

Profile of a Polymath

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A Life of Erwin Schrödinger
Walter Moore
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Among the many geniuses who carried physics through the quantum revolution, none possessed a more complex personality than Erwin Schrödinger. He was truly also a polymath – “one who knows many arts and sciences.” His greatest achievement, the discovery of wave mechanics in 1925–26, occurred, as Weyl said, “during a late erotic outburst in his life.” Considering that he was then 38 years old, an age at which, generally, theoretical physicists of such calibre are past their prime, we see the truth in Feynman’s assessment that “Schrödinger rose to the occasion in meeting the challenge of developing his version of quantum mechanics.”

Walter Moore’s *Schrödinger: Life and Thought*, published in 1989, was soon recognised as a deftly handled portrait of an extraordinarily gifted, yet complex genius. His *A Life of Erwin Schrödinger* is an abridged version, retaining all the charm and readability of the original.

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Erwin Schrödinger was born into a relatively affluent family in Vienna in 1887. Being an only child, and in an environment of doting aunts and nurses, he grew up with definite attitudes towards women and a need for attention. His feelings about formal religion and morality were formed early, in a Vienna with rich cultural, literary and scientific traditions and yet a brittle brilliance. He became the finest product of the Viennese school, with a deep feeling for statistical principles, and a taste for elegance in scientific work.

Schrödinger’s reading of Schopenhauer brought him very early in touch with the Upanishads and Vedantic philosophy; at one stage he seriously considered making philosophy rather than physics his vocation. He saw active duty during World War I. His early scientific work was shaped by the interests of the Vienna school which, in spite of the legacy of Boltzmann, was somewhat away from the mainstream.

Throughout his career, Schrödinger moved continuously from one university to another – first the game of musical chairs among German universities, then longer stays at Zurich and Berlin. His longest tenure, from 1939 to 1956, was in Dublin. It was at Zurich that he caught up with current developments and, at a resort in the company of a Viennese girlfriend, rather like “the dark lady of the sonnets,” created wave mechanics. No other work of his came near the magnitude of this one. His own contribution to the inter-

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pretation of quantum mechanics consisted largely of a critique of the conventional Bohr-Heisenberg view. In 1933 he shared the physics Nobel Prize with Dirac. As a rule he dealt only with basic issues and avoided applications, and did not collaborate much with others.

Women – indeed, many of them – played an important role throughout Schrödinger's life. His condescending, male supremacist attitude towards them may have been the result of early unrequited love. His marriage to Anne-Marie Bertel in 1920 soon became a mutually agreed cover for affairs on both sides. His own, all passionate and most of them brief, even included one with the wife of an obliging junior colleague.

He had no regard for conventional social norms or morality, and on occasion displayed not a little conceit. His yearning for a son was never fulfilled, and each of his three daughters was born of a different affair.

All this contrasts sharply with his Vedantic

world view and his deep belief in the unity of minds and consciousness. In some ways this philosophical stance, reinforced by his own wave mechanics, influenced his attitude to science in general. Yet his intellectual pursuits remained so, a world apart from his romantic affairs and unintegrated with actions and relationships. His eloquence and command of language, the persuasive quality of his writing and the ability to distil the essence of a subject into a few pages, remain unsurpassed. His range of interests, revealed in his writings – *Nature and the Greeks, My View of the World, Space Time Structure, Mind and Matter, What is Life?, Statistical Thermodynamics*, among others – each one a jewel of exposition, is astonishing.

Moore treads a delicate path, and combines tact, sympathy and honesty in his account. His delineation of Schrödinger's philosophical views is accurate and a pleasure to read. In assessing and reacting to this unique personality, a good guide is Max Born's statement: "His private life seemed strange to bourgeois people like ourselves. But all this does not matter. He was a most lovable person, independent, amusing, temperamental, kind and generous, and he had a most perfect and efficient brain". And the biblical injunction: "Judge not, that ye be not judged."

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