Metaphor in Physics and Psychoanalysis
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The Cosmic Code: Quantum Physics as the Language of Nature

- From the clockwork universe of classical physics
- To the God who plays dice

Inside Lives: Psychoanalysis and the Growth of the Personality

- From Freud's mechanical/archaeological drives and layers of mind
- To dynamic/organic view of internal object relations - inside lives

Metaphor in Quantum Physics

Fundamentals of the Transition

Classical Physics		*Quantum Physics*
• Continuous – Wave	v	Quantised – Particle
• Deterministic – Clock	v	Probabilistic – Dice
• Independent of observer	v	Observer created reality
- Einstein on the beach		- Schrodinger's Cat

Quantum physics denies the objectivity and determinism of the world!
Werner Heisenberg – QM brings us face to face with the question of the possibility of understanding reality by mental processes!

Metaphor in Psychoanalysis

- Meaning of Growth – From narcissism to concern
  - Weaning / Oedipus: Internal capacity to be alone/face reality
  - Narcissus as failure of development: dying of sadness

- Facilitating Environment – Container/Contained
  - Internal objects / Inside lives
  - States of mind – infancy to old age present simultaneously

- Centrality of Relationships – Internal and External
  - Shallow personality v Depth of character
  - Defensive/Cold/Closed personality v At Ease/Warm/Open personality

Aims of Paper

- Explore the role of metaphor in transformations within two disciplines of foundational importance to modernity

- Physics is about the material world (scientific perspective); Psychoanalysis about thinking and emotion (psychological perspective). Both perspectives are relevant to sustainability transitions

- Both are extremely practical – QM underpins modern technology; human emotion and cognition will determine our future = *Ideas Matter*

- Identify specific metaphors of transformational change in both disciplines (relevant to sustainability transitions) as part of the 'toolkit' being assembled in the wider project