Observations on Joel Mokyr’s

*A Culture of Growth: The Origins of the Modern Economy*

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1. Joel Mokyr’s book (2016) is a remarkable achievement both in terms of the breadth and depth of knowledge displayed, the rich and multi-layered material spread out before the reader, the often novel and original interpretations of aspects of world economic history put forward, and the prose that is a pleasure to read. The book contains a lot to think about, and while you may not agree with some of the propositions contained in it or its general thrust, it will force you to sharpen your point of view. *A Culture of Growth* is a major contribution to intellectual and economic history.

The book grew out of Mokyr’s *Graz Schumpeter Lectures* delivered at the University of Graz in November 2010. While the published versions of the lectures typically contain between 120 and 200 pages, Mokyr delivered a manuscript several times longer than what we commonly get – clearly a feat!

2. Let me begin by summarizing in “desperate brevity” (Schumpeter’s expression) some of the main propositions of the book. Mokyr takes head-on Joseph Needham’s (1969) famous question: “Why did the Chinese society in the eight century A.D. favour science as compared with Western society, and that of the eighteenth century A.D. inhibit it?” In his essay “Of the Rise and Progress of the Arts and Sciences” of 1742, David Hume had argued that political fragmentation in Europe induced competitive conditions and gave rise to a market for ideas. Taking this explanation as his starting point, Mokyr adds that this culminated in the eventual emergence of a “culture of growth”, thus the title of his book. Some of the most important pillars of what Mokyr calls the “Industrial Enlightenment“ that paved the way to the Industrial Revolution were the following. First, there developed a deep-rooted belief in human and social progress and a rejection of the Malthusian viewpoint that saw mankind doomed to live in misery and deprivation. Secondly, a Baconian programme effectively managed to gear the

agenda of natural philosophy towards solving practical problems that improved the living conditions of people. Third, the connections between people who know things (propositional knowledge) and people who make things (procedural knowledge) were eased by a number of institutional reforms and innovations, such as the establishment of learned societies and academies. The emergence of a number of “cultural entrepreneurs”, including Newton, Galileo, Leibniz and Spinoza, the separation of science from metaphysics and the reduction of access costs to information helped to prepare the ground for European economies, in particular England, to embark on a path of sustained economic growth, which led to the “great divergence” between them and the rest of the world.

Mokyr stresses that the thrust of his argument consists in drawing the attention to a number of mostly lucky coincidences that account for the surprising development. The factors he puts forward are considered sufficient to explain the facts. Are they also necessary? This is left somewhat open. There is at any rate no presumption that the “culture of growth” is the result of an intelligent design or of a particular genetical endowment of Europeans and the like.

3. The thrust and direction of Mokyr’s argument are perhaps best understood in terms of two Schumpeterian concepts: “vision” and “entrepreneur”. In Mokyr’s analysis these are intimately intertwined. Schumpeter, as is well known, did not limit “entrepreneurship” to the economic sphere, but saw it also in the arts, the sciences, culture, politics and public administration. Mokyr’s “cultural entrepreneur” is an incarnation of this idea.

As regards the “vision” or “ideology” of a researcher, Schumpeter (1949) stressed the “social conditioning” of his or her choice of problems and of approaches and drew the attention to the “pre- and extrascientific vision of the economic process and of what is – causally or teleologically – important in it” (1949: 348 and 351). Mokyr leaves no doubt in this regard. He emphasizes: “For my purpose it seems best to regard culture as something entirely of the mind, which … is, to an extent, a matter of individual choice.” (2016: 9; Mokyr’s emphases) Congenial to this vision of the economic process is the figure of the “cultural entrepreneur”:

To function as a focal point, the beliefs and ideas of a cultural entrepreneur have to be widely disseminated and believed by most people to be believable to others and thus to reduce dispersion. … [P]art of the success of cultural entrepreneurs is in steering people toward cultural convergence. They thus set out to alter the beliefs or preferences of others by proposing a more comprehensible and compact sense of cultural elements, but one that can be related to by people ‘shopping’ in the market for ideas.” (2016: 64)
The following queries and observations come to my mind. First, would it be wrong to call Mokyr’s a voluntaristic approach to the theory of action in which subjective elements play a crucial role? He keeps at any rate aloof from objectivist, materialist or system-based explanations. Society moulds people, but people also mould society. Mokyr’s emphasis is on the latter part. Cultural innovators may be more influential in the long run than economic ones: Mokyr mentions, inter alia, the founders of religions and political movements.

Second, the linchpin of his argument is what nowadays is known as opinion dynamics. When does opinion formation in society triggered by cultural entrepreneurs lead to a consensus, when does it lead to polarization, when to a breakdown of society? Questions of this type are extremely difficult to answer. They are now tackled in a burgeoning research area of mathematical sociology.

Third, a pioneering work in this area is significantly titled “A formal theory of social power” (French 1956). When some people are effectively able by whichever means to “steer” others (as Mokyr puts it) to think and do what they would not have done otherwise, then according to Max Weber’s definition (1972: 28) we are indeed confronted with the problem of power. In this case the agents that are being steered are no longer independent and autonomous. Conventional economic analysis and especially welfare theory, which start from the axiom of such autonomy, is then difficult to sustain. What then? Can Mokyr’s argument be interpreted as supporting Bertrand Russell’s (1938) claim that economics ought to be a “science of power”? Such a view is actually foreshadowed in the writings of Adam Smith, Karl Marx and many others. Thomas Hobbes famously stressed that “wealth is power”, a dictum Smith explicitly endorsed. Can one say that a culture of growth is ipso facto also a playfield of power?1

Fourth and closely related, one of the main architects of marginalist theory, Friedrich von Wieser, later in his life distanced himself from it and the underlying idea of a powerless society, epitomized in the workhorse of much of mainstream economics – the model of perfect competition. In a book entitled Das Gesetz der Macht (The Law of Power) (Wieser 1926), he confronted the “law of the large number of small [i.e. powerless] men” of marginalist theory with the “law of the small number of great [i.e. powerful] men”. Mokyr’s

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1 In his comment on institutional economic history, Mokyr states that “An economy that grows as a result of favourable institutions requires [amongst many other things] … a political organization in which power and wealth are as separate as is humanly possible.” (2016: 5) This comment contains some hints indicating that the possibility is rather limited.
book can be read as being concerned with Wieser’s second “law”. Interestingly Wieser insisted that “internal power” constitutes the “core of the phenomenon of power”. Contrary to external power it does not rely on force, violence and coercion, but on persuasion, conviction and trust. Leaders are intent on capturing and controlling people’s minds. As regards the ethical quality of the power thus conceived, Wieser stressed that it may be a good thing, but need not. People will always be led (or “steered”) in one way or another, but they can be misled, as history exemplifies impressively, with potentially disastrous effects.

4. Below I assess Mokyr’s fascinating book along the two dimensions mentioned – whether it pays sufficient attention to the role of power; and whether it takes due account of negative collateral effects that accompany economic development. I do this against the background of what some major economists had to say on economic development and growth. The names of Smith, Ricardo, Marx and Schumpeter come easily to one’s mind. The sung heroes (or villains!) all had a vivid interest in explaining socio-economic history and forged analytical tools for this purpose. By referring to their ideas a third dimension is added to my comment, one that appears to be justified in a conference devoted to the history of economic thought.

Before doing so, let me stress that while Mokyr leaves no doubt that in important respects he thinks to have pushed the frontiers of knowledge in the field under consideration, he explicitly, and laudably, does not wish to sound “triumphalist” (2016: 5) and nowhere in his book claims to be possessed of some ultimate truth. Adam Smith in his “Essay on Astronomy” famously stated the problem of “subjectivity” in science: an explanation is related to a perceived need of the scholar to “soothe his imagination” by elaborating a framework that renders coherent what at first sight look like solitary and incoherent facts. Explanations are thus designed to put a scholar’s mind at rest. Alas, what soothes the imagination of one scholar may turn on that of another!

Put differently, economic historians are confronted with a formidable problem – the problem of imputation: Which factors explain a given historical event or phenomenon? Economists struggled with this problem for a long time and it was only with marginalist theory, or so it seemed, that a solution has been found in terms of marginal productivity theory. But was it really one? Euler’s Theorem requests that there are constant returns to scale. Are there? More important in the present context: Does the marginalist idea carry over to economic history? Have all relevant factors been taken into account and are the weights attributed to them in the “production function”, that is, the explanation, well founded? What is the role of political fragmentation, of the security of property rights, of enforceable contracts and so on and so
forth? History, I am inclined to think, abhors constant returns to scale and does not easily admit of marginal variations and substitutions, if at all. The conventional marginalist logic therefore is probably of little avail in economic history. Questions such as “What is the marginal contribution of factor X, Y, Z … in explaining the Industrial Revolution?” appear to make little sense. Or can one substitute, for example, a little more political fragmentation for a little less law and order and yet get the same outcome – the Industrial Revolution? One would of course like to know the marginal contributions of the various factors at work in order to use this knowledge in economic policy. But it seems that the factors we are talking about are frequently highly complex and difficult to grasp and specify, some are of a qualitative nature and not (easily) quantifiable, they are often not independent of one another and cannot be ascertained separately and, last but not least, there may be factors at work we have not yet been able to discern as being important.\(^2\) This explains also why there is no hope, or fear, as things may be seen, that economic historians will finally reach agreement on the issues at hand – in Mokyr’s words: “a consensus … seems remote” (2016: 4). As Max Weber reminded us, scholars are bound to live a difficult life, because whatever they achieve will sooner or later be rendered obsolete by others.

5. When I started to read *A Culture of Growth*, I expected to come across the writings of major economists, who had significantly enriched our understanding of the process of economic development and growth, some of which had even experienced the Industrial Revolution first hand. Yet to my surprise Adam Smith’s *Wealth of Nations* is not cited, nor is his concept of the “division of labour” listed in the index. The concept of dynamically increasing returns to scale was foreshadowed in Smith’s work: it was picked up by Allyn Young, put to effective use by Nicholas Kaldor and is prominent in recent contributions to growth theory. As regards the story about political fragmentation as a main reason for why the Industrial Revolution happened in Europe, some questions are close at hand, including the following ones: Political fragmentation was a widespread phenomenon in history, why did it matter in one case and not in others? Is there a role for returns to scale (and scope) and thus to a minimum size of the market in all this, and if yes, which?

David Ricardo’s *Principles* are mentioned only once in the context of a discussion of “the victory of the belief in technological progress as a benevolent and progressive phenomenon over the forces of resistance and inertia” (Mokyr 2016: 278). However, Ricardo’s famous

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\(^2\) As a motto of his book Mokyr takes a quotation from Hume’s essay (1742) whose final line reads: “Chance, therefore, or secret and unknown causes, must have a great influence on the rise and progress of all the refined arts.”
argument regarding the labour displacing effects of machinery is only invoked to testify to the fact that the said victory “was far from a done deal even during the Industrial Revolution”. (2016: 278) Mokyr adds: “Resistance to technical progress, for a variety of reasons, has survived until the present. It has multiple roots, some of them purely material, other [sic?] ideological” (ibid.).

As I see it, the point is that Ricardo in terms of a judiciously chosen numerical example showed conclusively that a certain form of technical progress was not benevolent, but detrimental to the interests of workers by causing unemployment and falling real wages. “Technological unemployment” was therefore no chimera, as advocates of the theory of “automatic compensation” had contended. Technical change was not always a “general good” (Ricardo) – it had winners, but also losers. Ricardo called machines the “mute agents” of production because, unlike workers, they do not ask for higher wages or better working conditions. Their introduction was able to redress the balance of power between the contending parties, capitalists and workers. At present, the fear of mass unemployment looms large again vis-à-vis the so-called “Fourth Industrial Revolution”, “cyber-physical systems”, “Industry 4.0” and so on. It deserves to be mentioned that as early as 1821 Ricardo contemplated the limiting case of the process of mechanisation – a fully automated system of production. He wrote: “If machinery could do all the work that labour now does, there would be no demand for labour. Nobody would be entitled to consume any thing who was not a capitalist, and who could not buy or hire a machine” (Works VIII: 399–400). To be clear, Ricardo was not opposed to technical progress, but he was aware of the socially disruptive effects it might have and was on the lookout for remedies. The historical evidence shows that his concerns were not unfounded. Think, for example, of Friedrich Engels’ Die Lage der arbeitenden Klasse in England (1846). Two cartoons may express better than words what at the time was seen to be at stake.

A most important author in the present context is, of course, Karl Marx. In the book he gets mentioned a few times and is counted as a “cultural entrepreneur”, and a “successful” one at that (Mokyr 2016: 60), because of his impact on the formation of socialist states. Alas, nothing is said about his achievements in understanding capitalism and its “law of motion” and none of his works is listed in the References. It was Marx, following Smith and Ricardo, who insisted that competition, a systemic force, compels capitalists to innovate in order to survive in the competitive struggle. As a consequence labour productivity grows “as in a greenhouse”, increasing “geometrically” (see MEGA² Abteilung II, vol. 5: 505). No writer before Marx and only a few after him, Schumpeter opined, have expressed such admiration
for the endogenous dynamism of capitalism and were possessed of a comparably deep understanding of what Marx called the growth of the “social forces of production”.

Marx’s political impact was huge, no doubt. Ironically, he had written relatively little about the kind of socialism he foresaw. Das Kapital was certainly not meant to serve as a manual of the revolutionary. It contained an analysis of capitalism, its mode of operation, its accomplishments, but also the social costs it incurred. Had there been no such costs, important chapters in world history like the emergence of socialism, imperialism and even fascism would be difficult to understand. Capitalism is not only a sort of machine that solves problems – it also generates some, social, environmental and others. These constitute the habitat that breeds cultural entrepreneurs. Objective conditions matter – the entrepreneur is of this world and bound to respond to the problems and opportunities it imposes and offers. In his geological notebooks reproduced in part IV, vol. 26 of MEGA, Marx treats the earth and humanity as two living organisms, which interact with each other. The question is: will they survive together in the long run, or will the earth rid itself of humanity? Recently, Stephen Hawking expressed the fear that within the coming one hundred years the earth might become uninhabitable. Climate change is one of the reasons he mentioned. Will the culture of technical change suffice to ward of the threats that endanger the existence of mankind?

Of Schumpeter’s works only his monumental History of Economic Analysis (1954) is mentioned explicitly. The “prophet of innovation”, as McCraw (2007) called him, stressed that the “process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in” (Schumpeter 1942). Economic development does not mean harmonious advancement that is beneficial to all members of society. “The drama”, Schumpeter insisted in The Theory of Economic Development ([1912] 1934), “resounds with the cries of the crushed over which the wheels of the new go.” Crises are a part and parcel of development that comes “in waves of prosperity and depression”.

Does development imply “progress”? Schumpeter refrains from a definitive judgement: “Whether development leads to social wellbeing or social misery is decided by its concrete content.” (1912: 492) The “deepest sense” of development, he was convinced, consists in the provision of new kinds and amounts of goods, and this capitalism accomplishes impressively. However, the unintended consequences of this success must not be underrated: they do have

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3 We cannot know how Marx would have reacted to “real existing socialisms”, but there is reason to believe that he would have been as mercilessly critical here as he was elsewhere. He would certainly have found the cult that formed around his person (and Engels) unbearable.
the power of pushing the system socially and culturally in new and possibly not very agreeable directions.

6. As should have become clear by now, A Culture of Growth is first and foremost a story about the winners of the process of technical change, and thus predominantly a success story. While losers are mentioned, they are attributed only a minor role in the script. This may be justified in terms of the fact that the development of Europe and its offsprings for large parts of the population brought a tremendous increase in living standards, life expectancy, participation in social life and so on. There can be no doubt about this. However, the birth of modernity and economic development ever since generated serious “casualties”. Britain’s rise to a power that did not only “rule the waves” can hardly be discussed without taking into account the colonization of India and other parts of the world. To Adam Smith the English East India Company was a forbidding example of the enormous damage trade monopolies can cause. The rule of such companies in the colonies was typically violent and cruel. And while Smith was a fervent advocate of free trade, he deplored the fact that “The savage injustice of the Europeans rendered an event, which ought to have been beneficial to all, ruinous and destructive to several of those unfortunate countries” (WN IV.i.32). The Indian scholar Dadabhai Naoroji (1901) titled one of his books aptly Poverty and Un-British Rule in India: He accused the British of preaching free trade – the rule of law and the separation of political power and wealth – and practising the opposite. Others like Kashinath Trimbak Telang suggested to jettison the free trade doctrine altogether and endorse Friedrich Lists’s infant industry argument of The National System of Political Economy (1841). Interestingly, List’s idea of a national system of innovation, whose erection had to be protected against foreign competition, fell on fertile ground also in China. Elaborating on Lists’s contribution, the German Historical School insisted that each nation had special requirements according to its particular circumstances and level of development.

A book written dominantly from the perspective of those people outside Europe that came under the spell of the “culture of growth” and were exposed to its expansionist drive is Amiya Kumar Bagchi’s Perilous Passage: Mankind and the Global Ascendancy of Capital (2005). Bagchi, who takes a Marxist point of view on economic history, critically analyses the rise of the West since the 16th century, integrating economic and social history with the history of armed conflicts. His attention focuses on the consequences for people in the periphery, but deals also with those in the centre. In his view capitalism is inherently a system driven by wars over resources and economic and political power rather than one that genuinely operates on the principle of free trade. He taps the demographic literature on life expectancy, the
public health literature on disease prevention and cure, data on nutrition, income levels, and the various forms of labour coercion.

7. When there are factors that explain why a phenomenon exists, there are also factors that explain why it doesn’t, and there are factors that explain why it gets subverted. Once established, will the “culture of growth” be with us forever or at least during the coming hundred years or so (pace Stephen Hawking)? Mokyr participated in the current debate about whether the developed economies are facing secular economic stagnation. He forcefully expressed the Schumpeterian point of view that new waves of innovations can be expected to lead to a swift recovery of ailing economies and re-establish a regime of substantial and sustained growth – “Something will turn up”, to use Wilkins Micawber’s famous phrase in Charles Dickens’ novel *David Copperfield*, that will end the recession. Several questions are close at hand, including these: How do developments such as the redistribution of economic power towards the financial sector and the redistribution of income and wealth affect the dynamic properties of the economic system? Does the “Fourth Industrial Revolution” increase labour productivity but fail to provide new consumption goods for which there will be sufficient additional effective demand? Are we witnessing the self-transformation of capitalism and the erosion of the culture of growth?

To be sure, the necessity of permanent technical change can be expected to persist, if only for the jointness of the effects it engenders – several of which are wanted, whereas others are not and some are even harmful to the human race (and other species). In this perspective the mind has always to be on the alert, but it typically responds to things happening in the material world out there.

8. Having exhausted my role as commentator alias advocatus diaboli, let me conclude by saying that I expect Joel’s book to be essential reading in intellectual and economic history and related fields for decades to come.

References


Joel Mokyr, an economic historian at Northwestern University, contends that it was the culture in Western Europe that sparked the Great Enrichment. Joel Mokyr is the author of the recent book, “A Culture of Growth: The Origins of the Modern Economy.” He joins me on the podcast to discuss his argument, what the lessons of economic history can teach us about the future of innovation, and whether the techno-optimists or -pessimists are right about the future. To listen to our entire discussion, download it from Ricochet or subscribe on iTunes. You can check out an abbreviated version of our conve By Joel Mokyr. Princeton, NJ: Princeton University Press, 2017. Pp. 400. $20.65, hardcover. Volume 78, Issue 4. Klaus Desmet (a1). DOI: https://doi.org/10.1017/S0022050718000670.Â Your email address will be used in order to notify you when your comment has been reviewed by the moderator and in case the author(s) of the article or the moderator need to contact you directly. Please enter a valid email address. Occupation Please enter your occupation. Affiliation Please enter any affiliation. Conflicting interests. Do you have any conflicting interests? * A Culture of Growth documents the cultural shifts that permitted the interrogation of nature that then flowered into scientific advances. This book offers us an optimistic vision: a great expansion of communication preceded our modern prosperity, and we can expect this to happen again."â€•Angus Deaton, 2015 Nobel Laureate in Economics.Â "A Culture of Growth is an insightful quest into the economic history of the last five centuries. Mokyr's historical laboratory is early modern Europe, when a small mass of highly skilled artisans, entrepreneurs, financiers and merchants laid the roots of what was to become the Industrial Revolution."--Angus Deaton, 2015 Nobel Laureate in Economics. [But] the European Industrial Revolution that started modern growth was above all about technological progress, not just better allocations and more efficient markets: * Growth before 1750 was primarily on â€œSmithianâ€œ. * Growth after 1750 was increasingly based on innovation or â€œuseful knowledgeâ€œ. * Whence the different dynamic?Â Mokyr's Argument. In Europe between 1500-1700 the educated elite developed a culture and a set of institutions that was more suitable for intellectual innovation and the accumulation of useful knowledge than before. The European solution just worked sufficiently well to produce in the end an elite culture: We can call it â€œEnlightenedâ€œ. It was far more friendly to the growth of useful knowledge than any other. Choice-Based Cultural Evolution.