



## ASTROBIOLOGY AND HUMANISM: Conversations on Science, Philosophy and Theology by Julian Chela-Flores, Cambridge Scholars Publishing, 2019

Peter R. Bahn<sup>1</sup>

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Two of the best science conferences that I ever attended were the last two Trieste Conferences on Chemical Evolution and the Origins of Life, in 2001 and 2003, both of which were organized and hosted by Julian Chela-Flores in a superb manner. So I looked forward to a good experience as I read *ASTROBIOLOGY AND HUMANISM: Conversations on Science, Philosophy and Theology*.

The Trieste Conferences on Chemical Evolution and the Origins of Life were initiated in the 1980s at the Trieste International Center for Theoretical Physics by Cyril Ponnampuruma at the behest of Abdus Salam, the Director of the Center, and were continued after Ponnampuruma by Chela-Flores. Every 3 years, in the beautiful ancient Roman port city of Trieste, Chela-Flores managed to attract a stunning, eclectic array of scientists, philosophers, and theologians to discuss the origins-of-life, astrobiology, and their interactions with the humanities since the 1990s.

In 2001, Chela-Flores published *THE NEW SCIENCE OF ASTROBIOLOGY: From Genesis of the Living Cell to Evolution of Intelligent Behavior in the Universe*, Kluwer Academic Publishers, which was an important overview of this new and multidisciplinary field of science.

Chela-Flores' newest book *ASTROBIOLOGY AND HUMANISM*, a sleek hardback of 150 pages at a list price of \$119.95, is an interesting sequel to his earlier books, in that his earlier books were comprehensive and technical whereas the new book is a highly personal philosophical memoir of his voyage from his doctorate in quantum physics at the University of London, through his participation in several influential scientific organizations, to the present time.

For example, Chela-Flores reveals that his mother was a religious believer, that his father was an agnostic mathematician, and that he himself is a believer. Undoubtedly, such religious belief is largely responsible for the ecumenical nature of the Trieste Conferences under Chela-Flores' leadership. Thus, one of the most interesting questions that the author poses is the question of how theology might be affected if life is discovered elsewhere in the Universe.

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✉ Peter R. Bahn  
pbahn@mvn.net

<sup>1</sup> Bahn Biotechnology Company, 10415 E. Boyd Rd., Mt. Vernon, IL 62864, USA

This question becomes even more intriguing when we consider the effects that would occur in theology if intelligent life were discovered elsewhere in the Universe.

In addition to his wide ranging philosophical and theological speculations, Chela-Flores gives us excellent thumbnail sketches of some of the important mentors who influenced his development including: George Coyne, Christian de Duve, Frank Drake, Sidney Fox, Carlo Martini, Stanley Miller, John Oro, Cyril Ponnampereuma, and Abdus Salam. The book is richly illustrated throughout the text and an appendix with photos of these scholars, as well as various attendees at the conferences.

Astrobiology is a unique multidisciplinary science with only one biology in the Universe that we know of so far. However, this new science has only been around since the start of the new millennium, with the modern discovery of a plethora of planets orbiting most stars in Universe. As Julian Chela-Flores says near the end of the book

*The readers should not be disappointed with the difficulty in getting final answers to the question whether we are alone in the universe. They should wait for the technical developments of the foreseeable future.*

With this sentiment I heartily agree. We have really only just begun what could turn out to be a long modern search for extraterrestrial life. Patience is well advised.

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