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BOOK REVIEW

D. Acemoglu and S. Johnson, Power and Progress: Our Thousand-Year Struggle Over Technology and Prosperity

(London: Basic Books, 2023). Pages vii + 546 + images 34. £20.00 hardcover.

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Two narratives animate the debate over technological progress today. On the one hand, many executives, politicians, and academics point to the great achievements of human ingenuity over the past few millennia. Marveling at the possibilities of the internet, vaccines, or AI, they never tire to repeat how these technologies have transformed human existence, making the lives of common people infinitely more comfortable than the ones of emperors of old. The second narrative is grim, and though it holds less currency among world leaders, it has inspired spectacular episodes of technological resistance since at least the Luddites of the first Industrial Revolution.[1,2] If the Luddites emphasise the evils of new technologies and call for resistance, techno-optimists can counter that opposition has never worked and technological progress is inevitable.

'Power and Progress' by Acemoglu and Johnson takes issue with both narratives, pointing out how they both move from a premise that is simplistic – and wrong. Both views assume that technology evolves along a single, pre-determined path: societies control the gas pedal or the brake, but the steering wheel is locked. Not so for Acemoglu and Johnson. The central theme of the book is that the path of technological progress is not set in stone: technology is always malleable, and society decides its route. The idea that several distinct technological paths are possible is not new to economic historians, who know that advanced societies 'never solve more than a small fraction of the problems that they are capable of solving'.[3] The idea is sometimes lost in economic models, where technology often grows along a single dimension. The book rejects this view and retraces technological progress from the agricultural revolution until today's AI, emphasising how several alternative paths were in fact possible.

Once we start imagining distinct technological paths, we must recognise that not all technology is created equal. In particular, some technologies expand workers' possibilities while others make them redundant. The implications are profound. Building on two decades of their own research, Acemoglu and Johnson expose a

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second misconception that underpins much of modern thinking about technology: the 'bandwagon effect.' It is often assumed that new technology always increases productivity. Thus, even if new machines replace workers, higher productivity will eventually drive higher demand, higher production, and higher employment; in the end, everybody stands to benefit. In reality, technology that replaces workers need not have large productivity effects; 'so-so technologies' harm human labor because they make workers redundant while providing limited productivity gains. In sum, while technology has profound impacts on workers and society, it is not inevitable; it is always a choice. But who gets to vote on it?

The book advances a full-fledged theory of technological choice. Stating that technology is a 'choice' raises complex questions; after all, a theory where societies have complete agency over what technologies to develop is hard to refute – and of limited use. Acemoglu and Johnson's answer to this problem draws upon economists' essential toolbox: objectives and constraints. The constraints to technological progress are imposed by institutions. Democracy is particularly important, as it ensures that several technological options will be evaluated. That 'institutions matter' will come as no surprise to anyone familiar with the work of the two authors. But in this book institutions are not quite everything; the agents who make technological decisions also play a crucial role.

Within institutional constraints, technological progress is steered by those in charge: the scientists and the inventors, the politicians and the journalists, the business executives and the union leaders – the visionaries that innovate today by imagining the world of tomorrow. Their vision is key because it determines which problems a society focusses on. Importantly, their visions do not fall from the sky: they reflect the values and the interests of those who articulate them. It is for this reason that it is essential to understand the motives and interests of these visionaries.

In principle, anyone who can tell a persuasive story can be a visionary and influence technological progress. In practice, however, rich and powerful élites are very effective at promoting their idea of progress. When they succeed, new technologies benefit only them, often at the expense of the rest of society. To counter these forces, the book concludes with a list of concrete policy proposals designed to make technology beneficial to everyone.

Overall, Acemoglu and Johnson have an original story and a compelling way of telling it. It is perhaps unfair to ask a 546-page book for more. Yet, a few topics merit greater discussion. First, the way ideas and visions shape technology insists on élites' power to further their own interests. While élite's interests certainly play a role, the theory cannot explain why some bad ideas without powerful supporters sometimes get traction (e.g. conspiracy theories). More importantly, it has also little to say on why many ideas that are initially marginal eventually prevail. It does not seem impossible that beside institutions, specific characteristics of visions may also matter for their success, and it would have been interesting to explore these characteristics more systematically.

Second, the idea that several technological paths are possible is powerful – and likely true. The book does discuss a few concrete examples of 'paths not taken', as de Lesseps' failed vision for a Panama Canal without locks. Yet, most of the book is concerned with the 'paths actually taken:' examples from the history of eugenics,

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the space program, or gene editing may have lengthened the book, but they would also have strengthened one of its central claims, i.e. that societies debate and choose their technology all the time.

Finally, the policy proposals at the end would probably deserve a book of their own: while thought-provoking and innovative, they are listed only succinctly, making it hard to judge their merits and potential shortcomings. Even with these limitations, this is an engaging and original book which will surely become essential reading for anyone interested in how technology affects labor, democracy and our societies.

Notes

1 Eric J. Hobsbawm, 'The machine breakers', *Past & Present* **1** (1952), 57–70.
2 Bruno Caprettini and Hans-Joachim Voth, 'Rage against the machines: labor-saving technology and unrest in industrializing England', *American Economic Review: Insights* **2**, 3 (2020), 305–20.
3 Nathan Rosenberg, 'The direction of technological change: inducement mechanisms and focusing devices', *Economic Development and Cultural Change* **18**, 1, Part 1 (1969), 1–24.

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