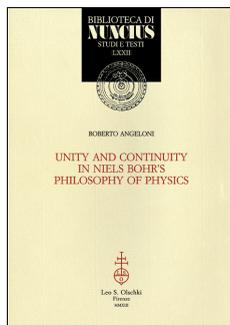


ROBERTO ANGELONI

UNITY AND CONTINUITY IN NIELS BOHR'S PHILOSOPHY OF PHYSICS

The Popperian notion of metaphysical scientific programmes was full of consequences for the long-standing debate between internalism and externalism in the history of science. In spite of the fortune of Popper's locution, metaphysics was confined on the periphery of science, so that historians and philosophers never came to appreciate how science needs metaphysics. This monograph on Niels Bohr is more than a study on the foundations of Bohr's philosophy of physics. The author wants to show that a complex philosophical background that we can trace back to



eighteenth-century philosophy and post-Kantian German Idealism inspired Bohr's visionary approach to Quantum Physics. The volume offers plentiful historical evidence of the interconnection between the history of philosophy and Bohr's cultural background that the author reconstructed by means of primary sources from Bohr's personal and scientific correspondence. Moreover, the author also succeeded in demonstrating that the thematic concepts of unity and continuity actually characterize the 'rational' development of Bohr's scientific research programme.

Quale rapporto intercorre tra scienza e metafisica? Quale importanza hanno il vissuto e la formazione dello scienziato sulle sue scoperte? Sono questi i quesiti da cui muove l'autore per fare luce su alcuni degli aspetti concettuali più controversi dell'interpretazione della Meccanica Quantistica di Niels Bohr. L'autore si cimenta nel non facile tentativo di tracciare il percorso creativo compiuto dallo scienziato danese, attraverso un'approfondita analisi epistemologica e una minuziosa ricostruzione storiografica.

ROBERTO ANGELONI was awarded the doctorate in History, Philosophy and Pedagogy of the Sciences at the University of Cagliari after graduating in Philosophy at Bologna. His research interest lies primarily in the early quantum theory, the foundational problems arising from the elaboration of Bohr's research programme since 1913, and the advent of wave and matrix mechanics. Angeloni also carried on research and teaching in the history and philosophy of biological sciences, in particular Charles Darwin and the debate on evolutionism. As a lecturer, he taught History of Science at the University of Cagliari, where he has completed a two-year post-doctoral programme.

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