

Conversation with Prof. David Bohm, Birkbeck College, London, 31 July 1990

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B (David Bohm)



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- A. In your book *Wholeness and the Implicate Order* you write that the general way of perceiving order is to give attention to similar differences and different similarities. In one of your papers you call all the orders based on a hierarchy of similarities and differences "sequential orders". Then you introduce what you call the "generative order" - a particular case of which would be the implicate order - saying that it involves a creative generation of the total order out of some general principle. My question is whether giving attention to similar differences and different similarities is really the most general way of perceiving or comprehending order.
- B. Perception of differences and similarities seems to be the most general way of perceiving order in common experience, and also in the implicate order, because we put, for example, ink droplets in different degrees of implication.
- A. So we have similar differences which make up the order.
- B. Yes, at least for the description of order it seems to be right, and for thinking about order. Also, when you perceive order with the senses, I think that this is the information that you pick up. The mind has to organize this information. Order goes onward to arrangements and structures, because from order we go to order of orders, which is an arrangement of orders, and if you have contact of orders, within different arrangements, you have structure. So order have to be understood in the context of structure of which it is a part.
- A. In the context of structure? Because you also say that structure comes out of order.
- B. But there is also a process, a whole process which is the creation and annihilation of structures. The meaning of order depends on this context, and cannot be seen solely in the context of similar differences of a particular order. I mean, that is description (i.e., similarities and differences), but then the meaning of order depends on the wider context.
- A. On the wider context of structure?
- B. The structures in process. The order of process is part of the structure of process. Order is an abstraction.

- A. So you say that when we talk about an order, we actually consider a structure and describe it as having a sequential or an implicate, or whatever order. In other words, we abstract similarities and differences which are the beginning of a description of the order of that particular structure.
- B. But also, all descriptions, all language depend on abstraction. We are abstracting something which we call order, describing it. It is abstracted from the broader context which includes structure, but goes beyond structure, goes on to organizations, to wholes.
- A. So it is possible to say that differences and similarities are the way of describing order and limiting it at the same time.
- B. Yes, you cannot describe what is unlimited. We have to say that whatever underlies our descriptions and our thoughts cannot be stated. But it is the unlimited which contains all that is limited. Not to say that the unlimited stays over and opposes the limited, but rather, the unlimited already contains everything limited. So everything limited is already unlimited, but it is abstracted as limited. It is like saying... suppose you start with a circular object that you are looking at from different angles. When you walk around it the appearance changes. You say, there is changing of appearances of a fixed object which is a circle. Your thought tells you "It is the circle", but it appears to the eye really as an ellipse. Your eye would describe it as an ellipse. But we are saying "The circle is the essence, the true being, the ellipse is an appearance". That is the way we think. It may be a correct appearance, because ellipse is the correct aspect of the circle. Then the circle seems like a solid rigid circle, but if you go deeper, it has a structure within it, atomic structure, mostly empty space and atoms. So on another deeper level, the circle is an appearance too, the atoms are taken as the essence. But then the atoms turned out to be electrons and protons and so on, and mostly empty space, and the atoms are now appearance. The essence would be other particles like quarks, or may be fields. You see that finally it does not look that you are going to end that, but rather you have a certain standard form of thought which is that at every stage there is the essence and the appearance, but what plays the role of essence and appearance is relative, essence changes into appearance. You may say, thought is constantly giving new appearances to the mind, and more appearances you have, better you understand the object. If you have several views, as in a stereoscope, you can see in three dimensions. You can see, these two appearances have no independent substance, the two pictures in a stereoscope, their only meaning is that they are part of a three-dimensional world.
- A. In order to say that we really deal with a three-dimensional object, we have to assume reality of the three-dimensional space, or what you call the "Cartesian order". Going to a deeper essence implies a change of order.
- B. Yes, eventually we have found order which is relativity and quantum theory. That order may be taken as essence at one stage, but may become appearance at later stage. So you have to say, in fact, all our thought is appearance, the essence is finally unknown, it may be a correct appearance or an illusory appearance.
- A. With regard to essence and appearance. Sometimes you say that "what is" is to be expressed in terms of the implicate order - which would be in agreement with what you are saying now, but more often you say that "what is" is the implicate order...
- B. That is taking the implicate order as the essence. Then the explicate order becomes a particular case of the implicate order, in which case the latter is the appearance.
- A. Is for you the implicate order the same as the holomovement?
- B. The holomovement is more general than the implicate order. It is a kind of ground, a kind of deeper essence. The holomovement would then be something which cannot be specified, described.
- A. So the implicate order could be a way of looking at the holomovement, but it is still a limited aspect of it.

- B. Yes, at this stage we take the holomovement to be the essence, but at some later stage we may eventually find that it is also an appearance of something else. I suppose that this view of more appearances rises the dimensionality of the essence. All these different appearances refer or relate to each other because they come out of one whole. That is really the basic point. The whole which is a richer whole that cannot be understood in the order of appearances; we call it higher dimension, a different order. So the appearances are certain order and we find the essence is not understood in the order of appearances, but appearances are understood as particular manifestations of the essence.
- A. Then the essence may also dissolve into new kind of appearances.
- B. But then there is another order. I am saying the Cartesian order was taken by science to be the essential one, but that is beginning to dissolve. I say, it is a particular case of the implicate order. Then, the implicate order may dissolve into something else. It will still be there, but it will be there as a non independent form, as an abstraction. That is sort of a general view of order, a general view of anything you want to talk about. But order has to be in there, and there is always a subjective element, we have chosen to abstract this order and not another one, but if it is an appearance that is correct, it works coherently and so on, then it is more than subjective as well. In some way there must be something in reality, otherwise it would not fit, but that does not mean that the order which we picture is just there.
- A. So there is no element of the absolute in what you write, even though sometimes it may be understood like that.
- B. Yes. We may even say that this whole scheme is a proposal which have to be superseded, but we say, we are going to use it until we find that it has to be superseded. In other words, that is the proposal, it works coherently. Until we find its limits, we are going to use it. It is a general approach which is suggested.
- A. I have been thinking about a connection between the notion of order and that of active information. Similarities and differences in the context of a sequential order seem to play a similar role to that of active information in the context of generative orders. For example, a few first similar differences may determine a whole sequential order, and in the case of generative orders, active information, like DNA, determines the order of an organism. Then, however, active information is in itself an order, an implicate order.
- B. The active information is a potential order. It is an order in itself, but it is potential of another order if energy is available from a broader context. It is the same idea if you take DNA of a seed. The energy comes from environment, from water, air, sun, soil, minerals, it comes from all over. It all happens to gather together at that point where DNA starts to produce a new order. That energy has the potential for infinity of orders.
- A. The energy in DNA or in environment?
- B. In the environment, in the whole world. We have to say, life is not in DNA alone any more than order is in the mind alone. It is all over. DNA has ability to liberate this potential, to realize certain potential. The environment is potentially everything, it can be life, it can be all sorts of things.
- A. That depends also on DNA being, as it were, able to cooperate with environment.
- B. Yes, DNA has an order which coheres with the order of an environment, so things grow. Over evolutionary period you tend to get mostly DNA which produces survival, though there are some defects, it is never perfect. The point is, it is the same in thought. Thought is in a generative order. In some sense it has produced all that we see here. Thought formed most of the environment we live in, and had all sort of effects on the whole planet, on people, etc... So thought is basically the generative order of our society, of our culture. A new order has arisen which is not a biological order. It is based on the biological order, but it is not a biological order. First, you have the order of inanimate matter, then - biological order, now - you have thought, also society and

culture, which is a new kind of order. This latter order is constantly generated from the activity of human beings, and especially from their thought.

- A. In this generation it is not only thought that participates, matter also cooperates.
- B. But thought is like DNA, and environment cooperates with DNA to produce a plant. It is a mutual participation. The plant grows not just from DNA, it is the whole planet coming together to produce this plant, even sun. It is all participating. Then there are similar differences among species, and so on, which is a kind of order. Also evolution is through series of similar differences. There may be a tendency for some people to think that evolution is solely random, but it might be not. There may be certain differences which tend to follow in evolution. One mutation may tend to follow another which is similar but different, so that evolutionary process is not so random as they think it is. That might explain rapid periods of evolution. At present most of the mutations are random. When the species is stable there is a very slow rate of mutation which is random. If it were not random, it would change species. No stable species could exist unless mutations were fairly random. But that does not mean that there is not potential capacity for an order of mutation.
- A. Some people say that thought disrupted the order of evolution.
- B. I think, civilization has disrupted the order of evolution. There might have been a slow evolution toward a more developed intelligent beings, but civilization disrupted it because it does not really focus on intelligence. It focuses on techniques to get results. It is a rather low order of intelligence. The ability to handle materials... They say, the man with opposite forefinger was crucial for human beings. It is true, but it does not mean that it is the essence of intelligence. It helped to shape the direction, but the ability to keep thought in order, and to organize society in a really coherent way requires a higher kind of intelligence than that required to organize the material systems and technology. We have developed this latter ability very fast and we detached ourselves from that other ability - how to organize society, in that thought really failed. Giving attention to technology might have diverted attention from the higher order of intelligence.
- A. It seems that it was impossible to avoid that, unless from the very beginning people were very intelligent.
- B. Yes, if they were intelligent enough they could avoid it, but you have to say that it was not very likely. You could never say what all the potential were. But by choosing this ability (i.e., technology, etc.) they got rid of all the others.
- A. It seems that now, many people begin to look in different direction.
- B. Yes, if it is possible, if there is time, the thing may change radically. If it all changed so very fast, it may change again.
- A. I think that we need a very broad attention for this change to be realized. But apparently, for thousands of years human beings were concentrating on what is necessary in some narrow areas of immediate material survival.
- B. Yes, but it is not a very firm thing which holds attention, it is only thought of what is necessary. If you have a very fixed disposition of thought of necessity, it seems very firm but it is not. The thought of necessity means, you cannot change. I think that the trouble arises, we don't handle thought properly. There are several fundamental mistakes which thought has about itself and which are the cause of the trouble. One of them is that thought claims to be a purely mental process. Even though we know better now, people still think that way.
- A. Does this assumption mean that we do not pay attention to thought?
- B. Yes, that is right. They say, thought is purely mental process, spiritual. But I say, thought is basically a material process, an extension of the body. It is in some sense wrong to say that mind thinks. I would say, it is the body that engages in thought. Thinking is an extension of the process of the body. This is very crucial, because if you go back to the

animal level you have so called "pleasure-pain principle". In the body there is the tendency - it is the same tendency as similar differences - if you move toward something that is more pleasant, the next movement is a similar difference and so on. That is the way the body works. And in fact, that is correct on that level. Evolutionary and statistically it leads to survival. Now, in thought it does not work, because thought can produce pleasure from memory and it can distort the whole thing. It then creates an impulse to think some more. Now, what Krishnamurti said was very crucial here. Thought is the movement, he said it very often. We do not really see why he was saying that so strongly. You see, the body engages in movement in which we have an intention, an impulse to act, and we produce results. We ordinarily have proprioception of that movement, in the sense that we are aware of it as it happens.

- A. And there is no proprioception in thought.
- B. Apparently not, but I say there is the capacity because thought is of the same nature, therefore there is no reason intrinsically why it should not be capable of it. Let us try to look at it. I like this example, a child who got used to move toward bright objects - which gives pleasure and becomes eventually a reflex from memory. Then he moves toward the fire and burns himself. So the next time he starts to move toward the fire, but then he is held back because of pain. You have a suspension of the impulse, and then the impulse turns back inward to search the memory for solution to this. He wants the fire but does not want the pain. So memory provides the solution that it was pleasant up to a point but to move further was unpleasant. Then comes action again. So thought reflects back in, and eventually, action comes out, which is tested again.
- A. So all that is the movement of thought.
- B. Yes, but also - of the body. The movement of thought is nothing but the extension, prolongation, of the movement of the body.
- A. Once you gave an example of a paralyzed man who was teaching movement. Was the crucial point of the example the fact that the man was very aware of how movement begins, or what is that which initiates movement?
- B. That is right. The impulse. He was very aware of the impulse. If a man wants to play the piano, he cannot play because he has to move his fingers independently, and he is not set up for that. He says, "I want to play the piano but it does not play". It is incoherence. So then, he keeps on being aware. In practice, what he really has to be doing is to become aware of the connection between the impulse to play and what is happening with his hands touching the piano. If he finds a slight improvement then his brain almost automatically moves by similar differences. So he learns skill to move the way he wants to move.
- A. Is this impulse to move the thing that is possible to observe in the body?
- B. Yes, it is proprioception. The body is proprioceptive. When the man plays the piano he has a kind of proprioception which automatically moves by similar differences to get better. I say, thought fundamentally should be of that nature too, because it is the same movement. In fact, if you are not aware of it, it becomes very dangerous. The fact is that thought is a physical movement. If you are not aware of your physical movement, you are not very viable. What happens is that thought operates on the animal level based on the pleasure-pain principle (toward pleasure and away from pain) by similar differences. So when thought moves then it does the same thing as we do with the body. On animal level with simple things it is still all right. But as it gets more subtle, this mistake becomes more serious because you now produce a result and you don't know that you have produced it, and therefore you begin to fight that result. You try to get more pleasure. The movement is: "I have got pain so I must move away from that toward pleasure". That is the automatic movement. I find differences, I get an idea of something nice, and I move by similar differences toward that more and more.
- A. And this process is building up by itself.

- B. Yes, that is the order of thought. The order of thought goes wrong. The order of similar differences of pleasure is not really very good for thought. It may be all right for your body, but it might be limited, because then if you want some skills you have to go beyond that.
- A. Perception of similarities and differences does not seem to be very useful here.
- B. Well, we do not try to do anything. The important point is that the next mistake thought makes is that it tries to do something about it. This is the consequence of the previous mistake which is that there is something there which is independent of thought and about which it makes sense to do something. You see, there is a series of mistakes, and mistakes entrain each other, they entangle with each other, one mistake leads to another, then another... so to correct one is of no use. In this net every move that you make entraps you further.
- A. On the other hand, it does not mean that there is nothing to do.
- B. Yes, but the first thing to note is that the movement of thought entraps you. We have seen that.
- A. But still the problem is how to distinguish perception and thought.
- B. But you are still making the same mistake, how to do it. Thought is not able to do it. Thought is a movement. It may clarify the issue and so on... but we have to realize - thought by itself is not going to do it. We do not know what will do it, but thought will not do it. Therefore its every movement is ultimately useless, or even worse than useless. If thought sees this, then thought will stop moving. If it does not see this then we say "Why does it not stop moving, why is it so irrational"?
- A. Is it thought that is seeing it? It is a puzzling way of putting it.
- B. Well, but thought is also more than thought. The word "thought" is an abstraction. Thought is this whole tacit process, a part of the unlimited. So you cannot say thought is just thought, however you define it.
- A. Yes, because then one may say "All my thought is useless, I cannot use thought any more".
- B. Yes, that is another thought. And that becomes the conflict - one thought against another. You have to go through all that. The point is, is there something creative, something new, which can take place, another order? Let us try to get deeper into the order of thought. We said the order of thought is a part of the order of body movement. One of the basic mistakes is that thought seems do not know it. If thought were able to know it, it may act a little more differently. The next point is, Freud called attention to the pleasure-pain principle in children, and then he goes into society which gives him the reality principle: "You must act according to reality". One of the most important points about reality is necessity. A child have to learn that there is necessity, he cannot have his way all the time.
- A. The pleasure principle seems to involve necessity as well.
- B. Yes, but let us go into that. Freud now says... He hopes he will replace pleasure principle with reality principle. In fact, many people have hoped that, saying, "We will then behave rationally". But ultimately, this will not work because two things; one thing is that the pleasure principle takes hold even of the reality principle, thought of the reality principle, and begins to distort it, and the other is, that the thought of necessity enters into the pleasure principle and pleasure becomes absolutely necessary. The pleasure principle becomes intensified by the necessity in the reality principle...
- A. Pleasure principle becomes...
- B. Stronger, bringing in the thought of necessity which comes from the reality principle: "I must have pleasure, cannot stand it otherwise" or "I cannot stand pain". If you use reality principle correctly, it is all right, but then reality principle get distorted by applying reality principle to this pleasure. It does not see that it comes from thought, it treats it as an

independent reality. So the reality principle says: "It is all real, all that pleasure is real and necessary, and all that pain - we have to get rid of it", and so on. But at the same time, because of the lack of proprioception, it does not see that it is producing the whole thing. But even then, it defends the lack of proprioception because the ego is build up of such thoughts, and proprioception would now seem to be the threat to the ego. It builds up a series of entrained mistakes, one mistake entrains another, another, etc.. They are all tangled up. Therefore we have to say, there is a third principle which is the principle of meaning - which is that this meaning has to be coherent. We need a coherent meaning before we can rise the question of reality and truth properly. Because without coherent meaning we will be completely deceived about what is real.

- A. So you are introducing the principle of necessity of coherence.
- B. Yes, even before you rise the question of truth and its content. Therefore why we have dialogue. You may watch it as well by yourself - to watch the whole meaning. The point is, the level of the reality principle which Freud talks about, is also the end and the means, projecting the end and trying to reach it by some means, which takes time. That will not work with meaning. You cannot project coherence of meaning as an end and take time to reach it. That is why this dialogue has to be without any purpose.
- A. I was thinking about dialogue and necessity. It is connected with suspension of personal necessities. Suppose that we have in a dialogue situation two very strong opinions - two absolute necessities, and suppose that people are able to listen to each other to such a degree that these two necessities become part of their own thought, their own consciousness.
- B. Yes, then there is a very big stress.
- A. This seems to be an important point because if we say that then mind goes into pieces, there is no point of having dialogue. So it seems that somewhat we expect that ultimately our mind is able to do something coherent about this contradiction.
- B. To stay with contradiction. The constant tendency of the physical basis of thought, the pleasure principle, is to release it by false means.
- A. Or to choose only one side.
- B. But this is also a release. It releases it in one way or another, or tries to suppress it, or to turn attention away.
- A. If that would be the only activity of the mind, then there is no point in the whole thing.
- B. You have to stay with that. The same holds with the individual in conflict. But then the next point would be - we have two absolute necessities - there is the question "Are they necessary?" When we raise the question we begin to move a little out of the thought process, we create that opportunity for thought. Many questions are actually not questions at all. They assume what should be questioned, so they are bad questions. But suppose you rise a really proper question, you raise the question "Is it necessary?"
- A. You mean, both of them.
- B. Both of them, yes. This whole movement of thought may stop in its track for a second. The one of the functions of the question is - when it is a serious one - it stops this movement of thought.
- A. So if there is anything beyond thought it may operate.
- B. We are proposing that there is something beyond thought that is to be awaken - at least - but mind is so full of that stuff that it does not happen. The point now is... Suppose we now say, the question momentarily stops or suspends the movement of thought. Of course, thought comes back if nothing more happens. Usually the question calls for an answer, but we are facing the question which has no answer, it cannot have any answer in the known.
- A. If both are absolutely necessary then there is no answer in the known.

- B. Yes, that is right. Then it leads us to the question "Is that necessary?" If you say that it is necessary - then the whole thing has no meaning. But then, something new may happen - a creative perception of a new meaning of necessity, like in an artistic perception, in an order of necessity.
- A. Let us say that there is this perception of a new meaning, would it have its own necessity?
- B. Yes, but it might be a coherent necessity. We have to have some necessity. The artist cannot make fortuitous splashes of paint, there must be an inner necessity. That is the freedom, to create these new orders of necessity, to perceive them.
- A. It seems that each order has some order of necessity, including the order of thought.
- B. The order of thought has been made necessary. It has no intrinsic necessity. It began simply as the extension of the physical order of the body into another level, but then disorganized itself with the thought of its necessity. The thought of its necessity made it necessary, it always does.
- A. But it seems that the way out of it is again through another form of necessity.
- B. But you ask "Is it necessary?", and discover that if it is only thought it is not necessary.
- A. I am considering the very act of asking this question, it is not the question which is asked from the past. What is asking or what is the intention of this question?
- B. There is no intention. It depends on how you do it. If you do it in the middle of the conflict, it is just simply natural at some stage to ask it, "Is it necessary?", as part of the process. You have intention to understand conflict, or get out of it, or whatever. You see that the conflict is useless, that it has no resolution in that framework. The movement of thought cannot solve it, so it seems natural if you come that far to ask: "Is it necessary?" If it is necessary and you cannot solve it, you are stuck forever.
- A. Put in this way, it seems that there is some hope for changing order of the mind. Such situations of conflict are not difficult to come by in the context of dialogue or within oneself.
- B. Yes, it is depending on the energy that you can bring to it, then something may happen. The word "passion" means that the thought process is passive. It is the same idea that the movement of thought has to stop, really. The paradox is, the word "passion" usually means something very energetic, and yet its root is "passive". The answer, I think, is this - passion depends on the passiveness of the past, of the memory, of thought, so that true action takes place. That is the same thing - the movement of thought stops. The movement of thought is not passion, it may have some kind of passion behind it, but in that case it would be different. I mean, the ordinary movement of thought.
- A. Krishnamurti used to say, "Passion is the ending of sorrow".
- B. It is the same idea, because the ending of the movement of thought which underlies sorrow. The movement of thought inevitably brings about sorrow if there is no proprioception.
- A. Krishnamurti was saying that all people are basically similar, but you emphasize that in a dialogue it is good that there is enough people - so that differences show themselves. These differences are not very deep. Are they needed in order to arrive to those different "absolute necessities"?
- B. Yes, to bring up the conflict, to show up. Otherwise you can easily engage in self-deception and say "There is no conflict, my mind is perfectly ordered and calm. I have no problems". It is very easy for the mind, by similar differences, to come to a more pleasant state.
- A. So these differences are needed in order to see that there are contradictions.
- B. They only help, I do not say that they are absolutely necessary, but that they may be helpful. Avoiding them is certainly wrong. What happens is that usually people avoid them by all these similar differences leading to a more pleasing state.

- A. Some people coming for the first time to a dialogue say that there is a tacit assumption there: “Never touch things that are disturbing”, which apparently is quite opposite to what you are saying.
- B. That is the whole culture to avoid it. The culture leads to that thought, which leads to that sort of similar differences. When you move to something disturbing you start movement away, and the movement away is carried forward by similar differences until it seems to go of that.

Bohm, D.: *Wholeness and the Implicate Order*

----- *Thought as a System*

Bohm, D. & Hiley B. *The Undivided Universe*

Bohm D. & Krishnamurti, J.: *The Ending of Time*