

## The Smoke of London

**Review Number:** 2186

**Publish date:** Thursday, 2 November, 2017

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**ISBN:** 9781107073005

**Date of Publication:** 2016

**Price:** £51.99

**Pages:** 296pp.

**Publisher:** Cambridge University Press

**Place of Publication:** Cambridge

**Reviewer:** Elly Robson

In the 200 years before the invention of steam power and the advent of the Industrial Revolution, early modern London was a coal-fired metropolis. The dirty fuel was burnt in both the hearths of individual households and in the furnaces of breweries, bakers, and glassmakers. London's prolific appetite for coal – mainly 'sea coal' shipped along the coast from Newcastle – outstripped any other early modern city globally and permanently altered its urban environment. It generated endemically polluted air in the metropolis, containing hazardous SO<sub>2</sub> concentrations of up to 70 times current-day levels and manifesting in the visible 'smoke of London' which lends William Cavert's wide-ranging environmental history its title. At the heart of Cavert's first monograph is an attempt to understand the 'Faustian bargain' of consumption and its consequences defining the ensuing fossil-fuel era, for which London acted as an early laboratory: economic progress and political ascendancy at the cost of environmental degradation.

Cavert showcases environmental history at its best: capacious, curious, and genuinely interdisciplinary. He interweaves strands of cultural, social, economic, and political history, illuminating how smoke intersected with aesthetics, medicine, naval power, literature, urban space, and sensory experience. Economic debates about timber scarcity and capitalist development are addressed and insights are offered into gendered depictions of the sinful, smoky city in theatre. Historiography is dealt with lightly throughout, however, making this book accessible to a general as well as specialist audience. Cavert is a skilled storyteller, exhibiting almost literary flair at times, and his chapters open with engaging vignettes about a 152-year-old man and the Dutch raid on the Medway. He is also strong on big data, contextualising his own more qualitative claims by citing studies – both historical and scientific – revealing coal's economic and health impacts. Moving deftly between poetics and parliamentary policy, Cavert combines illuminating anecdote with painstaking archival research. His broad scope is reflected in investigation of an impressive array of records – both metropolitan and national – across twenty different archives, including state papers, personal correspondence, legal documents, estate administration, local courts, and company accounts. The extensive list of primary books and pamphlets consulted is only a few pages shorter than his secondary bibliography. Cavert's real strength lies in combining archival depth with a wide lens encompassing contemporary developments both within London and further afield, as well as recent historical approaches to books, the body, and dirt. This results in a convincing and well-crafted narrative that grips the reader's attention and brings the significance of his hazy subject matter into focus. This book consequently has much to offer historians of all stripes as well as providing an engaging entry point into environmental history for students.

*The Smoke of London* is not just environmental history: it is also distinctively urban history, building on a rich historical literature exploring the capital's social, cultural, and political life. Cavert situates London as *the* early modern city, larger than all other British towns by several degrees of magnitude and probably burning more coal than any other metropolis worldwide. As other scholars have highlighted, London was dynamic and exceptional: the centre of the political nation, a site of an immense and transient population, and a hub of industry, public opinion, scientific thought, and royal power. Cavert's concern with coal consumption in an urban context is what makes his study novel, moving beyond histories of coal as a factor of production and economic development and instead exploring its implications for urban sociability, health, and politics. Nonetheless, Cavert also transports his reader outside of the urban sphere: to sea, where coal was transported along the coast and became a factor in naval strategy, and to the country, where Londoners sought the benefits – both material and imagined – of temporary respite from smoke.

Beginning with Benjamin Franklin and Samuel Johnson and concluding with William Wordsworth and Lord Byron, in between these landmark figures Cavert introduces us to aristocrats, brewers, playwrights, colliers, and natural philosophers, all of whom shared in producing and navigating London's smoky environment. Almost every individual and every aspect of London life, it appears, was touched by smoke. We learn about John Locke's delicate lungs, which removed him from political life in London from the Exclusion Crisis onward, about how coal taxes were used to finance London's rebuilding after the Great Fire, and how both Charles I in the 1630s and the Earl of Bridgewater in the 1660s became infuriated by polluting neighbours. *The Smoke of London* is written in four broad thematic sections, each containing several short, tightly-woven chapters. The first section, 'Transformations', lays the groundwork of the book, with chapters situating London, coal, and smoke in terms of both historiographic debates and wider historical developments. In part two, 'Contestations', we learn about responses to pollution – royal, legal, and scientific – and in part three, 'Fuelling Leviathan', the ways in which London's coal consumption became regarded as a necessity by the fiscal-military state are explored. The final section, 'Accommodations', looks at how smoke became a defining feature of London life and how Londoners adapted to this, accepting and avoiding it both practically and imaginatively.

Spanning the period 1600 to 1800, *The Smoke of London* is shaped by two subsequent developments: the Industrial Revolution and its environmental consequences. This is not just history 'in its time', but is intended to help us understand what came next. By the 19th century, industrialisation proper had arrived and smoke became a national problem. In the 21st century, fossil-fuelled climate change is regarded as a global threat, while urban pollution continues to trigger public health warnings in 'megacities' like Beijing, Delhi, and London. Cavert's claim that London's early modern experience shaped Britain's economic and environmental dynamics in the 19th century is suggestive, but remains a little oblique in detail. Without labouring the point, however, this historical study holds key lessons for 21st-century scientists and policymakers grappling with urgent problems of energy supply, environmental regulation, and social adaptation at the other end of the coal era, as global atmospheric change takes hold and fossil fuels' finitude looms large. Showing how both consumption and solutions to environmental problems were politically and socially mediated, Cavert unpicks why early modern Londoners – despite their many complaints about smoke – failed to act on their knowledge of its harmful effects. He illuminates how coal became the lifeblood of London, even as it poisoned its skies, and reveals the limits of public policy, legal redress, and scientific thought. Cavert consequently makes a clear intervention in debates about the nature of environmental change by investigating the early modern origins of the fossil-fuel era in atypical London.

Smoke was rarely treated as a problem to which city-wide solutions could be proffered. Dedicated to Charles II, John Evelyn's *Fumifugium* (1661) was an unusual attempt at widespread reform, which enlisted fleeting royal support. The contradictions of this text evidently captured Cavert's imagination: it recurs throughout the book and even commands a chapter of its own. It was a product of ongoing debates about London's air problem, given new scope at a moment of Restoration reform, but its failure to generate change typifies how responses to environmental problems became entangled with more urgent military, political, and economic concerns. Cavert is keen to highlight that there was no identifiable, self-conscious early modern

environmentalism, but there was what he terms 'environmental concern' (p. 215). Charles I did not target industrial brewers near royal palaces because he was an early modern eco-warrior. Instead, he was anxious about eliminating perceived threats to the aesthetic and spatial performance of monarchical power through order and cleanliness. Attempts to combat smoke were largely local and limited: protecting royal authority and health, accusing neighbours of 'nuisance', creating better air in the wealthy West End, or, increasingly, leaving the city to escape from an omnipresent atmosphere. Cavert shows that a lack of any systematic environmental improvement engendered contradictions. Visible industrial polluters were singled out, while ordinary Londoners' dependence on coal for everyday domestic use – burning three times as much fuel – was treated as a subsistence necessity by governors, who were anxious that destabilising social disorder might ensue if supplies were threatened.

Cavert is particularly strong on the complex role of political and legal institutions – both local and national – in managing coal supply and regulating smoke. In his account, the politics of coal and smoke was a politics of governance. Chapter five, 'Nuisance and neighbours', deals with the legal category of 'nuisance' to cast light on how conflict over pollution was defined and mediated. In it, Cavert investigates a smorgasbord of relatively ineffective litigious avenues for pursuing redress against industrial polluters who infringed on royal or individual property and health. Law Reports form the mainstay of the chapter and Cavert's frustration is evident when he describes searching for nuisance cases in Westminster court archives, including 10,000 pleas in King's Bench, as akin to 'looking for needles in large and messy haystacks'. Yet he casts his net wide, examining an impressive array of London institutions, including the Fishmongers Company, the Court of Aldermen, and the Wardmote Courts. He consequently has an acute sense of the regulative capacity of different, interlocking jurisdictions, but does not present them as totalising in influence. Instead his emphasis falls on their limitations. Private contracts by landlords were far more effective than common law courts in excluding noxious trades from certain parts of the city, particularly in creating an elite non-industrial zone in genteel west London. This chapter tells us more about institutions and their limits than it does about the ways in which smoke sparked neighbourly negotiation. Royal and aristocratic attempts to limit air pollution in their vicinity have left a more prominent archival trace. However, further light may be cast on environmental conflict between more lowly urban neighbours through further examination of legal depositions, which tend to be well catalogued and have provided a rich lens for early modern historians examining rural disputes over resources.

A concern with governance recurs in part three, where several chapters examine the role of the state in regulating London's coal supply and mediating the competing claims of civic governors, coal suppliers, the military, the urban poor, merchants, and industries. Efforts to ensure a constant flow of coal to the capital were more energetically pursued than attempts to alleviate pollution, because the former aligned with the priorities of the fiscal-military state: taxation, naval power, social stability, and economic development. Although there was never a state monopoly over the coal trade, the state gathered information through taxes on coal imports and intervened in markets by granting and revoking charters. Tensions could arise, however, between state revenues and economic growth, as merchants mobilised to lobby against rising coal taxes. Similarly, in times of war, able seamen transporting coal down the coast became a valued resource and were vulnerable to naval impressment, forcing the government to balance external military dangers with the threat that fuel scarcity posed to internal social order.

One of Cavert's central contentions is that 'there was social depth to environmental concern' (p. 73). An impressive social span is covered in detail: ranging from crown and gentry to wealthy merchants, middling tradesmen, and the poor. While an appreciation of the dynamics of social degree, gender, and age in access to coal and exposure to smoke is evident throughout, however, it remains a relatively implicit strand in Cavert's study. Tim Soens, whose work has examined how social inequalities shaped exposure to environmental risk in early modern Europe, is a notable absence in the bibliography.<sup>(1)</sup> Dealing with coal as the fuel of the poor, chapter seven on 'the moral economy of fuel' again adopts the perspectives of governors. Cavert highlights that fuel paralleled food as a necessity and subsistence 'right': the two were linked through difficult choices to heat or eat and, in 1665, the poor were said to be 'ready to starve for want of fuel' (p. 112). He proceeds to examine civic governors' concern to fulfil moral expectations about

subsistence provision of fuel to the poor through charity and regulation and corresponding fears about fuel scarcity igniting disorder. This is a selective interpretation of E. P. Thompson's classic formulation, however, neglecting 'from below' perspectives that could have illuminated poor Londoners' demands for coal and negotiations of scarcity. Cavert examines how the poor's fuel needs were invoked in petitions from merchants, machinations by foreign enemies, and Privy Council orders, but they do not appear as agents making claims in their own right. Although there were no coal riots to parallel Thompson's 18th-century food riots, Cavert acknowledges that there were probably 'grumblings, complaints, and ... frequent outbreaks of minor and contained disorder' (p. 118). There is no concerted investigation of more quotidian negotiation, however, and only fleeting mention of an incident of outright fuel disorder during the First Civil War, when Londoners looted nearby wood supplies due to a Parliamentary embargo of coal supplies from Royalist Newcastle (p. 147). Although strikes and protests amongst unincorporated and exploited Thames coal heavers are briefly considered, closer focus on the end suppliers of coal in London could reveal the politics of the marketplace. Instead, Cavert's attempts to illuminate the lived experience of urban fuel poverty depend on a rich historical literature examining similar questions in a rural context – particularly research by Steve Hindle and Andy Wood – and extrapolation from a 21st-century study on the psychology of scarcity.

Man-made urban pollution presents specific environmental dynamics and Cavert's study differs in important ways from recent historical studies into natural disasters and the climatic variations of the Little Ice Age. There was very little nature in smoke, other than perhaps human nature. Rather than an external threat, smoke was increasingly intrinsic to the city: its social relations, cultural depiction, and spatial configuration. The opening chapters insist on the material realities of pollution, bringing current medical studies into dialogue with historical data on air pollution to emphasise that early modern smoke was 'quite real' (p. 33). However, despite Cavert's critical appraisal of Mary Douglas's notion of dirt as 'matter out of place' – a manifestation of socially-determined ideas of order and disorder – his emphasis falls on social, political, and cultural mediations of material 'reality'. For instance, he argues that although there was not necessarily a material wood shortage in early modern England, much wood was inaccessible to Londoners and there was a prevalent *perception* of scarcity, which prompted a turn to coal. The closing chapters reveal that London's dirty air increasingly became regarded as matter *in* place: a defining if morally dubious feature of the city's cultural depiction and social organisation. Clean air denoted royal power, good society, and moral virtue, while smoke signified sin and gendered sociability. Instead, it was Londoners that displaced themselves, seeking a breath of fresh air through temporary country retreats and intellectual and moral refreshment through the literary ideal of pastoralism. Some of the most illuminating passages in *The Smoke of London* deal with the spatial dimensions of pollution, particularly those considering its social geography, as when Cavert explores how Londoners from different social strata found respite from the city environment. These insights might have been extended further at points; for instance, in a more systematic investigation of criteria through which a suitable spatial and social environment for industrial pollution was determined.

Like the best historical work, Cavert leaves tantalising, often overtly acknowledged, loose ends for future historians to untangle. This is a natural consequence of *The Smoke of London*'s ambitious scope and lively contributions to diverse historiographic debates. It is a book that opens up new horizons for rich, multifaceted histories of environmental change, as well as sparking reflection about social and political responses to fuel scarcity and global pollution today. In the final sentence of *The Smoke of London*, Cavert suggests that the Gordian knot of energy-fuelled progress and environmental damage might be undone by technological advance, but his work reveals far more about the human relations, priorities, conflicts, and experiences that have shaped the fossil-fuel era.

## Notes

1. For instance, Tim Soens, 'Threatened by the sea, condemned by man? Flood risk and environmental inequalities along the North Sea Coast (1200-1800 AD)', in *Environmental and social inequalities in the city. Historical perspectives*, eds. G. Massard-Guilbaud and R. Rodger, (Cambridge, 2011), pp.

91–111.[Back to \(1\)](#)

The author is happy to accept this review and does not wish to comment further.

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