INTRODUCTION

Sky and Psyche: Heaven and Soul

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The chapters in this book are based on lectures delivered at two conferences held in Bath in 2005, and associated with Bath Spa University's Sophia Centre: 'The Alchemical Sky' on 1 May, and 'Sky and Psyche' on 1-2 July. Both events were designed to address the question of the relationship, as the title of the second event suggests, between sky and psyche – in their broadest sense. Psyche, in particular has a double meaning as soul and mind. Until the seventeenth century the two were indistinguishable; soul was that part of mind which could communicate with, travel to and/or unite with, God. Alchemical Sky, meanwhile, points to the possibility of transmutation - or transformation'; that the psyche's ability to reflect on the heavens necessarily involves what we might nowadays call an evolutionary process.

The question of the relationship between the soul and the stars been central to cosmology for thousands of years. The belief in the soul's journey to the stars permeated Egyptian thought. It appeared amongst the Greek Orphics, perhaps under Egyptian influence, from where it made its way into Plato's teachings in fourth century BCE Athens. Thanks to Plato's impact on the Church Fathers, his theories became a persistent, if controversial, part of Christian theology. In fact, one could argue that the entire Christian notion of soul is pagan. The belief that the soul could embark on a celestial journey draws attention to the cosmos as a real, physical space, if one in which morality varies with the region within which one finds one's self. For medieval Christians, Heaven, the soul's natural home, was located above the earth – beyond the stars.

If I could paraphrase Rob Hand, who spoke at the 'Sky and Psyche' conference, the relationship of soul to stars was *the* central problem in cosmology during the centuries when Christian theology was being formulated and was fighting for supremacy over its pagan and heretical rivals. Did the soul come from the stars? If so, how did it return? Could it even return? Did it even want to? These were the sort of questions that pervaded discussions of humanity's relationship with the divine.

While much modern psychology has become almost entirely dissociated from psyche in its original sense, the reaction to such ideas began with Jung in the 1910s and has found a home in the various schools of post-Jungian and transpersonal psychology. Plato's idea of the rational mind, that part of the psyche which was in contact with the divine, survives in various forms. His Idealism, which presented mind as independent of matter, flourishes, unrecognised in a world in which most academic disciplines take materialism as their starting point. Plato's cosmic order though, survives in one other significant area apart from depth psychology, and that is pure mathematics. John Barrow, professor of mathematical sciences at Cambridge University and one of the originators of the anthropic principle, in which the universe and human life are to one degree or another, mutually dependent, discussed 'mathematical Platonism', which he considered 'almost religious in the sense that it provides an underpinning necessary to give meaning to life and human activity'.[1]

Roger Penrose is another mathematical Platonist. Professor of Mathematics at Oxford University, he shared the 1988 Wolf Prize for physics with Stephen Hawking. Penrose's explanation for the manner in which mathematics allows for intellectual inquiry is instructive:

> How is it that mathematical ideas can be communicate in this way? I imagine that whenever the mind perceives a mathematical idea, it makes contact with Plato's world of mathematical concepts…when one 'sees' a mathematical truth, ones; consciousness breaks through into this world of ideas, and makes direct contact with it ('accessible via the intellect').[2]

Psyche as soul may not survive in Penrose's formula, but psyche as collective mind certainly does, and is not so far from Jung's collective unconscious. Penrose's notion of the individual mind connecting with the world of ideas is certainly an exact replica of the communication that takes place between Plato's human rational soul and the world-soul, *the anima mundi*. Plato laid the foundation of Penrose's opinion in the *Phaedrus*:

> Now the divine intelligence, since it is nurtured on mind and pure knowledge, and the intelligence of every soul which is capable of receiving that which befits it, rejoices in seeing reality for a space of time and by gazing upon truth is nourished and made happy until the revolution brings it again to the same place.[3]

Plato's use of the world revolution, of course, is a reference to the revolution of the heavens, of the stars and planets.

To turn to the title of the second, two-day, conference, it deliberately used the word ‘psyche’ rather than soul; while it is true that psyche is often directly translated as soul, as in English versions of Claudius Ptolemy’s *Tetrabiblos*, it is also the root of our modern word psychology – the study of mind. The confusion comes about because, for many in the classical world, God was ‘Mind’ (*nous* in the Greek), and the human mind, with a small ‘m’, was an attribute of each individual’s divine consciousness and a means of contacting the Divine. The mind in the modern secular world is viewed as, at best, a set of complexes, at worst as a mere bi-product of chemical reactions and electrical impulses, a complicated computer. Many academic and clinical psychologists regard mind as a mere epiphenomenon, an accidental consequence of the brain’s physical processes. The word psyche therefore, in modern terms, deliberately confuses the spiritual and psychological, reminding us that, for much of western history until the modern period, the two were intimately related. Astronomy, meanwhile, struggles with its origins in celestial religion. When a NASA spokesman describes his reaction to the return of the ‘Stardust’ mission as ‘incredible thrill, very emotional’,[4] how does this relate to the space programme’s overwhelmingly technical logic? When Patrick Moore, the UK’s most effective populariser of astronomy, discussed the 1964 solar eclipse he simultaneously dismissed ancient beliefs about their power, but preserved the notion of the sky as a source of numinous awe:

> Solar eclipses caused great alarm in ancient times; the Chinese used to believe that the Sun was in danger of being eaten by a dragon. No

> terror is now associated with them, except in very undeveloped countries. But they remain perhaps the most awe-inspiring phenomena in all nature. Nobody who has been fortunate enough to witness a total eclipse of the Sun is ever likely to forget it.[5]

Somehow, astronomy can never quite discard that residual impulse which drew humanity to search the sky for meaning and inspiration.[6] We should turn to Paul Davies, professor of natural philosophy at Adelaide University, for illumination:

> An increasing number of scientists and writers have come to realise that the ability of the physical world to organise itself constitutes a fundamental, and deeply mysterious, property of the universe. The fact that nature has creative power, and is able to produce a progressively richer variety of complex forms and structures, challenges the very foundation of contemporary science. 'The greatest riddle of cosmology', writes Karl popper, the well-known philosophers, 'may well be ... that the universe is, in a sense, creative'.[7]

The award of the Templeton prize to John Barrow in March 2006, highlighted, again, such prominent opinions on the extent to which the universe is essentially organised and that, therefore, the relationship between consciousness and matter is an integral part of this organisation.[8] The relationship between mind and matter may even be purposeful if it is argued that consciousness has developed precisely in order to allow human beings to reflect on the cosmos. News reports of Barrow's award gave renewed prominence to his ideas:

> Life as we know it would be impossible, he and others have pointed out, if certain constants of nature – numbers denoting the relative strengths of fundamental forces and masses of elementary particles – had values much different from the ones they have, leading to the appearance that the universe was 'well tuned for life,' as Dr Barrow put it.
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> In a news release, the prize organizers said of Dr Barrow's work: 'It has also given theologians and philosophers inescapable questions to consider when examining the very essence of belief, the nature of the universe, and humanity's place in it.'
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> Asked about his religious beliefs, Dr Barrow said he and his family were members of the United Reformed Church in Cambridge, which teaches 'a traditional deistic picture of the universe,' he said.[9]

Even atheism is no escape from the sky-psyche problem. A recent, ambitious atheist proposal, Frances Crick's 'Astonishing Hypothesis', according to which, as Crick put it, 'your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells and associated molecules',[10] singularly fails to provide a reasonable answer. One might ask whether, if every particle of matter in our bodies has already passed through three stars, including our sun, since the Big Bang, and if, as Crick argues, consciousness is a property of matter, at what point in this process does matter develop the ability to inquire into itself? As John Gribbin argued,

> Life begins with the process of star formation. We are made of stardust. Every atom of every element in your body except for hydrogen has been manufactured inside stars, scattered across the universe in great stellar explosions, and recycled to become part of you.[11]

So, to repeat the question, at what stage between star and human do the relevant combinations of Crick's nerve cells and molecules begin to think?

The speakers at the two conferences came from a range of backgrounds. Their brief was to address the topic from whatever was their chosen perspective, personal or professional, academic or practitioner, psychological or spiritual. This variety is reflected in the diversity of the chapters in this book. The intention was not to come up with conclusions but exchange ideas for, as none of us know exactly what we mean by soul, or even how the mind works, or whether one is a form of the other, the only solution is uncertainty. The universe is a closed system. We are inside it and can never be in the position of impartial, external observers: in reflecting on the cosmos, we are reflecting on ourselves.

Endnotes

1 Barrow, John, *Pi in the Sky: Counting, thinking and being* (London: Penguin 2002) p, 259.
2 Penrose, Roger, *The Emperor's New Mind: concerning computers, minds and the laws of physics* (London: Vintage 1991) p.554.
3 Plato, *Phaedrus*, trans H.N. Fowler (Cambridge Mass., London: Harvard University Press 1914) 246D, p. 477.
4 BBC Radio 4, 'Today Programme', 15 January 2006.
5 Moore, Patrick, *Observers Book of Astronomy*, London (Frederick Warne and Co. 1964) p. 158.
6 See the various discussions in Campion, Nicholas (ed.), *The Inspiration of Astronomical Phenomena*, Proceedings of the Fourth Conference on the Inspiration of Astronomical Phenomena, sponsored by the Vatican Observatory and the Steward Observatory, Arizona, Magdalen College, Oxford, 3-9 August 2003 (Bristol: Cinnabar Books 2005).
7 Davies, Paul, *The Cosmic Blueprint: Order and Complexity and the Edge of Chaos*, (London: Penguin 1995) p. 5, citing Popper, Karl and John Eccles, *The Self and its Brain* (Berlin: Springer International 1977) p. 61.
8 Barrow, John and Frank Tipler, *The Anthropic Cosmological Principle* (Oxford: Oxford University Press 1996). For reports and comment on the award of the Templeton prize to Barrow see Radford, Tim, 'The gods of cosmology', *The Guardian*, 21 March 2006, p. 33.
9 Overbye, Dennis, 'Math Professor Wins a Coveted Religion Award', *New York Times*, 16 March 2006, at http://www.nytimes.com/2006/03/16/science/16prize.html?ex=1143176400&en=e587191ce01d41a0&ei=5070&emc=eta1.
10 Crick, Frances, *The Astonishing Hypothesis: the Scientific Search for the Soul* (London: Simon and Schuster 1994) p. 3.
11 Gribbin, John, *Stardust: the cosmic recycling of stars, planets and people* (London: Penguin 2001) p. 1.