

ANTHROPIC REASONING IN CONTEMPORARY COSMOLOGY

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Abstract. *Contemporary cosmology tries to explain the apparently „fine-tuning” of the universe by using an „Anthropic Principle”. According to this, we have to accept as a fact that our location in the universe is necessarily privileged to the extent of being compatible with our own existence as observers. However this idea seems to overrule the very spirit of the „Copernican revolution”, which was considered to be the turning point towards modern science. The article examines some possible logico-methodological and epistemological consequences of accepting the anthropic reasoning in today's science.*

Keywords: Cosmology, Copernican principle, Anthropic principle, Methodology.

1. Introduction

Contemporary cosmology was badly shaken up by the discovery of certain „large number coincidences”, a set of surprising relations between some natural constants and initial cosmological conditions which were taken as existing in the earliest evolution stages of the visible universe. These relations were sometimes seen as a set of „anthropic coincidences”, and this means they could pretend the status of an irrefutable empirical evidence that from its very beginning our universe is more or less „fine-tuned” for the evolution of intelligent life. While some physicists consider that this apparent fine-tuning should be taken as it is, as a simple fact lacking any special scientific significance, other physicists as well as many philosophers hold that it insistently cries out for an explanation. Discounting any sheer luck and putting aside the old purposeful design argument, the most convincing explanation of this unexpected „bio-philia” of our visible universe seems to be the „multiverse” hypothesis. According to this, „the Universe” we are usually seeing and talking about is, actually, only one singular piece of a vast ensemble containing a lot of cosmic regions or distinct „universes”, each possessing its own laws and specific conditions. Accordingly, the reason why we observe such a favourable to life universe is that we just couldn't observe an universe which would be unfavourable to life – to human life, in our specific case: „If the Universe and its laws could have been otherwise, then one explanation for why they are as they are might be that we (the observers) have selected it from a large ensemble of alternatives”.^[1] So the living beings, humans or whatever form of intelligent life, are constantly suffering from the influence of an inescapable observational selection effect.

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