Progress or Freedom

Who Gets to Govern Society's Economic and Technological Future?

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Jean-Hervé Lorenzi
Paris Dauphine University
Paris, France

Mickaël Berrebi
Paris, France

Translated by
Dina Leifer
London, UK

ISBN 978-3-030-19593-9 ISBN 978-3-030-19594-6 (eBook)
https://doi.org/10.1007/978-3-030-19594-6

Cover illustration: Lev Dolgachov/Alamy Stock Photo
Cover design by eStudio Calamar

This Palgrave Macmillan imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

Progress or Freedom

This book is a plea for progress. It takes us deep into the world of new technology, with its extraordinary perspectives and its risks.

Digital technology is a hot topic today, with good reason, but this issue concerns many other scientific fields too, including genetics, energy and nanotechnology. Our freedom may be in danger: the leaders of these large technology firms want to define the world we live in for decades to come.

The issue, then, is to prevent companies from imposing their choices on the world, to the detriment of public authorities in all areas of our community and private lives.

One initial question emerges among many others: should we dismantle Google and the other big tech companies?

Paris, France

Jean-Hervé Lorenzi
Mickaël Berrebi

Acknowledgements

We would very much like to thank Isabelle Albaret, Antoine Lefébure, Maurice Ronai and Guy Turquet de Beauregard for their valuable help with ideas, comments and suggestions.

We would also very much like to thank Angélique Delvallée for her constant support.

And finally, we would like to thank Marius Amiel, Pierre Garin, Léa Konini and Julien Maire for their kindness and their final proofreading.

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Introduction: The New Human Condition

The world is perplexed: a little lost, even. It is waking up to the fact that our emergence from the crisis does not in any way imply a return to the extraordinary growth of the early 2000s. It is finally realising that the ageing population, the demographic time bomb, the slowdown in productivity gains, the explosion in inequalities and unregulated finance are all creating entirely new economic conditions and, in fact, a slowdown in the world economy. Accommodative monetary policies are coming to an end, interest rates are set to rise again and fiscal policies, with the possible exception of Trump-style, temporary measures, are limited by the weight of public debts. We have reached a point today where the rational world is retreating and extremism and populism are rising, where the technological dream appears to be the only dream of a better world. This is what this book will discuss: the risks our societies are taking, with their naïve and simplistic view of a technological Eden: an Eden where politicians make way for the new prophets of technology, who are designing our world to suit themselves.

J.-H. Lorenzi and M. Berrebi, *Progress or Freedom*,
https://doi.org/10.1007/978-3-030-19594-6_1

1.1 The Eternal Prophecy of a Better World

The technological illusion has a prophet: Jeremy Rifkin. He is a spokesman for great entrepreneurs who, despite their current promises, believe they can shape the world based on their innovations. Rifkin is far from the only one, of course. But he remains the most iconic figure, because he lends an air of scientific and cultural credibility to his views.

Why pick on this unfortunate propagandist for a world which is finally rid of all the hindrances we have endured for millennia: work, ignorance, wars and widespread change, beginning with the climate? Very simply, because he epitomises, on his own, the naïve world view whose keyword is "progress": a world where a sated and appeased consumer defines the new human condition. Rifkin conflates, under the general term "progress", science's remarkable developments and their technological applications for the majority of the population. But what precisely do we mean by "technological"? It can be defined as the sum total of individual processes designed for production, and therefore as the result of a concrete application of science, science being our tool for understanding the world. All scientific processes indicate an expertise which claims to be perfect, rigorous, increasingly concerned with regulation, which bases that claim on a heightened use of previously unknown computational tools. Technologies, and subsequent innovations, are nothing more than applications of these great advances in knowledge. And it is from this confusion that the problem is born.

Let's go back to Rifkin. His work, *The Zero Marginal Cost Society* (Rifkin 2014), pulls off the coup of making the entire Internet the answer to the crisis in the capitalist system and the threats it poses to humans and the environment. How better to resolve mass unemployment, or even "the end of work", as Rifkin has long described it, than by imagining "prosumers", capable of producing everything they need? How better to do away with our obsession with the hypothetical notion of growth, and to resolve the now central problem of inequality, than by envisaging a peer-to-peer, sharing, collaborative society, where profit no longer has any meaning? A society which can spread through the poorest regions of the world, as is the case in certain rural communities

in India? How better to recreate a common good than by imagining a new model of governance, "collaborative commons", with a nod to the "commons" of feudal times, where production for use predominates over production for exchange? Finally, entering the realm of false assumptions, how better to reduce humanity's carbon footprint that by promoting renewable energy and a lifestyle which reconciles "free everything" abundance with sustainability?

Rifkin contends that the world is heading towards a third industrial revolution, based on the Internet of Things. But can we safely state this is an industrial revolution, in the sense of a new balance between production and consumption, creating a new cycle of economic growth and resulting from a series of innovations related to the boom in, and distribution of, new technologies? The conclusion is risky, because the development of the Internet of Things and of renewables remains embryonic and uncertain.

But most importantly, there is no consensus on this misused concept of industrial revolution. Once again, it is Schumpeter who puts us back on the right track: "if we survey the course of economic history, we do not find any sudden ruptures, only a slow and continual evolution" (Schumpeter 1946). Economists and historians have always been in a constant dialogue over the dynamics of technological change. Some, like Braudel, see it as a linear process, whereas others favour the disruptive approach. The idea of the industrial revolution, which is the result of the second approach, must be handled with care.

The uncertainty around the theory of a third industrial revolution is not just technical, moreover. The development of an Internet of renewable energy presupposes a collaborative economic approach which supersedes the traditional mode of production based on market exchange. Whether it is a question of advances in technology, or in the mode of production and consumption that these technological developments presuppose, it is questionable whether the conditions for an industrial revolution have been met.

Despite such a debatable approach, Rifkin, the prophet, a kind of heir to Charles Fourier and his Phalansteries, is right on target in a world full of nightmare scenarios. His offering of such naïve optimism has seduced quite a few people.

But if he was the only one, the world would be simple and criticism easy. In fact, he is joined by other prophets: those who, not content with conference speakers' fees, share their vision of the world from their position at the heart of the current economic establishment. Listen to them: Eric Schmidt[1] (Seigler 2010) explains: "Your car should drive itself. It's amazing to me that we let humans drive cars…". Similarly, Jeff Bezos (Quinn 2015)[2] reckons that the task of delivering parcels will be done by drones, so that: "One day, (such)… deliveries will be as common as seeing a mail truck". And what about Sundar Pichai (Tung 2016),[3] the man said to play Moses to Larry Page[4]'s God, by deciphering abstract projects from a mind too brilliant to be understood by everyone? He says: "the very concept of the 'device' will fade away. Over time, the computer itself, in whatever form, will be an intelligent assistant helping you through your day". As for the fascinating Elon Musk (Musk 2017),[5] he is quite determined to create entirely self-sufficient cities on Mars, because: "if we stay on Earth forever, there will be some eventual extinction event".

These are exceptional men: remarkable innovators and industrialists. But for all that, should they be the ones pointing the way forward for humanity? A humanity fascinated by new tools, overcome with gratitude towards those who provide them for us; a humanity fascinated by extraordinary means of communication, yet distraught when faced with an unfathomable world? Deep down, it can all be summed up by the simple idea that progress is never-ending, that it applies to everyone everywhere, that it transforms and improves our lot and that it is appropriate that those who design it should also set the rules.

Thus, artificial intelligence and gene technology would be tools in the hands of all-powerful demiurges. Based on their current economic power, they would naturally qualify as the sole architects of a recreated world. This would spell the end of thinkers on the nature of human progress, such as John Rawls on fairness and Amartya Sen's capabilities approach, on development for all; an end to the women and men who could alert the world to climate risks; an end to the Mandelas and others who could pave the way to peace in a violent world. From now on, only Mark Zuckerberg,[6] Larry Page and others like Sergey Brin[7] will have a voice. But, as ever, how much of this is new?

Are the misuse of technology and the pronouncements of these prophets unique in human history?

1.2 The Recurring Conflict Between Progress and Society

This debate is not really new. In fact, the dominant schools of thought have been confronting each other for centuries: those who control disruptive technologies in order to shape tomorrow's society, and those who think the power to make society progress belongs to those who conceive it in human terms. We need only consider the strong reluctance of the great thinkers in relation to the concept of progress: Paul Valéry said: "Modern man is the slave of modernity; there is no progress which does not turn into his complete servitude" (Valéry 1948). Technology against humanities: it is an eternal conflict, because power's only real prize is to make the rules which govern the lives of those who follow us.

In the past, economists perceived technological progress as an exogenous variable and declared they were not competent to analyse it. In fact, Lionel Robbins wrote that "Economists are not interested in technique as such" (Robbins 1932). Even Pareto excludes technological development from economic logic and considers it as external, gratuitous data in his model.

But economists did not remain absent from this arena. Innovation gradually becomes one of the principal levers of growth, and the cycles of innovation and economic growth are brought closer together, in the manner of Kuznets, for whom: "several periods of economic growth in the modern age can be identified with major innovations and the relative growth of the industries concerned" (Kuznets 1973). It is well known that this development in economic thought finds its most complete expression in Schumpeter, for whom technological progress is the engine of history and innovation the engine of growth. In fact, the influence of technological progress on economic growth and development appears to be firmly established, although perhaps not entirely so. Let's remind

ourselves of Jacques Ellul, the undisputed technological thinker par excellence, little known because he was undoubtedly ahead of his time. According to Ellul, in every aspect of technology, it is really a human drive which is at work: the drive of power. "Technology is power, made up of instruments of power, hence producing phenomena and structures of power, i.e. of domination" (Ellul 2018). This impulse has found very different applications throughout the ages, which we should bear in mind, because it gives us hope that the future has not yet been decided.

Let's go back ten centuries. In the year one thousand, Europe is lagging behind, widely outpaced by the Chinese and Islamic societies and civilisations. The former has already seen the emergence of gunpowder, the compass, paper pulp and printing. The latter produced algebra and new advancements in medicine. But those technological innovations, produced by an educated elite, remain within the social circles of the powerful dynasties as they rise and fall. Take for example the clock invented by the Buddhist Monk and mathematician Yi Xing. It was exhibited at the emperor's palace, no less, in 725, but was eventually sidelined for lack of maintenance. Europe begins its "first industrialisation" as Jean Gimpel rightly says, in the eleventh century, with the spread of the new energy source: windmills, along with seed selection and the forge. But according to the historian Georges Duby, the advance may be due to Christianism, which is a religion of history, keen on progress. Paradoxically, the same is true of weaknesses in centralised power, whether religious or secular. Christian schisms, such as that of Saint Bernard in the twelfth century, spread technical skills through the rural world. Closer to our times, the thinkers of the Enlightenment would be right about absolutism and open the way for the industrial revolution, which begins in eighteenth-century England. If we learn anything from this brief recollection of history, it is that power relationships around technology have not always been the same and that technology was often seized by the majority against the wishes of an authority or a system of power.

Certainly, people who think of the future think of progress. But as Ellul reminds us, technology is not good or evil, but ambivalent. Saint-Simon, who only sees human development through the development of industry, is answered by Jules Vallès, who in 1848 declares himself to be

the representative of poverty and of those without status, the proletariat. Science and technology: do they mean the liberation or the enslavement of mankind? It is an eternal debate and an eternal conflict between those who believe in fairness and those who believe in utility, not forgetting the iconoclasts, who do not accept this dualism. Let us think of the German Herbert Marcuse who writes: "The liberating power of technology – the manipulation of things – becomes a barrier to liberation and turns to the manipulation of people" (Habermas 1978). Films such as Fritz Lang's *Metropolis* (1927) and Charlie Chaplin's *Modern Times* (1936) illustrate the importance of technological progress and at the same time the enslavement of the masses it produces. People are naturally wary and if we believe Ellul, they are not wrong to be so. Technology does not consist of a simple accumulation of machines, but in the legitimate search for the most efficient means of production in all sectors. It is therefore put to use as much in the material as in the virtual world and ultimately structures the way we live as a society. Anthropologists refer to this technical age we live in as one which may have hindered mankind's freedom of action and judgement. It is a bleak assessment which they put down to the liberation of technology, which has become independent of social organisation. Or to put it another way, it has become independent of the economy, politics, culture, morality—in short, of humanity. This reading recalls the works of Andre Leroi-Gourhan, not in his conclusions, but in his forecasts: "This relationship between manual technicality and language[…] is certainly one of the most satisfying aspects of palaeontology and psychology, because it re-establishes deep links between gesture and word, between thoughts which can be expressed and the creative activity of the hands" (Leroi-Gourhan 1983).

We are therefore witnesses to a permanent conflict between progress and society. Who will win it in the coming years?

1.3 Who Will Shape the Twenty-First Century?

All of this appears very far off. We dream of escaping the powerful domination of material things over our minds. We are convinced that scientific and technical progress has been tamed, once and for all today; that

its early twenty-first century architects are simply advocates of a peaceful revolution. This is nothing but pure naivety, for never in human history has the eternal challenge of our condition, the power some exercise over others, been so strongly concentrated in the hands of the creators and experts. This leaves the gains of the last few centuries, of free thinking and democracy, in tatters. Just look at the debate on climate and the major risk to humanity from deliberate extinction. Without going as far as the slightly extreme views of Ulrich Beck, for whom global society is a "risky manufacturer" (Beck 1992), whose troubles are deep-rooted and whose dangers have no geographical, temporal or social limit, we can subscribe to his statement as a concise indictment: "the system of regulation which is supposed to ensure the 'rational' control of these current potential causes of self-destruction is as useful as a bicycle brake on a jumbo jet" (Beck 1992).

Without ever losing sight of the success of the last few decades, when a middle class emerged that left poverty behind, we need to know where tomorrow's power lies. We have very legitimate reasons to fear. One of the most iconic scientists, Stephen Hawking, believed: "the development of full artificial intelligence could spell the end of the human race" (BBC 2014). That is why researchers like Laurent Orseau and Stuart Armstrong are working on the development of a "red button", a system aimed at preventing artificial intelligence from defying Isaac Asimov's second law of robotics, avoiding any act of rebellion by a machine if it decides to stop obeying humans. Scientists have also voiced anxieties over the question of the human genome. When the team led by Junjiu Huang (Cyranoski and Reardon 2015)[8] attempted to modify the genome of a human embryo in 2015 using a new technique[9] to prevent the development of a disease, the experiment also carried the risk of changing human heredity, no longer just one part of the faulty cells. Many scientists mobilised to highlight the ethical and social implications of this ill-considered technological advance, including 2015 Nobel Prize winners for medicine David Baltimore and Paul Berg. Previously, correcting the genome remained highly complicated, but today this no longer seems to be the case.

So we understand where the problem lies. Of course, we must free ourselves from onerous work; of course, we must find genetic solutions

for previously incurable diseases and deformities, and there is no doubt these constitute major developments in human history. But that is not the problem. The problem is to determine who will set the limits on artificial intelligence, on genetic transformation, on the use of private data and so on.

The problem has never been so concrete, so fundamental, before. Its violence is more intellectual than physical.

1.4 The Fear and Hope of an Expectant World

We will try to describe this entire conflict; we will raise its risks and inspire its hopes. Obviously, we will not limit ourselves to describing the forerunners of a new scientific and technological revolution. The 3D printers, smartphones and so on are just a primitive representation of a world described as disrupted. In reality, the fundamental upheavals are still to come. The man nicknamed "the modern Thomas Edison", Raymond Kurzweil, a highly influential futurologist from MIT and a Google employee, is undoubtedly one of the most prolific forward thinkers. His list of predictions is long: it extends all the way to 2099. He describes the different stages which will lead humans towards a new kind: the "augmented" human, or half human, half robot. He is an enthusiastic supporter of Moore's law and estimates that computers will reach human-level intelligence by 2029. But behind all of that, his first and foremost objective is to postpone the age of death, with the eventual aim of making humans immortal. But that is all very far off.

Today, the main risk is that employment will become truly polarised. We may see high-skill jobs involving 1–10% of the population alongside "bullshit jobs" and a relative decline in the middle class, exactly as Daniel Cohen (2016) described: "At the very top, we find 'superjobs' for the top 1–10% of the population, who have grabbed half the economic growth for themselves alone. At the very bottom we find the 'bullshit jobs', the ones nobody wants, in construction, back kitchens and refuse. Only immigrants will accept these jobs, because it is their entry ticket to society. And in the middle, a working class which has undergone deindustrialisation, and a lower middle class which has lost

all hope of advancement, because software has made all the intermediate jobs it filled redundant: jobs which used to form a link between the top and the bottom of society".

This totally unprecedented situation leads to the creation of what Pierre-Noël Giraud calls "useless men" (Giraud 2015). A new form of working class is trying to escape this label, seeking at any price to fit into the society which excludes them, as Joan Robinson stated, because: "The misery of being exploited by capitalists is nothing compared to the misery of not being exploited at all" (Robinson 1962). How distant from our dream of liberating Fordism…

And as ever, words are supreme. Words define good, evil, progress, advancement, improvement and the world to come. We are warned about impending automation and rightly so. In 2013, Carl Benedikt Frey and Michael Osborne (2013) announced that 47% of jobs in the United States were susceptible to being replaced by robots in the next ten or twenty years. Now, it is the turn of the OECD to produce a statistic of the same order of magnitude. According to the OECD, robots threaten to replace 40% of workers who are not educated to 'A' level or equivalent. We read about the incredible human creativity in the software sector and that is exciting. We are told about developments in medicine and that is hugely satisfying. We are delighted about the widespread lengthening of a healthy lifespan. But at the same time the world is becoming sterile, divided, fragmented, distanced from death and therefore from life by this stupid dream of an immortal human.

We hope our approach (neither optimistic nor pessimistic, only voluntaristic) in affirming the primacy of humans over machines and the consideration of rational arguments over prophecy is conducted in a rational and convincing manner. First of all, we must return to the argument over the development of the world economy confronted with this technological progress, and present it as objectively as possible. In *A Violent World* (Lorenzi and Berrebi 2016), we signalled the slowdown in the world economy. But it is not, as some people think, permanent. Next, we will try to show that technological disruption is only in its first stages and what is at stake in the coming years is far more important than providing a modern world framed only in terms of digital communication tools. We will try to rediscover the human being, with his or her insatiable need to feed, care, educate and shelter him or herself, and

therefore to work. We often feel we are being sold a different human being: a superhuman in charge of permanently connected objects. We are sorry to say this new human is actually designed by our current masters of technology. Meanwhile, society is reforming itself, bringing inequalities the like of which have rarely been seen for two centuries, and in which the mastery of technology, carefully differentiated between some and others, imposes strict divisions on a society in social decline. So who will decide on the development of these societies? The tech giants, who know everything about our status and our lives today, via still-basic digital technology, through what can only be called widespread spying? Or the giants of human history, the great thinkers who have always managed to restore the humanity of societies which sometimes lose their way?

And that is the entire objective of this book: to offer an alternative to a world dominated by technology and its prophets: a world where technology is led by humans and by a definition of progress which holds fulfilment for all as the cardinal virtue of a progressive society.

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