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## **VICTORIAN POPULAR SCIENCE AND THE SENSATION NOVEL**

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Sensation novels and the sensational appeals of popular science provided a focus for the tensions that were taking place in English culture in the 1860s. Audiences for popular science and the sensation novel were exposed to the same spectacles and they shared the same stories and similar anxieties about the changes wrought by modernity. To trace the intersections of popular science and the sensation novel the novels of Mary Elizabeth Braddon and Wilkie Collins will be consulted here with reference to the fiction and readership of Charles Dickens and the Victorian audience for science exhibitions. This audience encountered the impact of Darwinism, an impact that persisted in the work of writers like Thomas Hardy who began his career with a novel of sensation and then, as the sensation novel waned in the 1870s, abandoned the form. Throughout these years Victorian audiences sought wonder in facts and as Gillian Beer has pointed out the study of fact was “an exploration of the fantastic” (74-75). Audiences were fascinated by public displays of science and spectacular exhibits. Curious phenomena were staged with theatrical precision and creatures from exotic locales were prepared by the taxidermist’s hand. The literature of the time shows that these audiences were drawn to the sensational. The signs of the coincidence of sensation fiction and scientific report are everywhere visible in the periodical press of the 1860s. A decade earlier, in 1850, crowds gathered around the spectacles, not the

educational exhibits, Jeffrey A. Auerbach has observed (104-108). The phenomenon was not different in the 1860s: when Victorian science popularizers staged their exhibits, viewers preferred the spectacular to the studied and methodical portrayals of patterns in nature.

This was the period in which sensation novels gave reading audiences the charge of nervous excitement mentally and physically. Sensation fiction brought to the public “extremes of behavior” (Terry 74). There were “ruined heiresses, impossible wills, damning letters, skeletons in the cupboard, misappropriated legacies” (Terry 74). When H.L. Mansel warned that sensation novels were “electrifying the nerves of the reader” and moving past “the rational and moral faculties” (488-489), he was theorizing the experience of reading as an embodied act. While his criticism issued from Victorian moral concern, the supernaturalism in the novels he criticized was not removed from contemporary scientific knowledge. A kind of shock or terror could now be linked to human physiology. From the 1860s through the end of the century physiology began to develop as a specific discipline. There were cautious attempts to develop a psychological approach to phenomena. In the 1870s and 1880s, “medico-scientific discourses contributed to the somatic emphasis of Gothic fiction,” notes Samuel Alberti (390-391). Nicholas Dames has observed that as critics blurred the boundaries of experimental science and literary journalism, this rendered normal “occasional readerly shock” (13). Laurie Garrison contends that the appearance of numerous articles on physiology during the Victorian era suggests that physiology held more sway on sensation fiction than the psychological factors that Sally Shuttleworth, Andrew Mangham, and Jenny Bourne Taylor have emphasized (xii)<sup>1</sup>.

Victorian audiences were curious about science, while superstitious, and they liked to be stirred. There was what Reginald C. Terry calls “a taste for the factual” in Victorian fiction of this period (55) but also an inclination toward suspense and melodrama. A main concern was entropy. The tabloid press offered Robert H. Patterson’s quasi-scientific article, “Is the Sun Dying?” In

1867, an article by T.L. Phipson appeared asking about "Inhabited Planets." Meanwhile, the periodical press included stories of realism and psychological investigation. Sensation included crime dramas and mystery novels that were serialized in magazines before becoming triple-deckers.

There has been much comment on how Charles Darwin's *Origin of Species* (1859) provoked anxiety in Victorian culture but less on how the novel of sensation coincided with this. Indeed, Darwin, like Charles Dickens, both pleased and disturbed readers, as Gillian Beer has recognized (35). The same period that reacted to Darwin's theory of natural selection, and to the entropy and heat death suggested by the second law of thermodynamics, was the period which saw the rise of suspense fiction and the ratiocination of the detective novel. The first installment of *Woman in White* was two days after the November 26 appearance of Darwin's *Origin of Species*. Soon, G.H. Lewes was writing, "Mr. Darwin's book is... at present exciting very great attention" (1860: 95). T.H. Huxley called it "a decidedly dangerous book" (295). In 1860, Dickens's *All the Year Round* placed under the Collins story articles on "Species" (177) on June 2 and "Natural Selection" (293) on July 7, Darwin cast a blow to the optimism of the Victorian age. "Progress" had been its watchword and its Great Exhibition and Crystal Palace in 1850 featured the stunning accomplishments of industrial technology. It was difficult to hold to meliorism and optimism in the face of this process conceived of as blind chance. Victorians wished for things to be meaningful and moral. When Darwin presented a vision of human life as the product of random variation, the only hope seemed to be the virtues and powers of human consciousness.

Darwin's book compelled guarded responses while the sensation novel aroused fear among conservative critics like H.L. Mansel and Margaret Oliphant, who recognized "a changed world" (Mansel 481). Mansel remarked that the sensation novel was "usually a tale of our own times" (Nadel and Fredeman 357). That tale was one of a time of science, modernity, and precipitous change. Sensation novels provided a focus for the tensions that

were taking place in English literary culture and society. Conservatives branded sensation novels “brash, vulgar, and subversive” (Hughes 6). For such critics, sensation novels were a threat to society, or at least to the sensibilities of the reader. H.L. Mansel called the sensation novel “preaching to the nerves instead of the judgment” (Nadel & Fredeman 357). He referred to “the pale young lady” (Nadel & Fredeman 358) in what was surely a reference to Wilkie Collins’s *The Woman in White*. Recalling Collins’s *The Woman in White*, Margaret Oliphant had called the “startling” touch of Anne Catherick on Walter Hartwright’s sleeve a “spell” cast also upon the reader (566). In Collins’s *The Moonstone*, we read of the nervous tension of a narrator who ponders the disappearance of Rosanna Spearman: “A dreadful dumb trembling crawled over me all of a sudden” (1976: 196). Kate Flint has considered such somatic responses to reading as “mobilizing our sympathetic nervous system” (291). Such responses are what Alison Winter has described as “physiologically charged terrors,” or “involuntary reactions and excited state of mind” that some readers reported (324). D.A. Miller has claimed that reading these works can foster a nervous condition in the reader; they are “theaters of neurasthenia” that address the sympathetic nervous system (146-147). Laurie Garrison, likewise, moves toward physiology in her readings (xii), citing the articles by Oliphant and Mansel of the 1860s and G.H. Lewes book of 1859. These views hold that there were physiological effects in reading novels. In sensation novels there were disguises, heroines in danger, aristocratic villains, romantic triangles, all “giving shocks to the nervous system” (Garrison xi). Sensation fiction depicted insanity, hysteria, mental disability—people at their wits end. Views of degeneration were set against ideas of evolution. Installment parts used “closings,” or the exclamation point of an exciting scene to grab and sustain interest for the next installment to come, much in the way that serial television drama uses this device today.

Charles Dickens’s serialized fiction seems only tangentially related to the sensation novel. Dickens’s *Great Expectations* (1861) was associated with the

sensation novel by Margaret Oliphant in her 1862 *Blackwood's* article. There she claimed that Dickens had written a failed sensation novel. The novel begins with Pip's experience of being shaken upside down by Magwitch: an experience that suggests the sensation novel. Later, the story is marked by Estella's cold lack of sensation, as Laurie Garrison points out (124). Oliphant asserted that Dickens's friend and sometime collaborator Wilkie Collins had written a stronger sensation novel with *Woman in White* and praised it for the "delicacy of its sensation incidents" (564). Collins was quite aware of the mystery of the hidden interconnections of the characters in Dickens's novels and he began to produce similar mysteries. *The Woman in White* began on a shadowy road and it offered obscure possibilities that began with one shocking touch on Walter Hartwright's sleeve by a woman in white. In Chapter Four, one reads: "every drop of my blood was brought to a stop by the touch of a hand laid lightly and suddenly on my shoulder from behind me" (Collins 1999: 23).

A sense of relation, or interconnection, and the scientific quest to understand it appeared in the work of Charles Darwin, who was a reader of Charles Dickens. Gillian Beer has suggested that Darwin gravitated to Dickens's sense of "the energy of concealed interconnection," (105) or his "sense of relationships" (40) and "that everything is connected" (42). She sees the scientist, Darwin, seeking to uncover these connections. Dickens's plots often rely upon the gradual disclosure of these hidden relationships. The emergence of these relationships is also an essential part of sensation fiction. It is the essence of the narrative quest for discovery in Collins's *The Moonstone* and *The Woman in White*.

Darwin, meanwhile, also drew from Dickens's profusion, observes Beer. *The Origin of Species*, Darwin's text, she points out, is multivalent; it is generative of metaphors of "profusion and extension" (7). In Dickens's social panoramas and rush of language, Beer believes that Darwin saw an "apparently unruly superfluity of material gradually and retrospectively revealing itself as order" through relations (6). Beer relates this profusion in Dickens to Darwin's plots:

“variability, struggle, the power of generation and of generations” (42). One of Darwin’s passages in the *Origin of Species* is linked with Dickens’s world of *Bleak House*: “the broken and failing groups of organic beings” (*Origin* 435; Beer 42). Dickens will disclose the obscured, hidden relationships of *Bleak House* and Darwin will reveal those of the natural world.

In the sensation novel, as in both Dickens’s fiction and Darwin’s science, there is a romantic materiality, observes Beer, a “drive toward confirming experience by appeal to the physical and the material, changing language into physical process” (41). For Darwin, a “fact” may be a wonder (*Origin* 170-71, 259). Unlike the “facts” of Dickens’s Mr. Gradgrind in *Hard Times*, which shut out wonder, the attention to scientific fact in Darwin realizes discovery (Beer 76). A reader of Dickens’s unfinished *The Mystery of Edwin Drood*, or of Collins’s *The Woman in White* enters a kind of pursuit for the facts of the matter that will solve a mystery. Similarly, a visitor to a museum of natural history will venture into a curious array of displays and encounter facts presented by science that will offer that visitor a sense of the mystery of life.

The chill of mystery touched science museum audiences, who were oriented toward spectacle. In the 1860s and 1870s, imagination regarding a mysterious past was stimulated by museum exhibits of scientific discovery and speculation. As Robert Mighall has pointed out, visitors to museums used the language of the Gothic and sensation novel to describe their encounter with geological, medical, or other scientific artifacts in the museum (191). The exhibition of museum artifacts prompted a sense of the awful and corresponded with sensation fiction’s inclination toward expressing themes of “racial degeneration, atavism, deviant sexualities, and monstrosity” (Alberti 391). Museum audiences expanded in the mid-nineteenth century to include people from the working class. Aileen Fyfe points out, “it was more difficult for writers and curators to presume any background knowledge” (197).

Exhibitions drew upon the techniques of creating stage sets and provided landscapes with realism and specimens that were “prepared like life itself”

(Peeverell in Carroll 286). Visitor's responses could be different from "how owners intended their collections to be perceived" (Carroll 295). Science had contributed to cultural insecurity by unsettling previously held notions of order and coherence. Changes in scientific education and the growth of new audiences for science was part of this trend (Fyfe and Lightman 2007b: 5). Popularizers sought the extension of science throughout the culture to a wider public.

At the beginning of the nineteenth century, science was a gentleman's profession learned through apprenticeship and it was not taught in the schools. Nineteenth century science worked within a Newtonian conception of the universe. It knew the beginnings of cell theory, and was aware of developments in geology, physics, chemistry, anthropology, and archaeology, and yet the word "scientist," coined in the 1830s, had not yet come into wide use. Evolution had already been considered for years when Charles Darwin began to explore it. His grandfather Erasmus Darwin had developed an evolutionary view. Robert Chambers's *The Vestiges of the Natural History of Creation* had appeared in the 1830s. The periodical press for specialists in science was already thriving at that time. James Wald observes, "Already in 1826, Michael Faraday found the output of scientific periodical literature overwhelming" (426). Now, in the years immediately following Darwin's *Origin of Species*, expansion of the reading public for science coincided with the growth of literacy and technologies that made periodical production less expensive. Technological developments led to an increased availability of reading materials and a larger reading public (Secord 30). It has been estimated that by 1870, 81 percent of men and 73 percent of women in England and Wales could read (Eliot 293). The Society for the Diffusion of Useful Knowledge (SDUK) and mechanics institutes supported the development of popular science along with the notion of reading for self-improvement. While specialists were convening in disciplinary societies, science expanded as an area of curiosity among general readers or non-scientists. *Mechanics Magazine* was started by Benthamite

Thomas Hodgskin as a threepenny weekly. It became a forum for artisan's contributions which were scientific or technical and this led to the formation of a mechanics institute. Mudie's circulating library of the 1850s was followed by W.H. Smith in the 1860s. Science articles appeared in general circulation periodicals next to sensational stories that were offered to the public via serialization. Their readership included families in which books and periodicals were exchanged, or often read aloud.

The intertextual relations between articles on science and sensation fiction were manifold. Periodical articles dwelled within a "furious critical debate" about sensation fiction, as Barbara Onslow has pointed out (Onslow 2000: 161, 168). Sensation fiction and science met in Charles Dickens's *All the Year Round*, where we see responses to Darwin's ideas of human transformation in "Natural Selection" (July 7, 1860) and "Species" (August 1860). The periodical *Belgravia* set sensation fiction alongside articles on geology, astronomy, and zoology, popularizing science. *The Cornhill Magazine* published in 1862 "A Vision of Animal Existences" concerning a man at London's Zoological Gardens who meets a woman who is reading *Origin of Species* in a "green covered book" (Dixon 312). Here a world of "necessity and change" in the future will be all that will remain. The woman who is reading holds up the words "Natural Selection" and we learn that the woman's son is named "Struggle for Life." In 1863, Mary Elizabeth Braddon's *Lady Audley's Secret* was serialized in *The Sixpenny Magazine*, beginning in February alongside a section called "Literature, Science and Art." Robert H. Patterson's 'science' articles then began to appear next to Braddon's fiction. When the *Southern Literary Messenger* reported in 1863 that they had received a copy of *Lady Audley's Secret* through S. H. Goetzel of Mobile, they described it as belonging to "the sensation, murder, and moonlight school of fiction" (319). In November 1866, Braddon's story, *Birds of Prey*, with its evolutionary theme, was serialized in *Belgravia*, where it was juxtaposed with popular science.



*Lady Audley's Secret*, meanwhile, drew attention to psychology and argued against the contemporary perspective on female madness as representing a lack of control. One reads: "All mental distress is, with some show of reason, associated in our minds with loose, disordered garments and hair dishabilled, and an appearance in every way the reverse of my lady's" (Braddon 223). For Lady Audley, heredity insanity was her "secret which is the key to life" (165). E.S. Dallas saw in the sensation novel an emphasis on plot and an attention to human psychology, or "the hidden soul," and "the region of the mind that stretches out of consciousness" (55). In his essay "The Cant of Modern Criticism" George Augustus Sala defended sensation against Oliphant's "Sensation Novels." He called her essay "a sermon on novels" (Sala 1867: 48). Sala asserted that *Jane Eyre* and *Adam Bede* were "clearly sensational" novels in which the protagonists are quite human and not monstrous. They are, he wrote, "like dwellers in the actual breathing world in which we live" (1867: 52-53). Later, he asserted that "Mr. Darwin is a sensational philosopher" (1868: 457). Sala attributed the rise of the sensation novel to Dickens (1868: 455) and *The Mystery of Edwin Drood*. However, to argue that Dickens was involved in creating the form, one would have to look, instead, at earlier motifs in *Bleak House*.

In 1852, Dickens responded to the condition of England, with the Megalosaurus image in his first chapter of *Bleak House* suggesting regression and calamity. Dickens wrote of the fog of the British legal system, the choking 'facts' of the educational system in the industrial north, and the circumlocutions of bureaucracies. In that year William Thomson (Lord Kelvin), following the German Rudolph Clausius, advanced the second law of thermodynamics, which identified entropy. England's poet laureate Tennyson wrote *In Memoriam*, a poem aching with mid-century doubt prompted by mortality and wrestling with hope for an afterlife. At mid-century, G.H. Lewes, a literary critic and philosopher, who was more Lamarckian than Darwinian, believed in consciously directed evolution and this was not entirely available in Darwin.

Lewes agreed with the notion of natural selection but in his view, evolution was not merely random. He considered variation and inexplicable mutations. He rejected Darwin's statement in *The Descent of Man* (1871) that there is no fundamental difference between man and the higher animals in their mental faculties" (1879: 126).

Lewes's studies of physiology held an important role in the debate about sensation fiction, as Laurie Garrison points out (xii). His concern with aesthetics as a literary critic coincided with his scientific and epistemological inquiries. Lewes held that symbols condition belief. It is the power of thinking by means of symbols "which demarcates man from the animals [...]" (1879: 494). Lewes ventured a "reversal the rationalist psychology of his empiricist predecessors in scientific psychology," Peter Allan Dale points out (74). Lewes wrote: "All cognition is primarily emotion... No phenomena is interesting until it is illuminated by emotion" (1877: 42). Turning to the thought of German physiologist Hermann von Helmholtz on perception, Lewes sought to "gain a clear vision of the fundamental process in man" of mental operations (1879: v-vi). Lewes challenged the epistemology of "the sensational school" and their empiricist notion of the mind as *tabula rasa*. Working his way through Darwin's writings and those of Kant, Helmholtz, and Comte, Lewes suggested a biological structure of mind. He held that people are born with laws of consciousness which have "evolved through successive modification" (Dale 105).

The intersection of the novel and concerns about Darwinian evolution persisted. Some of the bleakest responses to Darwin appear in the writing of the Victorian novelist Thomas Hardy. His early novel *Desperate Remedies* (1871) bears all the marks of a sensation novel. By the time Hardy began writing this novel his confidence in science had broken down. There is in his fictional scheme no providential interpretation of life, as once appeared in a Dickens or Brontë novel. The pessimism that James Sully (1877) called a feature of the times overtook Hardy's initial appeal to sensation fiction (Dale 233). As the sensation novel began to wane, Hardy's fiction remained linked

with a rather pessimistic view of natural selection. While writers like Robert Louis Stevenson wrote fiction that still carried echoes of the sensation novel and Gothic fiction, Hardy had, by the mid-1870s, moved well beyond the era of the sensation novel. The Darwinism that had so unsettled Victorian society and had given rise to the sensation novel in the 1860s had, in Hardy, become a somber fact.

In *The Descent of Man* (1871) Charles Darwin mentioned love ninety-five times, according to the Darwin Project (2020). However, for Hardy love also brings struggle. Love is central for Hardy as a point of human interest and his novels are, in a sense, love stories. However, his perspective is worlds away from that of Victorian belief for there is no God at the center of Hardy's fictional world. For Hardy, our loves are forever disrupted and are a source of suffering. Our loves may matter little in the cosmic scope of things, but they are deeply valuable to us. It is only love that moves us within the indifferent universe. As his character Sue Bridehead in *Jude the Obscure* says, "There's more for us to think about in [the]... hungry heart than in all the stars of the sky" (1999 [1895]: 169). Yet, the heart often remains hungry and the yearning leads not only to mutual counterparts in relationship but to pain. Several of Hardy's characters are marked by heredity. In *Tess d'Urbervilles* a girl is torn between lovers. In *Jude the Obscure* (1896), a relationship between cousins results in disaster. Tess is from an "exhausted ancient line" (Hardy 2009 [1891]: 28) and Jude Fawley is flawed and falling. In *Far from the Madding Crowd*, Michael Henchard is deluded and following his grave mistakes his life goes in a circle.

The Victorian Hardy is pessimistic and links his worldview to Darwin. In *Two on a Tower* (1882), St. Cleeve, the young scientist insists, "Until a person has sought out the stars and their interspaces, he has hardly leant that there are things much more terrible than monsters of shape, namely, monsters of magnitude without known shape" (Hardy 1999 [1882]: 28) Lady Constantine answers by asserting that the study of astronomy "makes [one] feel human insignificance too plainly" (Hardy 1999 [1882]: 28). The scientific realization

that “nothing is made for man” (Hardy 1999 [1882]: 28) stuns the will into quandary before the unintelligible universe. In *A Pair of Blue Eyes*, Henry Knight clings to the sheer face of a rocky mountainside, acutely aware that he could easily fall to his death. As he looks up at the rocks, he is overwhelmed by a sense of geological time and that nature—indifferent, inexorable, and brutal—is oblivious to his situation (Hardy 2009 [1873]). He survives but not without a renewed appreciation of his puniness and insignificance before vistas of time.

By the end of the century when Hardy had abandoned the novel form for poetry, realism and naturalism held sway in literary representation. The popular trend of the sensation novel had vanished, but the forms of mystery and detective fiction would resume their life as the popular suspense novel in the twentieth century. Meanwhile, public exhibitions of science still drew thousands of visitors and were “a very common way for the public at large to experience natural history alongside books, periodicals and firsthand experience” (Alberti 377). The rational recreation of science museum visiting would ever be associated with sight and auditory sensation. In museums and in concert halls, “the noisy bustle of the audience” (Alberti 382) would only gradually settle into the ideal that these public spaces would become sites for contemplation.

In Britain, new cultural tensions emerged in the final decades of the Nineteenth Century. The novel of sensation was swept aside by a passion for adventure novels, a celebration of Queen Victoria and Britain’s global reach, and an expanding literary market that George Gissing called “new Grub Street.” Science, as a matter of British competition with continental science, was increasingly introduced into the university curriculum, beginning with the ‘brick’ institutions of the North. Science, growing ever more specialized, underscored realism, positivism, naturalism. The enormous popularity of the sensation novel was now only a memory. Yet, its merger with science remains an unforgettable and significant aspect of literary history.

**Endnotes:**

1. There are numerous works by these three authors that refer to the psychological factors. For example: Gowan Dawson et al. (2020), *Science Periodicals in Nineteenth Century Britain*, Andrew Mangham (2007), *Violent Women and Sensation Fiction*, Jenny Bourne Taylor (1988), *In the Secret Theatre of Home*, Wilkie Collins, *Sensation Narratives and Nineteenth-Century Psychology*. Gowan Dawson is the chief editor for *The Cambridge Companion to Sensation Fiction* (2013). He has written about a half a dozen other books in this area of research as well as many articles. Jenny Bourne Taylor has written several articles and co-edited volumes with Andrew Mangham and Sally Shuttleworth. The psychological approach is one that these three authors share.

**References**

- Auerbach, J. A. 1999. *The Great Exhibition of 1851: A Nation on Display*. New Haven: Yale University Press.
- Alberti, S. J.M.M. 2007. "The Museum Affect: Visiting Collections of Anatomy and Natural History," in: Fyfe & Lightman (Eds.), 371-404.
- Beer, G. 2000. *Darwin's Plots: Evolutionary Narrative in Darwin, George Eliot, and Nineteenth Century Fiction*. Cambridge: Cambridge University Press.
- Braddon, M. E. 1974. *Lady Audley's Secret*. New York: Dover.
- Carroll, V. 2007. "Natural History on Display: The Collection of Charles Waterton," in: A. Fyfe and B. Lightman (eds.), 271-300.
- Collins, W. 1999. *Woman in White*. *All the Year Round* 31 (November 26, 1859): 95-104. New York: Penguin.
- Collins, W. 1976 (1868). *The Moonstone*. New York: Penguin.
- Cook, E. T. & A. Wedderburn (Eds.) 1903-1912. *The Works of John Ruskin*. London: Allen and Unwin.
- Dale, P. A. 1989. *In Pursuit of a Scientific Culture*. Madison: University of Wisconsin Press.
- Dallas, E. S. 1866. *The Gay Science*. London: Chapman and Hall .
- Dames, N. 2007. *The Physiology of the Novel: Reading, Neural Science, and the Form of Victorian Fiction*. Oxford: Oxford University Press
- Darwin, C. 1859. *The Origin of Species*. London: John Murray.
- Darwin, C. 1871. *The Descent of Man*. London: John Murray.
- Darwin Project, The. <http://www.thedarwinproject.com>.
- Dawson, G, B. Lightman, S. Shuttleworth and J. R. Topham (Eds.) 2020. *Science Periodicals in Nineteenth Century Britain: Constructing Scientific Communities*. London and New York: Routledge.
- Dickens, C.. 2000 (1852). *Bleak House*. Oxford: Oxford University Press.
- Dixon, E.S. 1862. "A Vision of Animal Existence," *The Cornhill* 5: 27, 311-318.
- Eliot, S.. 2019. "From Few and Expensive to Many and Cheap: The British Book Market 1800-1890," in: Eliot, S. and J. Rose (eds.), 291-302.
- Eliot, S. and J. Rose (eds.). 2019. *A Companion to the History of the Book*. Malden, MA.: Wiley-Blackwell.
- Flint, Kate. 1993. *The Woman Reader, 1837-1914*. Oxford: Oxford University Press.

- Fyfe, A. 2007. "Reading Natural History at the British Museum," in: Fyfe, A. and B. Lightman (Eds.), 196-223.
- Fyfe, A. and B. Lightman. 2007a. "Science in the Marketplace: An Introduction," in: Fyfe, A. and B. Lightman (Eds.), 1-19.
- Fyfe, A. and B. Lightman (Eds.) 2007b. *Science in the Marketplace: Nineteenth Century Sites and Experiences*. Chicago: University of Chicago Press.
- Garrison, L. 2011. *Science, Sexuality, and Sensation Novels: Pleasures of the Senses*. Basingstoke: Palgrave Macmillan.
- Gilbert, P. K. (Ed.) 2011. *A Companion to Sensation Fiction*. Malden, MA: Wiley-Blackwell.
- Hardy, T. 1998 (1871). *Desperate Remedies*. New York: Penguin.
- Hardy, T. 2009 (1873). *A Pair of Blue Eyes*. Oxford and New York: Oxford University Press.
- Hardy, T. 2003 (1874). *Far from the Madding Crowd*. New York: Penguin.
- Hardy, T. 1999 (1886). *Two on a Tower*. New York: Penguin.
- Hardy, T. 2009 (1891). *Tess of the d'Urbervilles*. New York: Penguin.
- Hardy T. 1999 (1895). *Jude the Obscure*. New York: Penguin.
- Hughes, W. 1980. *The Maniac in the Cellar: Sensation Novels of the 1860s*. Princeton: Princeton University Press.
- Huxley, T.H. 1860. "Darwin on the Origin of Species," *Westminster Review* (April), 295.
- Lewes, G. H. 1859. *The Physiology of Common Life*. London: Trübner.
- Lewes, G. H. 1877. *The Physical Basis of Mind*. London: Trübner.
- Lewes, G. H. 1879 (1874). *Problems of Mind*. Boston: J.R. Osgood,. Third series, London: Trübner.
- Lewes, G. H. 1860. "Studies in Animal Life," *The Cornhill* (April), 438-447.
- Lightman, B. 1997a. "Popularizing Victorian Science," in: Lightman (Ed.), 187-211.
- Lightman, B. (Ed.) 1997b. *Victorian Science in Context*. Chicago: University of Chicago Press.
- "Literary Notices," *Southern Literary Messenger* (May 1864), 38: 5, 317-320.
- Mangham, A. 2007. *Violent Women and Sensation Fiction*. Basingstoke and New York: Palgrave Macmillan.
- Mansel, H. L. 1863. "Sensational Novels," *Quarterly Review* (April), 113: 226, 482-495.
- Mighall, R. 1999. *A Geography of Victorian Gothic Fiction: Mapping History's Nightmares*. Oxford: Oxford University Press.
- Miller, D.A. 1988. *The Novel and the Police*. Berkeley: University of California Press.
- Nadel, I.B. & W. E. Fredeman (eds.). 1983. *Victorian Novelists After 1885*. Detroit: Gale.
- "Natural Selection," *All the Year Round* (July 7, 1860), 3: 6, 293-299.
- Oliphant, M. 1862. "Sensation Novels," *Blackwood's Edinburgh Magazine* (May), 91: 559, 564-584.
- Onslow, B. 2000. *Women of the Press in Nineteenth Century Britain*. Basingstoke and New York: Palgrave Macmillan/ St. Martin's.
- Onslow, B. 2002. "Sensationalizing Science: Braddon's Marketing of Science in Belgravia," *Victorian Periodicals Review*, 35: 2, 160-177.

- Patterson, R. H. 1868. "Sensationalism in Science: Is the Sun Dying?" *Belgravia* 6, 555-560.
- Peeverell, R. 1865. "Charles Waterton and Walton Hall," *Once a Week* 13, 48-53.
- Phipson, T. L. 1867. "Inhabited Planets," *Belgravia* 3 (July), 63-66.
- Regan, S. (Ed.) 2001. *The Nineteenth Century Novel: A Critical Reader*. New York and London: Routledge.
- Sala, G. A. 1867. "The Cant of Modern Criticism," *Belgravia* 3, (November), 45-55.
- Sala, G. A. 1868. "On the Sensational in Literature and Art," *Belgravia* 4, 455.
- Secord J. A. 2000. *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of The Natural History of the Vestiges of Creation*. Chicago: University of Chicago Press.
- Secord, J. A. 2007. "How Scientific Conversation Became Shop Talk," in: Fyfe and Lightman, 23-59.
- "Species," *All the Year Round* (June 2, 1860), 3: 5, 174-178.
- Sully, J. 1877. *Pessimism: A History and a Criticism*. London: Henry S. King.
- Taylor, J. B. 1988. *In the Secret Theatre of Home, Wilkie Collins, Sensation Narratives and Nineteenth-Century Psychology*. London and New York: Routledge.
- Terry, R. C. 1983. *Victorian Popular Fiction, 1860-80*. London: Macmillan.
- Wald, J. 2007. "Periodicals and Periodicity," in: S. Eliot and J. Rose (eds.), 421-433.
- Winter, A. 1996. *Mesmerized: Powers of Mind in Victorian Fiction*. Chicago: University of Chicago Press.

### **Abstract**

Victorian audiences were curious about science, while superstitious, and they liked to be stirred. They had an interest in the factual but also an inclination toward suspense and melodrama. Audiences for popular science and the sensation novel of the 1860s were intertwined, treated to new spectacles and stories, while sharing similar anxieties about the changes wrought by modernity. These audiences sought wonder in facts. Audience reception of public displays of science gravitated around spectacular exhibits. In such science exhibits were curious phenomena, staged with theatrical precision, creatures from exotic locales prepared the taxidermist's hand. Audiences were drawn to the sensational and to the sensation novel.