

Book review: *The Life and Legend of James Watt* by David Phillip Miller

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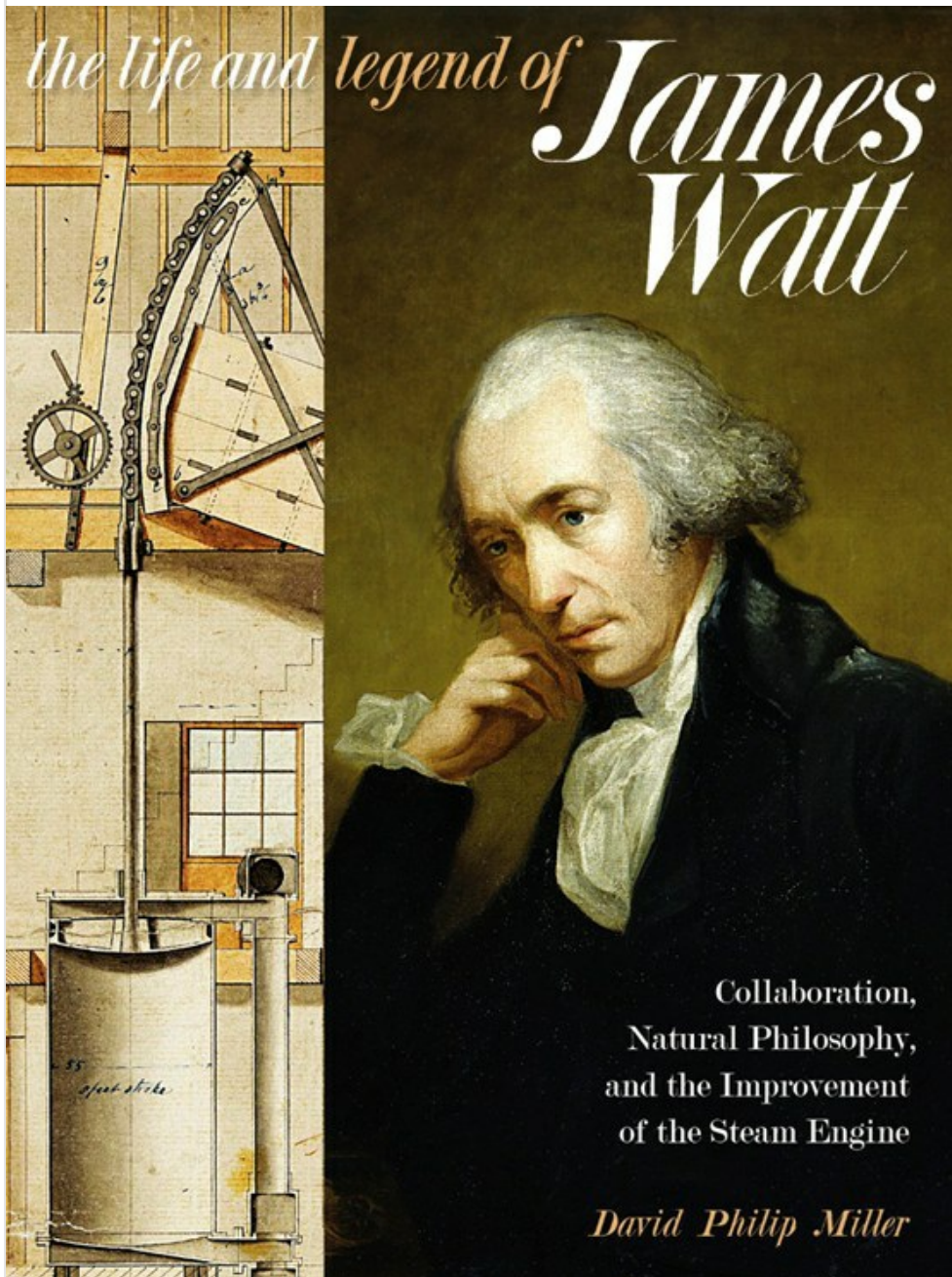
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James Watt, book review, David Philip Miller

'The Life and Legend of James Watt: Collaboration, Natural Philosophy, and the Improvement of the Steam Engine', by David Philip Miller, University of Pittsburgh Press, 2019

Figure 1



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The Life and Legend of James Watt by David Phillip Miller

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This wonderful book by David Philip Miller, Emeritus Professor of the History of Science at the University of New South Wales, is the latest addition to the voluminous canon exploring the life and times of James Watt, engineer and polymath.

Watt (1736–1819) is best known for his work improving the steam engine, taking Newcomen's inefficient atmospheric engine and transforming it into the precision-built machine which became emblematic of Britain's Industrial Revolution. However, as Miller describes, he was a man of many parts, and his career encompassed fields as diverse as pottery, instrument-making, sculpture, chemistry and natural philosophy. Miller has now expanded upon his wide-ranging previous studies around Watt into the most readable, authoritative and up to date work on this enigmatic figure. The book balances historical narrative with thematic analysis, mastery of scientific and biographical details, and synthesis of recent historiography.

The book is an attempt to get behind the classic definition of Watt as a 'genius', to explore his character, and reveal the 'springs of his achievement' – his motivations, as broadly defined (Miller, 2019, p xiii). This approach reveals what we may term the major creative tension in Watt's working life and interests: empiricism and craft, versus natural philosophy. Investigating their interplay in Watt's projects reveals a 'consistent set of philosophical (notably chemical) interpretations lying behind his inventive activity' (Miller, 2019, p xii). Miller also goes to considerable lengths to downplay the traditional view of Watt as a solitary character, arguing that his work was the product of 'collective enterprise', drawing upon close and able support by numerous business associates, friends, family members and artisans.

The first three chapters outline Watt's early life in Greenock, London and Glasgow, as apprentice, shopkeeper, instrument-maker and surveyor. Here Miller portrays Watt as an 'improver' in the best Scottish traditions of that word, before introducing Watt's business partnership with Matthew Boulton.

Thereafter Miller takes a thematic approach outlining what he sees as major aspects of Watt's life which have generally been understated. Chapter 4 explores Watt's 'regular, episodic, and enduring' natural philosophical work from the 1780s (Miller, 2019, p 153). This work encompassed a range of projects, the outputs of which extended beyond what was required to complete the immediate task in hand, to construct a coherent 'chemistry of heat'. Doing so required engagement with natural philosophical forums, and this in turn helped promote the engine-building business to customers as based on philosophical as much as pragmatic ends. Chapter 5 focuses on the social framework which supported Watt in his labours. As Miller puts it, everyone involved had their individual roles to play, but common to all was the laborious need 'to cope with, and work around, the anxieties and vexations that plagued the principal lead in Team Watt' (Miller, 2019, p 202–203). Again, Miller emphasises how presenting Watt as the lone genius developing the company's products was canny marketing which paid commercial dividends.

Chapter 6 covers a neglected facet of Watt's career, namely how much money he actually made from his endeavours, and what he did with it. He invested in significant estates and cultivated a reputation as an 'avuncular sage' which ensured that he had social support later in life when deaths of family members and friends left him alone (Miller, 2019, p xvi). The traditional division of labour between Watt and Boulton has the latter driven by what he termed elsewhere 'love of a money-getting ingenious project', and Watt motivated by somewhat more philosophical concerns – but Watt delighted in the fruits of his labours too. Miller estimates that he had made about £150,000 from his business interests by 1800 (with the purchasing power of around £6.5m today), yet his estate was valued at probate at £60,000. Evidently Watt spent a lot on much else during his retirement years, in effect becoming a landed gentleman with a continued philosophical bent.

The final two chapters consider Watt as a legendary figure during his own lifetime and then in posterity. Watt spent considerable time with his son James Jnr carefully crafting his self-image, helped by painters and sculptors including Thomas Lawrence, William Beechey and Francis Chantrey. Also prominent here is consideration that, for all their philosophical underpinnings, Boulton and Watt dealt ruthlessly with competitors if circumstances made it necessary. Posthumously, James Jnr continued with the 'filial project' of burnishing his father's reputation. This led to the creation of an image of Watt, defined by Miller as 'a man for all causes'. This view of Watt, however, suffered setbacks in the twentieth century as he fell from prominence despite the preservation of an enormous physical record in both objects and archives, at Birmingham, South Kensington and elsewhere.

There is much to like about this book. I particularly enjoyed the material on Watt's supporting cast, including the robust, larger-than-life engineers Isaac Perrins, James Lawson, Joseph Harrison and Richard Cartwright, who in Miller's words 'took on much of the detailed work in the engine and other businesses and also sometimes, in experimental enquiry' (Miller, 2019, p 167). The vicissitudes undergone by many of Watt's physical memorials, from the epic-scale statue by Chantrey which ruptured the floor of Westminster Abbey when it was first placed there, to his complete workshop preserved since 1924 in the Science Museum, also make fascinating reading. They remind us that the survival of any physical artefact is as much guided by luck as by providence. Also valuable in a subject as legend-ridden as Watt are pithy appraisals of sources (Miller, 2019, p 115).

When I began reading this book my main concern was that here again was an enormous piece of 'Wattolatry', the word coined by John Griffiths for 'the worship of Watt' (Torrens, 2000). Miller speaks of path dependency at one point, the term used by

economists to explain the continuance down a set technological path of subsequent technologies, and the term is particularly apposite for Watt, given the relative abundance of related material to study compared to so many of his contemporaries. However, the book successfully lifts Watt from beneath what Miller describes as ‘the weight of legend formation and myth-making’ (Miller, 2019, p xviii) that he has been subject to, looking over his shoulder to a rich and intriguing cast of supporting actors, and raising new questions about this most interesting of historical periods.

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Tags

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