Cohering Knowledge in the Nineteenth Century: Form, Genre and Periodical Studies

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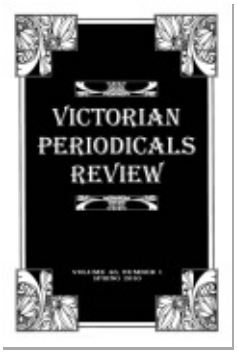

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As our encounters with nineteenth-century periodicals and newspapers are increasingly digital, the emphasis is often on what is lost: the feeling of paper, colour, the smell and, often most importantly, the ease of navigating around a format that we know well. Digitization addresses many of the methodological problems presented by the nineteenth-century press by bringing disparate sources together, archiving them in a fairly stable format, and making their contents searchable. Such gains, and they are considerable, are at the cost of a radical alteration in the materiality of the original periodicals and newspapers upon which such resources are based. In this paper I will argue that although digitization necessarily involves a reimagining of periodicals and newspapers as digital objects, what should not be lost are their forms.

This is will be a familiar argument for the readers of *Victorian Periodicals Review* and the members of its sponsoring organization, the Research Society for Victorian Periodicals, but one that I think is worth repeating. Despite much influential work in periodical studies that addresses the forms of serials, the dominant critical approach to the nineteenth-century press still treats it an archive of content, waiting to be found. This attitude is one that will be fostered by the presentation of periodicals and newspapers in electronic resources: built on the model of the archive, many of these resources identify the individual articles as the main components of serials, separating them from the rest of the issue, volume and run in which they belong.[1] The issue of form is complex, however. As I have argued elsewhere, it is difficult, if not impossible, to posit an "original" form of the periodicals and newspapers that survive today.[2] The archive as it stands is marked both by the diversity of nineteenth-century publishing practices and the regimes of the countless archivists and librarians responsible for its

preservation. It is easy to fetishize the single issue as it was produced from the press, but publishers also produced prepared volumes that already lacked advertisements and other paratextual matter. Equally, although the unbound single issues that remain hint tantalizingly at the matter that has been lost in bound volumes, the bound volume itself was offered as a posited end-point for serials and has successfully conserved things like prefaces and indices, material that was often issued separately from single issues. However, form, produced and reproduced with every issue, is an integral part of what constitutes the genre of serials. It is both the means through which the identity of a title is established from issue to issue and the way in which it orders the abundance of changing events in the world to make them available for consumption. As the least material of structures, form represents the space where the nonhuman and human worlds meet: a property of things and a property of thought, form permits us to order the world as well as recognize its hard edges and behaviour. Its minimal materiality—form appears impersonal, an empirical fact—means that it is easily reproducible, both across the nineteenth-century press and in digital form today. Through a reading of the 1870 meeting of the British Association for the Advancement of Science (BAAS), in particular John Tyndall's famous speech "Discourse on the Scientific Use of the Imagination," and a brief analysis of periodical form in one particular digital resource, the *Nineteenth-Century Serials Edition* (NCSE), I argue that form was the way in which nineteenth-century serials imagined what they did not know. If we fail to capture the diverse forms of the nineteenth-century press as we model them digitally, we lose the relationship between nineteenth-century culture and the world that necessarily exceeded it.

The *Athenaeum's* report on the 1870 meeting of the British Association in Liverpool was mixed: "Sections have all been well attended, and the papers read above the average in merit," they reported, but "no extraordinary discovery in the realms of philosophy has been announced."[3] The annual meetings of the BAAS—prestigious, predictable, ostensibly accessible—were important news events, providing scientific content during the quiet weeks before the beginning of the London season. The BAAS brought together the nation's leading scientists, offering them both a broader audience from within the scientific community and, due to its commitment to engage with the public, the opportunity to raise their profile beyond it. Its meetings might not have had the same level of prestige as some of the learned societies, but the broad dissemination of its proceedings made it an attractive venue at which to present results. The annual, peripatetic meetings of the BAAS combined an appreciation of scientific progress with an expression of local civic pride; they also provided an accessible medium through which new objects and phenomena could enter the nineteenth-century world.

The nineteenth-century periodical, as has often been noted, was a genre predicated upon the new.[4] However, in order to make sense of a social world constantly in flux, the new was represented according to generic conventions that related it to the familiar. The focus upon certain newsworthy institutions such as Parliament or the monarchy, towards sport, fashion, or the arts, or towards notable figures such as artists or actors, provided the press with a stream of novel things and events upon which to write that could be readily interpreted according to other, similar things and events. This orientation provided a preliminary set of categories through which the press could recognize and order the events of the day, but the demands of the market determined how such categories would be inscribed into the titles themselves. The organization of a title into sections, as well as the customary address used within each, negotiated between the demand to fill each issue with new content and the need to establish an identity that could transcend the single issue.[5] The resulting forms of periodicals and newspapers provided a recurring structure with which readers could relate, but they also connected titles with wider periodical genres, well-established print forms through which the world could be rendered meaningful. In their telling of the new, periodicals accounted for new things, events, or phenomena by accommodating them within a world that had already been negotiated with their readers through repeated acts of telling, reading and buying.

The BAAS was a well-structured news event, occuring at the same time each year and following a fairly consistent schedule, but it also offered the tantalizing possibility of a discovery of something new. Science was one newsworthy institution amongst others for the nineteenth-century press but, as a practice that sought to make sense of the natural world, was particularly concerned with the production of new things and phenemena and their asssimilation into existing bodies of knowledge. The rhetoric of scientific discovery figured new things and phenomena as having always existed prior to their discovery, but in a concealed state.[6] Science was thus imagined as the practice of discovering and telling the secrets of nature, making visible her (and the gendering of nature is important) hitherto unknown phenomena and things. Although it was common for nineteenth-century scientists, particularly on public occasions such as the meetings of the BAAS, to allude to those domains that were out of bounds for scientific investigation, science, like journalism, also imagined the unknown as potentially knowable and, in the dissemination of results, commodified the process of making it known.

The 1870 meeting of the BAAS was notable for a number of things. The President that year was Thomas Henry Huxley, and his Presidential Address, a historical critique of the science of spontaneous generation, was a powerful argument for experimental science as an authoritative way of

knowing.[7] It was also the first BAAS to be reported in the newly established scientific weekly *Nature*. Both its editor and its publisher, Joseph Norman Lockyer and Alexander Macmillan respectively, had close links with Huxley and an advance copy of his Presidential Address allowed them to go to press with it in London at the same time he was delivering it in Liverpool.[8] As *Nature* was published on a Thursday, and Huxley's Address was on the Wednesday, this allowed the new weekly to compete with the daily press for coverage of this prestigious event. However, what the meeting is most remembered for is John Tyndall's after-dinner speech, "Discourse on the Scientific Use of the Imagination." This lecture, which was reprinted in the daily and weekly press, was issued as a pamphlet by Longman's, Green and Co. a few weeks after it was delivered.[9] Tyndall's argument was that, "bounded and conditioned by cooperant Reason, imagination becomes the mightiest intrument of the physical discoverer."[10] For Tyndall, this faculty, because it was productive of scientific facts, was "something more than a mere figment of the scientific fancy" and instead permitted the individual thoughts of the scientist to substitute for principles of nature. The scientific imagination, "that composite creative unity in which reason and imagination are together blent," led into "a world not less real than that of the senses, and of which the world of sense itself is the suggestion and justification."[11] Tyndall's talk focused on the physical action of light, particularly the subvisible mechanical action that underpinned phenomena such as the colour of the sky. Tyndall was particularly interested in the ether: the imponderable medium posited to account for all electromagnetic phenomena, including light.[12] This medium, by definition, would never be detectable by the senses and so could only be imagined. Tyndall's notion of the scientific imagination was a way of permitting the ether to come into being; a domain in which it could exist as both thought and empirical fact, as epistemology and ontology. Taking what physics knew about other media such as air or water, he imagined its necessary properties:

> Let us make such a medium our starting-point, endowing it with one or two other necessary qualities; let us handle it in accordance with strict mechanical laws; let us give to every step of our deduction the surety of the syllogism; let us carry it thus forth from the world of imagination into the world of sense, and see whether the final outcrop of the deduction be not the very phenomena of light which ordinary knowledge and skilled experiment reveal.[13]

Lorrain Daston has argued that the distrust of the imagination in scientific culture was due to its tendency to subjective musings.[14] Secured in observable empirical fact at either end, the dynamic of Tyndall's scientific imagination attempted to make thought itself impersonal, granting it the status of objectivity and so placing it in the world.

Jason H. Lindquist has recently argued that Tyndall's use of the imagination was part of a wider nineteenth-century trend that recuperated the imagination as the means of achieving visual clarity amidst an overwhelmingly complex world.[15] In Tyndall's case, however, the scientific imagination is identified with the ether, and the ether cannot be visualized as it is pure form. Tyndall is unconcerned about the metaphorical nature of this identity and to illustrate this point, he turned towards another domain of the unknown, the mind of the other:

> You believe that in society you are surrounded by reasonable beings like yourself. You are perhaps as firmly convinced of this as of anything. What is your warrant for this conviction? Simply and solely this, your fellow creatures behave as if they were reasonable; the hypothesis, for it is nothing more, accounts for the facts. To take an eminent example: you believe that our president is a reasonable being. Why? There is no known method of superposition by which any of us can apply himself intellectually to another so as to demonstrate coincidences as regards the possession of reason. If, therefore, you hold our president to be reasonable, it is because he behaves *as if* he were reasonable. As in the case of the ether, beyond the '*as if*' you cannot go. Nay I should not wonder if a close comparison of the data upon which both inferences rest, caused many respectable persons to conclude that the ether had the best of it.[16]

The ether had the best of it as it was nothing other than behaviour. Unlike the other, who possesses subjectivity and agency, the ether, as a perfect medium with no substance, must be consistent and offered nothing more than the effects it brought into being. Here the ether provided an immaterial structure for physical phenomena that was identical to its conception in the mind of the scientist. The unknowable in nature, whether abundance, complexity, chaos, unpredictability, or the thingness of things, was here displaced by underlying system and this, as pure form, could be both thought and discovered.

This is not so different to the way in which each issue of a periodical or newspaper made manifest a particular structure that comfortably accommodated whatever new content it contained. The division of issues into sections or departments represented a way of categorizing the world, or at least the world as sold to readers, so that unknown content could be allocated a space in the future. For instance, at the time of the 1870 BAAS meeting, *Nature* had the following sections: an untitled department containing articles and papers; "Letters to the Editor"; another untitled section containing articles and papers; "Notes"; "British Association for the Advancement of Science"; "Contents."[17] *Nature* was concerned with both the natural world and the scientific culture that studied it, and this sparse arrangement corresponded with scientific culture in the summer months. In November 1870, shortly after the season commenced, *Nature* contained

the following: an untitled department containing articles and papers; "Our Book Shelf"; "Letters to the Editor"; another section containing articles or papers; "Notes"; one more section of articles or papers; "Scientific Serials"; "Societies and Academies"; "Books Received"; "Diary"; "Contents."[18] The fuller contents, particularly those sections that monitored the meetings of societies and scientific publishing, reflected the resumption of the institutions of scientific culture.

For those publications that claimed to review the world, rather than a particular aspect of it, the accommodation of reported events into predefined sections was more complex. When we edited the six periodicals and newspapers that constitute the *Nineteenth-Century Serials Edition* (NCSE), we endeavoured to inscribe their forms through our digital representations of their structure.[19] Using a combination of automated and hand mark-up, we identified the textual features that marked the beginnings of new sections or departments in order to create a table of contents that could provide an overview of the whole issue. It is thus very easy, when using NCSE, to get a sense of how these publications structured themselves in order to accommodate the changing events of the social world. For instance, the first issue of the *Leader*, a highbrow literary weekly edited by Thornton Leigh Hunt, in March 1850 had the following sections: "News of the Week," a weekly summary and analysis on the news, with an emphasis on the political; "Public Affairs," which in this early number also contains the leading articles; "Open Council," a section of reader's correspondence; "Literature," containing book reviews; "Portfolio," which in early numbers contained fiction, but later mostly commentary on the arts; and "Commercial Affairs." As this was the first number, these divisions reflected the content that Hunt had available as well as anticipating what might occur in the future. Most striking was the division of the issue into two: a front section oriented towards the public business of news, especially political news, and a back section dedicated to the arts. Although the market reports in "Commercial Affairs" might seem out of place after the reviews and original material at the back, the *Leader* was following most other weeklies in positioning commercial intelligence at the end of the issue, immediately prior to the explicitly commercial advertisements.[20]

Although, like most titles, the structure of the *Leader* altered over its run, these divisions remained fairly constant. In 1853 its main named departments were: "News of the Week"; "Public Affairs"; "The Leader"; "Open Council"; "Literature"; "Portfolio"; "The Arts"; and "Commercial Affairs."[21] In 1855 they were: "News of the Week"; "Public Affairs"; "Open Council"; "Literature"; and "Commercial Affairs."[22] In 1857 they were: "Review of the Week"; "Public Affairs"; "Literature"; "The Arts"; and "Commercial Affairs."[23] From 1858 this structure underwent a series of modifications as its new proprietors attempted to locate the title more

profitably within the market. Advertisements began to appear at the beginning and end of each issue, forming a wrapper that distinguished this material from the putative contents.[24] From 16 October 1888 the departments were reconfigured so that "Arts" and "Literature" appeared before the leading articles in "Public Affairs." This altered the way the issues were divided into two: whereas previously this division had been predicated on news and reviews, now the reviews were mixed with the news, creating more space for an expanded section called "Mercantile and Commercial" at the rear.[25] By 1859, the attempt to keep up with the news in a weekly was abandoned, the proprietors instead imagining the title as a "weekly magazine" containing "a copious set of original articles."[26] This reinterpreted the relationship between the title and the world beyond and so necessitated a change of structure. From January 1860 until it ceased publication in November 1860, the *Leader* was a miscellany of stand-alone essays. The only recurring department was "Record of the Week," the section most oriented towards the news, and this was positioned at the end of the issue, much like the commercial content in issues from earlier in the run.

The recurrence of departments from issue to issue allowed the complexities of the world to be organized and represented according to a structure that was known by readers. Although the titles of departments and their order might vary between titles, there were certain generic patterns that would have allowed readers to know what to expect. In NCSE, for instance, both the *Leader* and the *English Woman's Journal* used the same department title, "Open Council," for their section devoted to readers' correspondence, and both placed reviews towards the rear of each issue. The departments, set out in advance, determined the way the world was represented to readers. By gathering heterodox events together under the same department titles, they suggested relationships between some events while distinguishing them from others. When the Duke of Wellington died in September 1852 the *Leader*, despite its politics, carried black borders in mourning. The opening department, "News of the Week," began "The overpowering event of the week, is the sudden, and—to the impatience of a nation's sorrow—even premature removal of Wellington from the busy world of his conflicts, his counsels, and his glories."[27] The actual details of Wellington's death were included in a small text box on the following page, also marked with black borders. This text distinguished Wellington's death from the other events that constituted the "News of the Week," but also located it amongst the news rather than the regular register of "Births, Marriages and Deaths" where such private events were usually made public. The repetition of the black borders, part of a wider generic code that denoted mourning, marked Wellington's death as an exceptional event, different from the usual unusual events of the news, while distinguishing that particular issue of the *Leader* from all the others in the run.

In the "Literature" department of the same issue, the anonymous author, probably George Henry Lewes, declared: "Novelty is vital for a newspaper. If you have not *news* to feed subscribers with, they naturally enough throw you aside: you cease to exhibit your *raison d'être*, as the philosophers say. And yet when there is no news?"[28]

The article goes on to suggest that periods of little news are when readers turn to books and, as this is the review section, it can help guide readers to suitable publications with which to pass the time. Yet the vivid contrast between the languor of the literary department and the exceptional representation of current affairs at the beginning of the issue demonstrated how departments enforced different representations of the world. It was only in "News of the Week" that Wellington had died: the "Literature" department, attuned to the rhythms of, predominantly, book publication and only notionally interested in the passing events that constituted the news, was produced according to its own rhythms and probably in advance of Wellington's death.

Newspapers and periodicals also published material that did not belong in any of their respective departments. Such supplementary matter, whether gathered into a formal supplement or simply inserted as miscellaneous filler between articles, reminds us of the unclassifiability of things and events. The miscellaneous and trivial nature of such material suggested it was unordered and diverse yet, like the news, it was sourced from suitable cultural institutions and so appeared familiar to readers. Foremost amongst these was the press itself, but the clubs, sport, the arts, and the courts also provided regular sources of information. The miscellaneity of this material was a product of its difference from the other items within an issue—usually in terms of its content and how it was represented on the page—and its distance from its original context, whatever it might have been. Either associated with the discourse of another title or presented in a sparse manner that suggested unmediated information, this material inhabited a space that was on the threshold of the represented world of the title and the wider world beyond it. Often appearing at the ends of columns, it filled the white space before the beginning of the next department, preventing the reader from realizing the conceptual limits of both organizing structures and the journalistic practices that sustained them.

Nineteenth-century serials commodified acts of revelation but the formal repetition of these acts demonstrated that the new, although surprising, was always knowable on the basis of what had been revealed in the past. Reading the press was to repeatedly read how the chaos of everyday life was rendered ordered and comprehensible. The effect of this was the transformation of the unknown from being unknowable to a place where new things came from: i.e. an occulted space, hidden in the past. As Tony Bennett has reminded us, what is at stake in media representations is not

"the relationship between sign and 'reality'" but rather "between sign, the play of signification upon signification within a structural field of ideological relationships."[29] The unknown was part of this structural field, constructed with every act of revelation. It did not operate as a master sign, warranting the nonreality of representation, but rather was itself produced through representation. The fabrication of the unknown tempered the impact of the new so that it resembled variation within a known system rather than as a disruptive symptom of an unknowable reality. The real, whether conceived as the unconscious or the unknown, was displaced by the not-yet-known, a realm whose existence was repeatedly demonstrated by the emergence of new things, events, and phenomena into the world.

Experimental science allowed the properties of things, their hard edges and behaviour, to become isolated from the background noise of nature and so known; Tyndall's scientific imagination allowed a further set of properties—the otherness of materiality, the imponderable, the subvisible world of atoms and molecules—to exist in the world even though they could only be thought and not demonstrated. The relationship between the two (the imagined nature of things had to be based upon and, in turn, generate observable phenomena in nature) posited a continuity between the thinkable and the nature of things and phenomena in the world.[30] Similarly, the orientation of the periodical press towards certain newsworthy institutions isolated particular aspects of the social world from an abundance of other, unreported events and their representation within a regular structure, repeated issue to issue, demonstrated that, despite difference, such social phenomena could be both predicted, accommodated, represented, and understood. I am not arguing that the press was scientific, or that science adopted the practices of journalism (although journalism was, of course, an important aspect of scientific culture): rather, what both practices demonstrate is how we reconcile what we know of the world with what we cannot know. The easy transformation of the new into the familiar, where difference becomes variation, allowed the new to be accommodated within existing bodies of knowledge. The repetition of this process in the scientific experiment or in each issue of a periodical or newspaper testified to the coherence of the known world and its potential to overcome the unknown. For science, it established the objectivity of scientific knowledge; for the press, however, it simply demonstrated that the world as represented corresponded to the expectations of readers. The fact that paradigm shifts, breaks in discourse, or reorganizations of titles occurred reminds us that these worlds were fragile and contingent, that the new always has a disruptive potential to change both the world and how we conceive of what is to come. Science might have been an authoritative discourse, testing the limits of nineteenth-century knowledge and accounting for new things and phenomena, but the timely nature of the periodical

and newspaper press made it the key site for the negotiation between what was and could be known.

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NOTES

1. See James Mussell and Suzanne Paylor, "Editions and Archives: Textual Editing and the Nineteenth-Century Serials Edition (NCSE)," in *Text Editing Print and the Digital World*, edited by Marilyn Deegan and Kathryn Sutherland (Aldershot: Ashgate 2008): 137–157.
2. See James Mussell, *Science, Time and Space in the Late Nineteenth-Century Periodical Press* (London: Ashgate 2007).
3. Anonymous, "Science," *Athenaeum*, 24 September 1870 (1870): 400.
4. See for instance Margaret Beetham, "Towards a Theory of the Periodical as a Publishing Genre," in *Investigating Victorian Journalism*, edited by Laurel Brake, Aled Jones and Lionel Madden (London: Macmillan, 1990): 19–32; Linda K. Hughes and Michael Lund, *The Victorian Serial* (Charlottesville, VA: University of Virginia Press 1991); Laurel Brake, *Subjugated Knowledges* (London: Macmillan 1994): 83–103; Mark Turner, "Periodical Time in the Nineteenth Century," *Media History*, 8 (2002): 183–96.
5. Beetham, "Towards a Theory of the Periodical," 25–6.
6. Bruno Latour, *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge, MA: Harvard University Press 1999), especially chapter 5.
7. See Anonymous, "The British Association for the Advancement of Science," *The Times*, 15 September 1870: 4.
8. Anonymous, "The British Association—Liverpool Meeting 1870," *Nature* 2 (15 September 1870): 399.
9. A second edition was published later that year that included some reactions from the press and a further essay, "Scientific Limit of the Imagination." See John Tyndall, *Essays on the Use and Limit of the Imagination in Science* (London: Longman, Green and Co. 1870). A third edition was published two years later that left out the articles from the press but developed the latter essay. John Tyndall, *Scientific Use of the Imagination and Other Essays* (London: Longman, Green and Co. 1872).
10. John Tyndall, *On the Scientific Use of the Imagination* (London: Longman's Green and Co. 1870): 6.
11. *Scientific Use of the Imagination*, pp. 9–10.
12. For the ether see Steve Connor, "'Transported Shiver of Bodies': Weighing the Victorian Ether" <www.bbk.ac.uk/english/skc/ether> [accessed 28 November 2008]; *Conceptions of the Ether: Studies in the History of Ether Theories, 1740–1900*, edited by G.N.Cantor and M.J.S. Hodge (Cambridge: Cambridge University Press 1981).

13. Tyndall, *Scientific Use of the Imagination*, p. 9.
14. Lorraine Daston, "Fear and Loathing of the Imagination in Science," *Daedalus* 134 (2005): 16–30.
15. Jason H. Lindquist, '"The Mightiest Instrument of the Physical Discoverer': The Visual 'Imagination' and the Victorian Observer," *Journal of Victorian Culture* 13 (2008): 171–199.
16. Tyndall, *Scientific Use of the Imagination*, p. 10.
17. *Nature* 2 (2 September 1870).
18. *Nature* 2 (17 November 1870).
19. This turned out to be very difficult. For a full account, see "Editorial Decisions" and "History of the Project," *Nineteenth-Century Serials Edition* (NCSE), <www.ncse.ac.uk> [accessed 14 November 2008].
20. For more on the *Leader* see Laurel Brake, "*The Leader* (1850–1860)," *Nineteenth-Century Serials Edition* (NCSE), <www.ncse.ac.uk> [accessed 14 November 2008].
21. See *Leader* 4 (26 March 1853): 289–312. In the *Nineteenth-Century Serials Edition* (NCSE), <www.ncse.ac.uk> [accessed 14 Novmber 2008].
22. See *Leader* 6 (31 March 1855): 289–312. In the *Nineteenth-Century Serials Edition* (NCSE), <www.ncse.ac.uk> [accessed 14 Novmber 2008].
23. See *Leader* 8 (28 March 1857): 289–312. In the *Nineteenth-Century Serials Edition* (NCSE), <www.ncse.ac.uk> [accessed 14 Novmber 2008].
24. See *Leader* 9 (24 July 1858): 697–728. In the *Nineteenth-Century Serials Edition* (NCSE), <www.ncse.ac.uk> [accessed 14 Novmber 2008].
25. See *Leader* 9 (16 October 1858): 1081–1112. In the *Nineteenth-Century Serials Edition* (NCSE), <www.ncse.ac.uk> [accessed 14 November 2008].
26. See Anonymous, untitled article, *Leader* 10 (31 December 1859): 1417.
27. Anonymous, "News of the Week," *Leader* 3 (18 September 1853): 885. In the *Nineteenth-Century Serials Edition* (NCSE), <www.ncse.ac.uk> [accessed 14 Novmber 2008].
28. Anonymous, "Literature," *Leader* 3 (18 September 1853): 903. In the *Nineteenth-Century Serials Edition* (NCSE), <www.ncse.ac.uk> [accessed 14 November 2008].
29. Tony Bennett, "Media, 'Reality,' Signification," *Culture, Society and the Media,* edited by Michael Gurevitch and others (1982; London: Routledge, 1988): 287.
30. There were exceptions to this: Tyndall, musing on the materiality of thought, believed that although thought and feeling might be accounted for in the physics of the brain, the problem was too complex for contemporary scientific thought. See "Scientific Limit of the Imagination" in *Essays on the Use and Limit of the Imagination in Science*, pp. 62–65. However, in an earlier essay (originally in the *Saturday Review*, 4 August 1860), he categorically placed metaphysical questions ("Where come we? Where go we?") beyond the scope of physics as they were unthinkable, pp. 66–71.