

# **Review of Intelligence or Chaos**

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We had the rich intellectual pleasure of reading *Intelligence or Chaos* in our Science and Religion seminar at Rutgers this semester. The book makes three welcome and important contributions to the Intelligent Design/Fine Tuning arguments of theistic scientists and philosophers. The first is less of a new contribution than an organized exposition of existing material: Keilman does an excellent job laying out the essential parameters of the fine-tuning position. Despite the dominance of philosophical naturalism (physicalism/materialism) in American academic institutions over the last few decades, the alternative position - that the statistical probability of the universe coming about by random, non-teleological forces and principles is unrealistically implausible - is gaining traction in both the fields of science, and philosophy. The data for this discussion, of course, comes from all the various fields of science, but Keilman carefully, coherently and accessibly organizes the source material, traces out the histories and positions of the main voices in the discussion, and presents clearly the statistical probabilities, or rather improbabilities bordering on absurdities, of unguided creation.

Fine-tuning, of course, is an extension of the God of natural theology, which has been a central feature in both western and Indian theistic assumptions for millennia. But the rapidly increasing advances of science on both micro and macro levels of reality in our day and age reveal an ever more complex and marvelous universe that simply defies naturalistic explanations and faith commitments. While there are books by theistic scientists dealing with aspects of the data,

*Intelligence or Chaos* marshals all the primary evidence in an extremely user-friendly, but intellectually responsible and thorough way. This alone makes it a worthy addition to the existing literature, some of which can be technically challenging to the layman, on the one hand, or scientifically ungrounded or dilettantish, on the other. Keilman's work is thus a very useful exposition of this growing body of discontent with physicalist belief presuppositions.

Where the book makes new conceptual contributions is in introducing two metaphysical lenses fundamental to Vedānta. Most Vedānta traditions espouse a *bheda-abheda*, 'difference in non-difference,' philosophy, which Keilman applies to the nature of reality as construed by physics. The unified binaries of space-time; particle-wave; energy-mass, etc. reflect nothing other than *bheda-abheda* principles. This observation creates a discrete metaphysical (rather than religious) linkage to Vedānta ways of thinking. The other significant bridge Keilman makes to Vedantic thought is in the Vedānta/Sāṃkhya *satkaryavāda*, 'cause-effect' model of ontology. This position holds that all effects must originate from their causes, and thus must originally be latent within them. Thus, if we are to reject magical thinking - that things can manifest from nothing - all complexity in the universe must spring from latent complexity in the cause. This alone undermines any simplistic talk that the ultimate cause of reality - the original singularity of a pre-Big Bang point moment - must be simple (as heralded repeatedly by e.g. Dawkins as the defining basis of his atheism). Whether that ultimate cause is intelligent or just the non-conscious nature of things (*cit - acit* in Vedanta language) has always been a perennial matter of disagreement between philosophers East and West. But, be that as it may, *satkaryavāda* logic requires that the primeval causal entity certainly cannot be simple; on the contrary it must contain in some latent sort of way the complexity that subsequently emerges as our universe. It is to his credit that

Keilman has directed our attention to what may seem obvious once pointed out, but this observation is one of the most important contributions of his work.

Neither *bheda-abheda*, nor *satkāryavāda* irrefutably prove an Intelligence causality behind the universe - indeed, there were non-theistic Samkhya schools whose metaphysics were based on these principles. But they certainly add important ways of looking at the evidence. *Intelligence or Chaos* thus creates an elegant bridge between the findings of modern physics and basic Vedānta principles. Present day scientists can sometimes be *a priori* belittling of any metaphysical lens outside their own field - unlike some of the founding fathers of Quantum theory, one might note, who took Indian philosophy seriously. And there is an annoying inclination by some non-theistic scientists of resorting to casting aspersions of closeted Christian dispositions at colleagues who simply cannot bow to naturalist faith commitments. But such *ad hominem* tactics in fact reflect a naturalist paradigm under pressure, which Keilman's work will only augment.

At the very least, Keilman introduces novel Vedānta principles into the Anthropic conversation, and this can only enrich and broaden the discussion. *Intelligence or Chaos* is a most welcome contribution to the Intelligent Design debate, and a resource we will be using in our Science and Religion seminar for the foreseeable future.

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