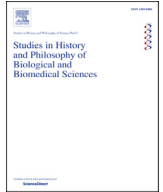




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Haunted thoughts of the careful experimentalist: Psychical research and the troubles of experimental physics

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ABSTRACT

This paper analyses the relationship between the 'elusive' science of psychical research and experimental physics in the period approximately, 1870–1930. Most studies of the relationship between psychical research and the established sciences have examined the ways in which psychical researchers used theories in the established sciences to give greater plausibility to their interpretations of such puzzling phenomena as telepathy, telekinesis and ectoplasm. A smaller literature has examined the use of laboratory instruments to produce scientific evidence for these phenomena. This paper argues that the cultures of experiment in the established science of physics could matter to psychical research in a different way: it suggests that experience of capricious effects, recalcitrant instruments and other problems of the physical laboratory made British physicists especially sympathetic towards the difficulties of the spiritualistic séance and other sites of psychical enquiry. In the wake of widely-reported claims that the mediums they had investigated had been exposed as frauds, these scientific practitioners were eventually persuaded by the merits of an older argument that human psychic subjects could not be treated like laboratory hardware. However, well into the twentieth century, they maintained that experimental physics had important lessons for psychical researchers.

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1. Introduction

The relationships between psychical research and the established sciences have been disputed ever since the controversial field of enquiry was put together in the early 1880s (Bensaude-Vincent & Blondel, 2002; Brower, 2010; Coon, 1992; Gauld, 1992; Mauskopf & McVaugh, 1980; Sommer, 2012, 2013; Wolfram, 2009). The perceived relevance of psychical research to different scientific disciplines was powerfully illustrated by the membership of the earliest psychical research organisations—notably, the British and American branches of the Society for Psychical Research and the French Institut Générale Psychologique—which included many distinguished psychologists, physicists, chemists and biologists. One of the reasons why psychical research appealed to different kinds of scientific practitioner was because the psycho-

physical phenomena defining the field of enquiry appeared to be relevant to, and promise new ways of extending, different sciences. The phenomena included those most relevant to psychology (telepathy, hallucinations and automatism), to physics (telekinesis and various optical, acoustical, electrical and thermal effects), and to physiology (materialised spirits, ectoplasm and externalised vital forces). But the complexity of psychical phenomena caused at least as much difficulty as excitement for scientific practitioners: many of them appeared to defy widely-held conceptions of space, time and matter and, as spectacularly suggested by those effects ascribed to spirits of the dead, directly linked secularising scientific enquiries to profound metaphysical and religious questions. These latter problems fuelled the far larger controversy about psychical research's scientific status. Its methods were drawn from a host of intellectual enterprises including historical criticism, jurisprudence, medicine, physics, and the new sciences of psychology, but for many late nineteenth and early twentieth century scientists, these neither ruled out fraud, self-deception and other major

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sources of experimental error, nor seemed to give repeatable results under acceptable conditions. These were among the reasons commonly given for the perceived indifference or hostility of 'official science' towards the subject (Anonymous, 1926a; Murchison, 1927). Mauskopf and McVaugh (1980) showed that even by the 1930s, when some psychical researchers had strategically redefined their field of study 'parapsychology' and enjoyed modest recognition by professional psychologists, these methodological problems remained and left psychical research an 'elusive science'.

Much historical analysis of the relationship between psychical research and the established sciences has focused on the ways in which theories and ideas in psychology, biology, and physics flowed to and, occasionally, from psychical research: this literature shows how, in the nineteenth and twentieth centuries, psychical research was shaped by and sometimes helped shape psychological and psychiatric theories of mental dissociation and the unconscious; how conceptions of electricity, energy and ether offered possible physical explanations of telepathy, telekinesis and disembodied souls; and how ectoplasm and evidence of mind independent of body extended biological theorising about protoplasm and 'guided' evolution respectively.¹ However, since the 1990s, historians have turned increasingly to the procedural aspects of psychical research and shown how expertise and instruments from such fields as experimental psychology, electrical engineering and physics were used in a bid to achieve greater control over the notoriously capricious effects and to reduce the possibility of fraud and observational error (Blondel, 2002; Bordogna, 2008, pp. 91–136; Brower, 2010, pp. 45–74; Chéroux, 2005; Noakes, 1999, 2002; Wolfram, 2009, pp. 131–189). All of these studies emphasise how difficult it was for psychical research to secure the credibility of séance spaces transformed into laboratories. These hybrid spaces needed to create the conditions that would persuade scientific critics that fraud and experimental error had been eliminated but these conditions often conflicted with those that the chief instruments of research—the mediums—insisted were required for producing the effects under investigation.

Continuing this focus on the procedural aspects of psychical research, this paper argues that psychical research prompted many nineteenth and twentieth century physicists to reflect critically on practices commonly used in the fields with which they were professionally associated. Indeed, their tolerance of the practical problems in psychical research owed much to what they perceived to be comparable issues in an established scientific field. Their explicit comparisons of psychical research to experimental physics were not merely rhetorical strategies designed to give scientific credibility to psychical research: they reflected a genuine conviction that these apparently divergent areas of enquiry shared many experimental problems and might share solutions. The focus on British physicists arises principally from the fact that, more than most professional scientists involved in psychical research in the decades around 1900, they volunteered some of the most illuminating insights into the shared problems of experiment in established and psychical sciences. It is not surprising that the same

individuals feature in much recent work on the problems of experimental practice in nineteenth century sciences. They were among those who, in their pursuit of accurate measurement and the stabilisation of novel, transient and unruly effects, went to extraordinary lengths to avoid, measure and investigate environmental disturbances, and to master recalcitrant apparatus (Dörries, 1994; Gooday, 1997, 2004; Morus, 2010; Ramalingam, 2010; Schaffer, 1992, 1995, 2012). Schmidgen (2003) has shown that similar problems were faced by late nineteenth and early twentieth century experimental psychologists who transformed their laboratories to reduce the auditory and other disturbances made by the very instruments used to measure reaction times of the psychological subjects using the instruments. These psychologists included figures such as Hugo Münsterberg who, as Coon (1992) and Lamont (2013) have argued, defined the emergent science of psychology in opposition to psychical research. But while experimental psychologists believed their use of instruments and techniques of experimental physics helped them make clear distinctions between 'scientific' psychology and the 'unscientific' approaches of psychical researchers, the physicists analysed here believed some aspects of experimental physics blurred this distinction.

2. The methodological problems of psychical research

In 1884 the British psychologist and co-founder of the Society for Psychical Research (hereafter SPR) Edmund Gurney explained that the way in which psychical researchers arrived at truths

has often no relation at all to the ordinary rules of experimental procedure; and the right attitude to new facts depends here on something which is both more and less than laboratory and hospital experiences. The method is wider but less precise, more various but less technical; and the application of it demands disengagedness rather than any specialised aptitude (Gurney, 1884, p. 472).

He was not the only early proponent of psychical research who held that the methods of the nascent field of enquiry could be legitimately regarded as scientific, but that they drew only incidentally on examples from established scientific fields such as psychology, psychiatry, physics and physiology.² The SPR's approaches to the abnormal psychological states of spiritualist mediums and mesmerised individuals borrowed directly from those used to study hypnosis at the Salpêtrière Hospital in Paris and the Medical School in Nancy (Gurney, Myers, & Podmore, 1886). Likewise, some of the most widely-cited studies of the capacity of mediums to move objects at a distance exploited the techniques and instruments in experimental physics for detecting and measuring subtle physical forces.³ But so much else in psychical research relied on skills not associated with medicine and the physical sciences: increasingly, from the 1880s leading SPR members held that the expertise of a conjuror was at least as important as someone trained in the sciences to establish whether mediums played tricks, and agreed that evidence for a telepathic faculty depended on the careful staging of card-guessing experiments and the critical analysis of written and oral testimony of people whose apparent experience of apparitions coincided closely with the times of the death or crisis of the persons represented in the ghostly manifestations. It was precisely because telepathy proved to be the least controversial of all the SPR's claims that by the early twentieth century some SPR members would have agreed with the French philosopher Henri Bergson who defined the

¹ On the relationship between psychical research and psychological sciences see Bensaude-Vincent & Blondel (2002), Crabtree (1993), Gauld (1992), Gyimesi (2012), Hacking (1984), Hayward (2007), Le Maléfian (1999), Lamont (2013), Koutstall (2004), Lachapelle (2011), Plas (2000), Sommer (2012, 2013), Takasuna (2012), Valentine (2012) and Brancaccio's (contribution to this issue). For biology see Bowler (2001, pp. 181–184), Brain (2013), Kottler (1974), Smith (2008), Turner (1974, pp. 68–103) and Marazia & de Sio's (contribution to this issue). For physics see Collins & Pinch (1982), Kaiser (2011, pp. 65–95), Noakes (2004a, 2005, 2008), Oppenheim (1985, pp. 326–390), Raia (2007), Stauber (2001) and Wilson (1971).

² See, for example, Sidgwick (1882–3, pp. 246–247).

³ For example, Crookes (1874a) and Zöllner (1880).

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