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Anne Stiles, *Popular Fiction and Brain Science in the Late Nineteenth Century* (Cambridge: Cambridge University Press, 2012), 255 p, ISBN 978-1-107-01001-7

- 1 Late-Victorian Gothic romances often dealt with allusions and references to neurology, and even featured mad scientists experimenting on patients and turning them into automata they could control like expert puppet-masters. The connections between late-Victorian popular literature and neurological research were, indeed, strong, as Anne Stiles's *Popular Fiction and Brain Science in the Late Nineteenth Century* makes explicit. Gothic romances, such as those by Robert Louis Stevenson, Bram Stoker or H.G. Wells, were much more informed about neurological theories than many realistic writers of the time, and exploited fears related to cerebral localization experiments. Their works, moreover, as Stiles suggests, offered a new vision of late-Victorian neurology, frequently undermining the objectivity of the scientist and exploring the implications of neurological research.
- 2 Indeed, the 1860s and 1870s saw a development of neurological experiments, as those of John Hughlings Jackson (1835–1911) in England, Paul Broca (1824–1880) in France, Gustav Fritsch (1837–1927) and Eduard Hitzig (1838–1907) in Germany, or those conducted by the celebrated neurologist David Ferrier (1843–1928) whose dissection of a live monkey at the International Medical Conference in London in 1881 was followed by his trial (and acquittal). The experiments were widely reported by the popular press and informed the literature of the period, which showed a fascination for boundaries and their transgression and which even, as Stiles contends, may have “influenced the direction of future neurological research” (1). If Jackson and Broca mainly relied upon autopsies and clinical case studies, the rise of experimental surgeries on laboratory

animals in the 1870s gave rise to heated public debates which were related by the popular press and popular literature. However, the results that Ferrier extrapolated from his animal experiments enabled him to produce cortical maps whose therapeutic applications were immense: they helped surgeons locate brain tumors and haemorrhages without surgery. Still, the implications of such research, in particular the issue of biological determinism or the question of the will or the soul resonated in late-Victorian popular fiction which increasingly explored the boundaries of the self, the relations between the human and the divine, between humans and animals or humans and machines.

- 3 Chapter 1, on Stevenson's *The Strange Case of Dr. Jekyll and Mr Hyde* (1886), contends that Stevenson's novella may have been inspired by medical literature, in particular two famous French case studies of dual personality—in spite of Stevenson's denial of his use of medical theories or case studies as models. Stiles argues that Stevenson may, in fact, have used two articles by the journalist and science populariser Richard Proctor (1837–1888) published in the *Cornhill Magazine* (“Have We Two Brains?” (1875) and “Dual Consciousness” (1877)), Stevenson being a contributor to the magazine at the time. The connections between the novella and the rhetorical conventions of scientific prose—the novella appearing as a parody of medical literature—enable Stevenson to undermine the “linearity and emotional detachment of medical case studies” (30). Proctor's articles deal with the issue of brain duality, which was highly controversial in the early debates about cerebral localization, and cites extensively the key figures involved in the debate. Franz Joseph Gall (1758–1828) had first claimed that man had two brains (one being the symmetrical duplicate of the other), suggesting that each hemisphere could generate a soul, and his ideas were furthered by Henry Holland, Arthur Ladbroke Wigan (1785–1847) in the 1840s and Charles-Edouard Brown-Séquard (1817–1894) in the 1870s. The cerebral localization research that developed in the 1860s and 1870s (led by Paul Broca, J.H. Jackson and D. Ferrier) confirmed hemispheric functioning, even if their theories also tended to prove beliefs and conclusions more than produce new theories, especially as concerns race, gender and class prejudices. Stevenson's *Jeekyll*, with his left-brain dominance, or *Hyde*'s matching right-brain associations with savagery, animality and madness, highlights Stevenson's knowledge of contemporary medical stereotypes. However, the novella turns the doctor into the patient, his split personality undermining the objectivity of the medical case.
- 4 In Chapter 2, on Bram Stoker's *Dracula* (1897), Stiles focuses on the novel's concern with the disappearance of the soul and its implications, relating the issue of the soul to the development of physiological psychology and the rise of cerebral localization experiments. Physiological psychology transformed, indeed, the discourse of the soul into a discourse of the brain, especially in the 1870s. The appearance of the theory of human automatism (notably developed by T. H. Huxley (1825–1895), William Kingdon Clifford (1845–1879), Shadworth Hodgson (1832–1912)), turned ideas and emotions into reflex actions. A key figure of human automatism was certainly William Carpenter (1813–1885), although Carpenter believed that the will could take over the activity of the brain if necessary. As Stiles points out, Stoker benefited from one of his brothers' medical expertise (see, for instance, the scientific realism of Renfield's death), and many key figures of neurological research may be traced throughout the novel, climaxing with allusions to Ferrier's cortical maps in Renfield's surgery. But *Dracula*,

Stiles contends, offers a conflicting view of neurological science, engaging with cerebral localization theories and condemning them at the same time.

- 5 Chapter 3, which deals with the works of Grant Allen, explores the writer's mechanical view of human consciousness and his "physiological reductionism" (86). Stiles analyses *Recalled to Life* (1891), a novel in which the heroine's eyes register scenes as photographic negatives in her brain. However, instead of merely metaphorizing the way in which science has turned human beings into emotionless automata, the heroine becomes an embodiment of loss, the mechanisms of mental automatism shaping a definition of trauma. Grant's reliance on late-Victorian research on mental illness (such as Théodule Ribot's (1839–1916) *Diseases of Memory* (1881)) marches hand in hand with his Gothic narrative, which hints at the failure of scientific rationalism. Grant probed such connections between photography and physiology not only in his own scientific writings of the 1870s and 1880s, but also in his later parallels between photographic memory and mental illness, using for instance cases of mnemonically gifted individuals as related by Alfred Binet (1857–1911) and Henry Maudsley (1835–1918).
- 6 Chapter 4, on H.G. Wells's works, examines Wells's view of genius and his appreciation of the scientific intellectuals of the time. Wells's Lamarckian evolutionary thought and the influence of the writings of T.H. Huxley permeate his hypertrophic brains and his reliance upon craniometry. Wells also exploited the relations between genius and insanity, a connection that dated back to Jacques Moreau's *Morbid Psychology* (1859) (who was certainly the model for Well's Moreau), and may also be traced to Francis Galton's (1822–1911) writings (more than Cesare Lombroso's (1835–1909) or Max Nordau's (1849–1923)) or John Ferguson Nisbet's (1851–1899) whose *Human Machine* Wells had reviewed, deploring that *The Insanity of Genius* (a book which quoted extensively from Moreau's *Morbid Psychology*) had received so little attention. Stiles studies Wells's characters, from Moreau in *The Island of Dr Moreau* (1896) to Griffin in *The Invisible Man* (1897), explaining how his extraterrestrial characters also enabled Wells to explore the possibilities of Lamarckian brain development, as in *The War of the Worlds* (1898) and *The First Men in the Moon* (1901).
- 7 Stiles's study closes on Marie Corelli's use of fin-de-siècle neuroscience and her merging of science and romance in her works with a view to reconciling scientific materialism with spirituality. As Stiles explains, Corelli popularized many aspects of cerebral localization theory, such as the neurone doctrine (although she misinterpreted it, perhaps due to her lack of scientific education), probably linked to the importation of Santiago Ramon y Cajal's (1852–1934) neurone doctrine to Britain in the early 1890s. Stiles notes the presence of the term brain cell in Corelli's novels of the 1890s, such as *Wormwood* (1890), and studies how Corelli deals with mental telepathy, how she uses the metaphor of the circle or circuit and shapes the brain as an electric battery (as in *Ardath* (1889)) or even applies radioactivity. The aim of Corelli's "neurological romances", Stiles contends, is above all to counteract scientific materialism while using scientific ideas to advocate religious faith. Corelli's reconciliation of science and spirituality was, in fact, not that far from what Victorian spiritualists were doing at the time, capitalizing on the materialist intellectual environment to investigate spirit phenomena from a scientific viewpoint and prove, thereby, the existence of the soul.
- 8 The point that Stiles makes about popular literature, arguing that popular literature is as much—if not more—informed by medical research than realistic works, probing its

implications in a much more convincing way than mainstream literature, brings to light the significant role of popular culture, rewriting in so doing earlier associations between nineteenth-century literary realism and scientific discourse. Stiles's work follows in the footsteps of Kelly Hurley's and Robert Milghall's studies of late-Victorian Gothic fiction, or Jenny Bourne Taylor's analysis of the sensation novel. Unlike Mighall, however, Stiles argues that Victorian science did not contain fear but was, on the contrary, a "Gothic science" (10), both science and fiction unearthing, as it were, the dark labyrinth of the mind. Stiles's vision of late-Victorian Gothic fiction, with its "complicated narratives [and] subterranean passages" may be older than she claims, however, the Gothic being a genre capitalizing on altered states of mind and obsessed with the mind-brain dichotomy ever since its origins, just as the motif of the double which was part and parcel of Gothic literature decades before Stevenson's novella. We may also regret a few repetitions or sometimes historical developments related to the scientific context which, if of high interest in themselves, seem sometimes done to the detriment of literary analysis in some chapters. Still, Stiles's study is another significant addition to the field of interdisciplinary studies and studies of the relationship between medicine and literature.

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Mots-clés: cerveau, victorien, science, neurologie, littérature populaire

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