

Our Place in the Cosmos: The Unfinished Revolution. Fred Hoyle and Chandra Wickramasinghe. J. M. Dent, London, 1993 pp. 190.

The blurb, on the front piece proclaims without diffidence 'Life did not begin on earth – it arrived from space and is still arriving' giving, undoubtedly, a much needed fresh lease to the numerous UFO buffs in the US. But that is not to dismiss the work as lightly as the UFOs. After all it's Fred Hoyle, a British Knight, one of world's leading astronomers, FRS and what not, and Chandra Wickramasinghe a Professor of Applied Mathematics and Astrology, who have co-authored it. The book is interesting, this reviewer finished reading it at one sitting. But it raises more questions than it answers, and eventually leaves one a little dubious about all those academic epithets.

To give the duo due credit, they strike a stimulatingly discordant note right in the beginning. Their 'unfinished revolution' relates to the religious and educational bias which has not permitted the Copernican revolution to unfold as it should have. Boldly and bravely, they hit out without any holds barred at Darwin, and the theory of Evolution. Rightly they point out that it was propaganda, and the infiltration of the education system that made Darwinism a biblical dogma which even the 20th Century Pundits of Science are unable to shake. For this bravado alone, the authors deserve high accolade, and their book a careful reading. Huxley then, and the likes of Dawkins now notwithstanding. Hoyle and Wickramasinghe make mince-meat of Darwinian postulates, and do so almost convincingly.

They also question the prevalent, if not entirely acceptable, probiotic soup theory of Origin of Life, dismissing Oparin, Miller, Urey and Oro, and not as much as sparing poor Cairns-Smith's alternative 'genetic takeover' hypothesis a thought.

The alternative they offer is plausible to an extent, but like many acolytes, get so enamoured of their central proposition (which rests as, or more precariously, as the classical ones insofar as evidence is concerned) that they extend it *ad libitum* to unacceptably absurd lengths.

Hoyle and Wickramasinghe flatly refuse to concede that life originated on Earth. They commandeer the geological record, and astronomical records to back *their* arguments. Thus, by most modern reckoning the Earth formed 4600 million years ago. The first available evidence of organic life occurs at 3600 million years, the major life kingdoms established by about 1000 million years ago and a profligate abundance of life forms 570 million years ago. Planetismal collisions and other violent events precluded any earlier (than 3800 million years) records, but Hoyle and Wickramasinghe argue that life may well have pre-existed on earth even earlier. And the source? Space. The solar system. The Galaxy. Universe. But most *probable* in immediacy the comets.

Hoyle and Wickramasinghe identify the prokaryotes – the bacteria, as the 'seeds' of life, developed elsewhere (Comets) and bombarded then, *as now*, on the earth continuously. They develop the theme further by inducting viruses as the causative 'switches' causing evolutionary shifts, or evolution in jumps. They argue that the fossil record manifests the latter, and not the Darwinian progression by slow internal changes.

The problem, and the disappointment here is that the postulated/supposed origin and development of life elsewhere does not answer, but simply begs the question per se. Earth, comets, interstellar debris, other planets (Hoyle and Wickramasinghe consider the NASA declaration that Mars is lifeless, to be at best based on an artefactual or faulty data) ... the *place* does not seem to matter so much as the *event* and our gallant buccaneers studiously avoid facing *that*.

Instead they point out the absence of a common ancestor, or even a common baseline trunk of the evolutionary tree, which would incorporate the four major disparate lines organisms. They use the viruses of earth as the introducers/switch-ons of genetic novelty to account for the (unaccountable?) events – the jumps, as also the major extinctions (the dinosaurs), the emergence and success of the first land vertebrates, etc. They talk of interstellar clouds and comets full of bacteria, and correlate major evolutionary episodes on earth with the astronomical journey schedules of the

earth through the galactic roundabout. They get so carried away by the immensity of possibilities (*Should* they be right – and that's more apparent to them than to their readers), that they even ascribe the Metazoan existence to extraterrestrial influx. This reviewer was almost led to believe that they would conclude with a vote of confidence to Eric Von Dunikin for seeding odysseys of intelligent primates too, but they probably decided (a little late, though) that enough was enough, and stopped short.

Hoyle and Wickramasinghe's concluding plea for continuance and consummation of the Copernican Revolution in spite of the Judeo-Christian world view/dominance, their brave defiance of the equally well entrenched Darwinian ethos and liberal praise of Eastern philosophy in the shape of Buddhist injunctions for acolyting the Truth, however, deserve unstinted praise. The same may not be true for their (misplaced? overzealous?) advocacy of the extraterrestrial origin of life on earth, but they do raise points, some disturbing and compelling enough to stimulate deep and nouveau thinking on *the* basic questions.

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Ayurvedic Drugs and their Plant Sources. V. V. Sivarajan and Indira Balachandran. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi. 1994. pp. 570. Price not mentioned.

Traditional drugs are the talk of the day in scientific circles as also at National and International levels. Many valuable discoveries made in the past in the field of health care are being lost, due to prejudice by neophils, inadequacy of the people who practice traditional medicine and lack of support for standardization and enrichment of these systems. However, the recent spurt in herbal medicines has thrown the system out of gear. On the one hand the demand for the traditional products has increased phenomenally. On the other, there are not enough knowledgeable people to identify and supply the genuine plants for commercial purposes.