

Cosmic Visions of the Future: The Science Fiction of Stephen Baxter

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“In my books, I deal with a whole set of futures. That’s deliberate. I’d say the point of science fiction is trying to figure out the meaning of our lives. What is the meaning for humanity of this new understanding we have?”

Stephen Baxter

The seventeenth century philosopher Baruch Spinoza argued that reality should be viewed “through the eyes of eternity.” To get a true picture of things, look at reality in the context of the big cosmic picture. If we follow this line of thinking and apply it to the future, then we should stand back from our local and relatively short term ideas on the future, stretch our imaginative powers to the limits, and attempt to envision the most all-encompassing panoramic visions of the cosmos, both in space and time. We should also, following Spinoza, ask and consider possible answers to the big questions of life in pondering the meaning and significance of the future. In this spirit, the philosopher and science fiction writer Olaf Stapledon, in his novels *The Last and First Men* and *Star Maker*, speculated on the entire future history of humanity, the evolution of intelligence and mind within the universe until literally the end of time, the existence and nature of God, the purpose and meaning of life, and the unending quest for knowledge and enlightenment.¹

Frequently compared with Stapledon, the contemporary science fiction writer Stephen Baxter not only writes on a vast cosmic scale that, in fact, exceeds Stapledon in scope, but also attempts to address in his novels, as did Stapledon, the big philosophical questions of existence. Like Stapledon, the world of ideas often takes precedence over the characters in Baxter’s stories.² Baxter is a highly prolific writer and the reader is referred to a variety of websites that list his numerous novels and short stories, along with reviews and commentaries.³ In this article I am going to highlight two of Baxter’s most mind-boggling and cosmic works: The novel *Vacuum Diagrams* and the *Manifold* trilogy.

Vacuum Diagrams (1997) reaches out across the entire universe and millions of years into the future, as well as billions of years into the past.⁴ This novel, which is part of a series of future history stories and other novels by Baxter, traces the future destiny of humanity and describes the ultimate cosmic conflict between the most powerful sentient forces of matter and anti-matter, the Xeelee and the Photino Birds, and the eventual escape of both the Xeelee and the last humans into another universe. The conflict and struggle between the Xeelee and the Photino Birds begins twenty billion years ago and ultimately defines the central drama of the entire history of the universe – the saga of humanity is not in the center stage of the story of the cosmos. The Xeelee are incomprehensively beyond human intelligence and human civilization and they

are inter-universe time travelers. They alter the history of our universe and their own evolution by journeying back to the beginnings of time and redirecting the future sequence of historical events. In the far distant past – approximately five billion years ago – they begin construction of an immense portal (“the most massive single structure in the universe...hundreds of millions of light years wide...”) that eventually provides an escape route into another universe four million years in the future. The fortunes of humanity rise and fall through Baxter’s cosmic epic. At different times humans come under the rule and control of different alien species (the “Qax” and the “Squeem” – such strange, twangy, suggestive names); we aggressively expand outward in galactic exploration, conquest, and colonization; and in an ultimately foolhardy effort challenge the Xeelee for domination of the universe, eventually being imprisoned by the Xeelee in a spatially involuted world from which there seems to be no escape. Along the way, various intelligent species (the “Silver Ghosts”) attempt to create God and predict the entire history of the universe. The story ends along two parallel story lines – in one line, five hundred million years in the future, one remaining human-like consciousness observes the heat death of our universe – in the other line, in the year 5664 A.D. – the question is raised but not answered, of whether the entire future saga of the universe told in *Vacuum Diagrams* could, in fact, be changed.

Baxter is particularly adept at incorporating contemporary theoretical science and technology, including quantum theory, nanotechnology, cosmology, and artificial intelligence theory, into his multifaceted speculations on the future. There is a great variety of advanced technologies in *Vacuum Diagrams* that transform or manipulate space, time, matter, and energy, the evolution of life and intelligence, and the physical laws of the universe, all of which Baxter explains in scientifically informed language. *Vacuum Diagrams* won the Philip K. Dick Award for the best science fiction novel of 2000.

Baxter excels again in his capacity to weave cosmic-scale story telling with up-to-date scientific and technological knowledge in his newer trilogy *Manifold Time* (2000), *Manifold Space* (2001), and *Manifold Origin* (2002).⁵ In *Manifold Time*, Baxter takes ideas from contemporary cosmologists Lee Smolin, Fred Adams, and Greg Laughlin and sets sail across the evolutionary history of the multi-verse, from the most simple to the increasingly complex, from distant past to distant future – to many distant futures - literally creating a manifold of “times” into which human space explorers are thrown. Universes are born out of other universes. Baxter takes the futurist idea of “possible futures” to the extreme, creating a modern scientific, evolutionary version of Spinoza’s naturalistic concept of God – of an infinite “substance” with infinite attributes and modifications. And in the end, what does it all mean? To what purpose and ultimate value?⁶ In *Manifold Space*, Baxter grapples with Fermi’s Paradox: Why are there absolutely no indications of other forms of intelligent life or technologically advanced civilizations in the observable universe? This novel delves into the issue of communication across alien minds and tells a tale of ultimate sacrifice to further the evolution of consciousness in the universe. Perhaps the laws and dynamics of the universe “conspire” against the ascension

of intelligent life past a certain level of development? Perhaps, intelligence will need to redirect the natural evolution of the cosmos? Finally, in *Manifold Origin*, Baxter speculates on the evolutionary history of humans and provides an extremely realistic, graphic, and convincing depiction of the minds and lives of our primitive ancestors, including Neanderthals, *Homo erectus*, and *Australopithecus*. On an alternate and mysterious “red earth,” Baxter places all these different hominids, along with contemporary humans, as well as giant “humans” who evolved on a parallel different earth, and speculates on where the human family is heading in the future.

Spinoza believed in an absolute determinism for all of nature, for all human lives, and even for God. Everything is set – has its place – within the “eyes of eternity.” In Stapledon, human existence is set in the context of the entire history and drama of the cosmos and our significance is both dwarfed and made poignant through this panoramic perspective. Informed by the mind-expanding new ideas of science and cosmology, Baxter is able to speculate on an intellectual and existential canvas that far exceeds in scope the universes envisioned by Spinoza or Stapledon. Many of the same questions arise regarding our real significance, if any, in the grand scheme of things. And Baxter deals repeatedly with the issue of destiny and whether time is an inexorable flow leading in one inevitable direction for humanity. But Baxter brings to bear on this final question the possibilities of time travel (thus altering the past, present, and future), multiple universes (thus providing a manifold of different outcomes and realities), cosmic-scale engineering (thus altering the universe and its very evolution), and super-intelligent aliens and artificial intelligences (thus opening the possibility of answers and mysteries that far exceed our present capacities of understanding). Although in his novels, at one level, the reader travels across the farthest reaches of space and time, at a deeper level, the reader goes on a more penetrating journey into the philosophical territory of the future and the scientifically expanded arena of the human mind.

¹ Stapledon, Olaf *Last and First Men* and *Star Maker*. New York: Dover Publications, 1931, 1937; Lombardo, Thomas *Contemporary Futurist Thought: Science Fiction, Future Studies, and Theories and Visions of the Future in the Last Century*. Bloomington, IN: AuthorHouse, 2006, Pages 33-38.

² Clute, John *Science Fiction: The Illustrated Encyclopedia*. London: Doarling Kindersley, 1995, Pages 66, 122, 208.

³ Baxterium - <http://www.baxterium.org.uk/> ; Stephen Baxter: The Official Website - <http://www.stephen-baxter.com/> ; The Manifold: Stephen Baxter Fansite - <http://www.themanifold.co.uk/> .

⁴ Baxter, Stephen *Vacuum Diagrams*. New York: Harper Collins Publishers, 1997.

⁵ Baxter, Stephen *Manifold Time*. New York: Ballantine, 2000; Baxter, Stephen *Manifold Space*. New York: Ballantine, 2001; Baxter, Stephen *Manifold Origin*. New York: Ballantine, 2002.

⁶ Smolin, Lee *The Life of the Cosmos*. Oxford: Oxford University Press, 1997; Adams, Fred and Laughlin, Greg *The Five Ages of the Universe: Inside the Physics of Eternity*. New York: The Free Press, 1999.