



# Things can only get better?

The ambivalent impact of innovation on society

**PAUL SEABRIGHT**

**POWER AND PROGRESS**

Our thousand-year struggle over technology and prosperity

**DARON ACEMOGLU AND SIMON JOHNSON**

560pp. Basic Books. £20.

**I**N *POWER AND PROGRESS*, two distinguished economists from the Massachusetts Institute of Technology fire a broadside against what they call “techno-optimism”, the view that “we are heading relentlessly toward a better world, thanks to unprecedented advances in technology”. In reality, they argue, technologies in the past have often failed to yield the benefits promised by their champions, or have yielded great benefits (and profit) to a few but little or nothing to the many, or have even inflicted great harm. What matters, according to Daron Acemoglu and Simon Johnson, is the social and institutional context in which technology is adopted – not the kit itself, but how we respond to it. They apply this lesson from the past to thinking about innovations in artificial intelligence now, calling for greater accountability and the reconfiguration of “societal pressures and financial incentives” to alter “the future direction of digital technologies”.

There is much to enjoy in this book – engaging and informative sections on the disasters faced by the French engineer Ferdinand de Lesseps in trying to build the Panama Canal after his earlier success in building the Suez Canal, on the development of windmills in the Middle Ages, on the role of a particularly British aspiration to social mobility that provided encouragement to entrepreneurship in the early industrial revolution, and on Henry Ford’s approach to automation. But the particular illustrations are repeatedly undermined by a lack of clarity over what exactly is being argued, and who the opponents are whose theories are being challenged.

*Power and Progress* starts with the prophets of techno-optimism. These are described, in the first sentence, as “executives, journalists, politicians and even

some of our colleagues at MIT”, but no one is named. It is not hard to think of people who have been evangelical about specific technologies, be they vaccines or containers (the subject of Marc Levinson’s fascinating book *The Box*, 2016), but it is harder to think of anybody serious who really believes that “we are heading relentlessly toward a better world”. The authors get into a muddle over this: Bill Gates is a techno-optimist on page 1, but on page 32 he is described as “expressing concern about misaligned, or perhaps even evil, superintelligence”. And the later claim that “society and its powerful gatekeepers need to stop being mesmerized by tech billionaires and their agenda” is mere sloganizing. The media are full of op-eds thundering about the need to rein in tech billionaires. The problem is that no two editorialists can agree on precisely how to do this.

Since the dawn of innovation, humans have adapted useful technology to oppress others. Improved ship design in the early modern era enabled trade in goods but also in slaves. Even technologies as overwhelmingly beneficial to the world as vaccines may create destructive potential for those who have access to pathogens and know-how. Historians of technology have often emphasized the ambivalent impact of innovation on different sectors of society. Jared Diamond famously described the invention of agriculture as “the worst mistake in the history of the human race”, and reservations of one kind or another have been expressed about most important innovations in history. The overall balance of benefits over costs is evaluated in widely different ways by different scholars, of course. Some, such as Steven Pinker or Hans Rosling, have drawn attention to astonishing advances in nutrition and declines in infant mortality, while being quite aware of the damage technological change has also wrought in areas such as climate change and warfare. Others, such as J. Bradford DeLong in his recent *Slouching Towards Utopia* (TLS, September 23, 2022), point out how unsatisfied we seem to be with material progress despite having achieved far more than our ancestors prior to 1870 would ever have dreamt possible.

What are the conditions that underpin responses to innovation? Sometimes collective decisions

“Cyber Horse”, built out of microelectronic circuit boards, Tel Aviv

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matter. The authors are right to argue that the industrial revolution, while worsening conditions for workers in factories in the short term, brought populations together in workplaces and city streets, thereby laying the foundations for activism and improved workers’ rights later on. But sometimes a new technology itself makes the difference. The development of projectile weapons in prehistory, for example, helped to create a more equal distribution of power in human communities: spears, bows and arrows provided a greater advantage to the weak against the strong than the clubs they superseded. It was not because well-meaning people got together to regulate the outcome.

In Medieval Europe, the authors maintain, “there was little or no improvement in the living standards of most peasants [because] most of the additional output went to a small elite”. This is not true. Peasants’ real wages in Western Europe rose substantially after the Black Death, showing that elites were not able to hold peasants at the breadline. And they began to fall again more than a century later, not because elites had restored feudalism but because of population growth. These qualifications matter: if we ascribe every bad outcome indiscriminately to elite domination, we will find it harder to think about which bad outcomes need which kind of countermeasure.

In the later sections on digital technology, a more nuanced approach can be discerned: not all instances are subjected to the same critique. But it is still not easy to pick out the threads of a consistent argument. Halfway through the book, we read that “technological change is *never* enough by itself to raise wages” (my emphasis added). Forty pages later we learn that, in the 1950s and 60s, “labor did quite well”, because “technologies of the era created as many opportunities for workers as the ones they displaced”. Another inconsistency appears in the treatment of artificial intelligence. At first we are informed that the promise of AI is overblown, that “its impact on employment is limited”, that it’s an “illusion”. Then, a few pages later, it has become “the mother of all inappropriate technologies”.

The history of digital innovation is subject to retrospective caricature. For example, we read, in a sort of lament for missed opportunities, that “digital technologies did not have to be used for just automating work”. But who seriously thinks they were “just” used in this way? Digital technology has transformed products and services as well as processes. The internet has provided free worldwide access to a vastly greater library of books and other repositories of knowledge than the most privileged scholars in the world enjoyed just three decades ago – though you wouldn’t know that from anything you read here.

In their other professional work, the authors have cast valuable light on the differences between inclusive and divisive technologies (the former complement the skills of existing workers while the latter substitute for them). The problem is that almost all technologies complement the skills of some groups while substituting for those of others, in varying proportions. Those groups whose skills become obsolete may be redeployed by their existing employers, if the latter feel enough of a commitment to them. Or labour markets and public institutions may help with such redeployment, though once again a commitment to inclusive long-term objectives is needed. Such commitments cannot be taken for granted in societies that prioritize short-term profit and the demands of the electoral cycle.

We can diagnose the effects of various technologies after their arrival, but it is hard to predict them in advance. Instead of addressing this challenge openly, *Power and Progress* will feed the indignation of many of its readers by convincing them that techno-optimists are everywhere, while being unlikely to persuade the few who really do exist that things can and should be otherwise. The book that shows how carefully calibrated policy might mitigate the adverse effects of contemporary technological change without imposing an indiscriminate brake on innovation remains to be written. ■