



## Richard Noakes, *Physics and Psychics: The Occult and the Sciences in Modern Britain*

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Over several decades spanning the end of the nineteenth century and the beginning of the twentieth, a remarkable number of prominent physicists took up the investigation of psychical and occult phenomena. This was especially true in Britain, where William Crookes, J.W. Strutt (the third Lord Rayleigh), Oliver Lodge and J.J. Thomson were only among the most famous of the many scientists who pursued both 'physics' and 'psychics', often in association with the Society for Psychical Research, founded in 1882. There is already a large though rather scattered literature on various aspects of the interaction between science and the occult in this period, but Richard Noakes's book is the first to give a comprehensive account of this intriguing and revealing topic. Deeply researched and persuasively argued, *Physics and Psychics* sheds valuable light on some of the most important questions concerning science and its borderlands in the years between 1870 and 1930.

Noakes makes it clear that he is not arguing either for or against the reality of such things as telepathy, telekinesis or communication with the dead, and he is careful to avoid such loaded terms as 'pseudoscience'. His aim, he says, is instead to examine how and why, in the decades around 1900, so many British physicists became convinced that psychical phenomena were worth exploring and chose to devote their time and energy to the subject, sometimes in the face of derision from their more orthodox colleagues.

One of the most interesting questions Noakes takes up is why so many British physicists – and, significantly, several leading telegraph engineers – believed they were especially well qualified to investigate psychical and occult phenomena. Not everyone agreed. In particular, many psychologists held that the phenomena in question were essentially mental, not physical, and so should properly fall to them rather than to physicists. A number of stage magicians, on the other hand, said it was all a matter of trickery anyway and that physicists, unaccustomed as they were to dealing with deliberate deception, were altogether too trusting to see through it. Many scientists regarded the whole subject as simply not worth their time, and while some spiritualists were open to the scientific study of occult phenomena, many others objected that the physicists' demand for controlled experimental conditions undercut the supportive atmosphere required for the spirits to manifest themselves.

Given all of this, why were so many British physicists and telegraph engineers convinced not just that occult phenomena ought to be investigated, but also that they were just the ones to tackle the job? Noakes identifies a combination of factors. One was the physicists' and engineers' belief that their mastery of a range of experimental apparatus and techniques uniquely equipped them both to detect subtle effects and to expose possible fraud, as in C.F. Varley's use of sensitive telegraph instruments in his 1874 'electrical test' of the medium Florence Cook. A second factor was their experience with technologies and physical phenomena, such as electric telegraphs and

electromagnetic waves, that not long before would have been regarded as almost magical. Perhaps, some of them thought, such seemingly supernatural phenomena as telepathy could similarly be explained in purely physical terms and so brought within the bounds of the scientifically explicable. And lastly, some of the most prominent 'psychical' physicists, notably Oliver Lodge, believed that the all-pervading ether, so central to much of physics at the time, had the potential not just to account for electromagnetic forces and the structure of matter, but also to serve as the basis for psychical phenomena and even to allow for the survival of bodily death. The upshot was that for several decades a significant subset of the British physics community felt called upon to take an active and even leading part in investigations of psychical phenomena and so to try to bridge the gap between science and the occult.

Noakes takes up many other aspects of the relationship between physics and psychical phenomena in this period, including the part psychical research played in efforts to reconcile science and religion, the central and sometimes controversial role women played as spiritual mediums, the development and use of 'tricky instruments' to detect both physical and psychical effects, and the debates about proper experimental method and the nature of acceptable scientific evidence that psychical investigations engendered. He also lays out tensions within the Society for Psychical Research and between it and less scientifically oriented spiritualist groups. There are many threads to the complex story of physics and psychics in this period and Noakes has to work hard at times to keep them all straight. He succeeds admirably, however, and has given us the clearest and fullest account yet of a subject whose ramifications extend to the very edge of science, and perhaps beyond.

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**Aileen Fyfe, Noah Moxham, Julie McDougal-Waters and Camilla Mørk Røstvik, *A History of Scientific Journals: Publishing at the Royal Society, 1665–2015***

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This is a weighty volume that deals with a substantial subject. It will be of value to a broad range of historians of science, all the more so because it is available in open access as a fully searchable PDF file – covers, pagination, illustrations, links to supplementary material (discussed below) and all – and for this the authors, contributing funders (University of St Andrews), publishers (UCL Press), main contributors (the Royal Society) and all others involved are to be highly commended. This work performs considerable service to the history of science. This review is of the hardcover version, although I shall make some comparisons below with its electronic form.

The title of the book may, for those who are strict in such things, mislead. Even the subtitle, while more precise, may not adequately prepare the reader for the history of