

The Interconnections between the Holographic Model and the Esoteric Traditions of East/West Philosophy

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I would like to very briefly review the holographic model of the universe. There are variations of the holographic model: Pribram called his “the holographic model”; David Bohm opted for a more dynamic option of this, which he calls the “holo-movement”, a holo-kinetic model of the universe. These are minor distinctions in concept and terminology and to include them all in my meaning I will sometimes use the word “holo-cosmic”.

When we talk about the holographic model of the universe the overriding term is “whole”, from the Greek “holos”. So one obvious feature that needs to be stressed (to me, the fundamental one) is the claim that the universe, the whole cosmos, and therefore ourselves who are a part of that, are a whole. We are not separated but are interrelated. There is the claim of Oneness. The literal term in Sanskrit for Brahma is often defined as vastness, and I take that to mean an illimitable vastness, a vastness so enormous that it cannot be limited by anything whatever. That I think is a holographic idea.

The notion that reality is basically and fundamentally non-material is one aspect of the holographic model of the universe. This is particularly clear in both Pribram but especially in Bohm’s model. There is of course a concession made to the material space-time sense of the world that we are all familiar with and in which we move, but no one claims that is somehow a hallucination. Nonetheless the holographic, the holo-cosmic models assign a secondary role to that. It is derivative; the objects of our sense perception are somehow not as fully real as some source that gives rise to them.

In Indian philosophy that concept is known as *Maya*, in Platonic metaphysics it’s the relationship between the copy and the form, which is non-material, it is blue print, it is pattern, it is generative, it is matrix.

So we have this non-materiality of the hologram at its increasingly inward dimension. I want to stop for a moment here because this is a theory that has been especially developed by David Bohm. It forms the very central aspect of his cosmology. Karl Pribram calls this non-materiality the frequency domain, just this vibrating, pulsating wave field which lies beyond space and time and which, if non-material, is made of a very subtle matter, hence non-material as contrasted against the sort of gross or crass materiality of an object.

From that vibrating field of waves, the frequency domain, as Pribram terms it, it is we who create or construct objects. And we do so by means of a mathematical transformation, mathematical operation of the brain itself which reads out of the frequency domain objects in space and time with all the dualistic features that Descartes for example, explained or mapped out, and that is done by means of a mathematical transformation called the Fourier transform.

David Bohm goes even further with this idea of a vibrating, dynamic, energetic domain because he postulates increasingly inward levels of subtle matter of which the familiar world of the senses that we deal with is but the outer layer, or the outcome, the hint, the intimation of something far deeper that lies beneath it. So the daily world that we know, the material world, the world of gross physical matter as he terms it, is the explicate, or the unfolded domain. That is where *Maya* comes in or

limitation, which also interested me this morning, the definition of the demon not as someone inherently evil in any moral or normative sense, but as someone who is simply very limited. Perhaps the notion, at one time in the history of philosophy and theology, that matter is something evil derives from this myth that the limited can never be as whole as the non-limited.

In Bohm's version of the holographic universe then, you have states of matter in increasing degrees of subtlety and grossness, and as you proceed more within the enfolded order you get more and more rarefied states of matter, and the more rarefied the matter the more whole it is. So you have an antithesis virtually, although it is a continuum of gross matter which by definition is separated matter. The whole purpose of the gross, dense, stable physical matter in the world of the senses, the one that corresponds to Plato's cave in the seventh book of *The Republic*, is to have separate entities. And those separate entities do not seem to be interconnected in that state. That is the world of multiplicity, the world that requires space, time, distance, separation and discreteness. That is the purpose, if I am to speak purposively or teleologically, for having that kind of a world.

David Bohm, among others, would not wish to explain the world away, and I think this is true of the esoteric traditions. It is true of Platonism; it is true of Spinoza; it is certainly true of the Eastern traditions by and large. They would not wish to explain that world away. The difficulty of taking that derivative world as ultimate is that you cannot have a genuine explanation while remaining at that level. What you can have is a description. I think on this both David Bohm and someone like Plato agree completely, for in the *Phaedo*, one of his Dialogues, Plato distinguishes between description and explanation: Description restricts itself to a surface account of entities; explanation needs to go deeper, more inward, to invoke more holistic principles in order for it to make its case.

This is exactly what Bohm is now claiming, namely that even the paradoxes of quantum mechanics cannot be understood without recourse to these subtler states of matter that lie, as he says, enfolded but not easily accessible to us, in this inward implicate order of his holo-movement. Not only is this the source of the created visible entities of the world, it is subtle matter. What he is doing is redefining matter, giving it a new connotation, so that the subtler the matter the more whole and the more interconnected, the more enfolded all within each other, the more unitive, and also the more conscious. At its far reaches, in the deep structure of the implicate order, the subtler the matter the more spiritual.

Therefore at the recesses of thought, beyond which human concepts can no longer reach, you have only oneness, only wholeness. It would be correct then to state the maximum claim for the idea of the holographic universe, namely that in some deep level of being, the whole is enfolded within each part. And that includes not only object and object, which is the domain of physics at the moment. It also includes subject and object, which is the domain of psychology and philosophy of science. It is the knower facing the known. It includes most particularly subject and object. And that is what happens to interest David Bohm increasingly; namely the transcendence of an isolated, distorted and hence falsified notion of ourselves as separate from one another to a domain – one energetic domain – which he calls the consciousness of mankind, which has its roots in the inward layers of the implicate order, and anchored in matter so fine that it can only function as a unitive and not as a fragmented kind of entity.

I do not claim to fully understand that, so I lean here on the illustrious example of Karl Pribram who says "I can talk about it but I really don't fully know what it means". What is clear is that it coheres, it triggers in my mind a whole set of other philosophical positions of the ancients, both of East and West, down to Spinoza in the 17th century, at least Whitehead also to some degree in this

century. And I know that whatever the fine workings out of these details will be – and we are not yet there – it will take a long time. Still, the direction I feel, is similar.

In that inward domain, deep within the enfolded order, space as we know it is different. Time as we know it is different: its duration, a temporality, the eternal moment if you will, is not in linear time. Synchronicity would be a predicate; the notion of simultaneity of thought, of event, of connected-ness and all that. The frequency domain, what David Bohm calls the “flowing movement” is a kind of seamless garment of Nature and Man where everything is somehow involved with everything else.

All that doesn't cohere with common sense, the logic that pervades the viewpoint of someone in the Platonic cave or in the world of diversity or multiplicity that the Vedanta talk about. In the Upanishads the statement is made that in Brahman there is no diversity. He who sees diversity goes ever more from death to death. He hasn't learned the lesson yet that beneath the derived reality there is a more fundamental reality which begets, governs, sustains, makes possible that derived reality whose essence it is the human task to somehow experience.

How can we talk about this holographic world in terms of perception? I think that one key, one clue, is to go back to the notion of the instrumentality itself. It isn't the case that in the explicate order, in the space-time phenomenal world, there is falseness. I don't think that is being suggested, but there is severe limitation, as contrasted to some other state of being that is possible for human beings. Some human beings have experienced that state and have left a record of it that I would maintain is remarkably coherent, though it may not agree with every point of terminology.

The language of science, the concepts of science, the data of science are constantly changing. Nonetheless, there has been a steady movement in science away from the primacy of multiplicity, scatteredness, randomness, the “thingyness” of Nature.

The direction of this movement is toward a coherence with the very old. The more closely we approach to 21st century physics, the more closely we find ourselves approaching the cosmology of ancient systems. Now that is a paradox. It is not true in any other domain of knowledge. Usually each intervening century puts aside earlier claims, refines them or rejects them, and invalidates them in some way. But in this case, a very peculiar case, the very new is closer to the very old than the very new or the very old are to the intervening centuries. This was summed up by Pribram in one of his talks on the holographic model when he said, and this is fairly literal “how is it possible that mystics 3,000 years ago have plagiarized what we scientists are doing today?” he was really perturbed about this.

What kind of similarity are we speaking about? The notion of non-materiality, of interconnectedness, of vibrating non-material domain that gives rise to the material; the notion of an energy that underlies the universe and that is not just quantitative but qualitative in character. Perhaps most radical of all, to speak about the hologram and then about the esoteric tradition, is the claim that the whole is found in the part. That violates ordinary perception, it violates common sense and most seriously for my field, it violates Aristotelian logic. How is it possible that a vessel of limited capacity, to use an analogy, can contain an illimitable something or other? It makes one kinaesthetically uneasy, as if something is about to spill over with great messy consequences. The whole is in the part.

And I submit that in order to understand that, one has to take apart every notion, every word of it. What does “in” mean? What kind of space is intended in that claim? It surely is not Cartesian finite

space. It is not the kind of space in which objects are mutually exclusive in one another so that now two masses can occupy the same place at the same time. It isn't ordinary space, but an inward space. Bohm's postulate – and that is all it is for him – is not yet a fully worked out model. He says it is a proposal, and for the moment it is a good working proposal which he would like us to test out and take seriously, at least for some time.

The whole that is the part somehow involves new categories of space, of time, of energy and of interconnectedness – of the movement between the part and the whole. It involves rethinking the idea of motion itself. Certainly it involves multidimensional, not three dimensional finite space, the kind of space that is discussed especially in the Buddhist theories and in Lama Govinda's very fine book that the Theosophical Publishing House published a couple of years ago *Creative Meditation and the Multi-Dimensional Consciousness*. Lama Govinda presents with great clarity the alternative systems of logic that fit the holographic model of the universe. These deal with both spaces and logic that are not exclusive or disjunctive. They are non-Aristotelian, multidimensional; and the kind of entities that are discussed in the multidimensional spaces can overlap, can occupy, can be enfolded (to use Bohm's language) in the same way, in the same order of being without in any way competing with one another. As a matter of fact, that is how Bohm defines and discusses modern notions of space.

So the whole is enfolded in the part, and one of the examples of this I think is in the Mantram in Tibetan Buddhism: Om Mani Padme Hum, which Lama Govinda translates as "The Ocean (or the shining sea) slips into the dewdrop". The traditional translation is the other way around and isn't holographic. That is to say the mystical paradigm of the little droplet losing its entity and merging with the ocean. But Lama Govinda turns it around and then it becomes a holographic paradigm: The whole ocean somehow slips into what we think of as the finite part. And where are these interstices of the atoms if you will, in order for them to yield and to contain so much vastness? That is one of the interesting questions, but I think it coheres with the mystical tradition of both East and West.

Then parts then are derivative; they are not ultimate and they are limited when compared to the whole, but they are also the clue to the whole. Therefore I think, as in Plato, as in the notion of Maya, the measurable in Indian philosophy, the explicate, the unfolded order isn't some uninteresting dimension of being. Just because it isn't the whole doesn't mean that it isn't anything. It is the clue; it is the intimation to the whole and therefore since each part of the whole contains the whole, to penetrate deeply into any part of the whole is to come into communion with the whole.

This is made very clear in Plato, most particularly in the Symposium where he has the seven steps leading up to the ultimate idea of beauty and every single one of those seven steps, even the lowliest, contains the beauties of the earth, one single beautiful form. He says one flower contains the whole of beauty within itself. The same thing we find in the undiluted, unembodied, disembodied, multidimensional timeless expression at the seventh step of the ladder of love in the Symposium we find already in a more limited space-time fashion in the first step. So for Plato it is made very clear.

It is also clear in the *Chandogya Upanishad* when the father says to the son "Tat tvam asi" (That art thou). The son, Shvetaketu is just one person, just one part of the whole and he wants to understand the whole. So he is that point of light, the Atman in Hindu terminology, and is searching for the source of that point of light of which he is a focus or of which he is an expression. The father instructs him to look within, because within that point of light is also the source or the whole of light.

I am not for one moment claiming that discursive logic or the left hemisphere of the brain can fully understand that. I think probably it can't because our very language, our very concepts militate against

that. I think Kant at the end of the 18th century or the beginning of the 19th century showed that more clearly than anyone else in the *Critique of Pure Reason*. Pure reason, hence concept language, dualistic terminology have placed a severe limit on making these statements fully clear to us because it involves us in space, in time, in causality, in substance and hence in limitation. Or to use a very frequently quoted statement which Bohm invokes very often: The map is not a territory; the map will have severe limitations and therefore we will have more difficulty expressing the hologram than we will have experiencing wholeness.

I think poets have grasped this in their own way. When William Blake said “to see a world in a grain of sand, heaven in a wild flower, to hold infinity (i.e. The whole) in the palm of your hand and eternity in an hour”, he was speaking of that same reality. He was saying that the whole is enfolded in every single part. The implicate is always present within the explicate. And if you like, the daily business of life is the movement back and forth from the explicate to the implicate, from the implicate back to the explicate.

Now I would submit, and Bohm is rather forceful about this, the question that comes up very often “who is it that is looking at the hologram?” is the wrong question because it is a dualistic question, Cartesian, subject-object, knower-known, inside-outside, whole-part. It is the wrong question and therefore it really can't have an answer.

This notion of violating Aristotelian logic is nothing to be ashamed of because great discoveries in both philosophy and depth psychology, the thing that the yogins are after and about, and certainly in science, have been made whenever an existing conventional paradigm that seems sacrosanct and logically airtight has been overthrown. I think Tom Kuhn pointed that out beautifully in his *The Structure of Scientific Revolutions*. When somebody begins to question a paradigm, then you have the makings of a whole new shift. Neils Bohr, one of the founders of quantum mechanics, said that “the opposite of an ordinary truth is a lie or a non-truth, but the opposite of a profound truth is another profound truth”. So Nature may work in that way, in a way that simply cannot be captured in the net that we throw over her.

I offer everything I am saying here as very provisional and tentative, even though I may sound very enthusiastic about it at the moment. I am quite aware of the fact that discursive knowledge is constantly undergoing reformulation, and I myself heard Eugene Vignor, who has a Nobel Prize in physics, say to an audience in Princeton that when he was a young man studying physics his professor of physics advised strenuously against going into it because as he said, there is really nothing very challenging in that field because everything is already known. This was about sixty years ago.

I want to map all this into the notion of Eastern philosophy. First of all there is the idea of wholeness, which appears in many guises in the different systems. In Hinduism it's Brahman, in Buddhism it's the Dharma, the Dharmakaya and the Buddha nature. In Taoism it's the Tao. Plato calls it the One in the *Parmenides*. He says “If the One is not then nothing is at all”. He also uses a non-neutral term, a kind of ethical or value judgement term. He calls it the binding power of the universe in the *Phaedo*. It is not the good versus the bad, it is some principle that might almost be translated as the holy, that which is and Being creates, brings forth a universe and is also the beacon that pulls every single creature in creation towards itself, such that human beings cannot be satisfied, whole or happy until they have made contact with it, or glimpsed it, or best of all, entered into union with it, in Plato's phrase. So wholeness.

Secondly, you have the notion of dynamism, flux, which doesn't appear so easily in Plato. I don't want to deal with it here because I am working on that and it is very hard to work out, but certainly it is found in such notions as impermanence in Buddhism, constant change, the restless cosmic, always transforming itself because that is its nature, because to stand still is not creative. There is also the principle of Shiva, dancing his creative transforming dance, that is experienced as destruction only by those who want to hang onto the old. So you have it in Hinduism, you have it in Buddhism, the flow of the Tao in Taoism. Bohm insists that the most truthful expression of current cosmology is wholeness and movement, hence holo-movement.

Thirdly, and this is a very interesting idea: space. I've talked about that before. As opposed to the disjunctive, exclusive Cartesian space, David Bohm postulates holistic space. That is not a thought that he would rather hold, but he says it is dictated now by the very notion of physics. In Revision journal he says "There are two views of space. One view is to say that the skin is the boundary of ourselves, saying there is the space without and the space within. The space within is the separate self, obviously, and the space without is the space which separates the separate self. And therefore, to overcome the separation" between you and me, "we must have a process of moving through that space," from here to there, "which takes time."

If we take the view of the holo-movement, which postulates a vast reserve of energy somehow seething in so called empty space, and say that matter is nothing but a small wave or ripple on that ocean of energy which he calls space, then we could say that space as a whole is the ground of our existence and we are in it. So the space doesn't separate human beings; on the contrary, it unites us. It is like saying that we are not ultimately the separate entities, not physically, not psychologically. For him the enfolded order works on all levels of being. It works for matter, it works for consciousness. What is real is not separate, discrete entities, or blobs, floating in empty space. That is an abstraction. What is basic in the enfolded or inner deep implicate order is that ocean which is already One. This has vast consequences for psychology, for consciousness, for ethics, for philosophy, and so on. He is saying that we are basically already joined, and we separate only in the very superficial layers of our being.

Secondly, he is claiming what I think all mystics have claimed, that somehow the ground of being when you experience it is a tremendous energy. Bohm calls it the energy of compassion. He says the energy of which physics speaks is the same energy of which he speaks in his scientific models, but he adds two further steps, and therefore exceeds the current purpose of the community of physicists. He says that energy, an energy of wholeness, therefore intelligence, therefore compassion, aware of itself, aware of the fact that an entity that is aware of itself will act ethically towards itself, would alter completely the nature of our interactions with one another. That is one point on which he differs radically from the community of physicists. A second point is that he will not settle for any theory of being, any cosmology, any theory of matter/energy that will not find a full place for consciousness, for the knower himself.

To go back to the question that Pribram and others asked—"Who is it that is looking at the hologram?" the answer is obvious: The hologram is looking at itself. So dualism goes out the window and monism becomes the inescapable epistemology of this holographic view of the universe. In other words, we are not outside the universe looking at it and having the luxury of asking the question, "Who is it that is looking at that universe?" as though we were the observers. We are the participants. This goes along with John Archibald Wheeler, the astrophysicist who has worked on black holes, who says we live in a universe which is fully participatory. At the same time that we are doing the knowing, in some way we are being known. It is a participatory universe. We are not reading pointers

on a dial that have an independent reality, but somehow consciousness is integrally bound up with that reading.

One parallel with esoteric tradition comes to mind, and that is the notion in the Upanishads which is most easily mapped into the holographic paradigm. In Vedanta you don't need two anything's, you don't even need two variables in order to account for the phenomenal world, you need only one—Brahman as limitless fundamental ground of being. It precipitates itself as matter. That is what matter is. Matter, physics says, is a standing wave in a field. The Upanishads says it's the precipitate, that mind coagulates itself in space-time form and coheres, for certain aspects of duration, in what we call matter.

During meditation the equation is reversed and it goes back into solution, if you will; we don't perceive multiplicity, we perceive unity. I think Bohm is after something like that when he talks about awareness and about high energy that is possible for us when we are in harmony with, or even the instrument of, this tremendous energy of the universe flowing through us, and not tied up in local systems, whether objects, psychological hang ups, particularities, or singularities. So just as splitting the atom releases the bound energy that before was needed to maintain it as a separate something, selectively splitting my explicate order cohesive self for the time being yields the energy, the high energy that Bohm equates with high states of awareness, compassion, bliss, and so on.

The second question I want to raise is this: In the holographic claim about the universe and in the esoteric traditions there seems to be concurrence up to a point. Let's say the concurrence is factors A through E, about wholeness, about energy, about flowing movement. After that, at this moment, the scientific tradition stops, it has nothing more to say. But I think the esoteric and the mystical tradition add factors G through M and those other factors science hasn't even begun to touch on. These have to do with the consequences of holism for the universe, which is to say field consciousness, field ethics. What is the behavior dictated for our daily lives if this state of wholeness and complete interfoldness is a fact? How would it change our lives, our disciplines, and so on?

In closing I would like to raise a final question. I will read this from a recently completed paper. So I close with a confession. "Like others before me—Capra, Zukov, etc.—I've tried to present the parallels of certain systems, of cosmos and consciousness, and yet I must confess that I am unclear as to what exactly the parallel means and entails. I am therefore left with more questions than answers. Can we, for example, create the crucial experiential bridge between physics and meditation, that would permit us to move in both directions with ease, back and forth, between the data of western science and the silence central to the inner implicate order and to eastern mysticism? This yields two further questions. Must we confine ourselves to an alternating modality akin to complementarity in physics that will permit us to be sure to operate in both inner and outer empiricism, as I've called these, but never at the same time? Or is it possible to achieve simultaneity functioning at the same instant of clock time as both particle and wave, experiencing Bohm's pure flowing movement or Pribram's frequency domain, even as we are engaged in transforming these into objects without losing the essence of either? Although Kant deems this impossible, eastern mystics in the identity which they attribute to Samsara and Nirvana, the part and the whole, clouded vision and illumination, announce that they have in fact achieved this union. These questions unanswered have become focused into one single question, the stuff perhaps of science-fiction. It is this: If someone were perfectly adept at both outer and inner empiricism, a Nobel laureate in quantum physics combined with the Buddha figure, in one and the same person, would such a being have an advantage in forging the bridge that we seek? The answer to this question, I feel, constitutes a very great challenge to us as we move towards the 21st century. I hope you'll help address that question and solve it for me."