



2010 Fall Physics Colloquium Series

Denis Alexander, Ph.D.

Director, Faraday Institute for Science and Religion
St Edmunds College, Cambridge

***"Is There an Anthropic Principle
in Biology?"***

This year marks the 40th anniversary of the introduction of the anthropic principle(s) by Brandon Carter at Cambridge University. Since 1970 Carter's ideas have received widespread attention both within and without the academic literature of physics and cosmology. More recently the increasing understanding of evolutionary processes, together with genomics and proteomics, has raised the question as to whether a similar kind of discussion might be fruitful within the biological sciences. One challenge to even raising the question in this context is the disputed notions of 'progress' within evolutionary biology, a discussion that stretches all the way from Jean-Baptiste Lamarck to Stephen Jay Gould and Richard Dawkins. It is suggested that the question posed in the title can be fruitfully discussed independently of the outcome of that discussion. A more useful notion than 'progress' is that of 'constraint', and examples are given of the very tight constraints operating upon the evolutionary process, such that in the interplay between chance and necessity, it is necessity that has the upper hand. In contrast to statements such as: "Evolution is not a process that was designed to produce us" [Daniel Dennett], it is argued that current biological data render that strong claim less plausible. In fact the data are at least reasonably consistent with the opposite being the case. It is therefore suggested that a Very Weak Anthropic Principle might be relevant to current biology.

3:30 p.m., Room E.125, Baylor Sciences Building

Reception at 3:00 pm in BSB D.311

Thursday, October 21, 2010

For More information contact: Dr. Gerald Cleaver x 2283