



Japanese scientists clung to the objectivity paradigm far longer than did their American colleagues, discounting cultural factors and privileging quantitative data even as their nation moved in the direction of a more emotional reckoning with the atomic legacy. Although PTSD entered the Euro-American psychological lexicon thirty-five years after the bombs fell, as late as 2009 the condition had still not yet found legitimacy as a stand-alone diagnosis for *hibakusha*.

For sources, *Nuclear Minds* draws primarily on the records of the USSBS, the ABCC, and other researchers who studied the aftermath of the bombing. Unfortunately, as Zwigenberg notes, medical case files and other documentation in the voices of survivors is currently off limits or lacking. Despite this acknowledged limitation, within the vast scholarship on the atomic bombs the book stands out for its highly original depiction of Hiroshima and Nagasaki as ‘ground zero’ for the articulation of the concept of trauma, which is applied so widely today. Historians of Japan, medicine and science and technology studies are likely to find it an enlightening and even moving read.

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Efran Sera-Shriar, *Psychic Investigators: Anthropology, Modern Spiritualism, and Credible Witnessing in the Late Victorian Age*

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Sera-Shriar has made an important contribution to the intertwined history of Victorian anthropology and the ‘golden age’ of modern spiritualism between 1865 and 1917. The author draws from the perspective of micro-history to both provide a more balanced functionalist historical narrative (focusing on what scientists actually do, instead of on models and theories in science), and speak to large issues, although addressing small case studies. Sera-Shriar selected four anthropologists as key case studies, representing the broadest range of different convictions about spiritualism and psychic research, including ‘The believer’ (chapter 1), ‘The sceptic’ (Chapter 2), ‘The revisionist’ (Chapter 3) and ‘The disbeliever’ (Chapter 4), and analysed their key texts, respectively Alfred Russel Wallace’s (1823–1913) *Miracles and Modern Spiritualism* (1875), Edward Burnett Tylor’s (1832–1917) notebook written in London in November 1872, Andrew Lang’s (1844–1912) *Cock Lane and Common Sense* (1894) and Edward Clodd’s (1840–1930) *The Question: A Brief History and Examination of Modern Spiritualism* (1917).

At the core of the book’s argument is the question of how to evaluate what count as parameters for the reliability of sources and the credibility of witnesses. The author approaches this question by extending conceptual frameworks from other authors, such as Daniela Bleichmar’s ‘visual epistemologies’, and Lorraine Daston and Peter Galison’s ‘collective empiricism’ and ‘epistemic virtues’. As a consequence, unlike most of the

literature on Victorian spiritualism and psychic research, Sera-Shriar's book innovates by convincingly drawing the reader's attention to the 'crisis of evidence' underlying these Victorian discussions, rather than only a 'crisis of faith' (although this was also undeniably important). Moreover, by revealing the engagement of Victorian anthropology with spiritualism, Sera-Shriar disputes the predominant contention that the investigations of these early pioneers of anthropology consisted mainly of armchair research. The séances, for instance, became fieldwork for theorists such as E.B. Tylor and motivated his theory of animism, a central theory of concern to all these authors that could (or could not) be questioned by psychic research. Sera-Shriar also contributes to reviving almost-forgotten authors, such as Andrew Lang and Edward Clodd.

Wallace (well known as a naturalist) had a double interest in spiritualism and anthropology and believed that humans were composed of a perishable material body and an immortal spiritual body (each of them following their own laws of evolution), a belief that combined Darwinian evolution, progressivism and spiritualism. In order to provide a possible explanation for psychic research, Wallace considered the anthropological method to be the best research programme to achieve this goal, including elements of historicism, evolutionism and the Baconian method of induction applied to experiential knowledge based on directly observable 'facts'. Wallace's *Miracles* discerns six parameters for evaluating credible witnessing in his spirit investigations (p. 32). Wallace relied on some pre-eminent spirit investigators of the time, such as Robert Owen (1801–77), Robert Chambers (1802–71) and Sir David Brewster (1781–1868), and trusted in some well-known mediums in his own investigation, such as Daniel Dunglas Home (1833–86) and Agnes Elisabeth Guppy (1838–1917). Wallace also had to rule out other explanations as insufficient, such as Michael Faraday's 'unconscious muscular action' and William B. Carpenter's 'ideomotor responses'.

Tylor's *Primitive Culture* (1871) established a new theory of the origin of all religious belief systems; that is, his animistic theory. Tylor took it for granted at first that spiritualism was the survival of the same 'primitive beliefs'. However, as the literature on spiritualism kept growing over the years, he decided to do a first-hand observation of the phenomena in London in November 1872. Sera-Shriar made use of the notes taken by Tylor during this period to uncover the mediums whom Tylor investigated and the conclusions he reached after his investigations. He investigated, for instance, mediums such as Home (whom he saw as a trickster), Mrs Olive (whom he considered to be suffering from hysteria), Caroline Bassett (whom he took as a complete swindler) and Kate Fox (whom he considered to be suffering from psychosis). In the end, after his own open-minded investigation on spiritualism, Tylor kept his animistic theory intact.

Lang was said to be 'to Prof. Tylor what Huxley was to Darwin' (p. 83); that is, a popularizer. However, Lang named four possible explanations for purportedly paranormal phenomena, including three naturalistic explanations that could easily explain away these phenomena and a fourth explanation that would reveal an internal groundwork of fact in these phenomena to be discovered. Consequently, Lang found four causes for these unusual 'ghost' accounts: superstition, hallucination, fraud and telepathy (the latter being the only cause that separates Lang's version of animism from standard Tylorian ones). Thus Lang was not only a popularizer of Tylor's theory of animism, but above all a revisionist. 'Lang was to Tylor what Wallace was to Darwin' (p. 85), as Sera-Shriar suggests, rephrasing the quote opening this paragraph.

Clodd, who came from a theistic upbringing, was highly influenced, as he grew older, by Darwin's *Origins of Species*, Robert Bunsen and Gustav Kirchhoff's paper on spectroscopy, major works in biblical criticism and Tylor's *Primitive Culture*. Adhering to animism theory in the early 1890s, he became a hardline critic of religion, disdaining both spiritualism and psychical research. Clodd was chair of the Rational Press

Association between 1906 and 1913 and a council member of the Secular Education League in 1907. Clodd's *The Question* (1917) was followed by two lectures on the subject at the Royal Institution in 1921. Clodd doubted the sources and exposed frauds in *The Question*. Furthermore, he questioned the spirit hypothesis by explaining it either by 'fallacies' (in the case of 'normal minds') or by 'delusions and illusions' (in the case of 'abnormal minds').

I highly recommend Sera-Shriar's book to a wider public in the history of science, since his work has proved useful to people outside the field of the history of Victorian anthropology, modern spiritualism and psychic research.

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