

CONSCIOUSNESS IN THE UNIVERSE

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So far we can identify at least three concepts within modern cosmology that bring into debate the question of consciousness in the universe: 1) Fine Tuning; 2) The Anthropic Principle and 3) The Multiverse. This does not exclude the question of the role of observer (i.e. consciousness) in cosmology as developed within Quantum Physics: we observe the universe through quanta and any breakthrough in understanding the origin and nature of the universe will come only through a quantum theory of gravity.

Unlike other principles on which General Relativity (and cosmology) is based, so far the only assertion in cosmology that is not quantifiable mathematically nor observationally is the Anthropic Principle, particularly in its 'Strong' version. Yet numerous string theorists, among others, have embraced this principle, in part to escape from the overwhelmingly large array of initial possibilities and outcomes for the observable universe. Does the existence of intelligent life really play a role in cosmology?

However this so called principle requires that any cosmological model can be 'fully' valid only if it explains the emergence of life in the universe, yet it does not tell us how this can be technically done nor does it provide us with any means of introducing an appropriate operational paradigm within cosmology.

It is clear that if the principles of General Relativity provide us with working assumptions and allow us to set up the mathematical framework from which the Friedman-Robertson-Walker cosmological model is derived, the Anthropic Principle remains a qualitative principle that incorporates pieces of information from different fields of science, i.e. namely biology, chemistry and astronomy, and the 'evident' information that life – and particularly consciousness – exists on Earth. In addition, many would argue that the idea of creation by a creator is somehow present in this principle although it is not explicitly expressed or admitted, at least by the cosmologists. This shifts the question of consciousness to another epistemic level.

Are the conscious and spiritual dimensions specific to mankind or are they an emergent 'physical' state or states (or a quality) proper to collective phenomena and well spread throughout the universe? If the former, we must be able to explain what made mankind a specific living being. If the latter, we need to explain whether the dimensions that incorporate consciousness and spirituality are 'already there' embedded in the manifold of space-time-matter-energy or do they emerge as a new 'physical property' as a result, for example, of exchange of information between interacting particles (such as a Many-body system) moving in a specific space-time configuration with a specific vacuum-energy?

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