

A Response to Danah Zohar

[A tentative response to the presentation “A Quantum Vision for Building the Learning Organisation” given by Danah Zohar to the Systems Dynamics Conference in San Francisco (October 1996, Ref. TGS21)]

Danah’s personal story is profoundly relevant, and only sketchily hinted at. As a 13 year old she came across Quantum thinking and became intensely interested in it, leading eventually to her becoming a brilliant physicist candidate for MIT, so my first question is ‘What was going on in the family at that time, and what defensive function did this interest in quantum physics satisfy that then drove her fascination with quantum aspects of thinking and their application to virtually every part of her world?. At MIT she found quantum mechanics was profoundly rooted in complex mathematics, rejected the mathematics, wanted to treat quantum as an art form and complemented the MIT course with a course in philosophy at Harvard. For Danah quantum thinking is an art, a metaphoric, philosophical discipline, not rooted in the rigours of mathematical equations with predictable outcomes which can then be tested in direct experiments in the field of quantum physics. There is a profound detachment from reality therefore in the heart of her thinking. It is a cognitive mind-map, a conceptual framework, a language, a set of images, a set of metaphors that may provide some change of perspective on reality but is essentially a cognitive-philosophical-linguistic reframing rather than a complex understanding of the causal dynamics in fundamental physics. This position is fundamental to some of the flaws in her arguments and applications, her category confusions and so on.

She comments that change in the mind-set, mental model and structures of our thinking are impossible until we get to the thinking behind the thinking. She offers quantum thinking as dealing with the field below the structures of our conscious thinking and therefore the entry point for change in perception. In so doing she inadvertently equates quantum thought and unconscious thought, so effectively eliding the whole psychological understanding of unconscious process.

A paradigm she says is ‘a deeply held set of unconscious assumptions that structures all your experience without your realising it’. The task therefore is to become aware of the paradigm that dominates our lives and in so doing we gain ability to change the paradigm, reduce its dominance and open up the possibilities of transformation. However the definition of paradigm that she adopts still applies. It is still that which is unconscious, even in the new paradigm, which dictates the dysfunctional dominance of our mind set and our lives and their outworking in dysfunctional structures around us and so on. The edge of learning is therefore not at the boundary between the old paradigm and the new paradigm but at the edge of the ‘as-yet-unconsciousness’ that dictates the paradigm of the new paradigm. And here her learning has been reflected in from the boundary to some kind of internal dialogue between Newtonian and Post-Einsteinian quantum thinking.

She describes the human brain as the primary model of a learning organisation, the most complex learning system we know of on the planet, with multi-sensor centres working in synchronous quantum oscillation. Quantum theory is introduced as ‘a strong metaphor’,

whose symbolic form is sustained whether or not there are significant quantum effects at the level of aggregation of brain function.. It is this kind of jump to metaphorical language rather than system analytic language that flaws her whole approach.

One of her frequently repeated phrases is about growing new neural connections, or even, “a new set of neurones that we can grow here today” and again she seems to be using biophysical data about neural development and the creation of new synaptic junctions as a metaphor for the establishment of new associational links via the parallel processing and internal dialogue of the brain. Now there may be new synaptic junctions and neural interconnections formed. It is unlikely that we actually start growing new neurones to cope with the unexpected in the moment of interaction and it is this metaphorical use of language that is so seductive and yet so profoundly disinformative in her presentation.

She has one reference to Freud, whose theory she describes as ‘object-relations based on Newtonian understanding of objects, mechanics and solidity, of the impact of one person on another with rigid boundaries and elasticity’. It was an extraordinary parody of psychoanalytic thought and a writing off of virtually a century’s advance in a major world discipline. Yet right at the core of her understanding of paradigm she uses the word ‘unconscious’ without any apparent cognisance that that word carries such a variety of meanings from the actively repressed trace of traumatic impingement, through the neutral zones of unawareness, to the even more benign areas of lack of information. To go on to speak as if fragmentation in society and in our thinking stems from the Newtonian mind set is an absolute nonsense. What about the understanding and analysis of Newtonian mind set as itself a construct that emerges from the psychodynamic fragmentation of human being, universally explicate in politics, in philosophy, in knowledge systems, in behaviour, in emotions, in relationships to the environment, in organisational dynamics etc? This is a profound sense of psychological naiveté and ignorance of what makes parts of the field unconscious and maintains that unconsciousness psychodynamically for individuals and systems. In so far as the quantum effects of the Bose-Einstein continuum apply to brain functioning they constitute the ground of all thought whether conscious or unconscious. It is the psychologically unconscious level of being which drives the construction of fantasy, mental images, models, projections, and reified ideology, which in turn constitute the dominant paradigm. I do not think Danah Zohar gets to the root of paradigmatic dynamics.

There is some differentiation between quantum organisation or quantum thinking and non-quantum organisations which I find quite inconsistent. It is one of the profound insights of quantum physics that all matter/energy exists as a complex interference pattern of energy states, of perturbations in vacuo. In that sense all objects, all organisations, all thinking is quantum. People may or may not be using quantum theory as a mind-set by which to describe them but that is not the point. She rightly notes ‘we live too much in narrow cocoons’ but then seems to mean by ‘we’ ‘you’ and to keep herself outside of it. There is no apparent acknowledgement of her own existential cocoonedness, of the sense that we all live at the boundary of consciousness and that the dynamics of the paradigms of our world view are deeply embedded in the unconscious. It is not that quantum thinkers are conscious and Newtonian thinkers are not. That is arrogant in the extreme and internalises the paradigmatic dialogue to some kind of intra-system boundary which she describes as ‘the edge of chaos’, ‘walking the tightrope’, ‘coming to the edge’. In this presentation the edge is the centre point. It is the interface between the Newtonian paradigm and the quantum paradigm.

We then move on to one of the most profound category errors at the heart of Zohar's thinking. Heisenberg's Uncertainty Principle, the Pauli Exclusion Principle and the quantum area of effect operate profoundly and precisely at the fundamental particle level of micro behaviours. By the time the orders of magnitude have been increased to the level of everyday objects, persons, societies, organisations, the statistical interference being run by the quantum effects at a micro level are insignificant. Here the Newtonian paradigm works well enough. Her understanding of paradigm shift is some kind of departure from the old and embracing of the new, whereas Kuhn, whom she quotes affirmatively is very clear in seeing paradigm shift as an expansion of a paradigm to include ways of understanding phenomena that in the old paradigm were outside comprehension. In that sense the new paradigm is an inclusion of an old and a building on it to include other phenomena, not an alternative world view. If I am passing a rugby ball on a field I do not bring into account Heisenberg's Uncertainty Principle to speak about its spin. That is a category order fallacy that introduces a whole element of absurdity into Danah's thinking.

There may indeed be Bose-Einstein continua in quantum phenomena and resonant field states at the heart of brain activity, and if so at the micro level of such behaviours where quantum mechanics apply, there will be profound uncertainty about the movement of electrons, the deployment of fundamental particles, the acting-at-a-distance functions and so forth. Whether such principles can then be applied to the aggregate of some 10^{10} neurones with the massive order of inter-neural connections and synaptic junctions acting as a whole is difficult to say. My own perception is that quantum effects are statistically irrelevant at this order of magnitude and what Danah is doing is using quantum understanding as some kind of metaphorical description for the irrational in human consciousness. This then provides a very secure cognitive defence against dealing with the affective roots in the repressed unconscious and in so doing perpetuates the power of the unconscious paradigm of psychodynamic reification and phantasy enactment. It seems to me that Danah's experience in MIT and her rebellion against the 'well enough known to be stable' led to some kind of intellectual compulsion to collapse all knowledge into a state of quantum uncertainty. It is quite confusing and inappropriate to apply an either/or level of thinking to the inter-relationship between Newtonian and quantum mechanics. Quantum thinking provides a level of understanding of Newtonian behaviours within which quantum phenomena are statistically aggregated and hold well enough to give Newtonian mechanics very high accuracy in certain areas. In that case, as in all paradigm changes, the old paradigm gives a 'good enough approximation within certain conditions' and is a sub-set of the new and wider paradigm. Paradigm shift is a field expansion not an alternative leading to the conflict and edge of either/or dialogue.

At another level Danah talks about the need to surface the pain of the shadow, to deal with the subjectivity of the co-creative insider, of the necessity for not splitting the whole person, the need to integrate ourselves and bring our whole selves to the company. However, alongside that affirmation she appears to offer an understanding of whole self that is profoundly cognitive, dissociative and split off from the whole universe of psychological integration and psychodynamic process.

Moving on to an understanding of dialogue, Danah is quite dependent on the work of David Bohm. There is some kind of ideological statement about the equi-potential inclusiveness of all persons in the circle, irrespective of their information base, their competence, their intelligence, their background. In other words, here is an ideological statement about the

value of persons that comes from a philosophical commitment and a decision to value the information, experience, data and perspectives of all participants. Hiding behind this, however, is a most extraordinary elision of all the work that has been done on group dynamics and group process and an ignorance about the issues of parallel processing, co-creativity, matrix design, accelerated learning, as if the open space of the equi-potential circle is the only or even the best tool. It certainly is not the only, and profoundly in current best practice is not seen as the best tool to maintain the objects of dialogue to which she is so dedicated. Again, the difficulty I have here is what I would describe as blinkered thinking. There are unconscious processes at work and displayed within the construct of Danah Zohar's paradigm that stem from fields as yet outside her awareness, deep within her own psychology, and which then collude with the whole social elevation and seduction of this kind of thinking as a defence against anxiety, a provision of a paradigm which makes sense of the irrational, and enables us to cope with apparent chaos with at least the hope that somebody, somewhere, understands what is going on.

At another level, dia-logue has to do with words, whereas holistic human integration widens to include, and of course Danah knows this, vision, imaging, metaphor, myth, symbolism, somatics, behaviour, body process, emotionality, affect, consciousness and unconsciousness.

Moving on to the questions and answers at the end of the presentation, several of the questioners picked up some of the fundamental issues underlying her construct, for instance there was a noting of the category shift between the quantum level of behaviour and its aggregation to whole human beings. Danah's answer is 'yes, quantum effects do affect human behaviour, but any such attribution of effect is speculative'. I think what she is doing is using a useful way of providing a set of metaphors and images to talk about human behaviour. The problem is that it is seen as causal and therefore vitiates any possible further exploration of other paradigmatic possibilities which might open up understanding of the irrationality, the dysfunctionality, the creativity, the associational side-steps and so forth. This is not systems thinking but rather a kind of artistic philosophy using an enrichment of the field of metaphor that has its roots in modern physics. It is a mine of terminological illustration, but absolutely not a systemic continuum of causal generation of phenomena. It may be that about a third of brain scientists see brain functions as quantum fields of consciousness, but even if they are it does not therefore deal with the unconscious roots of paradigms. The psychodynamic processes are overlaid upon and enacted within the Bose-Einstein quantum fields. To describe the phenomena in new ways does not necessarily give us access to the paradigm that enables us to change them.

There was a very powerful challenge that Danah was giving Newton's paradigm 'a bad rap' from someone who was clearly well founded in Kuhn's description of paradigm shift as inclusive of the old. Danah's reply was 'no we need both paradigms, just as we use the particulate and the wave theory of light'. That is not the point, it is not this paradigm or that paradigm and we have both and we have to dialogue between the two. That is just not the meaning of a paradigm shift. Dialoguing between two paradigms is not the meaning of embracing a new paradigm.

In conclusion, I am left with the sense that the whole quantum construct is some kind of field of psychodynamic defence which sustains the denial of the repressed unconscious field, the accessing of which is essential if the next level of creativity and realisation of human potential is to be achieved. I also see the quantum construct as a very seductive form of social defence against anxiety, by removing our focus from the existential realities of

psychological experience into some kind of dissociative and displaced construct in the face of the unprecedentedly rising levels of social angst experienced by our species within its global context at this point in our developmental history.

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