## 10/11/17

Wow. David Bohm's clear and concise explanation of quantum theory within "The Undivided Universe" so beautifully embodies Buddhist sentiments. As I read Bohm's work alongside segments of Robert Thurman's "Essential Tibetan Buddhism" the similarities were remarkable. Firstly, Bohm accounts for our ability to perceive the world, he writes that "our senses in relation to outward actions" allow us to "manifest" the world (Bohm 176). Furthermore, we can only "manifest" "what can be held in hand" (Bohm 176), or in more scientific terms, what can be measured. In relation to quantum theory, "the very effort to hold [the quantum world] produces thoroughgoing unpredictable and uncontrollable changes in it? (Bohm 177). Therefore, in order to "hold" it in any sense, we must understand that "we should regard a quantum measurement as a manifesting process" (Bohm 179). In other words, to measure is to manifest. Similarly, Thurman writes that "there are no things...nothing to meditate upon, and no meditation; since things are without reality, meditation is not to be perceived" (Thurman 222). We cannot measure meditation without inherently altering the condition of meditation; we must meditate in order to manifest meditation. The process of meditation brings meditation into our hands - just like the quantum world in which there is no separation between the observing instrument and what is being observed. I imagine that the more we meditate, become this all and this emptiness, the more we truly manifest meditation. I wonder why, in Western cultures at least, this inability to measure draws allure in science, but criticism in religion. Is it our inherent cultural bias? Is it because quantum theory is not tangible by the naked eye, whereas meditation, in some sense is? Can we more easily imagine the impenetrability and immeasurability of a field beyond our immediate grasp? If we cannot hold something with our naked eye, then does it make more sense that we cannot measure it unless we manifest it?

Bohm's sense of the "nonlocality and undivided wholeness" (Bohm 178) of quantum properties is also gorgeously intertwined with the Buddhist notion of the "mass of totality" (Thurman 218). An indivisible mandala that holds all of space and time. Thurman's text proclaims, "may they become indivisible!" referring to the subject of the text and the wisdom heroes. The quantum world is "the ultimate ground of existence" (Bohm 177) - a system in which "each part depends on a whole" (Bohm 177). Both quantum mechanics and Buddhism depend on this structure of an indivisible whole; a world in which all actions "profoundly affect" (Bohm 177) everything within that world - a oneness. In this sense, causation does not exist. There is no cause with non-locality. Einstein's theory of gravitation, modeled after Maxwell, consists of a field - a concrete, physical quantity, with particles. The changes in the particles embedded in the field propagate out until they reach another particle. In this sense, every action ripples to all other actions in a field - everything is wholly interconnected. The totality of space and time exists in a fluid state. There is no cause; a particle's action will infinitely flow to all other particles in this fluid. If there is no cause and effect how can there be blame? How can one maintain karma if their actions are merely the rippling of another's action? If there is no individuality in this fluid, how can individuals achieve nirvana? Reincarnate? Can reincarnation be temporally sequential? If we live in a flattened four dimensional state, do all reincarnations exist at once and, therefore, eventually we all exist in nirvana at once and simultaneously? Does this totally devalue the process of achieving nirvana?

In order to perceive and to communicate these intangible concepts, Bohm writes that we must "go through the classical level in which the effects of the wave function can be consistently left out of account" (Bohm 178). In other words, we must use classical physics, which is both local and separate, in order to establish a world that we can all manifest. This concept of understanding that which cannot be manifested through perception alone is reflected in the "Glorious Esoteric Communion Self-Creation Yoga." The writer invokes the "ordinary form for the sake of the less intelligent" (Thurman 214); those who cannot manifest the unity of the whole must first understand it simply, classically. In order to achieve a higher state, a tangible understanding, even if fundamentally incorrect, must hold. A child will learn that causes have effects, even if, on the truest level, there is no locality and no causation. A lie, in a sense, guides to truth. Therefore is it ethical to present condition in a form that is understandable even if not wholly true? Can one honestly judge the capacity of another?

Lastly, I am fascinated by the concept of enlightenment and quantum theory. Throughout Thurman's text and Buddhism in general, literal light is affiliated with enlightenment. For example, "By praying thus, light radiates from the heart HUM purifying the sins and defilements of all beings, also offerings are given to the Buddhas and Bodhisattvas, and all their virtues are concentrated into light, dissolving into the heart HUM making his luster and energy oustanding" (Thurman 219). In terms of quantum theory, light consists of photons with wavelike properties. These particles convey the same properties as discussed above - they exist in an indivisible fluid - to measure is to manifest. Therefore, they wholly tie into the concept of enlightenment. To measure the light is to manifest the light. Light marries the paths of quantum mechanics and Buddhism. Light is energy; we must measure energy to manifest energy; we must meditate to become enlightened. Furthermore, light is information; we know our world through light. Did our ability to see with light alone draw this link between enlightenment and physical light? Is full physical light enlightenment? I am in awe of how these two concepts so perfectly drive together.