

Introduction: Technologies of Fire in Nineteenth-Century British Culture

Anne Sullivan and Kate Flint

Fire ignited paradoxical and competing values in nineteenth-century Britain: primitivism and modernity, vitality and destruction, intimacy and spectacle. The introduction of ‘artificial’ gas flames and electric light rendered the incendiary element more mutable still, construed as an agent of industrial progress or, alternatively, as an extension of the ‘hearth and home’ that apparently resisted an increasingly technologized era. Despite the material displacement of ‘natural’ firelight as the primary source of warmth and illumination in public and private spaces, fire continued to feature prominently in British imaginations. As a Romantic metaphor for reverie or as a means for projecting moving images from the magic lantern, fire was a shared substance and energy across literature, art, public displays, and proto-cinematic entertainments. This issue of *19*, ‘Technologies of Fire in Nineteenth-Century British Culture’, argues that fire is a visual and narrative technology by exploring the affective and material histories of firelight.

A few touchstones from the history of artificial light help to contextualize how and why fire — in its multiple forms — was perceived in such contradictory terms. The industrialization of light in nineteenth-century Britain facilitated remarkable cultural transformations as gas and electricity began to supersede more traditional forms of firelight.¹ Gaslight,

¹ For a cultural history of the industrialization of light in the nineteenth century, see Christopher Otter, *The Victorian Eye: A Political History of Light and Vision in Britain, 1800–1910* (Chicago: University of Chicago Press, 2008); and Wolfgang Schivelbusch, *Disenchanted Night: The Industrialization of Light in the Nineteenth Century*, trans. by Angela Davies (Berkeley: University of California Press, 1995). For an excellent discussion of the material history of gaslight and gasworks, see Steven Connor, ‘Gasworks’, *19: Interdisciplinary Studies in the Long Nineteenth Century*, 6 (2008) <<https://doi.org/10.16995/ntn.470>>. Contemporaneous and later scholarly accounts of lighting innovations often characterize the resulting visual transformations as ‘turning night into day’. Schivelbusch traces the use of this phrase to several European innovations in the history of light; see, for example, his discussion of seventeenth-century Parisian street lanterns and nineteenth-century Viennese electric arc lights (pp. 90, 115, 118). Christopher Otter notes that scholarly accounts of electric light often use the narrative of ‘turn[ing] night into day’ (p. 2). Unless otherwise noted, Otter’s *The Victorian Eye* is our source for references to historical innovations in lighting technologies. See, for example, his discussion of the spread of gas lighting into middle-class homes and rural areas between 1830 and 1880 (p. 151).

though discovered prior to the nineteenth century, became aligned with the era's narratives of national and industrial progress. In the early 1800s, factories began adopting gas lighting to artificially extend daylight hours. This process of transforming 'night into day' continued when gas street lamps first illuminated Pall Mall during an 1807 demonstration. In 1815 Covent Garden incorporated gas lighting for illumination and to attract audiences, a move that inspired a flurry of competing gas installations at other theatres until, in 1818, some patrons complained there was 'too much light'.² As gas became more cost efficient between 1830 and 1880, installations expanded into middle-class houses and beyond urban centres. The increased reliance on gas flames in public and private spaces, and the growing popularity of electric light in the 1890s, further amplified the relationship between modernity and industrialized light.

The material and ideological processes of industrializing firelight suggested to some that Britain had finally mastered the ancient element of fire, yet — and this is of special interest to the articles collected in this issue — reliance on outmoded technologies of heat and light continued throughout the nineteenth century. Candles, wood, oil, coal, and other fuels continued to burn alongside gaslight and later coexisted with electricity.³ The enduring popularity of coal fires generated an environmental crisis as late as the Great Smog of London in 1952. In an effort to stave off cold weather, Londoners eagerly stoked their coal fires, but the domestic chimneys, when combined with a stagnant weather system, produced a 'Great Smoke' that did not disperse. Instead, a toxic and impenetrable fog descended on London, creating hazardous levels of pollution and dangerous traffic conditions that resulted in thousands of fatalities. Lynda Nead argues that post-war Britain interpreted the dark fog as an uncanny return of the Victorian past, and traces the visual iconography of gas fires, cleanliness, and national progress in mid-twentieth century visual culture.⁴ In the immediate aftermath of this smog, coal fires were castigated as an old and potentially hazardous technology of heat and light, and it is to this notion of 'outdated' technologies of fire that this collection attends.

² Terence Rees, *Theatre Lighting in the Age of Gas* (London: Society for Theatre Research, 1978), p. 11.

³ Christopher Otter similarly resists characterizing the history of artificial light as an inevitable trajectory from fire to electric light. For a discussion of how the term 'electric light' often served as an umbrella for multiple forms of light, such as arc light and incandescent light, see *The Victorian Eye*, p. 178.

⁴ Lynda Nead, 'The Tiger in the Smoke: The Visuality of Post-War British Fog', Visual Ecologies Workshop, Caltech, Pasadena, CA, 11 May 2017, lecture notes. Just after the writing of this introduction, Nead's monograph, *The Tiger in the Smoke: Art and Culture in Post-War Britain* (New Haven: Yale University Press; London: Paul Mellon Studies in British Art, 2017), was scheduled for publication on 14 November 2017. See also Christine L. Corton, *London Fog: The Biography* (Cambridge, MA: Harvard University Press, 2016), pp. 272–314.

This issue of *19* grew out of a successful panel at the 2016 Modern Language Association Convention in Austin, Texas, where Anne Sullivan, Nancy Rose Marshall, and Kate Flint presented research on ‘flame’, ‘pyre’, and ‘flash’, respectively, as ‘technologies of fire’. The articles in this collection have continued to expand on the term ‘technology’ in its industrial and mechanical contexts as well as in its representational methods, techniques, and practices. This issue shows that technologies of fire, such as candle flames, fireworks, and volcanic eruptions, parallel the more familiar material innovations in heat and light: the gas lamp and the electric bulb. Readers will encounter literal technologies — the chemical and mechanical components of theatrical pyrotechnics and the funicular railway that summited Vesuvius — as well as technologies of representation, such as the arrested motion of fireworks on canvas or Charles Dickens’s delayed narrative reveal of Krook’s spontaneous combustion. This collection builds from the work of scholars such as Isobel Armstrong, Jonathan Crary, Kate Flint, Christopher Otter, and Wolfgang Schivelbusch, who have demonstrated that natural and artificial light are central to the convergence of literary criticism, cultural studies, and the history of science. This interdisciplinary collection of articles, taken together, as Isobel Armstrong states in her afterword, constitutes ‘the beginnings of a [...] poetics of fire’. It examines fire through the lenses of art history, literature, media history, and the history of science while also grappling with larger nineteenth-century concerns and contexts, such as emerging visual literacies, industrial and imperial progress, and the aesthetic and scientific possibilities of materializing the immaterial.

The articles that follow are arranged in broadly chronological order. All the same, there is considerable overlap in terms of the time frames through which different fiery phenomena are treated. This illustrates well the continuities in the multifarious ways in which fire — natural and contrived, controlled and dangerous, beneficial and destructive — was construed over the nineteenth century. We have also mixed up longer and shorter pieces with the aim of making the dialogue between the contributions as lively as possible.

In Anne Sullivan’s article, the domestic fireside is a site of reverie. Drawing on Michael Faraday’s lectures on *The Chemical History of a Candle*, she argues that flame is a moving-image technology and recovers fire-gazing as an intimate form of viewing and producing moving pictures. Her article locates latent anxieties about automation, usually associated with late nineteenth-century entertainment and communication media, in early and mid-century accounts of fire-gazing. It culminates in an interpretation of Lizzie Hexam’s fireside reverie in *Our Mutual Friend* (1864–65), which shows that the fire-gazing scenes in that novel rely on both conscious and unconscious modes of perception to revitalize an individual and more fanciful imagination resistant to purely mechanized entertainments and scientific demystification.

Anna Henschman's piece looks at burning in a less palatable light. She addresses the meaty, greasy air in *Bleak House* (1852–53) that proves to be the odour of Krook's spontaneously combusted body. But, unpleasant though this inhalation may be, she shows that it is not, in fact, singular. Inexpensive candles were made of animal fats, for example, and Henschman argues that Krook's sensational demise proves a way of getting us to think further about energy expenditure and exchange, as well as the imbrication of human, animal, and atmosphere, in an age of industrial capitalism.

Nicholas Daly's article on fire in the Victorian theatre returns us in some respects to the pleasurable: the representation of fire on stage became increasingly spectacular during the century. Sometimes very simple technologically, other incendiary displays not only drew from scientific developments, but — so startling were they in the interruption that they caused — had the effect of making the spectator recognize, and appreciate, the artifice that they were witnessing. At the same time, this 'theatre of attractions' had its dangerous side since almost every theatre seems to have caught fire — even to have burned down — at some point.

Unintended conflagrations also featured in J. M. W. Turner's paintings, most famously, of course, in his depictions of the burning of the Palace of Westminster. This, as Leo Costello shows, helped to consolidate his reputation as a painter of destruction. Yet, as he goes on to argue, fire in Turner partook in a dual role, also increasingly carrying the connotations of domesticity and comfort. Throughout the painter's career, however — indeed, from his early works onwards — fire played a political role, and, Costello maintains, Turner was continually interrogating its relationship with an age of mass politics.

Volcanic fiery eruptions were familiar nineteenth-century figures for political uprisings and revolutionary energies, but rather than explore their metaphorical resonances, David Pyle writes about the developing understanding of volcanic processes that unfolded during the nineteenth century. The backdrop to these scientific discussions was the frequent and dramatic eruption of Vesuvius, which meant that representations of this volcano were often seen by Victorian spectators. Yet, if Vesuvius served the first half of the period as a 'model' volcano — its most famous eruption being that which buried Pompeii in AD 79 — later eruptions in Indonesia and the Caribbean ensured that deep and destructive forces became increasingly associated with contemporary volcanoes, and the actual or latent threats that they posed. Throughout all nineteenth-century description and analysis of volcanoes, the language of fire, Pyle shows, was central.

Kate Neilsen's piece addresses the implications of a different kind of naturally occurring fiery event — the first solar flare ever observed from earth, in 1859. The resulting solar storm remains the strongest weather event ever recorded by humans as taking place in space, causing spectacular displays of the aurora borealis, and creating electrical surges that caused

telegraph machines to catch fire. Beautiful and threatening in its results, this display stimulated much debate about the nature of the sun, which tied in directly to contemporary debates about thermodynamics. In what ways, it was asked, could the sun's fieriness disrupt human activity — not through becoming feebler, as some argued, but by sending hot jets towards the earth?

Solar fires and erupting volcanoes are uncontrollable fiery spectacles. By contrast, the firework displays that were features of commemorations and pleasure gardens in Victorian Britain were highly choreographed events, and their representation in the illustrated press was frequently quite stylized. Kate Flint shows that, ostensibly, James McNeill Whistler's 1875 painting *Nocturne in Black and Gold*, which represents fireworks in Cremorne Gardens in a highly atmospheric manner, attempts something very different from popular representations. Yet, spectators could not fail to bring their own associations with fireworks to the work and thus, she argues, Whistler's painting cannot be taken as a self-contained stimulus to reflection and aesthetic contemplation.

Nancy Rose Marshall also examines visual representations of human-made fires; in her case, funeral pyres, as they figured in Victorian imagery of Druid and Viking cultures. Yet, as she shows, this interest in funereal flames was not purely one of historical fascination, but was closely linked to the emergent cremation movement. Marshall takes this further, to explore how the Victorian fascination with pagan fire (and with contemporary bodies consigned to the flames) was also concerned with the nature of bodies and matter, the potential — or lack of it — for resurrection of a burnt body, and the invisibility and formlessness of the soul. The very visibility, yet constant mutability, of flame, and the concomitant embrace of an aesthetics of dissolving form in its representation, means that painterly style can be understood as a means of understanding spirituality. These speculations also return the reader of this issue to Sullivan's opening article. If one can project one's imaginings onto domestic flames, so painted ones may also serve as a site for conjecture.

Jesse Oak Taylor presents a haunting analysis of Joseph Conrad's 'Youth', an 1898 short story about a coal ship that catches fire, a local disaster that registers on a global scale in the Anthropocene. When the captain decides to ignore the coal fire smouldering below decks in the cargo hold, life on board ship proceeds almost 'as normal' despite the threat of imminent catastrophe. Taylor draws analogies between the crew's 'cognitive imperviousness' to disaster and our present moment, in which we continue to burn fossil fuels despite alarming evidence that this action continues to precipitate global warming.

In conclusion, Isobel Armstrong's afterword, 'Fire', both ties together all the pieces, offering reflections about the particular angles that they present on this element, and provides some further provocative

thinking about perception and phenomenology. Armstrong engages with the historical and theoretical contexts of this collection by turning to Michael Faraday — a figure who appears in Anna Henschman's, David Pyle's, and Anne Sullivan's articles — and Gaston Bachelard. Placing the articles in conversation with Faraday's admiration of the candle flame and Bachelard's attention to the creative and destructive properties of fire, Armstrong contends that this issue offers the 'beginnings of a coherent poetics of fire for the Victorian period'. We share her ambitions for the work that these articles may perform as they examine the illuminating, spectacular, and catastrophic technologies of fire.⁵

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⁵ This issue complements John Durham Peters's meditations on fire's relationship to media theory — and to the history of human civilization more broadly — in *The Marvelous Clouds: Toward a Philosophy of Elemental Media* (Chicago: University of Chicago Press, 2015), pp. 115–65.