

DAVID BOHM'S ONTOLOGY: THE IMPLICATE ORDER

By Peter Garrett



**the heritage informing the
Academy of Professional Dialogue**





DAVID BOHM
1917-1992

FOREWORD

David Bohm was one of the world's great conceptual thinkers, in the same echelon of brilliance as Albert Einstein, whom he knew well. Born in Pennsylvania in 1917, he worked as a theoretical physicist in the USA, Brazil, Israel and then the UK, where he spent his last 45 years at Birkbeck College in London. I first met him in 1983, and had the opportunity to work closely with him from 1984 until his death in 1992.

Certainly David was the best thinking partner I ever had. He had developed a perceptively innocent wisdom that made it easy to explore with him the inter-connectedness between an immediate situation and the most generic principles of reality. David seemed to be actively thinking and enquiring all the time. He was an undemanding man who was reluctant to say no, enjoyed routine and had a sound marriage with no children. True to his character, he worked a full day at the university on the final day of his life, dying from a heart attack in a taxi on his way home. He was a colleague and a friend, and I was honoured to be one of the pallbearers at his funeral.

My work with David Bohm was extracurricular and unpaid. We both had full-time employment, he as a university professor and I managing a building scaffolding depot. But we shared an intense passion for the work we were doing together, and we devoted many weekends and evenings to talk or meet together. It all began quite dramatically in 1984 with the conception of Dialogue as a new way of talking and thinking together, at a private gathering I had

arranged for 46 participants in a hotel near my home. Our concern was the state of society, and our interest was to explore the roots of the fragmentary thinking that causes so much damage in the world. I convened a series of further private weekend gatherings, next in Israel and then in various countries across Europe. We developed a radical and generative enquiry into the workings of human consciousness.

In the summer of 1990 we held one of these by-invitation weekend Dialogues in Oslo, hosted by Henrik Tschudi and some of his colleagues. Henrik graciously offered his comfortable apartment as accommodation for David and his wife Saral, and for me and my wife Jenny. Some 29 years later, in 2019, I was preparing for a return visit to Oslo to see Henrik again. I decided to write this short paper as a gift for him. I wanted to recall the legacy of David Bohm's ontology, his Implicate Order, and the direction our considerations took as we engaged in those early Dialogue gatherings.

DAVID BOHM'S IMPLICATE ORDER ONTOLOGY

the heritage informing the Academy of Professional Dialogue

David Bohm published *Wholeness and the Implicate Order* in 1980. In that book he introduced his underlying ontology for his resolution of a fundamental problem in 20th-century theoretical physics. There was no mathematical reconciliation of the theories of Relativity (about the cosmologically large) and Quantum Theory (about the microscopically small). Prominent theoretic physicists had adopted Bohr's Copenhagen Interpretation of Quantum Theory and, in consequence, they were convinced that no resolution of the two theories was possible. Quantum Theory recognised discontinuity and probability as fundamental features of the physical world, with energy remaining the only constant. This contradicted Relativity, which more determinately saw fields as the primary constant. Quantum Theory was also confusing to the layperson's common-sense understanding that is based on Newtonian mechanistic physics, where particles are the most basic 'building blocks' of reality.

David never accepted the impasse, believing in unbroken wholeness, which means that everything in the universe is interconnected. He came to the view that the problem arose from the different world views held about the nature of reality. He proposed a different world view, or ontology: that of the Implicate Order. Shortly after his death, his student and co-author Basil Hiley published *The Undivided Universe: An Ontological Interpretation of Quantum Theory*, in which they mathematically resolved the apparently unresolvable differences between Relativity and

Quantum Theory. The Implicate Order assumes a constant and ongoing process of unfoldment and enfoldment; that is, it assumes that reality is continually unfolding from the unmanifest (and unknowable) implicate, into the explicate universe that we experience, and then enfolded back into the implicate.

In the closing paragraphs of the book David and Basil include a simple representative description of this process. They describe the environment unfolding through an acorn into an oak tree, and then the oak tree dying and falling, to be enfolded back into the earth. I had heard David use this metaphor in one of my earliest meetings with him, and he used it again when I asked him to speak in a large conference at Warwick University. I found it easy and significant to visualise a different way of seeing the reality in and around me. Having a glimpse of unfoldment and enfoldment in this way impacted me very deeply then, and it informed my enquiry into the nature of consciousness. Indeed, it still informs my professional practice now, decades later.

This ontology of the Implicate Order enabled a breakthrough in theoretical physics. It also highlighted the importance of ontology in another area – that of human relationships. David knew Einstein and his work on Relativity well, and had written a substantial university textbook on Quantum Theory. He could see that the different world views, and the resulting assumptions and beliefs that Einstein and Bohr each held about the nature of the physical world, had led them to be unable to talk and think with each other. Apparently at a cocktail party he attended, Einstein and Bohr each stood with their followers at different ends of the room, ignoring each other.

This caused David significant pain, and he generalised that situation as the cause of many problems in society and in the world. He used the word *fragmentation* to describe the phenomenon. Within the theoretical physics community, Einstein and Bohr, along with their respective followers, simply ignored each other. They stopped communicating, and the overall community and work became fragmented. David became increasingly concerned about the fragmentation he saw in society as a whole. From 1984 to his death in 1992, I helped David to develop an experimental enquiry into the source and nature of fragmentation. This took the form of private Dialogue Weekends, generally with 30 to 50 participants, which I convened several times a year. We developed various notions within this extended enquiry.

The Unfolding Universe

As mentioned above, the Implicate Order ontology, or world view, is based on the notion of continual unfoldment and enfoldment, from the unknown implicate into the tangible explicate and back again. Developing the oak tree analogy further, acorns do not expand into oak trees, and oak trees do not look like large acorns. Like any seed, through their DNA they simply inform the environment that unfolds through the acorn, and thereby the environment unfolds into the higher order of the oak tree. The required energy of heat and light comes from the sun. Without the acorn the earth, moisture and air would continue as loosely related elements. With the acorn they unfold into an oak tree. We found the same phenomenon in the Dialogues. A small insight might unfold through the collective consideration into an exploration with

far-reaching implications. When the oak tree dies, it falls and is enfolded back into the earth, releasing its distinct form. Something similar often occurred in the Dialogues, where the consideration that had unfolded was enfolded back into a common understanding now held by each of the participants. Participation meant both unfolding and enfolding the content, process and meaning occurring in the room.

Fragmentation

We could extend this metaphor to society as a whole by considering what the equivalent of the acorn might be in the world of human experience. Where is the DNA that is creating the world unfolding around us? It most obviously lies within the pattern of social relationships between people, which could be called our culture. It is evident that in many ways our human society does not have a healthy culture or pattern of relationships. It is pervasively broken up or fragmented. Often the current situation is met with identities in discord: competing nations, political parties, religions, and communities. A chronic imbalance of wealth is worsened by the confusion of competing banks, black markets, cartels, monopolies, employers, unions, employees (and unemployed), and speculators who get rich or lose fortunes by betting on the stock markets. Competition can be healthy, but not when it is driven to extremes, where some win everything and others are unable to play.

Then there are common problems that we have caused through fragmented thought, where everyone may lose. Take global warming as an example. Even when faced with a common threat

where none win, there is little agreement on common or concerted remedial action. Global warming is undeniable, so to avoid the issue people instead argue about whether or not climate change is a natural phenomenon rather than one caused by human activity. A different nature of relationship is needed in order to shift people's fragmented identity and experience into being part of one human society and one world for which we are all responsible.

These realisations provided our early dialogic explorations with a sense of direction. We considered the way in which our attention moves *upstream in consciousness* into a more general and dynamic inclusiveness, or downstream into a chaotic competition, as if for survival. Seeing trees as the environment unfolding into sustainable woodland is an example of such an upstream concept. But seeing trees as expendable lumber for personal financial profit is a move downstream into the competing chaos of fragmentation. In the latter case, some make money whilst all suffer the unintended consequences of fewer trees to decarbonise the atmosphere. Then we struggle to agree how to mitigate the impact of our fragmented actions.

The Observer and the Observed

We also explored the idea that observing something changes it. It is inherent in the discontinuity of Quantum Theory that things become what they are when they are observed and measured. This is apparent in the way the set-up of an experiment affects the actual results. Light can be proven to be a particle if you set up the experiment to find particles, or a wave if you set it up to find waves,

even though it cannot be both. This relationship between observation and the state of being was encapsulated in the systemic notion that the observer and the observed are one unbroken system.

The deeper meaning is that our consciousness and the material world are interconnected and inseparable. We are not just seeing the world *as it is*, we are shaping it through the workings of our consciousness. This is not just a semantic or philosophical matter. The consequences of this are evident in the world around us, where human consciousness has shaped the environment extensively. Almost everything we can see and name around us results from human thought, including our dams and water reservoirs, bridges, ships, roads, street lights, cars, aircraft, buildings, walls, doors, furniture, cell phones, computers and so on.

So we embraced this understanding that what is unfolding within our consciousness and what is occurring around us is one continuous process. We had created a special situation to experience and explore the dynamics of this. We were talking and thinking together in groups of 30 to 50 people in a room, seated in a circle (or more usually in several concentric circles). This presented a most intense environment for enquiry into how what was happening within each of us, and between us all, was revealing the nature and originations of fragmentation.

Proprioception

This live enquiry into the content and process of fragmentation, including our observations and experience of the dynamics of our

collective movements upstream or downstream in consciousness, required a different way of thinking. It led us to distinguish between *thinking*, which is alive, active and occurs in the present moment, and *thought*, which is reproduced from memory. Thinking is slower, whilst thought generally takes place rapidly. The automatic and fast reproduction of memory is essential for everyday life, including crossing a road or driving a car. Fast reaction speed often is essential, as a road full of learner drivers would quickly reveal.

In fact, thought happens so fast that it is generally unnoticed. That automatic reproduction of memory may be helpful, or may cause huge trouble. The inherent assumptions and world views embodied within memory are hidden, whilst the thought process simply appears objectively to be mirroring reality. To recognise and then start to understand this, we embarked on a process of deepening awareness through a sequence of unfolding steps: first, *reflection* after a session, when we considered what had happened; then reflection during a session where, through a process we called *suspension*, we described what we had become aware of, thereby making it available to everyone for a collective enquiry; and on to an increased attention to what was happening *whilst* it was happening, which we referred to as *proprioception*.

Proprioception normally refers to an inner awareness of physical movements, but we were referring to an inner awareness of movements in consciousness. This meant that we were thinking in the moment whilst also consciously noticing, as it was happening, the automatic reproduction of thought drawn from memory. With both occurring at the same time and increasingly available to everyone in the room, a different kind of collective mind emerged.

It involved intelligence and compassion. The thinking could attend to the relevance of thought, in a way similar to the driver being alert to the roadworthiness of his vehicle. The mechanical and automatic activities of thought were thereby lifted into an unfolding flow of meaning. Spaciousness emerged for original thinking which was generative rather than self-serving.

Koinonia

Experiencing the flow of meaning, both in thinking and in feeling, began to shift the emotional depths of memory. We saw that memory was reproducing a combination of experiences, observations and ideas that were not only held together by assumptions and world views, but also by past feelings and emotions. Although sometimes profound, these emotions drawn from memory were at the same time automatic. What had previously been felt (past feelings) had been woven together with thoughts (past thinking) into an identity. This complex of interrelated past thinking and feeling is not only held in the memory, but also in the physical body and in the environment. As a result it is less rational and harder to shift. We could see identity being defended at an individual level (“Don’t call me stupid!”) and at a subcultural level, where it might take the form of nationalism or even xenophobia. Now we were touching on the roots of the fragmentation of human society and culture. We could see how the desire to feel good about oneself and one’s community, race, country or religion could be just as fragmentary as the belittling of others and the feelings of animosity towards them.

As we developed greater skills to move upstream, a different quality emerged in the room. We referred to this as *koinonia*, the Greek word for an impersonal kind of love. Although many of the participants hardly knew each other, we felt and upheld a common respect and appreciation of one another. We wanted to understand each other, and we increasingly respected people's integrity in holding their views, even when we disagreed with them. This impersonal fellowship enabled the emotionally locked memories to loosen, and their relevance or irrelevance to be more easily understood in the light of the current situation. Our memories – including ideas, emotions and identities – became a resource. They became the available material, like the environment (of earth, water and air), to move through the acorn (our collective conscious awareness) and be informed by our intelligence and emotional sensitivity. It became apparent that the presence of *koinonia* was a significant factor in the collective ability to think intelligently.

Participatory Awareness

All of this revealed the requirement for first-hand, experiential learning rather than relying on what had been written in books. We had professors and even Nobel laureates in our Dialogues. Although they were armed with the best knowledge in the world, these men and women were no better equipped in this enquiry than the poorly educated participants. Undoubtedly their learnt knowledge had value, yet it often left them in the world of memory recall. Without the participatory awareness of proprioception their automatic recall of knowledge from memory often distracted them from what was

emerging in the room. It took a while for them to recognise that the contributions they were making were automatic reactions.

It became apparent that if people followed the unfolding process in the room, rather than chasing the rabbits of associative memory, then anyone and everyone could make a valuable contribution. This was liberating. A non-judgemental sense therefore emerged of participants being peers in a shared pursuit, based on a deepening common understanding of what everyone was thinking and feeling, individually and collectively. This proprioceptive learning is very different from trying to apply book learning. Reading a book involves a private consideration of someone else's past thought, perhaps in order to acquire knowledge, and it is very rarely a proprioceptive activity. In our Dialogues we were increasingly involved in an immediate awareness where learning depended on the participation of everyone in the room. This yielded benefits for all, and led to an interest in the well-being of all.

A Common Content of Consciousness

We were establishing a common content of consciousness, and we started to uncover and reveal things that had been intentionally or unintentionally concealed from our conscious awareness. The implications of this became evident as we proceeded, and we came to understand more about each other and about ourselves. The fragmentation was through the lack of a common content of consciousness, even as each was responding or reacting from the best of their awareness.

These dynamics in the room enabled us to see how problems were arising in and beyond the room. Memory both aided and interfered with the unfolding process. At times the whole group felt like it was caught in quicksand, where every attempt to resolve things made it worse. When suspension and proprioception were absent, people inadvertently and unconsciously caused problems – and then would spend their energy and attention trying to solve the problems they were causing. Of course problems do have to be solved, but we were clear that the sustainable approach is to stop causing the problems in the first place. During these few years the need for Dialogue in a fragmented world had become self-evident to us.

POSTSCRIPT

After David Bohm's death I felt charged with energy and commitment to take what we had discovered privately into active use in the world. Of course we had not developed a practice model for how to do this, so it was to be a steep learning curve.

I began in a maximum-security prison in England where I held Dialogues for a day every week for almost ten years. I relished the different context, and this is where I matured my facilitation model. It was a closed system with deeply-set social identities and a fixed culture. Any transgression was seen as a violation, and violence was always nearby. The largest difference was the feedback. With the single weekend Dialogues with David Bohm we had little feedback apart from some correspondence. Now the reflection by the prisoners and staff between the Dialogues (of 15 to 20 participants) was brought back into the room each week. They started to suspend their thoughts and feelings rather than acting them out, and this shifted the way those who lived and those who worked in the prison heard and understood each other. Some of the participants became surprisingly articulate, and then adept. We began to establish *koinonia*, participatory awareness and a common content of conscious. And it made a tangible difference to the prison culture, replacing violation with respect.

Concurrently, I worked with a complex conflict between three management teams and four trade unions on a petro-chemical plant in Scotland. Over a couple of years I established a transparent monthly dialogic forum (of 24 representative participants) to enable

a common content of consciousness for the whole industrial complex. We addressed things like strategy, safety incidents, staff layoffs and shift pattern redesigns. I extended my contract with the same multinational company with divisions in Europe, Asia and North America. This was followed by engaging two further multinationals, each for four to six years.

The opportunities abounded to address culturally and commercially fragmented situations of many kinds – including joint-venturing and acquiring, starting up, expanding, merging, separating, contracting and closing down different businesses and initiatives. Alongside that, the prison work thrived. I went on to work with whole prisons, then clusters of prisons, and then state-wide prison systems in the UK and USA. I partnered with different people over the years, most notably Jane Ball for the past two decades. We had learnt how to enter a new organisation or system, how to read the power structure and subcultural identities, and how to bring complex and fragmented situations into a generative state through Dialogue.

The groupings I worked with varied from 10 or less to 400 people in the room at any time. The variety of participants was surprisingly broad. For example, I worked with 60 competing philosophers; with 45 poor and uneducated farmers in Orissa (India) who did not speak English; with groups of MBA students at several universities; with multiple government, NGO and business groupings in United Nations forums in Africa, South America, Asia and Europe; with 12 church ministers in the UK; with 18 entrepreneurs; with manual workers; with serial rapists and murderers; with state government employees in the USA; with gang leaders in Trinidad; and with many different boards of senior executives of large corporations.

The surprising discovery? I found them all to be responsive to Dialogue. Once I had learnt whom to bring together and how to structure the sequence of Dialogues within their peculiar power system, I was increasingly able to be effective in addressing complex, multi-stakeholder, fragmented situations.

Although fragmentation was multifaceted and pervasively present in every organisation, community and system I encountered, I discovered there was one peculiar characteristic they had in common. The structure and process of fragmentation was always the same, and the way into a generative state was always the same. It involved reflection, suspension and proprioception; experiencing that the observed and the observer are one interrelated system; koinonia; and participatory awareness. The key, however, was to establish a common content of consciousness, where people are acting from a shared understanding of the situation for everyone involved.

By 2015, I realised I and my colleagues had established a profession – a profession to address complex, multi-stakeholder, socially fragmented situations. It had taken some 30 years since the conception of Dialogue with David Bohm, and every one of them brought significant new learnings. So with others I set up the international Academy of Professional Dialogue as an international educational non-profit charity to make Dialogue more widely available. The initial Trustees and Members are from the UK, USA, Sweden, Norway, Finland, Germany, Austria, Spain, Argentina, Canada and South Africa.

We are currently designing the participatory programmes to develop the skilled Professional Dialogue Practitioners we need to extend our reach to intervene in fragmented situations in organisations and communities around the world. Henrik Tschudi has offered his help with this educational endeavour, for which I am grateful. With these in place we can assist with the architecture of Dialogic Organisations and Dialogic Communities. Response has been good and we have some fine people involved. The next seven years are the critical ones to lay the foundations for this social provision, and I have committed my time and energy to support what is emerging.

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