

Britain's industry – in its search for raw material and wealth abroad, and in its colonial ambitions overseas – somehow gets sanitized. As one of the driving forces of gun-based industrialization, the empire hangs overhead more as a spectre than as a historical category.

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doi:[10.1017/S1740022819000299](https://doi.org/10.1017/S1740022819000299)

Author response

I read these thoughtful reviews of *Empire of guns* with gratitude and excitement. Each puts a finger on one of the book's primary nerves, provoking deeper thought and clarification and indicating fruitful directions for future research by other scholars.

Empire of guns is the first book to argue unequivocally that war drove the Industrial Revolution in the long eighteenth century. Judy Stephenson supports her claim that the argument is not new by citing a single unpublished paper by Patrick O'Brien on the economic impact of the century's final wars – seeming rather to prove the opposite. Indeed, even in that paper, O'Brien confirms that empirical difficulties and theoretical constraints have produced a literature 'not replete with a significant volume of research' on war's role in the Industrial Revolution, and that the work of the few scholars who have made even limited claims about it has been rejected by influential later scholars. *Empire of guns* cites O'Brien repeatedly because he has exhorted us since the 1980s to investigate the impact of state expenditure on industrialization – albeit speaking perspicaciously of its 'likely' or 'possibly significant' role.¹ The book tries to move beyond inherently flawed accounting techniques to argue that, whatever war's varied effects across industries, its cumulative effect on certain key industries produced the generally transformative phenomenon that we call the 'Industrial Revolution'.

Even O'Brien, despite his growing conviction of war's role in the Industrial Revolution, embraced the notion that war was a less than 'optimal environment for development';² but this theoretical notion of an 'optimal environment' obscures the reality that war was *the* environment of economic transformation. Economic historians' very language of 'development' – denoting progress – with respect to the Industrial Revolution inevitably requires awkward digressive acknowledgement (like Stephenson's) of the 'exploitation, inequality' that it entailed. I ask us to think instead in terms of 'transformation', so as to reckon freely with the reality of war's role in driving the Industrial Revolution as it actually unfolded.

Certainly, the relationship between economic and military expansion is older than the eighteenth century, as Stephenson notes, but the particular logistical challenges of Britain's eighteenth-century wars – fought abroad on an increasingly mass scale with firearms – triggered the Industrial Revolution. It happened in Britain because everywhere else war was not the thing transpiring abroad that stimulated industrial resourcefulness at home, but a proximate and destructive struggle. The rivalrous dynamics between the corporate partners that made up what we call the British imperial 'state' were also key. By the end of the century, Britain was the global firearms depot, supplying them to its allies against Napoleon in millions. No other European country came close.

But, Kate Smith wisely asks, how representative is gun-making for understanding war's role in the Industrial Revolution? It was important in its own right, as the high-tech industry of its time: innovations and organizational developments in the gun industry had ripple effects because of its

¹See, for instance, Patrick O'Brien, *Power with profit: the state and the economy, 1688–1815*, London: Institute of Historical Research, 1991, p. 20.

²*Ibid.*, p. 13.

many horizontal and vertical linkages with other fields. But it was also ‘representative’ of a general pattern of government stimulation of industry. Chapter 4 of *Empire of guns* shows that industries such as copper production, farming, shipbuilding, and so on had analogous or at least similar relationships with state offices.

Textiles were among these. They were central to the Industrial Revolution, as Stephenson reminds us, but their development, too, was shaped by war. War critically stimulated the wool industry; woollen drapers were major war contractors. Machinery for the new cotton industry – from the Wyatt and Paul spinning machine to the steam engine – was developed by inventors rooted in Midlands metallurgical networks, which were undoubtedly stimulated by war. War yielded access to raw cotton and markets for finished cloth.

Stephenson’s table purports to show that textiles rather than metal goods such as guns were at the heart of the period’s economic transformation. But such tables are too general and aggregative to capture the changes in question; in this one, ‘textiles’ decline after 1770, making hash of Stephenson’s argument. The low figures for ‘metals’ from 1700 to 1770 may reflect Britain’s dependence on imported (often Baltic) bar iron; production of finished metal goods such as guns and cannon certainly rose. The table’s indication of an enormous increase in ‘metals’ at the end of the century would accordingly reflect the ‘take-off’ in domestic iron production after the naval contractor Henry Cort invented his puddling process in the 1780s.

Metals, and the gun industry in particular, were certainly ‘last to industrialize’, if we take this to mean machine manufacture in factories, but, after the work of Maxine Berg and others, we no longer do so; rather, we think in terms of ‘very long-term growth’, as Stephenson recognizes. State demand and state efforts to experiment with industrial organization enabled a ‘leap’ in the annual production capacity of Midlands’ workshop-dominated metal trades from tens of thousands to millions between the beginning and the end of the century.

In explaining this, *Empire of guns* does not show that ‘production was an entirely private-order affair’, as Stephenson claims, but that the distinction between public and private was blurry. It shows the role of state offices and officials in shaping what we call the ‘private’ sector. Devyani Gupta succinctly captures this as a ‘public system of private property’, in which guns played a key role. Likewise, Gupta captures the book’s depiction of the ‘role of private capital in the corporatization of the British state’. Her reading of this argument as a version of ‘the personal is political’, and an echo of the way that guns themselves conflate individual and public violence, is eye-opening and dazzling.

Two reviewers wish that I had made more of the role of the African trade in the story. Giacomo Macola rightly urges study of African consumption’s role in globalization; the rich literature on African gun consumption helped me begin to historicize the use and meaning of guns to Britons. I agree entirely that Africa was no passive periphery in the history of globalization; my point in *Empire of guns* was that the British state was likewise not a passive presence during the Industrial Revolution. This is not to downplay the role of the African trade in transforming the Midlands, established by scholars such as Joseph Inikori. Rather it is to cease to downplay the British state’s role in that transformation, not least in enabling the African trade. *Empire of guns* restores that trade’s impact to a wider context of state-driven economic change in the Midlands. If the state’s wars drove the Industrial Revolution, much of that belligerence was bound up with the slave trade. State support enabled the African trade to thrive in other ways, too: the state provided gun-makers with old military arms to sell in Africa; it offered access to government proofing facilities for the African trade; and it reconstituted the bankrupt Royal African Company (RAC), to the immediate relief of gun-makers. The state understood the African trade’s usefulness in sustaining the gun industry when its own demand ebbed. The RAC and its successor were entities that blurred the line between private and public. Major gun-purchasers for the African market, such as Richard Oswald, were also critical to government military supply operations. These phenomena also address

Smith's query about how the processes connected to war and peace informed and developed each other.

As much as gun-makers valued the African trade, they consistently expressed a *preference* for government work – partly because of the former's unpredictability and slimmer margins that Macola notes. They often complained about the 'bad state' of the African trade. Predatory discounting in that trade meant that they greeted the announcement of war with relief. Moreover, in a credit economy, state debts conferred more 'wealth' than debts from bankruptcy-prone merchants. I describe John Whateley testifying 'strategically' in 1788 that the trade's 'whole existence' depended on the African market in light of this context. In 1792, Whateley was declining African orders in preference for orders from France and India. Gun-makers certainly feared abolition, but this does not mean that the African trade was their 'unique mainstay' (p. 125). Instead, the government that propped up that trade was their mainstay. Aware of their anxiety, it took steps to insulate them from abolition's immediate effects by absorbing gun parts intended for Africa and raising prices for government guns. The African trade was a crucial part of a larger, global dynamic of gun sales in the service of British imperial expansion. It was 'catalytic' as part of this wider, collectively stimulating demand, which included massive sales to the East India Company and South Asian powers, and to trading companies, settlers, and Native Americans in North America. The common factor behind all of these markets was British state support and imperial ambition.

In the nineteenth century, robust sales to Africa were not enough to keep gun-makers from pining for more government orders. They were *sustaining* but not sufficient. In the 1860s, as 100,000–150,000 guns flowed annually to Africa, more than a million went to the American Civil War in just three years. Collapse of that demand triggered the next major transformation in the industry, based on *government* demand for interchangeable parts. African consumption was steady, but that very steadiness meant that it could not prompt a 'leap' in the scale of production in the way that the ever-shifting scale and nature of government demand did.

There is always a challenge in narrating a history that crosses regions and scales of analysis. As Smith notes, human relationships are deeply important to my story of industrial revolution, but I do not explore them beyond Britain itself. British merchants dealing in Africa – for example, Oswald, Joseph Manesty, and Samuel Touchet – are part of the story, but not the networks they worked with in West Africa, or related networks in North America and South Asia. There are vast networks essential to the global gun trade to be discovered by historians with the appropriate skills. Gupta's call to examine how gun violence played out in a colonial landscape is likewise an important task for future historians. I did the best that I could with my sources – including Indian archives – to indicate the enormous impact of guns on trade, war, and culture in other parts of the world.

That said, we must recognize that the story *must* look and feel different if our questions start in Britain. A book about industrial revolution in Britain cannot do justice to the impact of that revolution and its products – including guns – around the world. That history told from the West African or South Asian point of view and from those archives would be an entirely different tale, well worth telling, but not one that I could tell in this book. Such are the practical limits on assembling and narrating the history of a phenomenon of global reach.

Gupta rightly cautions that guns are but a strand in Britain's violent, invasive, and extractive relationship with Asia, Africa, the South Pacific, and North America. At the same time, she affirms that the violence of guns and other military technologies was epistemic as much as physical, given their role in British shaping of the domains of 'science' and 'technology'. Like my previous work, this book is interested in the correlation of power and knowledge, showing that British industry was inherently violent and extractive in South Asia and elsewhere.

Nevertheless, Gupta is right that empire hangs overhead as something of a 'spectre' in a book anchored in Birmingham. Many scholars have done much to reveal the violence of empire, and I have done so in my other work, too. That violence is something of a given in this book,

which focuses on the stakes and importance of colonial violence ‘at home’, how much a place like Birmingham, and the British economy at large, owed to violence abroad. Many Birmingham residents have found its portrayal of their city’s historic place in networks of colonialism illuminating. The ‘postcolonial’ presence of blacks – African, Caribbean, South Asian – in Birmingham reads very differently against this past. As Smith and Gupta perceived, to my delight, the story is about the dynamic of the local and global, though I am sure that there are ways to improve the balance.

Gupta also reminds us of the sufferings of workers in the gun trade, a whisper throughout the book that I wish I could have amplified more. As I note in the book, my sources also regrettably did not permit me to say more about the women who were so crucial to the networks I trace, and I hope that future scholars might fill that gap more.

There are limits to every work. That said, *Empire of guns* is intended as a story of elite British men. Emerging from my interest in the origins of global inequality, it is in the mould of ‘the-empire-writes-back’. I wrote about British gun-contractors, not to deny the historical agency of women, workers, and colonized people, but to expose the working of colonial power. Redeeming its victims would be another kind of project. And highlighting the complicity of African merchants – or Indians or Native Americans – in the spread of British guns would also be another kind of project. The book is no celebration of empire, trade, or the Industrial Revolution. Rather, in showing the centrality of guns, and thus violence, to those phenomena, it is emphatically critical of empire – even though the violence necessarily transpires ‘off-stage’ while the book details events in Birmingham.

The necessity and urgency of that focus is clear, given the concern expressed by a scholar like Stephenson about capitalism’s bad rap with historians, in contrast to its ‘good press’ among economic historians. Here we witness ideological commitment colouring scholarly judgement: leaving aside the question of its accuracy, it is unclear how and why the notion of ‘global security at the end of the twentieth century’ should shape our understanding of the eighteenth-century emergence of industrialism. The object for all historians is to *historicize* capitalism; it defies reason that capitalism has been the same thing in all places across all times. Like other historians of capitalism, I see it as contingent and inseparable from modern colonialism. Global markets were formed violently. Guns were a crucial commodity traded in those markets and were used in the violent opening and formation of markets. That is why economic history must be the terrain of cultural and social history as much as data and tables.

Empire of guns ends by tracing how arms-making’s place in Britain’s industrial economy evolved through the nineteenth and twentieth centuries, remaining enormously profitable today. Though situated differently, arms-making maintains a crucial place in global industrial capitalism: hence the challenges faced by Americans struggling to divest from it in protest against gun violence. This is not to say that twenty-first-century violence is born of the Industrial Revolution (*pace* Stephenson); *Empire of guns* goes to considerable lengths to show that guns have had different uses and meanings across time and space. It is the NRA that would like us to interpret laws devised with eighteenth-century arms in mind to license free use of twenty-first-century arms.

Combining a human story, economic history, and a historical anthropology of gun use was methodologically challenging, not least ensuring that the narrative made sense, and that my historical actors emerged as the human characters they were. I chose to publish this work as a trade book because I wanted to alter our common sense about the Industrial Revolution and was aware of the enormous stakes in doing so: how we understand the Industrial Revolution shapes how we think about ‘development’ today. Spreading awareness of the state’s role in that process was one ambition, but even more urgent was the objective of revealing the place of violence and colonialism in the first Industrial Revolution, and how British imperial expansion skewed ‘development’ and knowledge networks around the world. Setting the record straight on eighteenth-century British gun culture was also urgent, given its relevance to

American gun regulation efforts since the 2008 *Heller* decision. In publishing this way, with these stakes in mind, I risked losing the opportunity to fully air the book's historiographical commitments. I am grateful for this opportunity to clarify some of the scholarly engagement obscured in the published text.

Much remains to be done on the role of war in the Industrial Revolution, and on the role of guns in the history of empire. I look forward to future scholarship in these areas and thank the readers for their sharp and stimulating reviews.

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doi:[10.1017/S1740022819000251](https://doi.org/10.1017/S1740022819000251)