cosmological scientist studies. In contrast, a Buddhist sees himself or herself and all other things arising from a universal ground, almost like waves on the ocean. The Buddhist can look outward and see myriad forms (at varying distances and size scales), the same as a cosmological scientist would see, but they can also look inward and see the process through which the “wave” forms and is maintained. Buddhist cosmology covers both external and internal spaces and processes.

This difference in domains of study becomes apparent when you study Buddhist cosmology. The book *Myriad Worlds* (Taye, 1995) describes four different systems of Buddhist cosmology. Each system seems to provide a distinct set of beliefs and was developed by a different school of Buddhism. All Buddhist positions, however, argue

that the universe is timeless (or eternal), very vast in size, and that it continuously undergoes cycles of expansion and contraction. Further, Buddhists believe that there is a field underlying everything, that matter arises from the field, and that matter is influenced by the mental imprints of sentient beings (i.e., these mental imprints shape, to some extent, the development and expansion of the universe). In addition, Buddhists believe that a wide variety of types of sentient beings exist throughout the universe.

The first system is called the Numerically Definite Cosmology (NDC) and it is normally associated with the Hinayana perspective of Buddhism. In the NDC, the structure of the universe is a square axis mundi (world pillar at the center of the universe), similar to a mountain with terraces, and surrounded by four continents and some smaller islands. The mountain's name is Mount Meru. Sentient beings live throughout this space. Further, there is a progression of painful to blissful experience as you move from lower to higher on the mountain. The beings lower down, or even under the mountain, experience great pain and suffering. As you move progressively higher your experiences improve, until you reach various god realms at the top of the mountain where beings experience great bliss. Of special import is the southern continent Jambu. This continent, which has a blend of pleasure and suffering, provides the rare and perfect environment for seeking liberation through practicing the dharma. The land of Jambu in Buddhist cosmology may have referred to the Indian sub-continent, or perhaps to our whole planet.

The cosmology of NDC appears to be mythological and perhaps developed to support Buddhist teachings on karma and rebirth. Buddhist's believe that each sentient being undergoes countless rebirths driven by their karma (i.e., the results of their actions). Further, as mentioned in the previous paragraph, of all the various types of rebirth that one can experience, from hell being to a god, from a Buddhist perspective the best realm for attaining enlightenment is the human realm. The NDC provides a framework for discussing these aspects of the teaching.

The second Buddhist cosmological framework is the Tantra of the Wheel of Time (TWT). This framework is associated with the Kalacharka tantra, which is one of the newest (or last discovered) Tantras. One of the key areas of focus for this Tantra is

showing how the microcosm of the individual relates to the macrocosm of the universe. More specifically, it relates the development and shape of the human body to the development and shape of the universe. The overall structure of the universe is very similar to that found in NDC, although the names and specific details of the continents, islands, and oceans differ slightly. Further, because of the emphasis on development, this perspective describes in detail the process of creation (as opposed to just providing a static description of the final state). The overall cosmology of TWT seems to be focused on describing the stages of development leading to becoming an enlightened being. In addition, the TWT framework supports a very elaborate form of astrology.

The third framework is the Cosmology of Infinite Buddha Fields (CIBF). Whereas the NDC framework is associated with the first turning of the wheel (i.e., the earliest sutra-based Buddhist teachings), the CIBF framework is associated with the teachings of the third turning of the wheel (e.g., Avatamsaka, Saddharmapundarika, and Vimalakirtinirdeasutra scriptures), which are among the newest (or last discovered) sutra-based teachings. Sutra teachings usually differ substantially from tantric teachings in style and form, and the CIBF teachings differ substantially from the TWT teachings of the Kalacharka Tantra.

It is probably easiest to understand CIBF teachings of the third turning of the wheel of dharma, by comparing them to the Prajnaparamita teachings of the second turning of the wheel. The Prajnaparamita teachings focus on discovering emptiness through the investigation and negation of concepts. One method employed in these teachings is to analyze everything from the perspective, is it one thing or many? Everything that initially appears as a unity, or one thing, can be shown to consist of pieces, which in turn are composed of more pieces. Through thorough analysis, Buddhists believe that one will eventually exhaust the conceptual mind, or intellect, and discover the real nature of reality, which is called Sunyata or suchness.

But once again, (as discussed above) is emptiness really empty, or is it a door into something "greater"? The CIBF teachings say that the underlying nature consists of an infinite number of Buddha fields in which Buddhas and Bodhisattvas teach. If we had pure vision, which arises with the exhaustion of the intellectual mind (and is the

same thing as experiencing emptiness), we would perceive a universe that consists of an infinite number of worlds. These worlds overlap and interpenetrate our own world (and the rest of the universe) and seem to arise from the perspectives taken by the sentient beings that inhabit them (with some perspectives being pure and some not pure). Whether these worlds are part of the ground, or dimensions that arise from it is not completely clear.

In the CIBF framework, both the karma of deluded sentient beings and the vows of the Buddhas and Bodhisattvas shape the way the world appears, and develops. A key emphasis in the CIBF framework is on Buddha nature (tathagatagarbha; which is synonymous with suchness and the field described above). The ground of all is Buddha nature. It pervades everything and is everywhere. The key issue is whether or not you can experience it. Buddhas and Bodhisattvas on the eighth level of development (bhumi) can perceive the fundamental nature, or ground, and as a result perceive the universe as an infinite number of pure lands. Sentient beings, because they are conscious or possess consciousness, can only perceive one impure realm: the one they inhabit. Further, different types of sentient beings, perceiving the same space, perceive it differently, depending upon the type of delusions they have. Different delusions (e.g., anger, jealously, pride, etc.) function as lenses which "color" the way sentient beings perceive reality.

While the CIBF framework does acknowledge the cyclic nature of the universe like the other frameworks do, in the CBIF framework, the static physical structure of the universe (Mount Meru and the continents) fades into the background and the primary emphasis is on the infinity of space and light, and the multiple scales at which the universe exists (Taye, 1995). We perceive the world as human beings. This provides us temporal and spatial frames of reference. Further, the way we are physically embodied also limits what we can perceive (e.g., we can perceive only a very limited range of electromagnetic energy or light). The CIBF framework points out that there potentially are an infinite number of worlds that can exist, with varying frames of reference, and that Buddhas and Bodhisattvas teach in all these dimensions, and that

all of these dimensions can become pure lands (or perhaps they are already pure lands and it is only deluded sentient beings that cannot perceive it).

The fourth and final Buddhist framework discussed in *Myriad Worlds* is called the Non-Cosmology of the Dzog-Chen System (NCDC). This framework deals less (or almost not at all) with the spatial/physical layout of the universe, but rather with the process through which an entity goes astray into the condition of a sentient being. The focus in NCDC is, once again, on the primordial ground of being (aka, primordial awareness or the tathagatagarbha) As discussed above, the cyclic life of a sentient being begins with a straying from this primordial ground, a forgetting of where you came from and what is your basic nature. Manifestations (e.g., forms) arise from the ground and you mistake them to be real things that are separate from you, and then you then react to them in either a positive or negative fashion. This initiates the process of dependent origination (also described above) through which you progressively go astray. In reality, the forms perceived are nothing other than energy moving within the pure ground. The concept of a path in this framework is a process of reawakening to the original ground. It entails the realization that you have always been a part of the ground.

In addition to describing the physical environs and the path, Buddhist cosmology also describes beings that inhabit this universe, some of which do not posses physical forms. For example, these teachings describe other realms where non-corporeal (non-physical) inhabitants experience various states of meditative absorption. One set of these states is known as the realms of Infinite Space, Infinite Consciousness, Nothing Whatsoever, and Neither Discernment or Non-discernment (Taye, 1995). These realms are considered to be more rarefied dimensions of existence that cannot be perceived by human senses (Wallace, 2007). The question for us is, do the entities that inhabit these realms have minds?

The Western view of mind tends to see it as a physical thing (e.g., a brain), made of a specific type of matter. In contrast, the Buddhist conceptualization of mind is based more on the idea that mind is a type of volitional process that can exist in a variety of types of matter, or substances. Further, the Buddhist view seems to suggest that all

"fallen" entities possess consciousness (distinct from mind). They possess a sense of I, perceive a separate world, and react to it by liking, disliking, or being neutral to the objects that comprise the world.

Entities that live in these rarified realms seem to have minds in the process sense, but not in the physical sense. That is, their minds are not embodied in a physical body, consisting of matter, at least as defined by the standard model of physics. It is possible that they are embodied in another type of "subtle matter" (i.e., something potentially like dark matter), but whether that is true of not is not clear in the teachings (at least the ones I have read). What the teaching does say is that these entities, who are considered denizens of god realms, possess consciousness, although it is a more subtle consciousness than the consciousness we possess. As you move "higher" in these realms the consciousness of the entities becomes more and more subtle. It is important to note, however, that the higher levels are not closer to enlightenment or nirvana, rather they are just other examples of states of being (Dalai Lama, 1988).

In reading the descriptions of these states of being, the entities in these realms seem to have minds, but seem to have stopped or suspended, temporarily, some aspect of their mental processes while they experience these realms. That is, they may be experiencing a type of Samadhi[3], which in this case is a temporary suspension of mental processing. What they experience is a form of rarified consciousness (i.e., while the *process* of mind is temporarily suspended, they apparently still have a *phenomenal* or subjective sense of experience). Entry to these realms is apparently the result of meditation practice that has gone awry. The meditator has failed to maintain a sense of clarity when practicing calm abiding meditation and as a result slipped into a state of Samadhi which enables them to perceive aspects of reality that are normally shut out by

[3] Some types of Samadhi seem to be associated with meditation practice where one temporarily suspends or shuts down the habitual perceiving the world in terms of concepts and as a result experiences "the clear light" (at some level of intensity). Others types of Samadhi seem to be associated with suspending mental processing and going into a trance like state. The states we are describing here appear to be the latter type.

mental processing. When an entity enters one of these states that entity is normally there for a very long period of time.

How Might Minds Vary?

What are the dimensions on which minds might vary, from a Buddhist perspective, and how do these dimensions relate to the physical universe defined by the standard model of physics? To begin, and as discussed above, one dimension is whether the mind is instantiated in physical matter, a more "subtle" type of matter, or no material substance at all. Some contemporary models of physics hypothesize that there are several "dimensions" of the universe we cannot perceive, in addition to dark matter and dark energy that we know we cannot see directly, yet we know it exists due to its gravitational effects it has on the universe we can see. Do additional dimensions exist, and if yes, do they all support "sentient life"? Buddhist cosmology suggests that there are several dimensions of the universe that we do not perceive and that sentient beings live in all of them. How these sentient beings differ from one another is unknown.

Buddhist teachings also talk about the six realms of being: human, hungry ghost, hell being, animal, jealous god, and god. Depending on the teaching, these can either be psychological states dominated by a specific afflictive emotion (human - desire; hungry ghost - greed; hell being - anger; animal - ignorance; jealous god - jealously; god - pride) or an actual incarnation as one of these types of beings in a specific realm (Mahayana versus Vajrayana views, respectively). At a minimum, within our realm we know that an individual's experience is modified by his or her dominant psychological state, or afflictive emotion. It influences the individual's perception of events, and subsequent behavior. Hence, dominant psychological state is another dimension along which minds can vary.

A third dimension is the instantiation of minds in different types of bodies, within a given dimension. For example, what is it like to be a bat, or an insect? Thomas Nagel, a

Western philosopher, wrote a seminal paper[4] on how the subjectivity of an entity might change as a result of the way it is were embodied. Entities within one dimension can vary quite substantially in what they experience. Imagine what it might be like to not have color vision, but instead having a great sense of smell (e.g., dogs), or searching through space for bugs using echo location (e.g., bats), or only having a minimal brain that responds to response gradients (i.e., always going towards a light or following a chemical gradient, like most invertebrates).

Finally, there are differences we have already discussed between a sentient being and an enlighten being. A sentient being is locked into perception of a specific world while a Buddha's perception can range over the vast universe, perceiving the realms of sentient beings and other places known as pure realms. In all, there are several dimensions on which minds could potentially vary.

Summary

In this essay we have explored the Buddhist and Western conceptions of mind to include both the scientific and folk models. Overall, there appears to be a wide gulf in the ways Western and Buddhists philosophers think about and study that aspect of our being known as phenomenal awareness (i.e., that part of us that seems to see and interact with an external world). These differences include where mind/consciousness comes from, whether it is a positive or negative marker, its relationship to physical matter, and the domain of study of their respective cosmologies.

The Western scientific model conceptualizes the mind as a physical thing, co-extensive with the brain. Research is conducted to understand how the brain/mind functions in a variety of situations. Further, the mind concept has been set aside in favor of other terms such as consciousness and information processing, which are more easily defined in scientific fashion. To date scientists have not been able to identify how consciousness arises, but their working hypothesis is that it arises from the brain.

[4] What is it like to be a Bat? Tomas Nagel, 1965

Further, consciousness is believed to be a product of evolution, and more complex entities are thought to have “more of it”; or alternatively, more complex brains are thought to enable more “sophisticated” consciousness.

In contrast, Buddhist thinking starts with a ground of primordial awareness and the development of mind (sems) is the process through which individuals go astray from the original ground. The emphasis of Buddhist investigations is on understanding the volitional, perceptual, and cognitive processes that transform the original open awareness into a specific world inhabited by specific classes of sentient beings; and on identifying methods to transform a sentient being back to the original state. From a Buddhist perspective, the potential for consciousness has always been there since the beginning of the universe; it just needs a misperception of reality and a volitional process to get it going.

Western and Buddhist models also differ on the role and relative importance of consciousness. In the West, consciousness is thought to be the pinnacle of evolutionary development. From a Buddhist perspective (once again) consciousness represents a "fallen" state; an ongoing process that shuts off (or dims) the openness of the original state.

The largest difference between Western and Buddhist thought deals with the relationship of mind and matter. The Western consensus perspective is that mind somehow arises from matter, or is co-extensive with the brain. The (fading) prevailing view is that a certain level of computational complexity triggers the formation, or arising, of consciousness. The (ascending) minority view is that consciousness arises from biological information processing when it hits some minimal level of complexity. Both views agree that consciousness and mind end at death.

The Buddhist view is almost the antithesis of the Western one. Buddhist thinking seems to suggest that *mind as a process* is the key to understanding consciousness, as opposed to physical embodiment in matter. As we have seen, Buddhist thinkers have suggested that minds exist both in our dimension of the universe (defined by the standard model of physics) and many other dimensions (or types of matter) that we have not yet discovered, or do not yet fully understand (e.g., dark matter or dark

energy). This view suggests that the biological process of life seen in our world is associated with the process of linking minds to physical matter and not consciousness, per se. This is in sharp contrast with contemporary Western thought that believes that consciousness most likely arises from biological processes. Further in the view of Buddhists, a mind exists prior to being born and continues after death, although, as a process (and not a static thing), it is continuously undergoing change. Any given life might be thought of as a temporary state, (i.e., an "island of stability") where changes occur more slowly, in this continuous process that has been ongoing since the beginning of the universe.

Finally, the domain of study of Western cosmology is the external universe. Where did it come from, what does it consist of now, and where is it going? Western cosmological study does not include within its domain of study investigations of the mind. In the West, the study of the mind is primarily the domain of psychology, neuroscience and evolutionarily biology. In contrast, Buddhist cosmology does include the study of the mind. To a large extent, Buddhist cosmology focuses on how minds develop and how they influence of the development of the universe.

In conclusion, there seems to be large significant differences in the worldviews of Buddhism and the West when it comes to thinking about the mind and consciousness. It is interesting to note that the terms mind, sentient beings, sentience, and consciousness are basically undefined (or under defined) in the West. There is an explicit need to describe what is meant by these terms. Considering how Buddhism uses these terms, there is also a need to better define them in terms and models the West understands, and to clearly delineate the differences in the ways different Buddhist schools use these terms. In clearly defining these terms, we should be able to get to an understanding that enables us to develop theories and models that are testable by scientific methods. Much work remains to be done if we hope to understand human consciousness and awareness. Neither Buddhism nor the West has models or explanations that adequately explain why there is consciousness in the universe, how it arises, and over what range it might operate. Perhaps by working together in the future Western scientists and Buddhist scholars can collectively answer these questions.

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