

# The Radiance of Time: Overcoming Bardo Limits and Constraints in the Five Dimensional Buddha Universe<sup>1</sup>

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## *I. Buddha Gautama, and Saraputra Demonstrate a Time Paradox*

We will start our analysis by retelling, with some elaboration on my part, the story of the appointment of Saraputra to be one of the chief administrators of the Buddha's Songha.<sup>i</sup> When Buddha<sup>ii</sup> Gautama first laid eyes on Saraputra as he was walking down the road toward him. Gautama immediately appointed him his principal disciple over the Songha. He did this without apparently knowing who he was since Gautama had apparently not met Saraputra before. To me such an appointment may have upset the gathered monks who had been with him for many years. In response, the Buddha might have pointed out to the monks that he perceived Saraputra as a follower of Buddha Anomadassi who lived in a much earlier aeon.<sup>iii</sup> At that time, as the text on Saraputra's life points out, Saraputra pledged to become the future Buddha Gautama's chief disciple.<sup>2</sup> Referring to Diagram 1, this suggests to me that the Buddha Gautama was able to perceive Saraputra at both an earlier aeon and in his own aeon.<sup>3</sup> (The earlier Buddha Anomadassi also saw that Saraputra would realize his aspiration to be the Buddha Gautama's chief disciple even as he made his pledge standing before him. This is quite interesting because Saraputra had not yet engaged in the causes and conditions<sup>iv</sup> at that point that would determine his future karma.)

A further time paradox emerges from each Buddha's existence in a different aeon. The collapse of an aeon and its unique four dimensional world system followed by the formation of another aeon with a new four dimensional world system suggests that the two Buddhas are in relative temporal motion to each other, being separated by an aeonic bifurcation.<sup>4</sup> They are situated in multiple space-time instants that are entirely given in their own world system

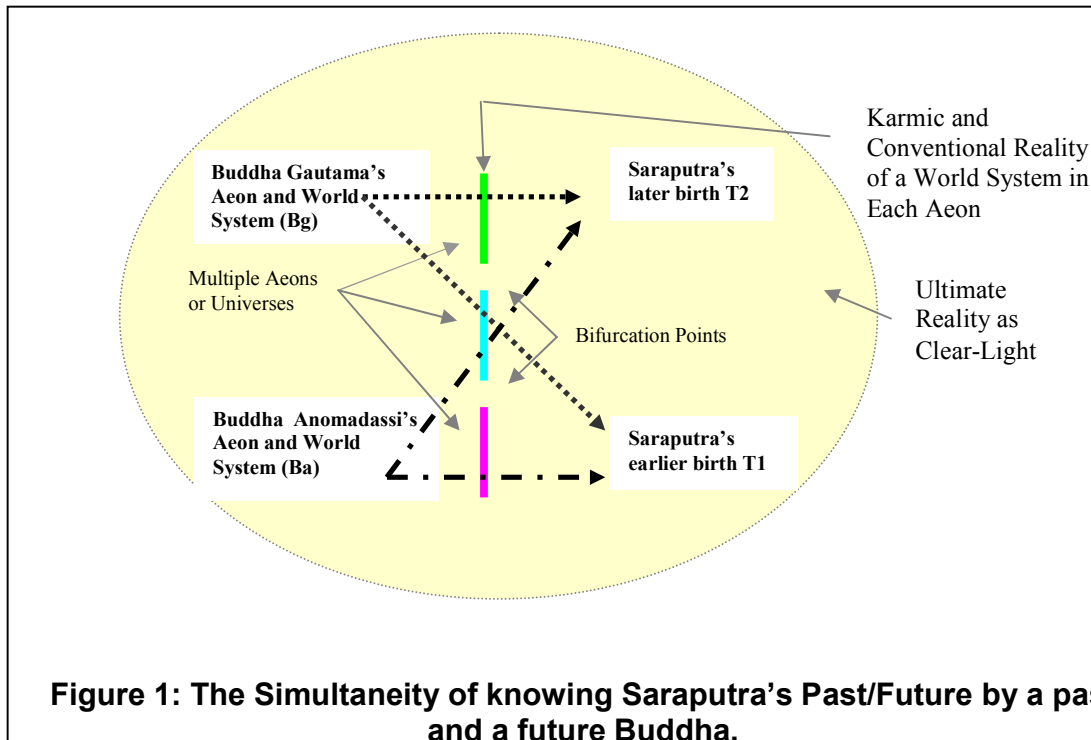
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<sup>i</sup> In what follows, I attempt to clarify, based on several accounts in the text, the relationship between a previous incarnation of the historical Buddha Gautama's chief disciple and his appointment by Gautama to lead the Songha or religious community. The concern expressed by the disciples is a fiction that is used to clarify how the Buddha Gautama was able to make the appointment he did by directly perceiving whom the two approaching him were.

<sup>ii</sup> A Buddha is a sentient being who has developed, using various meditation and other practices, to the final point of knowing/being the effulgent of the fifth dimension into conventional reality. This definition is fully developed in the paper.

<sup>iii</sup> Other Buddhas preceded Gautama Buddha. "Aeon" is the amount of time needed for a world system to evolve and dissolve. *Connected Discourses*, 15:5,6.

<sup>iv</sup> One's Karma is shaped by the causes and conditions resulting from activity in the conventional world.



but not in both since they are not part of a *single* aeon's four dimensional space-time<sup>v</sup>. They do participate in common processes that generate a common class of aeon specific conventional "natures"<sup>vi</sup> that are perceived and understood by both. But, a single four dimensional world system cannot explain this relationship because the two Buddhas are in relative motion to each other in two entirely different aeons with timing that is disconnected by a bifurcation<sup>5</sup> that completely disorganizes each world system's time before the "following" aeon emerges. There is no immediate conventional<sup>vii</sup> perceptual path that can be followed in four

<sup>v</sup> For conventional reality, dimension implies direction, measurement, and more or less of something. Here, not including the fifth dimension, we are referring to depth, width and height like a cube and time as dynamically bringing each dimension alive as an extended present or as something moving from the past to the future.

<sup>vi</sup> Conventional reality results from long term karmic processes that give rise to a particular reality suitable for and that evolves sentient beings. Within this reality, Katagiri holds that conventional reality is mistakenly taken to be a constant, unbroken, unidirectional flow imbued with a particular purpose. Closer examination shows conventional time to be just moments that appear and disappear. Dainin Katagiri (2006). *Each Moment is the Universe*. Boston: Shambala. See also: Guy Newland (1992). *The Two Truths*. Ithica, NY: Snow Lion.

<sup>vii</sup> Conventional reality is characterized by Frazer's five nested temporalities and the causal systems that go with each as discussed below. For example, it includes evolutionary and physical processes as well as psychological, social, and cultural states. In terms of a person and Buddhist

dimensional space-time since four-dimensional space-time ceases at the bifurcation between world systems. Even so, both aeons, as we will show in a moment, are the effulgent of a single clear-light that is knowable to a Buddha. (Figure 1 vertical alignment of aeons is provided to ease the reader's interpretation. There is no necessity that they take any particular alignment relative to the other.)

My Saraputra report illustrates a fifth dimension referred to by Buddhists as "ultimate reality" or clear-light, from which an aeon's four dimensions emerge as a "seal" or mandala or conventional space-time pattern within which these dimensions remain trapped as present instants of that aeon. Such instants occur spontaneously in conventional four dimensional time as a particular effulgent of ultimate or fifth dimensional time. It is this fifth dimension that permits Buddhas to simultaneously view the relative motion of present four-dimensional instants between and across separate aeons (Figure 2).

It might be supposed that our four dimensional world has "...a set of hyperplanes<sup>viii</sup> of simultaneity uniquely slicing space-time into equivalence classes of absolutely simultaneous events."<sup>6</sup> The experienced universe with its worlds and simultaneous events is taken to be an ultimately unchanging, 4-dimensional spacetime "block universe". Each experiential, conventional point on any imposed hyperplane is already predetermined elsewhere in the spacetime block. (This is a popular theory in modern physics.) A hyperplane is placed such that it cuts across the points where Saraputra exists. There is no progression from a past into the future only different locations in the block which our Buddhas are able to simultaneously connect with a hyperplane and "see."

But the capacity to simultaneously view multiple present instants across many forming and collapsing aeons punctuated by a time-less bifurcation point invalidates the view that we are talking about an all encompassing four dimensional block universe. At best, the block universe view applies only to a single world system, not multiple world systems in an aeon that collapses space-time, including the block, between this and a new aeon's independent existence. The issue is: How is a single block universe formed relative to multiple block universes? What is the bifurcation point that demarks each and when is the process of their emergence "complete"?

Numerous Sutras and independent accounts based on valid meditative experience (here Tantric yoga) of advanced practitioners such as Padmasamhava and Milarepa, provide examples of the operation of what we will

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processes, it involves making a distinction between one thing and another and then becoming attached cognitively and/or emotionally to that distinction. Conventional reality is embodied and informs all levels of interaction. It is the root of individual suffering.

<sup>viii</sup> In a one-dimensional space (a straight line), a hyperplane is a point; it divides a line into two rays. In two-dimensional space (such as the xy plane), a hyperplane is a line; it divides the plane into two half-planes. In three-dimensional space, a hyperplane is an ordinary plane; it divides the space into two half-spaces. This concept can also be applied to four-dimensional space and beyond, where the dividing object is simply referred to as a "hyperplane".

<http://en.wikipedia.org/wiki/Hyperplane>

call the Five Dimensional Buddha Universe, incorporating the simultaneous experience by Buddhas of multiple world systems within multiple aeons. Such accounts point out that individual Buddhas and their followers appear in different aeons and world systems according to each system's Karma. Buddhas in the same and *different* aeons and world systems may perceive each other and specific individuals in any aeon or world system because they are able to participate in the fundamental dynamic that supports Karama. These points will be more fully developed below.

## II. Additional Examples of Buddhist Temporal Issues

- The continuous creation of conventional temporality by sentient beings produces causes and conditions that lead to both suffering and enlightenment. In contrast, enlightenment temporality is not driven by causes and conditions, nor is it characterized by suffering, nor does it have a beginning, past, present, or future. How is enlightenment temporality produced out of contaminated conventional temporality? What is the temporal relationship of the two?
- The Sutras give accounts of the Buddha or his disciples appearing simultaneously in multiple past and/or future space/time karmic driven locations. How is this possible?
- A Buddha's seeing and hearing can be active in worlds that he/she is not embodied in. These worlds exist in other universes (aeons and world systems) separated from the current one by a division where space/time totally collapses before another universe is created. How is this possible? There would seem to be no connecting medium by which to "know."
- The law of Karma's dependent arising from an individual's activities appears to be violated by a Buddha's ability to see future karmic results before an individual has acted, producing the causes and conditions for future karma. How is this possible?
- How does the practice of Tantric yoga reveal the short-comings of conventional temporality while simultaneously enabling the causes and conditions for an enlightened Buddha to occur?
- How can a Buddha who is independent of space-time act wisely and compassionately in conventional space-time?

## III. Summary of Key Points

The temporal limits of a Buddhist Vajrayana<sup>7</sup> practitioner's *umvelt*<sup>ix</sup> are associated with the practitioner's stage of temporal sensory development (including mind as a sensor). Conventional reality—which includes five nested temporalities—eotemporal, nootemporal, biological, noological, and social time—

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<sup>ix</sup> Currently, *Umvelt* refers to how an animal's receptors and effectors define its world of possible stimuli and actions. More exactly, *umvelt* is defined as "the circumscribed portion of the environment which is meaningful and effective for a given animal species."

limits one to a world system's contaminated temporal *umvelt* (Bardos).<sup>8</sup> Conventional reality contains the full range of human emotions from the highest to the most base. Conventional reality is itself the results of karmic constraints that form and limit conventional reality nested temporalities formed in many worlds in and across aeons.<sup>x</sup> This causal conventional reality producing process also defines and limits conventional reality's Bardos. "Bardo" refers to a specific duration of time marked by a particular contaminated consciousness, having a clear beginning, a sense of continuity and a distinct end.<sup>9</sup> A practitioner's ripening via Vajrayana practices that are suitable for each of the six Bardos<sup>xi</sup> eliminates these conventional time-space karmic and Bardo contaminates and constraints even as one continues to occupy the conventional world. A fundamental opening of space-time occurs to a dimension that conventional reality is effulgence<sup>xii</sup> off. The Vajrayana practitioner *is* time as the eternal now moment and as a continuously presented duration including other temporal attributes of conventional reality.

In order to understand the Buddha-Saraputra experience and conventionally related temporal limits and constraints and how they are overcome by Vajrayana practice, a theoretical presentation of what I call the "Five Dimensional Buddha Universe," and the role that karma, Bardos, and clear-light play in it, is made.

#### IV. The Five Dimensional Buddhist Universe and its Bardos<sup>10</sup>

##### *Characteristics of a Buddhist Five Dimensional Universe*

Buddhism holds that *multiple conventional* instants or moments, such as those in different aeons and across worlds within an aeon, can be simultaneously known and experienced by a Buddha who has the mind of clear-light (more on clear-light later).<sup>11</sup> Buddhism holds that the zero durational instant cannot be a *present* or a *past* or a *future* in a background dependent<sup>12</sup> flow of time. There are only single four dimensional *conventional* present instants that *are* the entire aeon and all of its world systems; "each moment is the universe."<sup>13</sup> Past or future states do not exist independently as part of a past-to-present-to future background dependent flow of causes and conditions on their own and experienced as such. They only exist for a sentient being as a contaminated perception within a strictly conventional local present instant.<sup>14</sup> All sentient beings are "present" parts of the radiance or effulgence of the basal clear light which exists across all aeons in all combinations of places in multiple world systems

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<sup>x</sup> For a review of one approach to many worlds and a critique see:

<http://plato.stanford.edu/entries/qm-everett/> The view presented in this paper is not based in a quantum theory interpretation.

<sup>xi</sup> The six are: natural Bardo this life, the Bardo of dream, the Bardo of meditation, the Bardo of dying, the Bardo of dharmata, and the Bardo of becoming.

<sup>xii</sup> Effulgence, as used here, refers to all aspects of conventional reality emerging simultaneously with the fifth dimension (see Figure 2). Conventional reality is embedded in and inseparable from the fifth dimension being produced as a distinction leading to attachment, etc. This concept is further developed here.

with different space-times.<sup>15</sup> An aeon is a karmically organized period of four dimensional space-time instants that collapses at a bifurcation<sup>xiii</sup> point and reform as a new aeon containing new conventional world space-time systems as illustrated in Figure 1. The fact that this condition is hidden by sentient beings from themselves creates suffering.

The nonduality of conventional and ultimate reality (dharmadhatu) is the absolute space of all phenomena be it space, time, matter or consciousness. Even as conventional configurations are experienced as local manifestations, they are conterminous with nonlocal and atemporal ultimate reality.<sup>16</sup> Being undifferentiated, this state is one of highest creativity.

Put another way, present instants smear across multiple world systems that are entirely and equally given but are experienced as locally different conventional realities embedded in causal conditions set by emptiness and form.<sup>17</sup> This “smearing” of present instants as an permits simultaneous “seeing” by a Buddha of conventional present instants in multiple world systems because they are connected by an effulgent of the fifth clear-light dimension. There is no privileged here-and-now local world system event in five dimensional space-time permitting a naturally and universally given past-present-future continuity.

Dogen describes Buddhism’s “background independent” temporality of a single world system nicely. He says: “The time we call spring blossoms has an existence called flowers. The flowers, in turn, express the time called spring. This is not existence within time; existence itself is time.”<sup>18</sup> Time is instantiated in the relationship “flower-Spring” and found only there. Time’s instants result from continuous and changing relationships that are strictly local yet “are” time. This suggests that the clear-light is the basal foundation of “flower-Spring” time across all world systems. Access to the clear-light provides privileged knowledge outside of this cyclical conventional existence. “With knowledge, one is a Buddha; with ignorance, one is a sentient being wandering in cyclical existence.”<sup>19</sup>

Moving from the macro world system to the micro world of the individual sentient being, Buddhist space-time is five dimensional with four of its temporal dimensions entirely nested within *one* of a person’s three bodies, the Nirmangakaya or what I will call the “meat body.” This same body creates conventional reality, exists there as impermanent “object” in relation to other impermanent “objects.”<sup>20</sup> But when the practitioner is “healed” of the notion of having a “self” and a “body” with a past-present-future, they as with every sentient beings,<sup>21</sup> find that they are continuously producing their own local present space-time instant as “flower spring time” in a particular world system. “Self” and “body” continuously manifest chronodynamically in constant interaction in a time-ecology with other beings (Figure 2).<sup>22</sup>

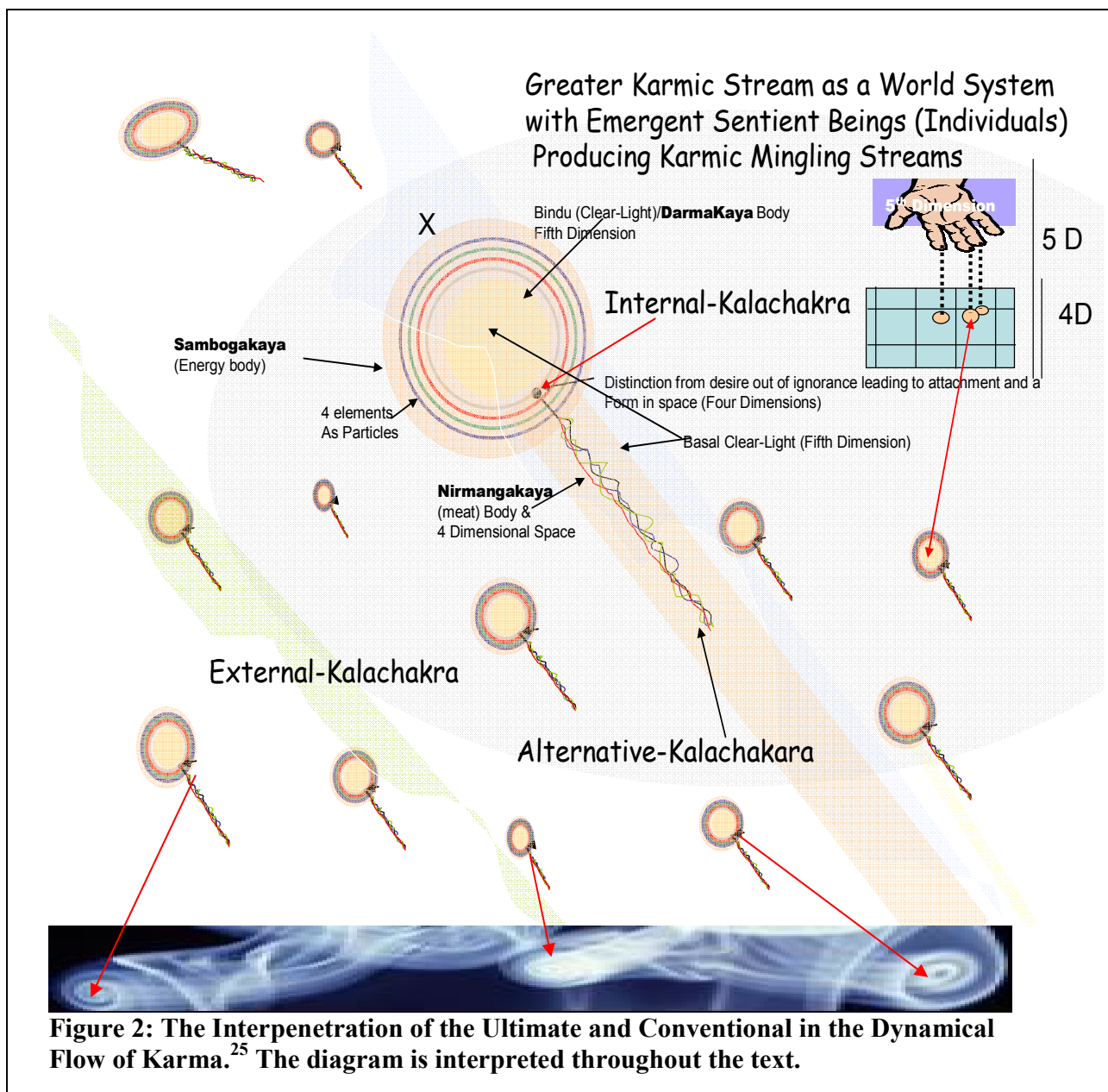
“At the bottom of suffering is time. Our ordinary minds cannot catch the quick changes of time, so we feel a gap between ourselves and time. Then we

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<sup>xiii</sup> A bifurcation is a dimensionless point, similar to a bindu, where an aeon changes from one form of timing and organization to another, much like a laminar river flow changes into a turbulent flow or a regular heart beat into a fibrillating one. Mathematically, such a point is a repeller; that is it cannot be occupied and is not reversible. See: Heinz-Otto Peitgen, Hartmut Jurgens, and Dietmar Saupe (1992). *Chaos and Fractals*. New York: Springer-Verlag, p. 585.

believe that our individual existence is something that is completely separate from everything else in the universe.”<sup>23</sup> As I will show shortly, it is this self delusion produced in conventional reality by attachment, and other processes including those associated with mind that, as illusions, separate us from the fact that we are time. The functioning of time as understood by Buddhists is beyond mundane perceptual recognition. If you only look at life objectively you can't *participate* in it; there is always a “you” getting in the way. This point will be clarified in the discussion of Vajrayana yogic methods.

The process being laid out here suggests that it is a mistaken view that the external or conventional world simply *is* four dimensional space-time existent objects that evolve as a three dimensional existence. Rather: “*Objects are time* because they lack any nontemporal existence, having no temporal essence outside of time, in which case things like apples and cups cannot be objects as usually understood because their impermanent ‘being’ is actually a temporal process....”<sup>24</sup> The view here is that each sentient being is a biological entity and establishes



conventional reality by creating local distinctions and attachments that collectively and continuously produce a world system's conventional space-time instant's suffering by denying and being out of contact with this embeddedness, with one's own effulgence of the clear-light.<sup>26</sup> I am not a self-observed object in time; I am time. As Dogen would put it:<sup>27</sup>

'Being-time' means that time itself is being...and all being is time.... If time merely flies away, you would be separated from time. The reason you do not clearly understand being-time is that you think of time as only passing.... People only see time's coming and going, and do not



thoroughly understand that time-being abides in each moment. ... Flower is like spring. Spring with all its numerous aspects is called flowering. When spring flowers there is nothing outside of spring.

Expanding on Hui Neng, the Sixth Zen Patriarch's statement from the perspective of the Five Dimensional Buddha Universe: "In this [instant] there is nothing which comes to be. In this [instant] there is nothing which ceases to be. Thus there is no birth-and-death to be brought to an end. Therefore the absolute tranquility of [the fifth dimension] is this present moment. Though it is at this moment, there is no limit to this moment, and herein is eternal delight."<sup>28</sup> The moment is the effulgence of clear-light particularized by karma but not separated from that light; the light is simply "impermanently stained" by the conventional reality of a world system. It must be kept in mind that all sentient beings, particularly humans, have the clear-light at their core and are Buddhas. All of us are this flowing as being. The issue is purification of the obscurations that limit access to knowing-being this aspect (this is dealt with below).

### *Karma Attracts the Formation of Sentient Beings, Bardos, Heavens, Hells, and Reincarnations*

According to the Kalachakra Tantra,<sup>29</sup> one of the principal statements of doctrine of Tibetan Vajrayana Buddhism, the configurations of world systems--Bardos, heavens and hells, and sentient beings—are fractal in the sense that karma simultaneously shapes an aeon and sentient beings in it even as they in turn shape karma. Generally, what has happened is that a conventional distinction has been made "real" by becoming an enlivened infused with energy (Sambokakya, five elements, etc) through grasping and identification. A pattern is established.

First, an aeon's configuration is due to the force of karma of beings who *will be* born in its world systems. Karma, acting much as gravity does,<sup>30</sup> begins to connate<sup>xiv</sup> the qualities of the subtle elements of wind, fire, earth, and water into the processes of a three dimensional mandala<sup>31</sup> within the non-subjective awareness provided by localized space particles.<sup>32</sup> (A mandala also indirectly displays ultimate reality or the fifth Buddha dimension.)

Karma is carried by or rides upon the external and internal "subtle winds." Internal subtle winds are the "life" or "life-force" that forms and moves sentient beings to dynamically "know" how to take up food, reproduce, sense the world, etc. (This is not the same idea as the Western life-force concept that animates

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<sup>xiv</sup> "Connated" means existing at birth, originating at the same time, to be born with. As used here, a mandala is a two or three dimensional connated system of the foundational elements with an order patterned around a center (bindu) describing and, with the proper fourth dimensional methods, providing access to the Five Dimensional Buddha Universe. As such a mandala can refer to the organization and relationships composing the external world, the inner world of a person, and that of a deity and that deity's throne. It can also apply to each in turn (outer-Kalachakra, inner-Kalachakra, and alternative Klachakra mandalas). Guru initiation, instructions, a mantra, visualizations, and rituals are required to navigate a mandala properly. Again, this is a good example of how an information theory approach could provide perspective (see footnote 8).

muscles or other process.) Karma, in turn, is reshaped by subtle winds. These subtle winds are stained by the activities of sentient beings as they act through their meat bodies.<sup>33</sup> It is like the branching of a great river into multiple rivulets that come together again at some point to again form the mighty torrent; the rivulets and the torrent are different but the same.<sup>34</sup>

The second force that gives shape to a world system is space. Space is non-subjective *pure awareness* (clear light) displayed as an expandable and contractible dimensionless point or bindu.<sup>xv</sup> A sentient being's subjective distinctions produce an emanation from the bindu leading to action that stains space-time's four dimensional non-subjective pure awareness (Figure 2). This "staining", in turn, distorts the mandala of the five universal elements (space, wind, fire, earth, and, water) imparting objects with specific healthy or unhealthy rhythms.<sup>35</sup> Karma enters both in the "staining" and is in turned "stained" by the result. The fractal flow is back and forth.

The outer universe also interpenetrates the inner universe of sentient being. Karma is fractal-like in its forming of an individual's inner-Kalachakra (or inner wheel of time). The elements of the mandala are organized in relation to the body with space being associated with the crown of the head; fire with the chest; water with the navel; and earth with the knees (these assignments shift according to the requirements of the external world of a particular ritual or initiation). The three dimensional outer (external wheel of time) and inner-Kalachakras shape each other "fractal-like" and can be closely mapped onto and affect each other as noted above.<sup>36</sup>

In summary, these two interpenetrating conditions—karma and space—organize the five elements, continuously creating a changing fractal-like world system.

### *The Temporal Dynamics of the Inner, the Outer and the Alternative Aspects of a World System*

We are now ready to turn to a discussion of how the inner world of the individual connects to the outer world and of how a Buddha engages with all of this. According to the 14<sup>th</sup> Dali Lama:<sup>37</sup>

We distinguish one type of karma which is of a mental nature, a mental factor of volition or intention. [But t]here also exist physical and oral karmas. To understand the connection between these physical, oral, or mental karmas (body, speech, and mind) and the material world, we must refer to the tantric texts. The Kalachakra Tantra in particular explains that in our bodies there are to be found, at gross, subtle, and extremely subtle levels, the five elements which make up the substance of the external world. It is therefore in this context... that we must envision the connection

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<sup>xv</sup> Here we move away from strictly discursive language to a much more poetic form that "points" to its referent. This footnote warns the reader away from concluding that we are logically laying out the "nature" of reality.

between our physical, oral, and mental karmas, and the external elements.

Internal subtle winds are the karmic bearing winds in the continuum of a person. The subtle winds are much like a turbulent river branch that penetrates and flows through the channels of the energy body<sup>xvi</sup> continuously organizing the elements—the same elements of space, wind, fire, earth, and water that are organized by karma in the outer-Kalachakra.<sup>38</sup>

Remember, karma is not the same as ultimate reality. Ultimate reality or Dharmakaya is the space-time of emptiness where all conventional phenomena are pure and impure effulgent of clear light. Karma is a force imprinted via the subtle winds as stained by embodied attachments. This force provides the causes and conditions to produce the necessary distinctions for a dependent arising and continuation of a particular universe and its world systems. Once the sentient beings of a particular realm disappear, so does that realm.<sup>39</sup> A realized Buddha does not produce Karma but will arise from the causes and conditions that that Karma produces (Figure 2).

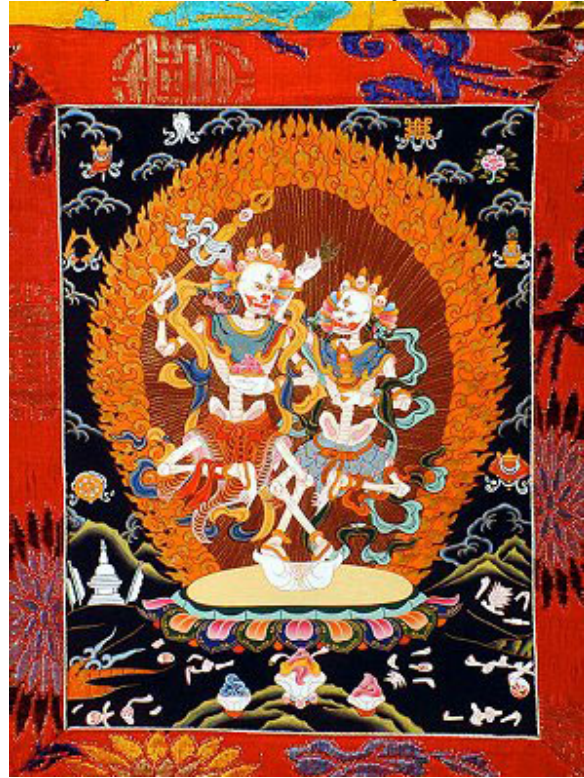
When, from the perspective of tantra we say that all worlds appear out of clear light, we do not visualize such clear-light as a unique entity, but as the ultimate clear light “behind” or “ridden upon” or as “spring blossoms” of each being in the collective turbulence of limitless numbers of other sentient beings. This is why we refer to conventional reality as effulgent. Time and space are the radiance of clear-light’s effulgence (Tarthug Tulku includes knowledge as its third component<sup>40</sup>). All cyclical stages of the six Bardos which make up each living being represent nothing more than the various manifestations of the potential of this dynamic clear-light. The more clear light loses its subtlety to the suffering of a sentient being, the more strongly do individual experiences shape a Bardo.

It is the energy body that serves as the site for tantric practices induced by meat body and mind yogas necessary to purify our consciousness. The winds of karma penetrate the six chakras and channels tracing out the energy body dwelling within the meat body. (A full discussion of the Buddhist concepts of chakras, channels and winds are particularly well presented by Geshe Kelsang Gyatso.<sup>41</sup>) Due to this “bodied” nesting, the outer universe, through its various cycles and associated realms provides the opportunity to purify the inner universe of the parishioner, revealing the ultimate characteristics of a Buddha’s body-speech-mind. The following Citi Patti Thanka<sup>42</sup> (Figure 3) shows this complex connection and its impermanence. The couple are the cremation ground guards demonstrating the connection across the Bardos of life and death. The works of Alex Gray help to see the various channels and winds involved in the purification processes discussed below.

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<sup>xvi</sup> One of the three bodies (Dharmakaya, Sambhogakaya or the “energy body” whose pattern of channels, nadies and chakras produce experience, and the Nirmanakaya (“meat body” which permits realization in conventional reality). The Dharmakaya body is the true nature of the Buddha, which is identical with transcendental reality, the essence of the universe. It is the unity of the Buddha with everything existing. The other two bodies are emanations of the Dharmakaya body. See Geshe Kelsang Gyatso reference.

It may be clear by now that by purifying the subtle winds that course through the chakras, channels, and nadies, one purifies karma which in turn produces the alternative madala as a Buddha's body-speech-mind. The result is a new pattern in creative sync via the meat body with a



**Figure 3: Citi Patti Thangka as Symbols of Dancing Impermanence.**

world system and its conventional reality. Ultimately, by the proper application of yoga the flow of winds is stopped, “killing the winds of karma.”<sup>43</sup> (These relationships are further developed below.)

Let us return briefly to Figure 1 and the interpenetration of multiple world systems. Space, like the clear-light, is a principal organizing component of all world systems and of all sentient beings in them, pervading all universes just as it pervades the human energy and meat bodies. Cleary says:<sup>44</sup>

At that time, the World Honored One (Bhagavan), in this setting, attained the supreme, correct awareness of all things. His *wisdom* [mind] entered into all the three times with complete equality; his body filled all worlds; his voice [speech] universally accorded with all lands in the ten directions. Like space, which contains all forms, he made no discrimination among all objects. And, as *space* [non-subjective awareness] *extends everywhere*, he entered all worlds equally. His body forever sat omnipresent in all sites of enlightenment [emphasis added].

Returning to Figures 1 and 2 above, we can see that the individual space that contains the bindu of non-dimensional clear-light radiance penetrating all world systems and contains all local times as the connecting link extending from the inner space of an enlightened one's body to all outer domains. A Buddha penetrates and awakens to the experience of being instantiated in the always existent, domain crossing clear-light radiance being displayed as "spring blossoms." In this way, a Buddha is instantiated or extended across all unique background independent space-times.

### *Bardos: The Space-Time Divisions of a World System*

"Bardo" refers to a specific duration of conventional time associated with a contaminated consciousness, having a clear beginning, a sense of continuity and a distinct end. There are six Bardo cycles which produce opportunities for enlightenment in the conventional reality of this world system. The six are: the Bardo of Birth or of this life; the Bardo of Meditation; the Bardo of Dream; the Bardo of Dying; the Bardo of Dharmata; and the Bardo of Existence.<sup>45</sup> Each Bardo is separated by bifurcation processes from other Bardos (death, entering meditation, etc.) (Table 1). Within each Bardo every action and object is dependently arisen as a single karmic instant of a sentient being. It is our conventional labeling of particular collection of states, including consciousness that designates a particular Bardo. Ultimately, there are no inherent barriers between Bardos except those due to such conventional distinctions. Each has its own characteristic Vajrayana yogic method for awakening (Table 1) as discussed below.

Neither space nor emptiness of ultimate reality are stained by conventional Bardo distinctions. This is easily seen when comparing the results of the yoga of sleep with the yoga of Dharmata as shown in Table 1.<sup>xvii</sup> Such methods reveal that each realm is both ultimate and conventional (see Figure 1). For example, death of the body does not mean that the purified aspects of mind embedded in the energy body cease. They are carried forward into the next Bardo via the subtle wind even though the other defining conditions of the previous Bardo end. One can continue to apply yogic results learned in the Bardos of this Life, Meditation and Dream to what is experienced in the Bardos of Dying and Dharmata and achieve Buddhahood in each.<sup>46</sup>

More generally, individuals experience the *instantaneous-now* differently in each Bardo. Each Bardo also has its own unique temporal characteristics. This leads to varying experiences of suffering and temporal knowing. Yogic methods seek to purify the cross-Bardo migrating subtle wind. This purification applies completely and consistently across all six Bardos. Suffering ceases by the clear experience that conventional reality is an effulgence of the fifth cross-cutting dimension or basal clear light. With this realization the instantaneous now is extinguished. If this condition is not achieved, entry

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<sup>xvii</sup> Dharmata refers to the ultimate nature of the Dharma and is synonymous with Buddha nature. Fischer-Schreiber, Ehrhard, and Diener (1991). *The Shambhala Dictionary of Buddhism and Zen*. Boston: Shambhala.

into a new body leading to a new birth occurs. The previous energy body and its subtle energies dim but are not lost; they remain embedded in the subtle wind. They also continue as karmic tendencies.

We now have our first hint of how the Buddha was able to see Saraputra across aeons. Like any karmic structure, all Bardos are particular manifestation in space of wind, fire, earth, and water. Because space pervades them all, so does the Buddha's Dharmakaya<sup>xviii</sup> body. Since time is the relational or background independent result of the interactions of the elements in space, a Buddha extends to all of these and thus to all Bardos and to all times (past, present, and future).

**Table 1: Bardo Space/Time Characteristics and Yogic Practices**

Bardo	Characteristic Space-Time	Access to 5 <sup>th</sup> Buddhist Dimension?	Method of Purification to Experience Conventional Reality as an Effulgent of Ultimate Reality* (All Require Initiation)
<b>1. Bardo of Birth including life of the body</b>	Temporal characteristics vary by developmental stage from birth to death. Created life-time of mental states. Temporal states vary by speed of sequence of past-present-future flow creating waking existence. Four dimensional and local.	No spontaneous access	No method.
<b>2. Bardo of Meditation</b>	Non-linear past-present-future sequencing.	Potential access via: space**, luminosity of clear-light, energy body, samatha and/or Vapasana.	Yoga of "three bodies:" 1) mind; 2) inner energies; and 3) body producing appearances and experiences of the 5 <sup>th</sup> dimension. Stability in deity creation and completion stages of deity yoga.
<b>3. Bardo of Dream (nested in Bardo of Birth)</b>	Plastic duration and flow of past-present-future sequencing.	Potentially unlimited via luminosity of clear light.	Practice of luminosity resting in mind as emptiness, radiance, and clarity as illusory body.
<b>4. Bardo of Dying</b>	Ordered dissolution of karmic space-time foundations via dissolution of four elements leading to dissolution of body-speech-mind. Loss of Past-Present-Future sequencing and flow. Space particle as emptiness continues and luminosity as 5 <sup>th</sup>		Consciousness transference (Powa) into ultimate consciousness or reborn in Bardo of rebirth.

<sup>xviii</sup> The Buddha as supreme state of absolute knowledge.

	dimension appears as part of Bardo with specific characteristics.	
<b>5. Bardo of Dharmata</b>	Mind as luminous emptiness, an effulgence of the nature of all phenomenon. Is disconnected from karma. No causal foundation for space-time. It is the 5 <sup>th</sup> dimension.	Recognition of the self-display of awareness as peaceful and wrathful deities resulting in absorption in 5th.
<b>6. Bardo of Existence (after failing to recognize Bardo of Dharmata)</b>	Personal karma produced via cause and effect gives access to a space-time world system and realm of samsara.	No spontaneous access.
		Cultivation of pure vision to “see” into new world system & father/mother intercourse, rebirth and realm as a Buddha realm.

Source: Inspired by Francesca Fremantle (2001). *Luminous Emptiness*. Boston: Shambala; and by Stephen Schumacher (1986). *The Encyclopedia of Eastern Philosophy and Religion*. Boston: Shambala. Each Bardo is defined in: Francesca Fremantle and Chogyam Trungpa (1975), *The Main Verses of the Six Bardos*, in *The Tibetan Book of the Dead: The Great Liberation Through Hearing in the Bardo*. Boston: Shambala, p. 98-99. Many details and interpretations are the author’s based on literature cited in paper.

\*Ultimate space-time penetrates each Bardo per Diagram 1 but may not be known. These methods are identified and briefly discussed below. An initiation by a qualified Guru is essential. \*\* See page 6.

### *Tying together Ultimate and Conventional Space-Time: External-, Internal-, and Alternative-Kalachakra*

Recall that a mandala is what appears to be a two or three dimensional connated pattern centering on a bindu, of the subtle elements of wind, fire, earth, and water within the non-subjective awareness provided by localized space particles.<sup>47</sup> As such, it dynamically illustrates how purified conventional reality emerges from the Five Dimensional Buddha Universe. In doing so, it diagrams the fractal karmic patterns and relationships between the external world and the inner world of an individual. Vajrayana meditation instructions suggest that a practitioner actively perceive the external and internal worlds as such a dynamically linked process.

The Kalachakra Tantra shows how conventional time results from the nested cycles of external, internal, and alternative “Kalachakra wheels” (Figure 4).<sup>48</sup> Karmic causality occurs in a feed-back way between the inner and outer Kalachakra mandalas. The external-Kalachakra feeds forward, creating the conditions for sentient beings in specific aeons and world systems; the internal-Kalachakra feeds directly back into the external-Kalachakra by embedding the results of actions within this greater dynamical flow. This in turn evolves the karmic causes and conditions for the current and future world systems.

The alternative-Kalachakra wheel of time synchronously links the fifth dimension with the internal and external wheels of time. Technically, Vajrayana yoga generates within conventional reality the body-speech-mind of a Buddha, free of karmic generating attachments. The connating patterns of internal and external-Kalachakras are correctly viewed as effluent from the 5<sup>th</sup> dimension. The Buddha is the instantaneous “blossoms in spring” embodiment of



**Figure 4: Kalachakra Mandala.** From a sentient being’s perspective it shows the mandalas of Great Bliss (center); Mandala of Enlightened Wisdom; Mandala of Enlightened Speech; Mandala of Enlightened Body; Space element (first green circle); and Wisdom element circle or Great Protective Circle (<http://www.buddhanet.net/kalimage.htm> )

this effulgence of clear-light mind. As the embodiment of the alternative-Kalachakra, a Buddha’s action is in-sync with the external and internal-Kalachakras.<sup>49</sup> This enlightened being acts on the cusp of the 5<sup>th</sup> dimension and conventional reality. With the capacity to “see” from the 5<sup>th</sup> dimension, karmic distortions producing suffering are revealed and can be influenced by changing the external-internal entrained dance. Skillful means are tuned to and act upon a particular instant.<sup>50</sup>

We are now ready to further clarify how the Buddha Gautama was able to know who Saraputra was across aeons and world systems. The way to resolve this paradox is to understand how alternative-Kalachakra works. Visualization of the alternative-Kalachakra allows one to synchronously see aeonically separated conventional events. By knowing in this way, the Buddha sees two simultaneous-mutual-arising present instants in separate aeons’ world systems. Such instants, due to their being effulgences of the ultimate, are interpenetrated by all other simultaneous instants across aeons. In other words, all instants across a world system are simultaneously mutually contained within any single instant (see Figure 1).<sup>51</sup> To repeat, this is possible because **all** instants are the effulgence of the basal clear light. According to Tarthang Tulku: “At this subtle mystery level, [clear] light itself is only the appearance of light. But light is also nothing other than this ‘appearing’. In the unitary space of appearing, ‘from’ and ‘to’ fuse. The



cosmos manifests as dimensionless and zeroless, and appearance reveals its inner luminosity as the heart of lucency.”<sup>52</sup>

This simultaneous causality of a instantaneous present across aeons and world systems provides a common ontological even fractal-like foundation for a Buddha’s six special powers across all scales. It helps to show why chapter two of this paper: “Additional Examples of Buddhist Temporal Issues” are not paradoxes. To summarize, all dharmas<sup>xix</sup> interpenetrate each other spatially and temporally. Past, present, and future “...interpenetrate into a single thought instant...where efficient causation flows from past, present and future directions with equivalent force, thus establishing simultaneous interpenetrative harmonization of unhindered mutual containment between all events in the three periods of time.”<sup>53</sup>

#### IV. Tantric methods can help Validate and Navigate the Five Dimensional Buddha Universe

Dharmic knowledge rests on empirical investigation. The Buddha Gautama is very clear that one should not accept philosophical speculations like those developed here. He says that we should not:

...go by reports, by legends, by traditions, by scripture, by logical conjecture, by inference, by analogies, by agreement through pondering views, by probability, or by the thought, “This contemplative is our teacher.” When you know for yourselves that, “These qualities are skillful; these qualities, when adopted and carried out, lead to welfare and to happiness”—then you should enter and remain in them.”<sup>54</sup>

#### *What is meant by valid results?*

The test of validity used by the Buddha hinges on individual results via a living practice lineage, from applying well validated methods to achieve purification (detailed below). The results of these methods will liberate one from suffering and produce “welfare and happiness.” Liberation is always *from* a state that needs healing and *to* a healed state of release and greater effectiveness. Healing is a continuous process producing particular healthy experiential and measurable results.

#### *How one heals*

Healing involves the application of knowing associated with realizing alternative—Kalachakra. Healing then is coming to an understanding and participation in the primordial illumination of consciousness as effulgence of the

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<sup>xix</sup> Dharma refers to the karmic manifestation of the path of conventional reality. Every individual is a manifestation of and manifests their own dharma. The Buddha too is a manifestation of dharma. The Buddha’s teaching, called the dharma, purify the path eliminating the causes of suffering. Thus conventional reality is fundamental, being the path to Buddhahood.

energy body, which in turn is an effulgence of the Dharmakaya body. According to the Fourteenth Dali Lama:

The definition of the mental is that which is luminous and knowing. ...Clarity here refers to the ability of mental states to reveal or reflect. Knowing, by contrast, refers to the mental state's faculty to perceive or apprehend what appears. [These are not objects that can be measured in spatiotemporal terms.] As the primary feature of light is to illuminate, so consciousness is said to illuminate its objects. Just as in light there is no categorical distinction between the illumination and that which illuminates, so in consciousness there is no real difference between the process of knowing or cognition and that which knows or cognizes. In consciousness, as in light, there is a quality of illumination.

This healing is accomplished by removal of obscurations that produce suffering:

[T]he mind of clear light is very subtle, and though it enters good states of existence such as those of the gods or bad such as those of hell, it remains unaffected by them, either adversely or beneficially. ...It is never tarnished nor develops into the actual entities of those states of mind. So, like water and dirt, the clear-light of mind can be separated via practice from conventional reality and all that it contains. ...[I]f the natural mind of clear-light is separated from its impurities such as dirt and dust from water, it is clear and transparent. It reveals its clarity in its separation from entanglement of duality.<sup>55</sup>

Removal of obscurations are tied to the developmental progress of the practitioner much like the continuous process of a plant growing from a seed. Developmental progress toward enlightenment (healing) is continuous, revealing aspects of the final mature plant even as it proceeds. The method, the path, and the fruit are simultaneous.

#### *Purification: Separating vs. Produced Methods*

Vajrayana provides various purification methods to the practitioner so that they can heal themselves. There are two general types: 1) separative, and 2) produced.

"Separative" methods reveal the pre-existent Buddha within the practitioner by peeling away and removing the defilements of conventional reality. Conventional reality is much like the sky when it is filled with clouds. Meditative practices such as the Six Yogas of Naropa illuminate and widen the "cracks" between the clouds to see the unobstructed sky. Briefly witnessing and tasting the clear-light ("blossoms in Spring time") is much like seeing the sky emerging little by little as the clouds are cleared away.<sup>56</sup> (Recent work by

Charles Genoud provides methods to directly investigate how the body organizes itself to be “blossoms in Springtime.”<sup>57</sup>

This process involves clearly defined steps resulting in specific sensory experiences that precede and provide access to the clear light in the “gaps” in each Bardo.<sup>58</sup> These gaps are: gaps between and within the cycles of external-kalachakra or inner-kalachakra; between the cycles of external-kalachakra and inner-kalachakra or between both and the intermittent application of alternative-kalachakra. Additional ones include the brief gaps between being awake and asleep; a state of calm vs. orgasm or sneezing; the gap between going asleep and awakening; and the gap between birth and life or life and death. Each “gap” entered into via its yoga is an opportunity to “see” and “be” one’s own karma as emptiness/form.<sup>59</sup>

The practitioner can also use the Six Yogas of Naropa to directly purify and manipulate the Chakras, winds, channels, and *nadies* of the energy-body as a tainted flow in conventional reality. The latter permit direct access to and purification of the very subtle winds.<sup>60</sup>

### *Deity Yoga*

“Produced effects” are qualities of direct realization generated through Bardo-specific preparatory purifying mediations,<sup>61</sup> deity visualizations, mantra, ritual clothing, implements, visualization, and mandalas that produce the desired deity’s energy-meat body pattern. Here the clear-light itself is used.<sup>62</sup> From these practices, one’s own energy-body as “Gus” is briefly opened to a “taste” as a Buddha’s or deity’s purified energy-body and meat-body.<sup>63</sup> Continuous practice prepares the practitioner for visualizing, embodying and engaging in deity yoga alternative-Kalachakra activity.<sup>64</sup> Healing happens from the inside out.



**Figure 5: Kalachakra and Vishvamata at center of Kalachakra Mandala**

To summarize, ultimately, the continuous and immediate recognition and embodiment of the clear-light luminosity of all phenomena by separative and produced yogas refines the practitioner acting as a deity producing alternative-Kalachakra.<sup>65</sup>

*Empowerment to Engage in and Benefit from Tantric Practice*

A ripening empowerment given by a qualified Guru is required before a practitioner can carry out their commitment to practice the Six Yogas, or to engage in any other tantric practices.<sup>66</sup> Only the Bardo of Birth<sup>67</sup> and the Bardo of Dream<sup>68</sup> space-times permit the direct transmission of an initiation or “ripening empowerment”<sup>69</sup> between a Guru and practitioner. This is probably due to the fact that while these two temporalities are different (see Table 1), they are the only ones accessed via the practitioner’s and the Guru’s meat body.

The purpose of the ripening empowerment is to give the practitioners a direct experience of “original wakefulness” by cleansing defilements. The origin of the term “empowerment” comes from the act of empowering a prince when he is enthroned; he is no longer a man but has had his royal capacity awakened so

that he can exercise his powers which were always there in his royalty.<sup>70</sup> So too with the Guru's empowerment of the practitioner.

The Buddha is always "spontaneously present within one's own nature" but is hidden much as dirt obscures the purity of water in dirty water. The Guru's words, gestures, and ritual objects stimulate the conditions for the healing to take place by glimpsing the ultimate fruit. The ritual serves to speed the ripening process of the mind essence to reveal the luminous nature of self awareness in an unfabricated awakened state. Up to this time, one is driven by habitual tendencies and attachments, lacking independent power to stop it. The ripening empowerment administered by the Guru cleans this state by breaking one's habitual fixation on conventional reality. The blessing generates "a break-through self" as diety. This is done by using the appropriate meditative state, visualizations, mantra, and correct ritual implements and gestures to introduce the practitioner, via a ritual tour of the connoting mandala, to the continuity that is always spontaneously present. A mere taste of the fifth dimension is generated for the practitioner as a body-speech-mind deity in the center of its mandala.

The effectiveness of an empowerment is not based on ritual accuracies or liturgical arrangement or mantra recitation. This is the "foundation" but "it is the strength of the meeting between the masters blessing and the disciples devotion" that produces the empowerment. Tsele Natsok Rangdrol describes this relationship as analogues to when the Dakini Laykyi Wang confirmed empowerment upon Padmasambhava when "...she transformed him into the letter HUNG. Swallowing the HUNG, she sent it through her body and emitted it through her secret lotus, where Padmasambhava received the complete empowerments and attained the supreme accomplishment of Mahamudra." Another method is for the Guru to emanate purifying light from his chakras that are then absorbed by the practitioner's, purifying their chakras. Or, a dagini may give the practitioner a bowl of soup (symbolic of a kapala or skull of wisdom nectar) which ripens him. In each case the blessing visualization is received either by direct visualization or by seeing and accepting the blessing into one's being. The blessing is in the form of a particular, suitable interaction between the student and the Guru such that the process is correctly seen and experienced resulting in a transformation from fixation on the conventional to original wakefulness as participation, if only briefly, in the clear-light.<sup>71</sup> This taste is enough to initiate the ripening process.

Mantras and texts used by Gurus for initiations exist in their own special time. For example, the Tibetan Book of the Dead (Bardo Thodol) was created by Padmasambhava and hidden as a Torma, a writing that awaits a particular historical time before its location is known and brought forward by a Tortin. This suggests that such texts exist as mythological/historical objects; historical in that it was hidden and discovered in historical time, and mythological in that the message of its existence is transmitted from the creator to a prophesied Turton in the future who "discovers it".<sup>72</sup> (This paper does not investigate this phenomenon nor that of the role that the Tibetan alphabet plays in visualizations, but it seems reasonable to suppose that the fifth dimension of the Five

Dimensional Buddha Universe plays a crucial role for both in their similarity to the Saraputra story.)

*Buddha Gautama's Instructions for Sharpening one's Practice leading to the Emergence of Paranormal Powers*

To the Buddha, the “miracle of instruction” was the greatest of all powers because it led to the freeing of all sentient being from suffering. Paranormal powers, providing access to the fifth dimension of the Five Dimensional Buddha Universe, result from the practitioner's continued ripening and coming to fruition as loving kindness and other accompanying yogas are practiced.<sup>73</sup>

[The Buddha] explained that to experience these subtle states [supramundane realization that all defilements can be eradicated and never rise again; knowledge of the modes of psychic powers; the knowledge of the divine ear-element; the knowledge encompassing minds of others; the knowledge of the recollection of past lives; and the knowledge of the divine eye or the passing away and rebirth of beings] in full and obtain a steady perception of them one should free oneself from eleven imperfections (*upakkilesa*). The first is uncertainty about the reality of these phenomena and the significance of the inner light, which might be easily taken for a sensory illusion. The second is inattention: one no longer direct one's full attention to the inner light but disregards it, evaluating it as unremarkable or inessential. The third imperfection is lethargy and drowsiness; the fourth, anxiety and fright, which occurs when threatening images or thoughts arise from the subconscious. When these imperfections have been mastered, a elation may arise, which excites body and mind. Such exultation is often a habitual reaction to any kind of success. When that elation has exhausted itself, one may feel emotionally drained and fall into inertia, a heavy passivity of mind. To overcome it, one makes a very strong effort, which may result in an excess of energy. On becoming aware of this excess, relaxes and falls again into sluggish energy. In such a condition, when mindfulness is weak, strong longing may arise for desirable objects of the celestial or human world, according to the focusing of the inner light which has been widened in its range. This longing will reach out to a great variety of objects and thus lead to another imperfection, a large diversity of perceptions, be it of a desirable or undesirable nature. Concentrating intensely on the chosen object will lead to the eleventh imperfection, the excessive meditation on these forms.<sup>74</sup>

As noted, these six “powers” result from the application of various meditative and visualization practices that reveal or produce the Buddhas body, speech, and or mind.<sup>75</sup> The Buddha's comments are meant to address certain limiting qualities of the states of consciousness preventing one from being healed that emerge during these practices. This practical guidance suggests that accomplishment is

intermittent and patchy—much like a ripening—but that a final result is achievable, including the emergence of supernormal powers by penetration of the fifth dimension of the Five Dimensional Buddha Universe.

## V. Summary and Issues Remaining

The temporal issues that introduced the paper have been theoretically addressed from the perspective of the Five Dimensional Buddhist Universe. The origins, limits and constraints of the six Bardos have also been overcome. A view, methods of investigation, and specific resulting sensory experiences as a result of ripening have been identified.

We start by using empowerment to overcome a fascination and fixation with conventional reality, progress by using various yogas to find the “cracks” and witness the clear-light ever so briefly as our own “blossoms in Spring time.” Tantric empowerment continues to ripen us, fertilizes the empowered seed that is placed within the energy-body and remembered by the meat body (ritual, and mantra for example) leading to unveiling our natural capacities to achieve a Buddha’s body, speech and mind. We learn to act with skillful means anchored in the fifth dimensions into conventional reality via the dynamic of alternative-Kalachakra. As we progress along, we witness the deep karmic tie that, via the very subtle wind, penetrates the dynamical being-time of sentient beings, attracting by the resulting turbulence not only the entire structure of this world but also our next embodiment so that we can progress along until Bardo constraints and limitations vanish even as the winds are stopped and karma ended. We learn to time out our actions according to the practice of alternative-Kalachakra. Then we, the self-reflective, embodiment-of- an effulgent, are reabsorbed in the always present-instant clear-light.

This analysis suggests that the concept of *umvelt* has an important theoretical limitation when applied to cultural and epistemological investigation systems like those carried forward by the Buddhist Vajaryana. Currently, *Umwelt* refers to how an animal’s receptors and effectors define its world of possible stimuli and actions. More exactly, *umvelt* is defined as “the circumscribed portion of the environment which is meaningful and effective for a given animal species.”<sup>76</sup> Certain mathematical and scientific tools extend human’s sensory limitations to ultraviolet light, black holes, etc. The inclusion of a fifth dimension and the Bardo of Death, which are taken to be very meaningful to a sentient being’s world, would further extend this circumscribed reality. It identifies a second natural body, the energy body, which is capable of knowing via specific yogas (much like other accepted tools just mentioned) and linking what is known to the neurological and other systems of the meat body.<sup>77</sup>

Vajaryana knowing does not reject knowing via the neurological capacities of the central nervous system or by scientific tools, computational method, or biological and physical theories but includes knowing via the energy and dharmakaya bodies as well.<sup>78</sup> This energetic chakra, nadi, wind system is taken to be separate from the central nervous system but to be as “natural” as anything else in the conventional world. We have suggested that its origin and temporal

state(s) is quite different than that of the central nervous system. Perhaps these two layers should be added to the timing out of the lives of sentient beings.



## ENDNOTES

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<sup>1</sup> Authors that attempt to interpret difficult Vajrayana concepts usually work with or at the least, pass their work by a qualified and fully trained Buddhist teacher for comment. This has not been done here. The paper is an essay, a personal thinking through of various ideas related to time. I have received Buddhist tantric initiations including the Kalachakra, Chakrasamvara, and Green and White Tara but do not consider myself an expert on any of them. Tantric texts are part of a teaching system that involves a personal teacher, instructions for visualizations, “whispered” or confidential instructions focusing on one’s practice requirements, and specific mantras. The language used is often called “twilight language” in that long acquaintance with the text and a teacher are necessary to fully interpret it. This is a limitation here. I have been with a number of teachers but for only short periods. While I draw on a single tradition, the texts are written and/or translated by different English speaking individuals. The cognitive meaning of the terms may be different one from another and certainly when compared to the Tibetan or Sanskrit sources. The Kalachakra or Wheel of Time Tantra, will serve as a primary source of information. This tantra has been authoritatively translated. The author participated in a public initiation by the Dali Lama in Santa Monica, California and has tried to follow recent writings on the tantra. Several old texts have been translated and newer interpretive ones written. Finally, my analysis will, at times, draw from Sutra and at other times from Tantric teachings. In doing so, I follow the position taken by Dol-bo-ba Shay-rap-gyel-tsen: “Tantras should be understood by means of other tantras/Sutras should be understood by means of other sutras/Sutras should also be understood by means of the tantras/Tantras should also be understood by means of the sutras/Both should be understood by means of both.” Here is a statement by the 13<sup>th</sup> Dali Lama on how Tibetan Buddhists understand time: “Regarding the Buddhist concept of time, our philosophy has adopted several positions. The Sautrantika school, also known as the “Holders of Discourse,” affirms that all phenomena and events exist only in the present moment. For this school, past and future are nothing other than simple concepts, simple mental constructs. As for the Madhyamika-Prasangika school, the Consequence School of the Middle Way, it generally explains time in terms of relativity, as an abstract entity developed by the mind on the basis of an imputation, the continuity of an event or phenomenon. This philosophical view & scribes, therefore, an abstract concept whose function is dependent on the continuum of phenomena. From this point on, to try to explain time as an autonomous entity, independent from an existing object, proves impossible. That time is a relative phenomenon and can claim no independent status is quite clear; I often give the example of external objects which can be easily conceived of in terms of the past or future, but of which the very present seems inconceivable. We can divide time into centuries, decades, years, days, hours, minutes, and seconds. But as the second is also divisible into multiple parts, milliseconds for example, we can easily lose our grasp of the notion of present time! As for consciousness, it has neither past nor future and knows only present moments; it is the continuum of a present moment being transformed into another present moment, whereas with external objects the present disappears in favor of notions of past and future. But further pursuit of this logic will lead to absurdity, because to situate past and future we need a frame of reference which, in this case, is the present, and we have just lost its trace in fractions of milliseconds. <http://hhdl.dharmakara.net/hhdlquotes3.html>

<sup>2</sup> “Sariputta: The Marshal of the Dhamma,” in Nyanaponika Thera and Hellmuth Hecker (2003). *Great Disciples of the Buddha: Their Lives, Their Works, Their Legacy*. Summerville, Mass: Wisdom Publications.

<sup>3</sup> The divine eye, one of the powers of a Buddha, is the ability to see beyond the range of the physical eye into a thousandfold world system (P. 188). Each world system is the result of a particular Karmic thread. As such it has its own space-time which is relative to each of the other world systems. Thus to perceive all of them simultaneously or individually must involve a fifth dimensions that encompasses these other temporalities. “Anuruddha: Master of the Divine Eye” in “Nyanaponika”, Thera and Hellmuth Hecker (2003). *Great Disciples of the Buddha: Their Lives, Their Works, Their Legacy*. Summerville, Mass: Wisdom Publications, p. 188.

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<sup>4</sup> This relative motion separated by a bifurcation point raises interesting questions about the fabric of space-time. It would appear that there are multiple conventional space/times associated with different aeons occurring in a present instant. Gravity, mass and space-time are all interconnected. Here, any one aeon would not be continuous with another in the Einsteinian sense since each's space-time is not connected. What binds it all together is the fifth dimension.

<sup>5</sup> As used here, a bifurcation involves an abrupt qualitative change, the exact point of which cannot be occupied being a repeller, leading to at least two new states with fundamentally different qualitative conditions. The bifurcation point has is timeless, being fundamentally different from that of the system coming into it and those emerging from it. It is also impossible to return through the point to the earlier condition. See: Heinz-Otto Peitgen, Hartmut Jurgens, and Dietmar Saupe (1992). *Chaos and Fractals*. New York: Springer-Verlag.

<sup>6</sup> Y. Balashov, (2000). Enduring and Perturbing Objects in Minkowski Space-Time. *Philosophical Studies* 99, pp. 129-166 as cited by Petkov, (2005), p. 20.

<sup>7</sup> Buddhist teachings can be divided into 3 groups: Hinayana, focusing almost exclusively on sutra as the foundations for liberation; Mahayana focusing on compassion and the middle way philosophy; and Vajrayana using yoga to produce experiences generating Buddha qualities. This paper will draw almost exclusively from sutras spoken by the Buddha, and on Dzogchen and Nyingma thought and practices.

<sup>8</sup> This paper does not examine traditional philosophical time questions such as those associated with McTaggart, temporal tensing, or other related issues. As will soon become apparent, in my view the Vajrayana view of time provides very unsteady footing to investigate these issues from. They are taken to be associated with conventional rather than ultimate reality. See the following for an examination of some of the more traditional philosophy of time questions from a Buddhist perspective: H.S. Prasad (1991). *Essays on Time in Buddhism*. Delhi: Sri Satguru Publications.

<sup>9</sup> Dzogchen Ponlop (2006). *Mind Beyond Death*. Itaca, NY: Snow Lion, p.276.

<sup>10</sup> This discussion does NOT draw a formal parallel between the Minkowski's block universe and that developed here. Minkowski's universe is defined by a mathematical expression which has not been fully interpreted in common language. In contrast, the argument is based on Buddhism's two truths which draw about a fundamental experiential and philosophical distinction that, at its base, cannot be translated into common language. These truths can be "pointed at." The problem of understanding "pointing" is not the same as "translating into common language" mathematical concepts. Both involve substantially different root domains—mathematics vs meditative knowing—and are not the same. See: Sal P. Restivo (1978). "Parallels and Paradoxes in Modern Physics and Eastern Mysticism: I – A Critical Reconnaissance," *Social Studies of Science*, vol. 8, No. 2, May, 1978, 143-181.

<sup>11</sup> For a discussion of the Buddhist concept of instants see: Satkari Mookerjee, "The Buddhist Doctrine of Flux (the Nature of Existence)"; Rita Gupta, "The Buddhist Doctrine of Momentariness and its Presuppositions"; Jwala Prasad, "Discussion of the Buddhist Doctrine of Momentariness and Subjective Idealism in the Nyaya-stra"; and Th. Stcherbatsky, "The Theory of Instantaneous Being," in H.S. Prasad (1991). *Essays on Time in Buddhism*. Delhi: Sri Satguru Publications.

<sup>12</sup> Background dependent time is Newtonian in the sense that it "flows" in one direction providing the context for the development of all things. Relativistic time assumes that time is different in different part of the universe do to varying space-time-gravity conditions. See: Callender, C. and Edney, R. (2001). *Introducing Time*. New York: Totem Books. Santa Cruz, CA: Aerial Press.

<sup>13</sup> Quote from: Dainin Katagiri (2007). *Each Moment is the Universe*. Boston: Shambala. For a similar view see: Kenneth K. Inada, "Time and Temporality – A Buddhist Approach," in H.S. Prasad (1991). *Essays on Time in Buddhism*. Delhi: Sri Satguru Publications.

<sup>14</sup> Key points of my approach to presentism and the Five Dimensional Buddha Universe are drawn from: Dainin Katagiri (2007). *Each Moment is the Universe*. Boston: Shambala; Vesselin Petkov (2005) "Is There an Alternative to the Block Universe View?" *Philosophy of Science Archive*, p. 3. at <http://philsci-archive.pitt.edu/archive/00002408/> For a discussion of the interpenetration of various temporalities in Buddhism, see: Alex Wayman, "No Time, Great Time and Profane Time in Buddhism," in H.S. Prasad (1991). *Essays on Time in Buddhism*. Delhi: Sri Satguru Publications.

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<sup>15</sup>Thera and Hellmuth Hecker (2003). *Buddha: Their Lives, Their Works, Their Legacy*.

Summerville, Mass.: Wisdom Publication, p. 188.

<sup>16</sup> B. Alan Wallace. Vacuum States of Consciousness: A Tibetan Buddhist View.”

<sup>17</sup> “...[I]t is to be noted that there is no specific word for universe in Buddhism. The word loka denotes both world and universe'. The words, lokadhatu' and 'cakkavala' stand for world systems. According to Buddhism there are innumerable world systems in a universe or Aeon. Therefore in this context as Prof. K.N. Jayatilleke maintains, the word loka means the world of “space”. “The smallest unit of the universe is termed Thousand-fold Minor World-System (sahassi culanika lokadhdu). This is how it is explained: As far as these suns and moons revolve shining and shedding their light in space, so far extends the thousand-fold universe. In it are thousands of suns thousands of moons thousands of Jumbudipas thousands of Aparagoyānas, thousands of Uttarakurus thousands of Pubbavidehas.” The description illustrates the fact that in a Thousand-fold World System, although it is the smallest unit of an Aeon, there are innumerable planets inhabited by sentient beings of some form or other. Then we are told of another world system which is named as ‘Twice-a-thousand Middling World System.’ In the Buddhist texts we come across further descriptions of Hundred Thousand-fold World Systems.

[http://www.lumbiniinteractive.org.np/contents/books/Book\\_09/abodes\\_beings.php](http://www.lumbiniinteractive.org.np/contents/books/Book_09/abodes_beings.php)

<sup>18</sup> Goodhew, Linda and Loy, David (2002). “Momo, Dogen, and the Commodification of Time”. *Kronoscope*, Vol. 2, no. 1.

<sup>19</sup> Emphasis in the original. Mi-pam-gya-tso (2006). *Fundamental Mind*. Translated by Jeffrey Hopkins. Boston: Snow Lion, p. 39.

<sup>20</sup> Conventional reality or samsara refers primarily to world of agreed upon constructed meanings, as well as the individual creation-interpretation of those means for themselves. The other two bodies are the

Sambhogakaya (the enjoyment body or what I will call the energy body), and the Dharmakaya (body of truth). For a full discussion see: Francis Fremantle (2001). *Luminous Emptiness*. Boston: Shambala.

<sup>21</sup> Sentient beings include humans, animals and insects where a sentient being is aware of long habits of mind, and is capable of experiencing the subjective experiences of suffering and happiness. A sentient being experiences its inputs (perceptions) and outputs (actions), in contrast with automaton where no subjective states occur, and all meanings have to be assigned to inputs and outputs from 'outside the system". All sentient beings have Buddha nature. Such beings are considered numberless. “The Three Stages of the Path,” Teachings by Lama Zasep Tulku Rinpoche. September 1998, Vancouver, BC, Canada.

<sup>22</sup> Gus Koehler (2003). “Time, Complex Systems, and Public Policy: A Theoretical Foundation for Adaptive Policy Making”, *Nonlinear Dynamics, Psychology, and Life Sciences*, Vol. 7, No. 1, January 2003.

<sup>23</sup> Dainin Katagiri (2007). *Each Moment is the Universe*. Boston: Shambala, p. 39.

<sup>24</sup> David R. Loy, *Cyberlack*, in Robert Hassan, and Ronald E. Purser, (2007). 24/7. Palo Alto: Standard Business Books.

<sup>25</sup> Uisang, the First Patriarch of Korean Hua-yen Buddhism (625-702), created an analogous diagram called the “Ocean Seal.” As a mandala of process it demonstrates the simultaneity of the ultimate and the conventional and how both are simultaneously navigated. See: Steve Oclin (1982) *Process Metaphysics and Hua-Yen Buddhism*. Deli, India: Sri Satguru Publications.

<sup>26</sup> For a contrasting view using tensed logic, see: A. Charlene McDermott, “The Sautrantika Arguments Against the Traikalyavada in the Light of the Contemporary Tense Revolution,” in H.S. Prasad (1991). *Essays on Time in Buddhism*. Delhi: Sri Satguru Publications.

<sup>27</sup> Kazuaki Tanahashi (1985). *Moon in a dewdrop: Writings of Zen master Dogen*. San Francisco: North Point. P. 76-80.

<sup>28</sup> Steve Oclin (1982) *Process Metaphysics and Hua-Yen Buddhism*. Deli, India: Sri Satguru Publications. Zen is closely related to Mahayana Buddhism.

<sup>29</sup> A tantra presents a complete cosmology. It also details the initiation and practice rituals necessary to guide meditation on one's own body—particularly the energy body—to become similar in aspect to a Buddha's body. Sutra provides no such meditation, depending on the altruistic intention to become enlightened; in contrast, tantra through various ripening yogas leads

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one to experiences associated with being a Buddha. The Kalachakra Tantra is the only tantric initiation and instructions given publicly. For a translation of the tantra and a detailed description of the initiation ritual, see: Tenzin Gyatso, the Dalai Lama (1985). *The Kalachakra Tantra*. Translated by Jeffrey Hopkins. Boston: Wisdom. For detailed analysis and comments on the initiation and practices see: Alexander Berzin (1997). *Taking the Kalachakra Initiation*. Ithaca: Snow Lion; and Glenn Mullin (1991). *The Practice of Kalachakra*. Ithaca: Snow Lion; and Gen Lamrimpa (1999). *Transcending Time*. Somerville: Wisdom. For very clear guidance on the creation and completion stages of tantric practice, see: Jamgon Kongtrul (1996). *Creation and Completion: Essential Points of Tantric Meditation*, with a commentary by Khenchen Thrangu Rinpoche. Boston: Wisdom.

<sup>30</sup> Karma bares forward information about how to assemble a world system. This information evolves and changes by the actions of that system's constituent sentient beings. To me, this resembles a kind of early information theory producing a sort of reflexive computational universe. See for example: Stephen Wolfram and Fredkin as cited in: Ray Kurzweil (2005). *The Singularity is Near*. New York: Viking, p. 87; and Carlos Gershenson (2007). *The World as Evolving Information*. Centrum Leo Apostel, Vrije Universiteit Brussel, [http://uk.arxiv.org/PS\\_cache/arxiv/pdf/0704/0704.0304v1.pdf](http://uk.arxiv.org/PS_cache/arxiv/pdf/0704/0704.0304v1.pdf) The concept of "force" is a difficult one even for modern physics. Newton apparently derived some aspects of his thinking about force from alchemy. See: B.J.T. Dobbs (1975). *The Foundations of Newton's Alchemy*. Cambridge, UK: Cambridge University Press.

<sup>32</sup> Martin Brauen (1997). *The Mandala Sacred Circle in Tibetan Buddhism*. Boston: Shambala. The text provides a detailed guide of the Kalachakra Mandala, including the construction of the outer mandala of the universe, p. 18.

<sup>33</sup> She Drup Ling Graz (2002). *Buddhist Basics and Kalachakra Animated*. Graz, Austria. See also: Khedrup Norsang Gyatso (2004). *Ornament of Stainless Light*. Boston: Wisdom, chapter 4.

<sup>34</sup> See: Alex Gray's paintings in the series "Progress of the Soul" at: <http://www.alexgrey.com/>

<sup>35</sup> Jamgon Kongtrul Lodro Taye (1995). *Myriad Worlds*. Ithaca: Snow Lion, Chapter 3.

<sup>36</sup> Martin Brauen (1997). *The Mandala Sacred Circle in Tibetan Buddhism*. Boston: Shambala, pp. 52-53.

<sup>37</sup> Dalai Lama Answers Questions on Creation, <http://hhdl.dharmakara.net/hhdlquotes22.html>

<sup>38</sup> Geshe Kelsang Gyatso (1994). *Tantric Grounds and Paths*. London: Tharpa Publications, p. 151.

<sup>39</sup> Akira Sadakata (1997). *Buddhist Cosmology, Philosophy and Origins*. Tokyo, Japan: Kosei Publications, p. 69.

<sup>40</sup> Tarthang Tulku (1977). *Space, Time and Knowledge*. Berkeley: Dharama.

<sup>41</sup> A complete and understandable explanation, including the yogas, is provided in: Geshe Kelsang Gyatso (1982). *Clear light of Bliss*. Boston: Wisdom.

<sup>42</sup> [http://www.tibetanspirit.com/productview.asp\\_Q\\_id\\_E\\_1174\\_A\\_catid\\_E\\_143\\_A\\_maincat\\_E\\_Tha ngkas\\_A\\_subcatid\\_E\\_216\\_A\\_subcat\\_E\\_Citti+Patti](http://www.tibetanspirit.com/productview.asp_Q_id_E_1174_A_catid_E_143_A_maincat_E_Tha ngkas_A_subcatid_E_216_A_subcat_E_Citti+Patti) and Alex Gray at: <http://www.alexgrey.com/>

<sup>43</sup> Khedrup Norsang Gyatso (2004). *Ornament of Stainless Light*. Boston: Wisdom, p. 505.

<sup>44</sup> Thomas Cleary, *Avatamsaka Sutra, Translated into English: Volume 1: The Wonderful Adornments of the Leaders of the World*, [http://www.e-sangha.com/alphone/0279\\_01.html](http://www.e-sangha.com/alphone/0279_01.html)

<sup>45</sup> Francesca Fremantle (2001). *Luminous Emptiness*. Boston: Shambala.

<sup>46</sup> Dzogchen Polop (2007). *Mind Beyond Death*. Uthaca, NY: Snow Lion.

<sup>47</sup> Martin Brauen (1997). *The Mandala Sacred Circle in Tibetan Buddhism*. Boston: Shambala. The text provides a detailed guide of the Kalachakra Mandala, including the construction of the outer mandala of the universe, p. 18.

<sup>48</sup> Alexander Berzin (1997). *Taking the Kalachakra Initiation*. Ithaca: Snow Lion.

<sup>49</sup> Bokar Rinpoche holds that a deity—here we refer to a Buddha who is practicing deity yoga—is both the creation of the human psyche and an entity that transcends this world. As noted by Miranda Shaw (2006). *Buddhist Goddesses of India*. Princeton: Princeton University Press, p. 10.

<sup>50</sup> For a more technical discussion see: Kyabje Zong Rinpoche (2006). *Chod in the Ganden Tradition*. Boston: Snow Lion.

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- <sup>51</sup> Steve Oclin (1982) *Process Metaphysics and Hua-Yen Buddhism*. Deli, India: Sri Satguru Publications.
- <sup>52</sup> Tarthang Tulku (1994). *Dynamics of Time and Space*. Berkeley: Dharma, p. 214.
- <sup>53</sup> Steve Oclin (1982) *Process Metaphysics and Hua-Yen Buddhism*. Deli, India: Sri Satguru Publications, p. 3.
- <sup>54</sup> Thanissaro Bhikku (1994). "Kalama Sutta to the Kalamas" in *Access to Insight*.
- <sup>55</sup> Khedrup Norsang Gyatso (2004). *Ornament of Stainless Light*. Boston: Wisdom, p. 54-57.
- <sup>56</sup> Mi-pam-gya-tso (2006). *Fundamental Mind*. Translated by Jeffrey Hopkins. Boston: Snow Lion, p. 44.
- <sup>57</sup> Charles Genoud (2007). *Gesture of Awareness*. Boston: Wisdom.
- <sup>58</sup> Geshe Kelsang Gyatso (1982). *Clear Light of Bliss*. Boston: Wisdom, p. 88.
- <sup>59</sup> A discussion of form and emptiness while directly related to the subject of this papers, goes far beyond our present discussion. For a more detailed discussion, See: Prajnaparamitra and Diamond Sutra, also: Elizabeth Napper (1989). *Dependent-Arising and Emptiness*. Boston: Wisdom; and Jeffrey Hopkins (1987). *Emptiness Yoga*. Ithaca: Snow Lion.
- <sup>60</sup> Lama Thubten Yeshe (1998). *The Bliss of Inner Fire: Heart Practice of the Six Yogas of Naropa*. Somerville: Wisdom; and Glen Mullin (1996). *Tsongkhapa's Six Yogas of Naropa*. Ithica: Snow Lion.
- <sup>61</sup> There are multiple levels and types of tantras and related yogas. For a general overview of Tantra see: John Blofeld (1987). *The Tantric Mysticism of Tibet*. Boston: Shambhala; and Geshe Kelsang Gyatso (1994). *Tantric Grounds and Paths*. London: Tharpa Publications.
- <sup>62</sup> Mi-pam-gya-tso (2006). *Fundamental Mind*. Translated by Jeffrey Hopkins. Boston: Snow Lion, p. 36.
- <sup>63</sup> Dol-bo-ba Shay-rap-gyel-tsen (1333). *Mountain Doctrine: Tibet's Fundamental Treatise on Other-Emptiness and the Buddha-Matrix*, translated by Jeffrey Hopkins (2006). Ithaca: Snow Lion Publications, p.p. 11-12.
- <sup>64</sup> Diety yoga follows an extensive preparation by beginners involving a close analysis of how conventional reality is formed and maintained. Without this preparation, and the four part tantric initiation, it is not possible to progress to or understand the practices of tantra and Dogchen.
- <sup>65</sup> Currently available initiations are listed in *Snow Lion Buddhist News & Catalog* at: <http://www.snowlionpub.com/pages/N77.php> Lama Thubten Yeshe (1998). *The Bliss of Inner Fire: Heart Practice of the Six Yogas of Naropa*. Somerville: Wisdom, p. 49; and Glen Mullin (1996). *Tsongkhapa's Six Yogas of Naropa*. Ithica: Snow Lion, p. 116; and Tenzin Gyatso, the Dali Lama (1985). *The Kalachakra Tantra Rite of Initiation*. Sumerville: Wisdom, p. 1.
- <sup>67</sup> Francesca Fremantle (2001). *Luminous Emptiness*. Boston: Shambala, p. 58.
- <sup>68</sup> Buddhists and Hindus both accept the view that a teacher or a deity may appear in one's dreams. They may also give instructions or initiations.
- <sup>69</sup> Tsele Natsok Rangdrol (1993). *Empowerment and the Path of Liberation*. Boston: Shambala.
- <sup>70</sup> Tsele Natsok Rangdrol (1993). *Empowerment and the Path of Liberation*. Boston: Shambala.
- <sup>71</sup> Tsele Natsok Rangdrol (1993). *Empowerment and the Path of Liberation*. Boston: Shambala, p. 37.
- <sup>72</sup> John Reynolds (1989). *Self-Liberation Through Seeing with Naked Awareness Being an Introduction to the Nature of one's own Mind from the Profound Teach of Self-Liberation in the Primordial State of Peaceful and Wrathful Dieties. A Terma of Guru Padmasamhava discovered by Karma Lingpa*. N.Y: Staton Hill Press.
- <sup>73</sup> Nyanaponika Thera and Hellmuth Hecker (2003). *Great Disciples of the Buddha: Their Lives, Their Works, Their Legacy*. Summerville, Mass: Wisdom Publications, p. 88. The Pali cannon contains many references to historical Buddhas and to Gautama Buddha and his disciple's development of psychic powers. Western biases tend to ignore these sutras as noted and discussed by the authors.
- <sup>74</sup> Nyanaponika Thera and Hellmuth Hecker (2003). *Great Disciples of the Buddha: Their Lives, Their Works, Their Legacy*. Summerville, Mass: Wisdom Publications, p. 188.
- <sup>75</sup> It is difficult to provide direct evidence of the fifth dimension. See: <http://www.zangdokpalri.org/rebirth.html> ; [http://www.kcc.org/lineage/announcement\\_20040822.html](http://www.kcc.org/lineage/announcement_20040822.html) ; [29](http://www.tarab-</a></p>
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[http://www.berzinarchives.com/web/en/archives/approaching\\_buddhism/teachers/tsenzhab\\_serkong\\_rinpoche/portrait\\_serkong\\_rinpoche.html](http://www.berzinarchives.com/web/en/archives/approaching_buddhism/teachers/tsenzhab_serkong_rinpoche/portrait_serkong_rinpoche.html)

<sup>76</sup> As cited by Fraser (1992) from English and English (1958). *A Comprehensive Dictionary of Psychological and Psychoanalytic Terms*. New York: David McKay.

<sup>77</sup> Acupuncture provides evidence supporting the physical existence of the energy body. Acupuncture depends on a systems of channels and other factors that it interrupts and in other ways changes. In November 1997, the National Institutes of Health (NIH) convened a panel of 12 distinguished physicians and scientists to review the history, licensing, practice and current status of clinical research on the effectiveness of acupuncture. The first formal endorsement of acupuncture by the NIH stated: "There is sufficient evidence of acupuncture's value to expand its use into conventional medicine and to encourage further studies of its physiology and clinical value." As reported in the California Department of Consumer Affairs, Acupuncture Board (2004). "A Consumers Guide to Acupuncture and Oriental Medicine."

[http://www.acupuncture.ca.gov/pubs\\_forms/cons\\_guide\\_2002.pdf](http://www.acupuncture.ca.gov/pubs_forms/cons_guide_2002.pdf) However, as far as I know, except for Taoist alchemy, chi, the channels and so forth, do not provide a way of knowing as suggested by Tantric meditations. Also, it is unclear if chi is the same thing as winds or kudalini. See also: Terry Clifford (1992). *Tibetan Buddhist Medicine and Psychiatry: The Diamond Healing*. York Beach, Maine: Weiser; Dianne Connelly (1979). *Traditional Acupuncture: The Law of the Five Elements*. Columbia, Maryland: Center for Traditional Acupuncture, Inc; Hsuan Hua (1997). *Medicine Master Sutra*. Burlingame, CA: Buddhist Translation Society.

<sup>78</sup> J.T. Fraser (1992). Human Temporality in a Nowless Universe. *Time and Society*, Vol. 1, 2.