

*Der Alte mit dem Würfel. Ein Beitrag zur Metaphysik der Quantenmechanik* (Does God Cheat at Dice? On the Metaphysics of Quantum Mechanics). Vandenhoeck & Ruprecht, Göttingen 2011, 223 pp.

The explicit aim of this study – which was accepted in 2010 as a theological dissertation at Munich University – is to revise Einstein's well-known statement that quantum mechanics does not have any metaphysical or theological relevance. Thus, the author wants to clarify the relationship between metaphysics and physics and contribute to the dialogue between theology and science. She is aware of the rather unusual proportion of physics and theology which would lead some reader to not classify this book as a theological one – indeed, I am rather inclined to classify it as a study in science and philosophy of religion.

Ijjas begins her study with an introduction into the problem – the very different (philosophical or metaphysical) issues quantum mechanics was used for to address – and the method used by her which is based on the distinction between theory and interpretation. Following this method, she explains the basics of the physical theory of quantum mechanics (which is the deformation of the theory). This allows her to deal with the reformulations (or first-order-interpretations), namely the so-called Copenhagen formulation (whereby she points out the differences between Heisenberg and Bohr) and alternatives like the mechanism of decoherence and the many-worlds-theory. On this basis, she turns to philosophical second-order-interpretations, addressing the issues of realism or antirealism and of determinism or indeterminism. She shows that it is still possible to opt for a metaphysical realism and for an indeterminism, which provides the basis for discussing anthropological and theological consequences. Concerning the mind-brain-debate and the question of free will, she stresses the importance of a quantum mechanical analysis of consciousness and the relevance of quantum indeterminism. Finally, while quantum physics can further be used to argue for free will defence in theodicy and a combination of theism and evolution theory, it is not possible to refer to quantum physics for establishing a non-interventionist model of divine action.

Since Ijjas wanted to keep her study as concise and as restricted to her topic as possible, this study contains some passages where it would have been helpful or interesting to discuss some positions or debates more detailed. But it is nevertheless a well-discussed and highly interesting contribution to the dialogue between metaphysics/theology and science.

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