Report - Metaphors, World-Views and Ethics

Cawdor Castle Symposium

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The theme of this meeting emerged partly from previous symposia held at Drynachan Lodge but also from issues raised in other meetings about the pervasive influence of the mechanistic metaphor on scientific thinking. The power of this metaphor originates in the scientific revolution brought about by Galileo and Descartes in the 17th century (Descartes considered animals to be automata) and is most influential today in molecular biology, medicine (organ transplantation for instance) and cognitive psychology/AI studies with the development and use of computer analogies for understanding the brain.

However, a new and arguably more adequate set of metaphors are being developed from within science itself. They point towards a radical revisioning of the nature of the world and the human being - and consequently in our behaviour towards each other. The overall context seems to me to be one of unity, wholeness and consequent interconnectedness. In physics this is manifest in field theory and in discussions about the relationship between the observer and the observed, as well as in the phenomenon of quantum entanglement or non-locality. In biology, the Gaia hypothesis posits a holistic and cybernetic system, as well as advancing ideas of synergy, symbiosis and co-operation as well as competition. In ecology, the interconnectedness of natural systems is fundamental. In psychology (especially transpersonal psychology) it appears that consciousness is a substrate of connectedness and relatedness, a characteristic that seems even more pronounced in certain areas of parapsychology involving subtle forms of perception. In medicine, it seems from recent work that distant healing may have a beneficial effect; while the body is now recognised as complex system in which mental aspects are closely intertwined with both neurological and immunological systems. In the spiritual sphere, the last century saw a remarkable growth of interest in transcendental and mystical states, beginning with the studies of William James and Richard Bucke a hundred years ago.

These considerations formed the background for our interdisciplinary meeting. We began with a paper by EMILIOS BOURATINOS on *Injecting Wholeness into Wholism.* He began by observing that Greek culture is based on experience while the Romans took a more abstract and conceptual approach. Here is the root of the problem as 'the Whole cannot be apprehended as an observer - it becomes a fragment, a concept'. Hence the whole is ontologically distorted if it remains an object of the mind. We therefore need to discuss language, especially since truth cannot be contained in words. What Emilios called 'counteractive language' is a pointer towards the indefinable, the evocative function used in poetry. Here the understanding is not closed but open, with thought and language interacting. The approach is therefore participatory rather than transmissive, a search for the meaning that informs language.

We have lost this felt wholeness, and the new science calls for a new epistemology, a 'flexible wholeness of interaction' to be found in relativity, quantum mechanics, chaos theory and complexity theory. This suggests a representation of provisional not permanent objectifications: description is not understanding and may indeed describe its limits. Emilios gave us a fascinating derivation for the Greek word 'ethos' as sheep pen in the sense of

being a habitual energy or recognisable thought. Inside this pen, parts and concepts are patterned, locked into and identified with. Wholism represents a different order of understanding in that wholeness cannot be conceptualised, only experienced. A further point he raised is that the very notion of a world-view implies a spectatorial and arguably detached understanding. In pre-modernity only God could have a world-view. He ended by proposing a new set of epistemological commandments:

1. Thou shalt not speak without full awareness of what escapes language.
2. Thou shalt not mistake description for explanation.
3. Thou shalt not feel obliged to understand in terms of objectifications, or lock into them once you cannot do without.
4. Thou shalt not fragment without awareness of what slips inbetween the fragments, or what sustains both the fragments and the inbetween.
5. Thou shalt not react to negative, unacceptable or mistaken thoughts on their level of conception.
6. Thou shalt not judge thoughts except in the light of where their exponents come from.

Professor BASIL HILEY, co-author with David Bohm of *The Undivided Universe* spoke about non-mechanical notions underpinning quantum mechanics. He began by saying that scientists themselves do not understand the implications of relativity and quantum mechanics for our world-view. They think they have a God's-eye view but they are in fact pervaded by the Cartesian order of separating subject from object. They then claim that mathematical formalism works, but, asked Basil, what does in actually mean? He pointed out that there are 15 consistent interpretations of quantum formalism so how does one decide between these? He went on to comment that the Schroedinger equation is in fact local, continuous in space-time, deterministic and causal. However, quantum jumps are not causal but stochastic and non-local. Furthermore, the properties of a system depend on what you decide to measure.

He introduced David Bohm's term quantum potential, explaining that it had non-locality within it. The energy does not come from outside, but is part of the particle process itself. Quantum potential is a formative cause or field of information about the boundary and particle that may be active or inactive. In this sense wholeness is more than the interaction of the parts and suggests an organic and participatory view. He went on to explain Bohm's ideas of implicate and explicate (subtle and manifest) orders. Locality exists within the explicate order and the particle is an abstraction from a ground beyond it into sub-space. It is the implicate order that brings mind and matter together via the concept of active information and also enables quantum teleportation. Hence this order does have a structure and the part can contain the whole. Perhaps this is a pointer to the content and tone of the mystical experience beyond space-time. There followed some discussion of ways in which the neuronal structure might be acted upon at a quantum level in a way suggested by Sir John Eccles.

Sir JOHN POLKINGHORNE was sadly unable to attend the meeting but contributed *in absentia.* His concern was with the contribution that modern science can make to the

repristination of our metaphors and the enlargement of our understanding, especially of the relationship between physics and metaphysics. He saw three major trends:

- Reductive atomism has given way to inter-relationality
- Clear and determinate process has given way to realms of cloudy unpredictabilities, both at macroscopic and microscopic levels
- A very important aspect of 21st century science will be an increasing understanding of the remarkable properties of complex systems.

Sir John felt that reductionist metaphors were manifestly inadequate to correspond with the richness of reality, and that we had an opportunity to seek a generous metaphysical stance that refuses to privilege the impersonal over the personal and the repeatable over the unique.

Sir CRISPIN TICKELL spoke about the Gaia hypothesis and its implications. The earth's atmosphere is in disequilibrium and yet it is stabilised by the tight coupling with life in a form of co-evolution. The organism is not passively determined by the environment but adapts conditions for its own benefit. At one level the Gaia hypothesis gives a systems view of life, but its power as a metaphor in the popular imagination extends well beyond this scientific theory. Crispin described the controversy stirred up by the hypothesis in the late 1970s. Physicists and chemists understood it in terms of non-linear phenomena while holists naturally found the idea congenial. Biologists, however, objected that the earth was not a living organism, but even many of them such as W.D. Hamilton and E.O. Wilson are coming round to the idea. He gave specific examples of they way in which mutual adaptation occurred in the oxygenation of the atmosphere and weather regulation through plankton. We are also connected to other forms of life though the time cycles within the universe as well as at a cellular level: only one tenth of our cells are specifically human.

Professor RICHARD STROHMAN from UC Berkeley followed - his article in this issue is part of the outcome of the meeting and explains his approach in more detail. He indicated that there were many unacknowledged anomalies in the genocentric paradigm. He himself pointed out the limitations in thinking about causality (which is interactive and relational rather than atomistic and linear). His emphasis moved beyond mechanism to dynamic networks, feedback loops and self-organising systems, in which Brian Goodwin and Stuart Kauffman have done so much work. The result is that epigenetic processes (interactions between genes themselves and with the environment) must be brought to the fore. This involves informational substrates that are context-dependent, and there is as yet no consensus around the dynamics of the processes. More specifically, Dick calculates that only 2% of the advanced country disease load is defined in terms of genetics, and that the rest depends on environment in which the micro-organisms live. Some interesting discussion followed this presentation in which Basil agreed with Crispin that the Gaia hypothesis was obvious to physics and that an aspect of the quantum potential might be characterised as the epigenetic landscape.

Professor LOUIS DUPRÉ from Yale, author of *Passage to Modernity,* spoke next about the loss of the transcendent foundation in modern ethics. While God had been the guarantor and source of ethics until mediaeval times, the modern source, following the lead of Descartes, was the way in which the subject discovers the truth of things. More specifically, this method is founded on the clarity and certainty of mathematics, which becomes the

prototype of scientific truth. Louis explained his view that the mechanistic metaphor, founded on theories of motion, was based only on efficient causality, which is contiguous to rather than inherent in things; this in turn leads to detachment or separation of cause and effect, creature and Creator. God withdraws from the process. He gave the example of a projectile when launched - the motion once instilled becomes semi-autonomous.

The most important feature of a deterministic system of efficient causality is that it rules out freedom and is comparable in this respect with the doctrine of predestination. Turning to the philosophy of nature, Louis reminded us that the symbolic meaning used to be inherent in so that reality was understood to be intrinsically symbolic, mirroring a reality that surpasses it (depth). This inherence evaporates if we say that the meaning is conferred by the human mind. The given of symbolism disappears into relativism and the symbol is collapsed into a sign. Interestingly, efficient causality is dominated by literalism, which is also a feature of fundamentalist theologies. And science itself is literalistic to the extent that it admits nothing beyond the physical realm. Although the subjective starting point is now a given, this does open the door to conscience and transcendent experiences.

Dr. JANET MARTIN SOSKICE, a theologian from Jesus College, Cambridge, followed on with some considerations of metaphors in religious language.

She began her analysis with Newton's concept of God (and man as his regent) and traced the rupture of the mediaeval synthesis from the 17th century onwards, which leads in our own time to the continuing tensions between science and religion. She commented that the vegetal metaphors of the Romantics also compromise freedom, and that these are translated into modern socio-biology; nor does the right metaphor guarantee harmony. The fall in the dignity of the human being, as expressed by C.S. Lewis and others, becomes philosophically problematic when judgements themselves are considered epiphenomenal, as Mary Midgley has also pointed out. Janet commended the approach of biologist Barbara McClintock that was based on participation, reverence and listening to nature.

Dr. PETER FENWICK introduced the first of two sessions on psychology. His main theme was the devastation brought about by the subject-object split. This approach works well for engineering but not for consciousness and subjectivity. There is no subjectivity in even the most sophisticated scan. This means that the assumption of a dead matter universe can only produce dead matter answers and research programmes. Investigating personhood assumes a live universe. Peter went on to discuss upward causation models and the ways in which these views have to bolt on consciousness. He himself was sympathetic to Roger Sperry's addition of downward causation. He warned against the conflation of causation with correlation when talking about brain states and consciousness. The evidence from NDEs and mystical experience, he suggested, pointed to Universal Love as the source of morality.

The discussion threw the source of confusion back to philosophers and their assumptions rather than scientists, but then scientists adopt these same assumptions. It does not follow that the inhibition of free will leads inexorably to passive determinism. Basil Hiley thought that non-locality was not causal in space and time but inherent in it as the properties of the part are determined by the whole. Nor is it possible to stand outside the system in quantum mechanics. Any adequate theory of consciousness must address intentionality as it is clear that beliefs affect physiology.

Professor DAVID FONTANA spoke about models of mind in psychology and coined two terms to characterise the contrasting approaches of Mind as Machine (MAM) and Mind Beyond Machine (MBM). Much of the debate boils down to a disagreement over the existence and nature of subjective experience: 'MAM psychologists argue that subjectivity is simply another logical process, a process which reacts to and responds to itself. Thus a machine can be given 'subjectivity' if we encrypt it with a model of itself and a process that allows it to reflect upon this model and respond to experience in terms of it. MBM psychologists argue that this avoids the issue, which is that objective and subjective experience are fundamentally and intrinsically different. For example we may know at an objective level what particular patterns of neural firing are involved in the perception of external reality, but this fails to explain the essence of our personal experience of this reality.' Another area is the definition of intelligence, and here the issue is the kind of problems that computers can solve. MBM psychologists pay attention to transpersonal experiences and are open to theories that regard consciousness as in some sense fundamental.

Professor HELEN HASTE from Bath moved the discussion in a different direction by discussing the tension between autonomy and community in metaphors of the self. She referred to three orientations: the puzzle-solver who asks what is going on inside the head; the storyteller who conveys meanings and metaphors through living interactions between people; and the tool-user, who understands through interaction with the world. The pole of autonomy harked back to Louis Dupré's discussion of Descartes and the separation of self from other. However, from the community point of view, this separation is artificial: the view is always from somewhere, i.e. a social context. Here story-telling and tool-using are important forms of interaction. If stories are translated into theories, then these may mask incompleteness in a way that blocks new thinking and experiment: we need imagination and creativity at the edge of knowledge.

Professor NICK RENGGER from the International Relations Department in the University of St. Andrews spoke about Hans Kung's Global Ethic. He advanced the idea that we were more citizens of a time than a place, given the sense of the unity of the globe. In analysing the elements of globalisation, he took us back to Kant's small book entitled*Perpetual Peace* written over 200 years ago. He outlined Kung's critique of realist and idealist approaches to world politics, characterised by Henry Kissinger on the one hand and Woodrow Wilson on the other. He thought that the global ethic was in fact underpinned by Kant's liberal framework and was therefore in danger of tipping back into the idealist camp, despite the best efforts of Kung himself.

A new metaphor as well as a new understanding of the human being was required.

In responding, Sir Crispin Tickell highlighted movements of power away from the nation state towards global institutions which are themselves not ready to receive this power or exercise responsibility. There was also a movement towards smaller local identities, plus the implications of the electronic communications revolution. He questioned whether the dichotomy between realism and idealism was real as roles can switch and moralists arguably have a worse track record that realists. Besides, implementing an ethical foreign policy is easier said than done. The sense of otherness that underlies diplomatic relationships cannot be entirely erased, nor can the corresponding adversarial view of human nature. If some distinctions are removed, others will emerge, even on the Internet.

As can be seen from the foregoing, the meeting covered a great deal of ground. It opened up thinking about the connections between quantum mechanics and neuroscience, the source and use of metaphors, the dangers of inertia in thinking, the relationship between language, thought and action (and the corresponding use of language for persuasion), and the status of upward and downward causation in consciousness studies. There was a recognition that we needed to work harder on the subject-object split and that there was an inherent incompleteness in current scientific models; hence we must not be tempted to go for premature closure. A number of participants wondered how the category of transcendence might be recovered, especially in relation to ethics; this would clearly mean going beyond the mind as machine metaphor. Helen Haste asked if we could make the 'knight's move' and if so what it might be. Countess ANGELIKA CAWDOR felt it crucial to formulate the right question, then the answer would appear.

The meeting would not have been possible without the generosity of Angelika Cawdor in inviting us to the castle and offering us her unsurpassable hospitality and creating such a congenial ambiance for interdisciplinary exchange. The*genius loci* includes the Big Wood in which we took our afternoon walks before returning to tea and peat fires. Thanks are also due to The Epiphany Philosophers Trust and to Enders Analysis for supporting the meeting.

The Drynachan and Cawdor Symposia now have their own place on the Network web site and will shortly be augmented with more material from previous meetings.