

Architectonics of Science Fiction: A Critical Note on Issac Asimov's *Foundation* Trilogy

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In this paper, an attempt has been made to study Asimov's Foundation trilogy, an important work of science fiction, from the standpoint of form/structure. The paper argues that structural devices used in science fiction are vastly different from those used in the mainstream fiction, and it is scientific methodology that often lends coherence and unity to such works. Every science fiction writer creates his/her own universe, which consists of the currents and cross-currents of the religious, political, economic and social fields that our planet witnesses in the period top which he/she belongs. Among other things, Asimov incorporates the contemporary social problems of population explosion and ever-mounting tyranny and tension of urbanization in the texture of his novels, and he not only represents these problems in his fictional works, but also critiques them.

The study of form and structure in science fiction demands special attention not only because the setting of action in it is radically different from that of “naturalistic or empiricist literary genres”¹ but also because of the unexceptional plots of cosmic and gigantic proportions around which it revolves. In terms of setting, every work of science fiction is radically “dislocated from the present reality”². Every science fiction writer creates his own imaginary alternate universe, cosmos or interstellar system. Action in science fiction is not confined to any individual³ or any limited locale, it transcends the sociological spectrum and spills into biology and cosmology, it takes place beneath the oceans and over the space; it covers planets and even galaxies in its stride.

Isaac Asimov's *Foundation* trilogy sprawls over a “colossal Empire”⁴ of “nearly twenty-five million inhabited planets in the Galaxy”⁵. The trilogy is an epic saga of the ‘colossal fall’⁶ of this “Galactic Empire”⁷. It captures the intricate drama of a galactic struggle between two Foundations – one dedicated to science and technology, other to social-sciences – to replace this “dying Empire”⁸ with a “Second Empire”⁹. This sort of astoundingly colossal setting along with an apocalyptic action makes science fiction a class apart from the “mainstream fiction”¹⁰. Accordingly, the structural devices and strategies to regulate and streamline the sprawling narrative of science fiction are different from those of the mainstream fiction.

In science fiction, the basic strategy that lends coherence and structural basis to the narrative is the underlying ‘scientific methodology’. The term ‘scientific methodology’ demands elaboration. But

before its elaboration, it would be relevant to understand the relation between ‘fantasy’ and ‘science fiction’. It is a general notion that science fiction is mere empty fantasy, a “speculative fabulation”¹¹ wherein the writer indulges in free and wild display of his imagination. This notion is misleading. There is a marked difference between these two “sister genres”¹² best summed up by Kingsley Amis: “science fiction maintains a respect for facts or presumptive facts, fantasy makes a point of flouting these”¹³. This “faith in the precision of science”¹⁴ or in the science-fact forms the core of ‘scientific methodology’. In science fiction, howsoever fantastic and speculative it may be, the writer’s imagination is controlled and directed by the science-fact; he cannot indulge in wild, non-scientific imagination. His apocalyptic pronouncements are foregrounded invariably in widely acceptable scientific theories. In science fiction “the tradition of speculative fiction is modified by an awareness of the nature of the universe as a system of system, a structure of structures ...”¹⁵. And it is this awareness which elevates science from mere speculative fabulation to “structural fabulation”¹⁶ “Futurism” in science fiction “is like science that it is linear. It is a progression one by one by one”¹⁷. Those who tend to situate science fiction in post-structural chaos are swept off their feet by the seemingly fantastic and somewhat incoherent sweeps and swipes of the science-fiction writer.

Asimov’s *Foundation* trilogy with all its fantastic and fabulous setting and action is deeply grounded in the science-fact. There is nothing ostensibly so magical or whimsical about the ever-enlarging expanse of the novelist’s universe. His visualization of Galactic Empire covering nearly twenty-five million planets is far-fetched; it is based on the contemporary apprehension of universe as a ‘Colossus Cosmos-System’¹⁸ undergoing expansion and change. Discoveries during 1920s and 30s by Alexander Freidman, Edwin Hubble, J. Jeans and others in the field of Cosmogony – “a science dealing with universe as a whole and make use of data from different branches of astronomy, physics and mathematics”¹⁹ – amply demonstrated that universe is not static, it is ever-expanding and the rate of expansion is restricted to a large extent by inter-planetary gravitational attraction as per Newton’s Law of Universal Gravitation²⁰. In *Foundation* trilogy, the vast expanse of the setting has been modeled on this space-model suggested by contemporary astrophysicists. Asimov’s conception of “psycho-history”²¹ too has scientific basis. It not only incorporates the basic principles of probabilistic statistics and data analysis but also of quantum mechanics²², “Psychic-Probe”²³, a mind-probing device in the trilogy, may well be seen as an extension of various psychological devices applied to study the mind. Concepts like hypnopaedia, telepathy, parapsychology etc. lend scientific plausibility to the concept of ‘Psychic-Probe’ as envisaged in the *Foundation*.

The concept of space-ships having “first-rate hyper-atomic motors”²⁴ is also not fanciful. In fact the contemporary rocket-technology and atomic power-technology has given rise to the possibility of such a space-ship. Even Yuri Gagarin, the first cosmonaut to go into space thought along the same lines : “We also wish to dream a little of the time when the space vehicle engines will be powered by nuclear or thermonuclear energy rather than by that of the oxidation reaction of the fuel i.e. its conventional combustion”²⁵ “Inter-planetary trips”²⁶ through “Jumps”²⁷ on faster-than-light (FTL) space-ships are not mere flights of imagination, they too have been conceived within the parameters

**ARCHITECTONICS OF SCIENCE FICTION: A CRITICAL NOTE ON
ISSAC ASIMOV'S *FOUNDATION* TRILOGY**

of science-fact. To by-pass the conditions of Einstein's Theory of Relativity²⁸, Jumps have been conceived in hyper-space²⁹, whereas Einstein's Theory holds well in space only. And the presence of hyper-space is very much a futuristic possibility "Hyper-videos"³⁰, "three-dimensional newscasts"³¹, "ultrawave-relay"³², "visiphone"³³, "Time-vault"³⁴ and other means of communication envisage in the trilogy are not chimerical or extravagantly fantastic. Breakthroughs in the field of electronics during the 1940s³⁵ foreshadowed such developments.

Science-fact alone does not provide the basis of structural analysis. Cultural undercurrents in the form of "archetypes of the collective unconscious"³⁶ shape and form the vision of science fiction writer. In fact, myth has been as much a cultural model for mainstream literature as it is for science fiction. Mythical patterns lurk behind all science fiction. Science fiction may posit a space beyond the lived human experience articulated through its cultural practices and rituals, yet it cannot divest itself of its cultural responsibilities. Myths from the Bible rightly referred to as "grammar of literary archetypes"³⁷ find their echo in Asimov's science fiction. The Biblical myth of the Fall and the Second Coming of Christ lurks behind the massive plot structure of *Foundation* trilogy. The Fall of Galactic Empire followed by the possibility of "a struggling new Empire"³⁸ emerging from the ruins of the first one may well be interpreted as an imaginative version of this Biblical myth. In fact, the sage of the Fall of the Galactic Empire looks convincing and plausible in the light of the myths which predict disintegration of the present civilization and re-establishment of a fresh world-order.

Science fiction does embed "implicit mythical patterns"³⁹, but it cannot be identified with mythology as such in the traditional sense of the term. Scientific orientation of the mythical redeems science fiction from trembling into mere mythology. "The transformation of Chaos into Cosmos, of the Unknown into the Known is the central action of a great many works of science fiction"⁴⁰. Mythical mysteries stand explored and unfolded scientifically in science fiction and herein lies the progressivism of science fiction as against the conservatism of myths.

Besides 'underlying scientific methodology' and 'implicit mythical patterns', the science-fiction-narrative derives its basic structure and strategy from contemporary political equations and social currents. Far from being 'escapist' and 'utopian' in its nature, science fiction is firmly grounded in the murky and dirty, petty and petulant earthily existence. All science fiction makes ample room for mundane realities and modes of thinking by an amazing and still plausible feat of extrapolating and lifting these elements to an alternate universe. Also the science fiction should not be viewed as an extension of utopian fantasy the structure and strategy of which leaves scanty scope for scientific and realistic depiction of life. The clearly optimistic note which pervades the earlier science fiction is suggestively conspicuous by its absence in the twentieth century science fiction primarily because the scientific progress which started with and generated a lot of optimism, at the later stage appeared in its devastating, grimmer and gloomier aspects of which the two World Wars were blatant manifestations.

Asimov's *Foundation* trilogy reflects and is sustained by the currents and cross-currents in the religious, political, economic and social fields which our planet had witnessed during the first half of the twentieth century. The predictive elements in the subject of 'psycho-history' bear Marxist influence. The declaration of Brodwig – the Commander of Imperial forces – that the “eyes of Emperor are everywhere”⁴¹ is a significant observation on the totalitarian tendencies of contemporary Europe. George Orwell in his futuristic *1984* had also made a similar observation when he wrote ““BIG BROTHER IS WATCHING YOU””. And Orwell and Asimov happen to be contemporaries.

The dying Galactic Empire has close kinship with the dying powers of feudalism and its ally Church. The two Foundations – one dedicated to science and other “devoted to social-sciences”⁴² – which take over the dying Empire may be traced from the two-fold growth of scientific knowledge and social sciences after the decline of feudalism. The Galactic Empire decays on account of “triple disease of inertia, despotism and mal-distribution of the goods of the universe”⁴³. This very disease afflicted the age-old institutions of feudalism and Church.

Asimov incorporates the contemporary social problems of population explosion and ever-mounting tyranny and tension of urbanization as well in the texture of the novels. Trantor, the capital of Imperial government faces the twin-problems of population-explosion and over-urbanization: “Its urbanization, progressing steadily, had finally reached the ultimate. All the land surface of Trantor 75,000,000 square miles in extent was a single city. The population, at its height was well in excess of forty billions”⁴⁴. After the Second World War America and Russia emerged as super-powers. They started a cold war with a view to establishing supremacy over the globe. In the trilogy, the emergence of two Foundations on the periphery of the Galactic Empire may be viewed as something that is modelled on the rise of Big – 2. The galactic struggle between the two Foundations may be seen as extension of the cold-war between two super-powers.

Thus in science fiction, social reality and human environment provide the essential background to the narrative. Any science-fiction-writer with all his futuristic moorings derives the basic model of his fiction from contemporary social structure. Three innate forces – (i) the science fact, (ii) the archetypes of the collective unconscious, (iii) the contemporary milieu – control and streamline the sprawling narrative. These forces collectively lend structural solidity and formal strength to science fiction.

Notes

1. Darko Suvin, “On the Poetics of the Science Fiction Genre” in *Science Fiction*, ed. Mark Rose (Englewood Cliffs, N.J., Prentice Hall, Inc., 1956), p. 58. Hereafter cited as *Science Fiction*.
2. Robert Scholes, “The Roots of Science Fiction” in *Science Fiction*, p. 47.
3. “..... that apocalyptic literature – which by definition includes most SF – involves a certain magnitude or breadth of vision which militates against an interest in detailed characterization”. – Scott Sanders,

**ARCHITECTONICS OF SCIENCE FICTION: A CRITICAL NOTE ON
ISSAC ASIMOV'S *FOUNDATION* TRILOGY**

- "Characterization in Science Fiction : Two Approaches" in Science Fiction : A Critical Guide, ed. Patrick Parrinder (London and New York, Longman, 1979), p. 131.
4. Isaac Asimov, Foundation and Empire (Panther, Granada Publishing 1952), p. 7. Hereafter cited as Foundation and Empire.
 5. Isaac Asimov, Foundation (Panther, Granada Publishing, 1951), pp. 9-10. Hereafter cited as Foundation.
 6. Foundation and Empire, p. 7.
 7. *Ibid.*, p. 7.
 8. *Ibid.*, p. 8.
 9. Foundation, p. 34.
 10. Gary K. Wolfe, The Known and the Unknown (Kent University Press, Ohio, 1946), p. 9.
 11. Robert Scholes, "The Roots of Science Fiction" in Science Fiction, p. 48.
 12. Gary K. Wolfe, The Known and the Unknown, p. 5.
 13. Kingsley Amis, "Starting Points" in Science Fiction, pp. 14-15.
 14. Robert Scholes and Eric S. Rabkin, Science Fiction : History. Science Vision (London, Oxford University Press, 1977), p. 114.
 15. Robert Scholes, "The Roots of Science Fiction" in Science Fiction, p. 54.
 17. H. Harrison, "Inventing New Worlds I" in the Future Imperfect :Science Fact and Science Fiction, ed. Rex Malik (London, Frances Pinter Ltd., 1980), p. 76.
 18. Robert Scholes, "The Roots of Science Fiction" in Science Fiction, p. 55.
 19. L.E. Gurevich and A.D. Chernin, The Magic of Galaxies and Sarts (Moscow, Mir Publishers 1987), p. 5.
 20. "The force of gravitation tends to bring bodies or material particles closer always and everywhere. It operates throughout the universe, and this is why it has been called universal since Newton's time. We do not know why the general recession of cosmological systems occurs, but there is no doubt that since the first instants of the cosmological expansion, universal gravitation interfered with this expansion and strove to suppress it gravitation did succeed in limited regions of the universe" – *Ibid.*, p. 33.
 21. "Psycho-history dealt not with man, but with man-masses. It was the science of mobs; mobs in their billions. It could forecast reactions to stimuli with something of the accuracy that a lesser science could bring to the forecast of a rebound of a billiard ball." — Foundation and Empire, p. 7.
 22. Heisenberg, Erwin Schrodinger and Paul Dirac in 1920s reformulated mechanics into a new theory called quantum mechanics. In this theory particles no longer had separate, well-defined positions and velocities that could not be observed. Instead, they had a quantum state, which was a combination of position and velocity.
 23. Foundation and Empire, p. 69.
 24. *Ibid.*, p. 40.
 25. Yuri Gagarin, "The Stepping-Stones to the Universe" in Orbits of Peace and Progress, ed. P. Popovich (Moscow, Mir Publishers, 1988), p. 12.
 26. Foundation, p. 10.
 27. *Ibid.*
 28. "The fundamental postulate of the theory of relativity, as it was called, was that the laws of science should be the same for all freely moving observers, no matter what their speed This simple idea has some

- remarkable consequences. Perhaps the best known are the equivalence of mass and energy summed up in Einstein's famous equation $E=mc^2$, and the law that nothing may travel faster than the speed of light". – Stephen W. Hawking, A Brief History of Time (Toronto, Bantam Books, 1988), p. 21.
29. "....., that unimaginable region that was neither space nor time, matter nor energy, something nor nothing, one could traverse the length of the Galaxy in the intervals between two neighbouring instants of time" — Foundation, p. 10.
 30. Ibid., p. 1.
 31. Ibid.,
 32. Ibid., p. 129.
 33. Foundation, p. 95.
 34. Ibid., p. 135.
 35. In 1948, the invention of transistor by three Nobel laureates – John Bardeen, Walter Brattain and William Shockley at Bell laboratory completely revolutionized the electronic industry.
 36. C.G Jung, "Archetypes of the Collective Unconscious" in Twentieth Century Criticism : The Major Statements, ed. William J. Handy and Max West-brook (New Delhi, Light & Life Publishers, 1974), p. 205.
 37. Northrop Frye, Theory of Literacy Criticism p.
 38. Foundation and Empire, p. 7.
 39. Northrop Frye, Theory of Literary Criticism, p.
 40. Gary K. Wolfe, The Known and the Unknown, p.
 41. Foundation and Empire, p.
 42. Isaac Asimov, The Second Foundation (Panther, Granada Publishing, 1953), p. 9.
 43. Foundation and Empire, p. 95.
 44. Foundation, p. 15.