Journal of Contextual Economics, Published Online First
https://doi.org/10.3790/schm.2024.359745

On Democracy and Capitalism: Reflections on Gerhard Wegner's Historical Analysis*

By Roger Koppl**

Abstract

Gerhard Wegner has shown that capitalism and democracy may not be mutually supporting, and political liberty may not lead to economic liberty. Personal and economic liberty once established may fall away more easily than scholars such as North, Wallis, and Weingast (2009) and Acemoglu and Robinson (2012) maintain. I bolster Wegner's nuanced view with evidence of the early effects of the Industrial Revolution on worker wealth and welfare. Workers benefited immediately, and Britain's greatest increases in economic and political liberty came only after this increase in wealth. These historical facts suggest the need for a theory of institutional evolution in which wealth enables social movements that often engender increased political and economic liberty. Political and economic institutions cannot in general be designed and imposed. But when the people are enriched by technological change or earlier increases in liberty, then institutional changes promoting greater liberty may well emerge from the struggles of social movements.

JEL Codes: N10, N13, N33, P10, P16

Keywords: Industrial Revolution, Technology, Liberalism, Capitalism, Democracy, Economic History

1. Introduction

Gerhard Wegner (2015; 2016; 2020) has given us a brilliant and contrarian view of the relationship between democracy and capitalism. His analysis bolsters the view that the great wealth of the modern era was not the product of liberalism. It is rather that the explosive wealth of the Industrial Revolution enabled liberalism (Cazzolla Gatti *et al.* 2020). Such summary statements, of course, elide difficulties in the definitions of "democracy," "capitalism," and "liberalism."

* I thank Emma Griffin and Mikayla Novak for helpful discussions of their work. I thank Maria Minniti for helpful conversations on themes of this paper. I thank an anonymous referee for unstinting criticisms of my initial submission to this journal; those criticisms helped me to improve the essay. This paper emerged from my work with Stuart Kauffman whose help and encouragement I gratefully acknowledge.

** Whitman School of Management, Syracuse University, 721 University Avenue, Syracuse, NY 13244, United States. The author can be reached at rkoppl@syr.edu.

Duncker & Humblot · Berlin

All political labels become, in Hume's words, "foolish terms of reproach" ([1778] 1983, 381).[1] Thus, the vocabulary of political discourse is forever and irredeemably deficient. This unfortunate situation creates the need to pause and discuss definitions before getting to one's substantive argument.

In this essay, the word "democracy" describes any political system in which a formal, Weber-rational system enables a substantial portion of the adult population to vote and in which the results of voting are both meaningful and in some way binding on the state. By this definition, the 3rd-century election of Pope Fabian by the people of Rome was not "democracy." The 13th-century work, *Legenda Aurea* (The Golden Legend) gives us an account of the election that we may doubt. But the account plausibly suggests that Popes of that time were "elected" in an irregular manner. According to the story, Fabian was elected when "a white dove came down upon his head, and the people, filled with wonder, elected him as supreme pontiff," apparently through acclamation (De Voragine 2012, 97). Because this election was not effected through a formal and rational procedure, it was not "democracy" in the sense I have stipulated. Soviet elections were not "democracy," because voting was not meaningful and could not influence outcomes. The Mississippi constitution of 1832 gave the vote to all free men not convicted of "bribery, perjury, forgery, or other high crimes or misdemeanors." It thus gave a substantial portion of the adult population the right to vote and, therefore, ensured "democracy" within the state even though women and slaves could not vote. The example of Mississippi shows that "democracy" as I have defined it does not necessarily reflect some supposed will of the people. Nor does it ensure that good shall prevail over evil. Indeed, Wegner's work reveals the great potential for tension between democracy and liberalism.

Hume famously said, "[A]s Force is always on the Side of the Governed, the Governors have nothing to support them but Opinion. 'Tis therefore, on Opinion only that Government is founded; and this Maxim extends to the most despotick and most military Governments, as well as to the most free and most popular" (1741, 49). Following Hume (presumably), Mises said, "[O]nce the majority of the governed becomes convinced that it is necessary and possible to change the form of government and to replace the old regime and the old personnel with a new regime and new personnel, the days of the former are numbered" ([1927] 1985, 41). From this perspective, the only question is whether the change in regime can be effected without bloodshed. Democracy is principally a procedure for ensuring the peaceful transfer of power.

Democracy is an imperfect system. Some critics seem to think the trouble with democracy is that people vote however they damn well please. But if Hume was right to say that government is founded on opinion, we should preserve and endorse democracy, despite its shortcomings. It is generally better that power be transferred peacefully than through violent struggle.

In this essay, the word "capitalism" describes any economic system in which the means of production are, in the main, privately owned and it is relatively easy to enter or exit the supply side of most markets. In this sense a "capitalist" economy is also a "free-market" economy, at least in some "reasonable" degree. As Ludwig Lachmann

[1] Hume was commenting on the words "Whig" and "Tory."

([1969] 1977, 161) and others have pointed out, the crucial question is whether you have a functioning stock market. As Temin (1991, 580) details, the Nazis had a stock market, but it was not a *functioning* stock market because it had little or nothing to do with the allocation of capital or the logic of profit and loss.

I acknowledge, of course, the many very different meanings of "capitalism." One lamentably popular meaning has it that any bad thing happening now is "capitalism" and all sincere efforts to improve the world are "socialism." Often, "capitalism" means something distinctly *il*liberal. Capitalism is often linked to colonialism, for example even though Adam Smith, the supposed "prophet of capitalism" (Rahim 2018, 199), plainly condemned the "folly and injustice" of European colonialism (Smith [1776] 1982, 90 [Book IV, Chapter VII, part III]). Mises said, colonialism "stands in the sharpest contrast to all the principles of liberalism and democracy, and there can be no doubt that we must strive for its abolition" ([1927] 1985, 125).

In this essay "liberalism" means a system of representative democracy in which individuals enjoy civil rights such as freedom of speech, organizations and persons alike are largely free of the arbitrary discretion of state actors, and the production and distribution of goods are determined primarily through voluntary exchange. In this sense, it is the tradition of Adam Smith, J. S. Mill, F. A. Hayek, and Vernon Smith. By this definition, "liberalism" entails "democracy."

Given my definitions, a liberal system must be capitalistic and democratic. Tarko (2023, 129) says, "Historically, capitalism and democracy came as an ideological package deal, as the two key components, economic and political, of classical liberalism." But illiberal forms of both democracy and capitalism are, unfortunately, perfectly possible. Indeed, Wegner has rightly emphasized the tension between democracy and liberalism.

After briefly sketching Wegner's position on democracy and capitalism, I will discuss the effect of the Industrial Revolution on worker wealth and welfare. The fact that worker wealth and welfare rose immediately while political and economic liberty lagged helps to suggest that democracy and economic liberalism are the products of riches and not the producers of riches.

Like many liberals, Wegner and I share the liberal ideal of democratic capitalism. Many of us are disposed, therefore, to imagine that democracy and capitalism support one another. And this opinion, in one form or another, is probably the dominant view among broadly liberal economists from Milton Friedman to Daron Acemoglu. Wegner has shown, however, that we must be more pessimistic about the fit between democracy and capitalism.

The ideal remains the same: democratic capitalism. But, Wegner teaches us, we must not imagine that democracy is either a necessary or sufficient condition for capitalism. If liberal scholars are serious about the ideal of democratic capitalism, they must take Wegner's analysis seriously. It matters very much whether he is right. Wegner's position is based on facts, not wishful thinking or abstract categories. Wegner is saying, in effect, "Let us look at the facts and see whether democracy and capitalism are as mutually supportive as the liberal optimists believe."

DOI https://doi.org/10.3790/schm.2024.359745 | Generated on 2025-02-02 06:08:13

Others have looked at the facts and come to a more optimistic view. North, Wallace, and Weingast (2009) say, "Although evidence from the past few decades is mixed, over the past two centuries, political and economic development appear to have gone hand in hand." They explain this conjunction by the nature of "open access orders," in which "everyone who meets a set of minimal and impersonal criteria" can "form organizations that the larger society supports." In such open societies, there is a "double balance" whereby "open access and entry to organizations in the economy support open access in politics, and open access and entry in politics support open access in the economy." Once you get open access in both economy and polity, they are mutually reinforcing, and only a relatively large shock could bump the coupled systems away from openness.

The view of Acemoglu and Robinson is even more optimistic. A bit too crudely: Just get democracy and an open access economy follows. Call it the "democracy first" view. The democracy-first optimism of Acemoglu and Robinson contrasts sharply with James Madison's assessment in Federalist 51: "A dependence on the people is no doubt the primary controul on the government; but experience has taught mankind the necessity of auxiliary precautions" (Madison [1788] 1982, 262). Acemoglu and Robinson say, "[W]hile economic institutions are critical for determining whether a country is poor or prosperous, it is politics and political institutions that determine what economic institutions a country has" (2012, 86).

Acemoglu and Robinson's optimism extends to written constitutions. The political institutions that (as they imagine) determine economic institutions "include but are not limited to written constitutions and to whether the society is a democracy" (*ibid.*, 85). They attribute the stark difference in wealth and quality of life between Nogales, Arizona and (just across the international boarder) Nogales, Sonora to the different written constitutions of the United States and Mexico. Their constitutional optimism contradicts David Hume, whose *History of England* emphasized the complete failure of the *Magna Carta* to constrain the English crown. Devins *et al.* (2015) note the role of unintended consequences in constitutional design. They say, "Constitutional design fails because any constitutional clause, mechanism, amendment, language, passage, provision, or principle becomes a tool that unknown persons will use in unknowable ways for unknowable ends" (Devins *et al.* 2015, 679).

Wegner notes important facts tending to suggest a more nuanced and pessimistic view than we get from either North, Wallace, and Weingast (2009) or Acemoglu and Robinson (2012). Germany moved to capitalism early in the 19th century as a defensive act and without a simultaneous move to democracy (Wegner 2015). The "German capitalist transformation was instigated by competition among the European states" (*ibid.*, 61). And when democracy finally came to Germany after World War I, it weakened capitalism rather than strengthening it. As he notes: "The economic consequences of the democratization process after WWI are ambivalent. On the one hand, the Weimar State resisted the attempt to establish a planned economy on the Soviet model; this failed to be an attractive political bargain for the middle class in particular. On the other hand, the introduction of democracy based on universal suffrage coincided with the weakening of capitalist institutions even though prices remained the key device for coordination" (Wegner 2020, 351).

The weakening of capitalism in the Weimar period fits a broader European pattern. "The period after WWI, in turn, led to a wave of democratization all over Europe. However, a stable combination or a 'double balance' between democracy and a free market order often failed; 13 European countries which began as democracies ended as authoritarian regimes, among them Italy, Spain, Portugal, Poland, Germany, as well as Eastern and South-Eastern European states (besides Russia), leading to, among other things, dictatorship, fascism and national socialism." And in England, the "Industrial Revolution was at an advanced stage when the Reform Act of 1832 widened the scope of parliamentary representation in society with a first, imperfect step" (*ibid.*, 339).

Wegner's tale of sputtering and faltering liberalism illustrates the value of a broad and historically informed perspective on the historical interplay of institutions and wealth creation. Goldstone (2002, 342), for example, informs us that Rome under the "Antonine emperors" (who ruled form 96 – 192 CE) is "widely acknowledged" to have had a relatively prosperous "full market economy." Renaissance Italy was not a "full market economy" and its political regime was in the main undemocratic. And yet it was an important "efflorescence" of wealth. Berman reports that in the 11th and 12th centuries, "Emperors, kings, dukes, and lesser (seignorial) rulers, as well as popes and bishops, were often able to increase both their military protection and their wealth by chartering towns," which "were often more efficient militarily than castles, since the citizens were generally given the right and duty to bear arms" (1983, 360 – 1). These rulers "were strong enough politically to tolerate, and to turn their attention to, a new type of political entity in their domains." Thus, it was the illiberal and undemocratic accretion of power to kingly centers that enabled wealth-augmenting urbanization to occur. And so on. While democratic capitalism remains the ideal, history has a more complicated tale to tell. And a salutary attention such complications marks Wegner's scholarly oeuvre.

We have seen Wegner note that democracy trailed capitalism in Germany and the Industrial Revolution in England. These facts tend to support the view that the wealth of the Industrial Revolution enabled liberalism. But if, as commonly believed, the Industrial Revolution impoverished the working class for a long initial period, then this view would be weakened. I thus turn now to the historical record to show that worker wealth and welfare rose immediately when the Industrial Revolution hit.

2. Was the Industrial Revolution Good for Workers?

The term "Industrial Revolution" has been used for a long time by a variety of writers and has, therefore, multiple meanings. In its main uses the term may refer to 1) the new machines, such as the Spinning Jenny, which emerged in England beginning about 1770, or 2) the increased wealth those new machines may have helped to bring about. As we shall see, the social transformations associated with those new machines was also a defining characteristic of the Industrial Revolution for some thinkers, particularly in the earlier literature. More recent controversy has centered on the harm or benefits done to workers and whether the changes in wealth and technology often associated with the new machines was rapid enough to be revolutionary.

DOI https://doi.org/10.3790/schm.2024.359745 | Generated on 2025-02-02 06:08:13

It is now well established that real wages for the working classes grew during the Industrial Revolution, though, as Griffin (2018) notes, this increase may not have spread to the country. It is less settled whether such increases improved quality of life during the Industrial Revolution or only with a delay of several decades. Nor is there a firm consensus whether the changes of the Industrial Revolution were rapid enough to be dubbed "revolutionary." It is generally recognized, however, that the Industrial Revolution marked an unprecedented break from the "Malthusian Regime."

Galor and Weil distinguish a "Malthusian Regime in which technological progress and population growth were glacial by modern standards, and income per capita was roughly constant" (2000, 806). Any advance in technology increases output, causing the now enriched population to grow. But this population growth strains the recently increased carrying capacity of the economy, driving average income and population growth rates back down to low levels. This has been the fate of humanity from its origins to the Industrial Revolution, with exceptions being few and local.[2] In the "Post-Malthusian Regime," technological change is rapid enough to outstrip population growth and income per capita grows (*ibid.*, 807). Finally, in the "Modern Growth Regime" technological change and income growth continue, but now "there is a negative relationship between the level of output and the growth rate of population" (*ibid.*, 806).

The escape from Malthus was the most important event in human history. And it is this which constitutes, in my view, the essence of the Industrial Revolution. Although early observers noted the increase in wealth and population that coincided with the Industrial Revolution, it was not at first obvious that a change had been made from a Malthusian Regime to one in which average income could rise well above historic levels without collapsing back again. The initial failure to recognize the essential nature of the Industrial Revolution is hardly surprising since the first edition of Malthus famous essay appeared only in 1798. Even in later years, however, debates over the Industrial Revolution tended to focus on the ideologically charged issue of its good or evil effects. It may have been inevitable that the importance of the escape from Malthus would be obscured as long as it was contested whether workers benefited from the Industrial Revolution.

Bezanson provides several "quotations compiled in a scrappy way," (1922, 349) showing that phrases similar to "industrial revolution" can be found in a French literature tracing back to the earliest years of the nineteenth century. She imputes this early coinage to "a very natural association with the political changes of the French Revolution and the rapid industrial changes" of the period (*ibid.*, 343). In these French discussions, it seems, the "revolution" could refer to changes in machinery or to changes in social relations brought on by the new machines. "One need not read beyond Chaptal to find a carefully quoted use of the word 'revolution' in 1806, to describe the change going on in industry" (*ibid.*, 346). And she quotes Chaptal (1819, 29) on the "great revolution in the arts" brought on by new machines. Importantly, she says, the term was "in general use in France and adjoining countries in the early twenties" of the nineteenth century (Bezanson 1922, 345).

[2] For possible local and partial exceptions, see Broadberry *et al.* (2015), Clark (2007), Malanima (2011), van Zanden and van Leeuwen (2012), and Álvarez-Nogal and de la Escosura (2013).

The exact phrase "industrial revolution" (in more or less its current meaning) seems to have entered the English language relatively late. Griffin (n.d.) notes, however, earlier authors, including Colquhoun (1814) and Ure (1835), who described the phenomenon in different words. "As early as 1814, Patrick Colquhoun (1814, 68) found it 'impossible to contemplate the progress of manufactures in Great Britain within the last thirty years without wonder and astonishment. Its rapidity … exceeds all credibility', and over the next few decades similar sentiments were echoed over and over again by all those with any interest in Britain's economic growth."

Engels ([1845] 1887) uses the exact phrase "industrial revolution" to mean the relatively recent great change in technology. "The history of the proletariat in England begins with the second half of the last century, with the invention of the steam-engine and of machinery for working cotton. These inventions gave rise, as is well known, to an industrial revolution, a revolution which altered the whole civil society; one, the historical importance of which is only now beginning to be recognized." He views the Spinning Jenny, "invented in the year 1764," as the "first invention which gave rise to a radical change in the state of the English workers" (*ibid.*, 34). The Spinning Jenny was, Engels tells us, "the rough beginning of the later invented [spinning] mule" (*ibid.*). Engels makes the same association with the French Revolution that was noted by Bezanson. "The industrial revolution is of the same importance for England as the political revolution for France, and the philosophical revolution for Germany; and the difference between England in 1760 and in 1844 is at least as great as that between France under the *ancien régime* and during the revolution of July" (*ibid.*, 40).

Heller says, "By the 1840s reference to the Industrial Revolution had become part of current English and French usage. Though it referred to major technical transformation, it already carried with it an implicit comparison with the immense impact of the French Revolution" (2011). Heller gives great weight to Engels' use of the term, though it seems unclear whether he thinks Engels' use is responsible for the term's spread.

Griffin gives a different account than Heller. "It was not until the 1840s that the expression began to filter into the English language," she says, "and its meaning when it did so was unsettled" (n.d.). Noting Engels' usage she says, "But the influence of Engels on mid-nineteenth-century conceptions of industrialisation was in fact extremely limited." He did, "in time," Griffin, of course, acknowledges, "cast a very long shadow over interpretations of the industrial revolution." But not in the English-language literature of the 1840s. "None of his work was translated from the German until the 1880s, and until that date, was largely passed over by British political economists and social commentators, who remained blissfully unaware of their industrial revolution and newly created industrial proletariat" (*ibid.*)

J. S. Mill used the term "industrial revolution" in his *Principles*, first published in 1848. His usage differs, however, from the sense of Engels and Heller. In the relevant passage, Mill extolls the benefits of international trade. "The opening of a foreign trade, by making them acquainted with new objects, or tempting them by the easier acquisition of things which they had not previously thought attainable, sometimes works a complete industrial revolution in a country whose resources were previously

undeveloped for want of energy and ambition in the people" (1848, 121–2).[3] The quoted passage appears also in Ashley's posthumous edition of *Principles*, except that "complete industrial revolution" had become a "sort of industrial revolution" (Mill 1909, 581). Presumably, at some point after publication of the first edition, Mill became aware of the meaning we have seen Heller (2011) characterize as "current" by the 1840s and modified his text accordingly. This history, of course, tends to support Griffin over Heller on the term's meaning in the English-language literature of the 1840s. Griffin's position is given further support by Magness and Makovi, who provide evidence that "the 1917 Russian Revolution is responsible for elevating Marx into the academic mainstream" (2023).

Griffin denies that the very words, "industrial revolution" had their now-common meaning in English until relatively late in the process. "It was not until the end of the nineteenth century, with the work of the social reformer and historian, Arthur [sic] Toynbee, that the term an 'industrial revolution' decisively entered the English language" (n.d.). Because of (Arnold) Toynbee, Griffin reports, the term spread and became a commonplace even with "members of the chattering classes and workers' educational movements."

In his lectures against Henry George, Arnold Toynbee (1884) seems to take it for granted that his audience knows what the "industrial revolution" is. "All modern socialism originated with the great industrial revolution which began at the commencement of the last century; the industrial revolution which silenced the spinning-wheel and hand-loom, and dragged men and women into great cities and huge factories" (*ibid.*, 6).[4] For Toynbee, the Industrial Revolution is evidently something about technology and the factory system. In his more famous Oxford lectures, Toynbee says the "Industrial Revolution" was a change in political regime. "The essence of the Industrial Revolution is the substitution of competition for the mediaeval regulations which had previously controlled the production and distribution of wealth" (Toynbee 1892, 85). This characterization might seem to suggest that the Industrial Revolution in England could be traced at least as far back as the Glorious Revolution of 1688 and likely before. We are immediately told, however, that Adam Smith's *Wealth of Nations* "appeared on the eve of the Industrial Revolution" (*ibid.*, 85). By the 1798, when Malthus first published his *Essay on Population*, it was "already in full swing." One's suspicions, then, fall upon the 1780s as starting point of the Industrial Revolution. Toynbee notes importantly that Watt's steam engine was applied to a cotton mill in 1785 (*ibid.*, 90) without, however, setting his finger down upon the fact and declaring it to be the start of the Industrial Revolution.

---

[3] This passage in Mill seems to reflect Hume's opinion that international trade discourages "languor" in the arts and stimulates in them "emulation and novelty," at least for the more putatively backward of the two trading countries [Hume [1777] 1987, 327].)

[4] The lectures include a "Prefatory Note" by "A.M.," which says that the lectures "were entirely *extempore*," that they were transcribed in shorthand, and that Toynbee's death prevented him from reviewing proofs. Thus, it seems unlikely that Toynbee meant to say that the "industrial revolution" began about 1700, "the commencement of the last century." It seems more likely that he meant to say it had begun about a century earlier, which would be in the 1780s.

Toynbee notes the "chief features" of the Industrial Revolution in his Oxford lectures. The British population grew rapidly (*ibid.*, 87–8). The numbers in agriculture declined, however (*ibid.*, 88). There was, in fact, an "agrarian revolution" that mattered just as much as "the great industrial change" of the time. This twin revolution (Or is it a sub-revolution?) consisted in the "destruction of the common-field system," enclosures "on a large scale," and "the consolidation of small farms into large." In manufactures, Toynbee explains, there was the rise of the factory system, which was "the consequence of the mechanical discoveries of the time" (*ibid.*, 90). The first such invention he mentions is the spinning jenny, which we have seen Engels refer to. A further feature was the expansion of trade, which he attributes to improvements in "communication" such as an improved canal system. Ominous "features" of the Industrial Revolution include the workers' loss of independence (*ibid.*, 91) and trade cycles, which he characterizes as "periods of over-production and of depression" (*ibid.*, 92). Importantly, Toynbee imagines the Industrial Revolution to have suppressed urban wages. Farmers and landowners gained; urban workers lost (*ibid.*, 92–3). And, of course, the "new class of great capitalist employers made enormous fortunes" (*ibid.*, 93). Toynbee even evokes the romantic notion that feudal dominance relations were somehow warm and fuzzy, at least compared to cold crass capitalism. The "old relations between masters and men disappeared, and a 'cash nexus' was substituted for the human tie" (*ibid.*). And it was, Toynbee avers, this change that led to the trade union movement. Toynbee concludes his list of "features" by saying, "The effects of the Industrial Revolution prove that free competition may produce wealth without producing wellbeing" (*ibid.*). Thus Toynbee: There was an Industrial Revolution, and it crushed the poor worker under its mechanized wheels.

It may be that the spread and general acceptance of Toynbee's usage set the stage for subsequent challenges to the very idea of a "revolution" in manufactures. In any event, Clapham ([1926] 1939) famously argued that industrial change in England prior 1850 had been more evolutionary than revolutionary. Already in 1910 Clapham cast scorn upon the idea of the Industrial Revolution, putting first "the industrial revolution" in derisive scare quotes and then just the article "the" in derisive scare quotes (1910, 195). Rather than a cataclysmic transformation that crushed the worker, there was, in Clapham's view, gradual change in production techniques and (citing Wood 1899) a roughly 42% growth in "industrial wages" from 1790 to 1850 (Clapham [1926] 1939, 561).

Clapham's "optimism" on wages was a bold stance in its day given that "most of the historians between Marx and Clapham saw the Industrial Revolution as a 'bleak age' for the labouring classes" (Hobsbawm 1963, 124). Ashton says, "Most of the economists who lived through the period of rapid economic changes took a somewhat gloomy view of the effect of these changes on the workers" (1949, 19). The majority, though not universal, view from the start right down to Clapham was that workers were harmed by the Industrial Revolution.

The popular ascendency of the pessimistic interpretation of the Industrial Revolution is illustrated by a passage from Bertrand Russell to which Hayek (1954) has drawn our attention. "The industrial revolution caused unspeakable misery both in England and America. I do not think any student of economic history can doubt

that the average happiness in England in the early nineteenth century was lower than it had been a hundred years earlier; and this was due almost entirely to scientific technique" (Russell as cited in Hayek 1954, 13).

Clapham disliked the term "Industrial Revolution." By 1948, however, Ashton, who is generally associated with Clapham, could say that it would be "pedantic to offer a substitute" (1948, 2). Ashton shared Clapham's "optimism" on the effects of the Industrial Revolution on workers' wealth and welfare, but abandoned any effort to nix the term "Industrial Revolution."

Nef (1943) attributes the "conventional view of the industrial revolution" to Toynbee's Oxford lectures (Toynbee 1892). Nef was particularly vexed that Toynbee deceived generations into believing that the Industrial Revolution began in 1760, whereas a more proper date would be, Nef insisted, closer to 1785. The "striking speeding up in the industrial evolution of England began, not in 1750 or 1760, but in the 1780s" (Nef 1943, 5). As we have seen, however, Toynbee seems to have dated the beginnings of the revolution to the 1780s in perfect agreement with Nef. In fairness to Nef, we should note that his complaint that Toynbee puts the date at 1760 does have some textual foundations. Toynbee's Oxford lectures include an extended comparison of conditions before and after 1760. This comparison comes before the discussion that seems, albeit ambiguously, to place the start of the Industrial Revolution in the 1780s. Moreover, it seems doubtful whether Toynbee can be accused of clarity and consistency in his characterization of the Industrial Revolution or in his dating thereof.

Nef's criticism of Toynbee was truly conservative. The "conventional idea of the industrial revolution has interposed itself like a dense fog between us and our traditions," he grumbles. The "intellectual development which made a revolution possible, if not inevitable," Nef avers, "can be traced back at least to the Renaissance" (*ibid.*, 25). And it is "almost inevitable" that the "cost of the industrial revolution" will "outweigh the gain," Nef warns, "unless mankind can recover what is best in the ancient Christian and humanist traditions" (*ibid.*, 30).

Toynbee's criticism of the Industrial Revolution (that it produced wealth without wellbeing) and Nef's criticism of Toynbee illustrate the heavy ideological charge of the topic. This ideological charge helps to explain why workers' wages have been central to disputes over the Industrial Revolution. It matters how the relative opulence brought on by the Industrial Revolution was distributed across the population. The Hartwell-Hobsbawm debate was a central episode in working out the good or bad consequences of the Industrial Revolution for the average person. Hobsbawm was a Marxist and Hartwell a liberal. It is perhaps not surprising, therefore, that they viewed the matter differently. What may be surprising is that something of a consensus emerged from the debate, at least for a time. The Industrial Revolution did lead to improvements in both the workers' wages and their overall living conditions, in this consensus view, but the improvement may not have kicked in until about 1820 or, perhaps, as late as 1845 (Engerman 1994, 54).

The Howbsbawm-Hartwell debate culminated in a consensus view that was very different from the damnations of Toynbee and the nostalgic anxiety of Nef. Disagreement remained on an indefinite host of interrelated questions, including whether the worker's improved "standard of living" corresponded to a better "way of life" (Hart-

well [1971] 2017, 57). But by, say, 1970 the predominate view seems to have been that the Industrial Revolution had improved the workers' "standard of living" within at most a hundred years of its onset. In 1994, Stanley Engerman said it was "hard to disagree with the spirit of the Hartwellian conclusion" that the Industrial Revolution improved the lives of most English workers. "Life became longer and in many ways it became better, materially and otherwise" (Engerman 1994, 70).

Since the time of Engerman's survey, the debate on standard of living has continued. Clark justly laments, "This debate seems endless" (2005, 1317). Recent debate has had, perhaps, a greater tendency to focus on the period before 1850. The question has become how quickly workers partook in the overall increase in wealth. Griffin says, "Over the past twenty years, economic history has produced a vast literature looking at various elements of living standards, yet we find much the same conclusion repeated over and again: real wages were largely stagnant, while according to all other measures life actually worsened" (2018, 72). She characterized the estimates in Feinstein (1998) as "a lodestar for all subsequent scholars seeking to map this terrain" (2018, 73).[5] Feinstein's putatively pessimistic view, however, implies that "Average Full-Employment Real Earnings" in Great Britain rose by 35% from 1790 to 1850. And that figure is not so far from the putatively optimistic Wood-Clapham value of 42% for the identical period, which we noted earlier. Feinstein is pessimistic, however, because he thinks this value does not adjust for periods of unemployment. Once that adjustment is made, the overall growth in worker incomes for that period shrinks to a relatively meager 25%. Unfortunately, Feinstein does not fully report his unemployment estimates and describes his estimates as "impressionistic" and "ad hoc." Griffin (2018, 74) was mild in describing them as "questionable."[6]

By the end of the twentieth century, then, the pessimistic view had progressed from Toynbee's ardent conviction that the Industrial Revolution had suppressed urban wages to Feinstein's use of "[a]d hoc adjustments" and "impressionistic" methods to support the claim that English wage *increases* were modest in the initial decades of the Industrial Revolution. Recent results such as Clark's important studies (2001; 2005) bolster the optimistic view of worker wages in the Industrial Revolution. Griffin's (2018) puzzlement seems well justified. "Given Clark's more optimistic series and

[5] Clark (2005, 1318) lumps Allen (2001) in with Feinstein as a salient pessimist. We consider Allen's own assessment to be more apposite. "Indeed, the broad perspective of this paper shifts the ground from under both 'optimists' and 'pessimists' in the British standard of living debate. Both positions can find support in the indices reported here, but contrary interpretations are also strengthened in both cases" (Allen 2001, 433).

[6] Feinstein (1998, 646) notes "the absence of any trustworthy direct information on unemployment in this period" and avers that any estimates will therefore be "very rough." The estimates were "based largely on what is known about unemployment in the later nineteenth century." They were, however, subject to "[a]d hoc adjustments" for earlier years, including the period "1815/17 to allow for the rise in unemployment that followed the large postwar demobilization." Opinions differ on whether the ravages of war are to be counted against the Industrial Revolution. Feinstein formulated incompletely reported numerical estimates for "the percentage of wage earners out of work or on short time each year." These estimates were formulated, however, through an "impressionistic approach" rather than by "applying a regression model based on unemployment data for later years." Feinstein made separate estimates for agricultural unemployment. The estimation techniques and values for this agricultural series were also incompletely reported.

the fact that Feinstein's pessimistic conclusions were only weakly supported by his own evidence, it is not self-evident why the picture of stagnant wages before 1850 has achieved almost canonical status within the field" (*ibid.*, 74).

Ashton's summary statement of 1954 still applies. "Very gradually those who held to these pessimistic views of the effects of industrial change have been forced to yield ground" (Ashton 1954, 38). And yet it cannot be said that controversy has ceased. It is endless. In this regard, the situation has changed only a little since Ashton's further remark. "But this does not dispose of the controversy. Real earnings might have risen, it was said, but it was the quality of life and not the quantity of goods consumed that mattered" (*ibid.*, 39). Ashton gives plausible evidence that housing and other living conditions for English workers were improved by industrialization. Tellingly, however, it also included a rather defensive discussion of "responsibility" for the poor quality of worker housing (*ibid.*, 41 ff). Ashton's defensive tangent reflects the fact that real wages are easier to assess than quality of life.

Speaking from an avowedly Marxian perspective, Heller insists that the pessimistic view "has been entirely vindicated by recent research" (2011, 198). Heller's lone cite to such "recent research," however, is Szreter and Mooney (1998, 104). They do provide evidence that life expectancy fell "in provincial cities" from 35 years in the 1820s to 29 years the 1830s. Even in the pessimistic account of Szreter and Mooney, however, the immiseration of the proletariat was not increasing, but abating after the 1830s. They do not provide estimates for the period before the 1820s. Thus, it seems hard to draw conclusions about the consequences of the Industrial Revolution from their estimates. Their estimated decline in life expectancy applies only to "the growing proportion of the population recruited into the urban industrial workforce" (*ibid.*, 110) rather than the population as a whole.

Other work seems to support a view less pessimistic than that of Szreter and Mooney. Woods (2000, 369), for example, finds a decline in life expectancy of only about a month from the 1820s to the 1830s rather than the six-year decline estimated by Szreter and Mooney. Wrigley and Schofield (1981, 230) estimate life expectancy at birth from 1541 to 1871. Life expectancy rose in England from about 34.2 years in 1761 to 41.3 years in 1871. There was regression from 1831 to 1851, when life expectancy sank from about 40.8 to 39.5, but the overall trend was positive. Figure 1 plots their numbers, which were calculated for five-year intervals. It seems fair to say that, some ups and downs notwithstanding, life expectancy had a clear upward trend from its local nadir of 27.9 years in 1731. Haines (2004, 251) reproduces some of the Wrigley and Schofield numbers while giving relatively little attention to the Szreter and Mooney estimates.

Decline in stature has also been a source of pessimistic conclusions. Since the 1970s, stature (*i. e.* height) has been recognized in economic history as an "index of nutrition" (Fogel *et al.* 1983) and a measure of the standard of life. This recognition, in fact, can be traced to "a conversation between Robert Fogel and the demographer James Trussell in 1975" (Lyons *et al.* 2008, 30; see also Williamson and Lyons 2008, 342.) Early researchers in "anthropometric history" include Robert Fogel, Stanley Engerman, Roderick Floud, Gerald Friedman, John Komlos, Robert Margo, Kenneth Sokoloff, Richard Steckel, T. James Trussell, Georgia Villaflor and Kenneth W.

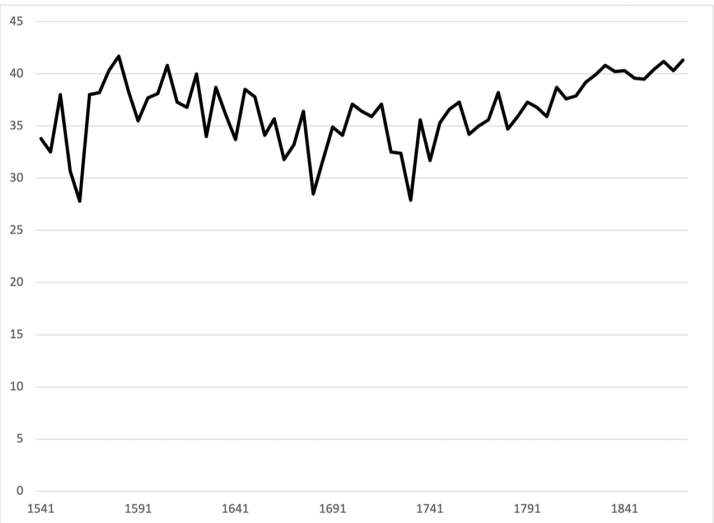

Figure 1: Life expectancy at birth 1541 – 1871
Data from Wrigley and Schofield (1981, 230)

Wachter.[7] Steckel (2009, 7 – 10) discusses the determinants of heights and notes the complexity of the relationships between height and other factors such as caloric intake.

Floud *et al.* (1990) is a pioneering work on stature and the Industrial Revolution in the United Kingdom. They find a generally *upward* trend in heights from 1750 to 1850 (see especially Figure 4.1, 136; Figure 4.2, 137; Table 4.1, 140 – 9). This "optimistic" result seems to have been superseded by later work. Komlos (1993) found ups and downs along a general *downward* trend in the heights of English men from the 1740s through the 1850s (Komlos 1993, 136). Floud and Harris (1997) discuss evidence that the average height of English men went up and down in the early decades of the Industrial Revolution.[8] They find, "The average heights of successive birth cohorts of British men only began to increase consistently from the 1840s onward" (*ibid.*, 101). Cinnirella (2008) computes a generally negative "secular trend" for average height in Britain from 1740 to 1865 (338 – 9). He "finds no support" for the claim by Floud *et al.* that "the era of the early industrial revolution led to an improving standard of living" (cited in Cinnirella 2008, 339).

[7] Fogel *et al.* (1983) is an important early statement. Trussell and Steckel (1978) seems to be the first published result from this group. Le Roy Ladurie *et al.* (1969) spawned a small French literature working on similar lines. The anthropometric literature prompted by Fogel was independent of the earlier French effort.

[8] Average height "increased between the 1740s and 1760s" only to fall "between the 1760s and 1780s." It then "increased between the late 1780s and the 1820s and declined between the 1820s and the 1840s."

Although it seems unlikely that there was no decline in stature during the Industrial Revolution, it is contested how much the available data show (Bodenhorn *et al.* 2017; Morin *et al.* 2017; Zimran 2019). Bodenhorn *et al.* (2017) have noted that the relevant height data is mostly for military recruits and is therefore subject to selection bias. If relatively short men had relatively poor job options, the heights of recruits could have been falling at a time when the true average height was rising. Zimran's (2019) study of US data for "birth cohorts of 1832 – 1860" confirms the problem of selection bias without overturning the broad conclusion that heights were falling in the US during this time. Overall, then, the evidence still favors the conclusion that English workers were shrinking 1750 – 1850. But this conclusion is now less definitive, and the amount of shrinkage was probably less than earlier studies had found.

The literature on stature in England and the UK has supported the view that the Industrial Revolution was bad for the British working class, at least initially. Griffin's pithy summary seems right. "The stock interpretation is that real wage gains were modest and more than cancelled out by deteriorating urban living conditions" (Griffin 2018, 79). Cinnerella notes, however, "It is possible that working-class families during the industrial revolution deliberately chose to have more children at the cost of a lower average nutritional status" (2008, 351).[9] In the context of the emergence of agriculture, Locay (1989, 745 – 7) provides analytical support to Cinnirella's conjecture. Locay explains how technological advance can induce the rational choice of reducing parental food consumption to increase the number of surviving children. Such a choice may well correspond, as Cinnirella notes, to a "lower average nutritional status" per child. A passage in Griffin (2018) suggests that such a deliberate choice may have been made in at least some cases. She surveyed working-class autobiographies from 1750 – 1850, of which a tiny handful were written by women. "Two writers had believed as children that their mothers stinted their own food so that their children might eat, but two adult female writers indicated that during hard times it was their children rather than themselves who suffered from a want of food" (Griffin 2018, 108). Griffin's report is ambiguous, but may give at least some support to Cinnirella's conjecture. Other facts further strengthen the conjecture. Wrigley (1983, 144) reports, "Women were marrying much younger at the end of the 'long' eighteenth century than at its beginning and many fewer remained single." Numbers reported in Wrigley *et al.* (1997, 614) reveal that the net reproductive rate (NRR) rose from 1.14 in the period 1711 – 1756 to 1.39 in the period 1761 – 1806.[10] However great or small may have been the element of rational choice in family size, the Industrial Revolution seems to have induced an increase in it.

---

9 This possibility has a certain similarity to Griffin's (2018) suggestion that "men did indeed enjoy higher wages, but this did little to improve the diets of women and children" (79). Like Humphries (1990, 1991), Horrell and Humphries (1992), and others, Griffin and Cinnirella shift focus to "the family unit rather than the single worker" (Cinnirella 2008, 351). Griffin, however, does not adopt a rational-choice perspective and seems to suggest that women were not generally in a position to influence their husband's choices. Of course, different choices will be made within different families, so that any contrasts between the views of Griffin and Cinnirella are a matter of degrees, trends, and averages.

10 The NRR is the number of daughters a woman may be expected to have in her lifetime, considering the risk that she may die before the end of her child-bearing years.

Komlos also gives the evidence on stature an optimistic spin. He draws an optimistic inference from a seemingly pessimistic conclusion. "In spite of the remarkable growth in GDP as a consequence of the industrial revolution, the lowest segments of society apparently saw little or no improvement in their biological standard of living in the first century of the most momentous recorded expansion in industrial productivity" (Komlos 1993, 142). Komlos notes, however, that "the decline in nutritional status extended across Europe" and began before "industrial expansion" in England (*ibid.*, 142). We had, he believes, a "demographic expansion" like other earlier expansions, including a "similar episode of expansion in the sixteenth century" (*ibid.*,143). But the greater productivity and wealth of Europe in the 18th century helped to prevent mass starvation. Europe was able to "break through the Malthusian ceiling." Malnutrition was "widespread," but "fewer people fell below the biological minimum than during earlier periods of rapid demographic expansion." It was industrialization, Komlos avers, that made it possible for people to survive "by creating additional income that could be traded for nutrients."

Consistently with Komlos' view, the population of England and Wales expanded greatly in the early decades of the Industrial Revolution. Toynbee notes this increase. "Coming to the facts of the Industrial Revolution, the first thing that strikes us is the far greater rapidity which marks the growth of population" (Toynbee 1892, 87). And he quotes Robert Peel (the elder) saying, in 1806, "machinery has given birth to a new population; it has promoted the comforts of population to such a degree that early marriages have been resorted to, and a great increase of numbers has been occasioned by it" (*ibid.*, 88).[11] Wrigley's (1969, 153) estimates of the population of England and Wales in 1701, 1751, and 1801 imply a growth rate of 0.11% for the first half of the eighteenth century and 0.80% for the second half. In the latter period the population increased almost 50% from 6.140 million to 9.156 million. Estimates of the English population in Wrigley *et al.* (1997, 614) imply annual increases of 0.26% and 0.77% for the same periods. McCloskey reports that, from 1780 to 1860, "the population increases to an astonishing and unprecedented degree, increasing in England and Wales by about $1\frac{1}{4}$ per cent per year" (1981, 105). This increase in human biomass seems to have been enabled by the Industrial Revolution, just as Komlos argued.

We have noted that controversy over optimism and pessimism is endless. Griffin heaps scorn on the whole question, declaring it "long past its sell-by date" (2018, 109). She emphasizes the different effects of the Industrial Revolution on different populations, noting especially the different experiences of persons in the city and the country and the different experiences of men, women, and children. "The evidence is clear: industrialization ushered in a far more complex, and unequal, society than that which it replaced. It is time to abandon the optimist/pessimist framework and to develop suitably plural, historical approaches and perspectives" (*ibid.*, 110).

Endless debate also continues on whether the Industrial Revolution was revolutionary. Hartwell (1990) notes a "slow rate of growth" literature with important contributors who include "Eric Jones, Rondo Cameron, Nick Crafts, and J. C. D. Clark" (Hartwell 1990, 569). For example, J. C. D. Clark (1986, 39) insisted, "English society

[11] I have not been able to confirm this quote.

was not *revolutionised:* and it was not revolutionised *by industry.*" Hartwell said in response, "From the very long-term point of view, the revolutionary nature of the changes brought about by industrialization cannot be challenged" (1990, 571). More recently Clark said, "The conventional picture of the Industrial Revolution as a sudden fissure in economic life is not sustainable" (2007, 9). Clark's objection is that fluctuations in productivity give us too many candidates for the moment when Britain made a "true break between the Malthusian and modern economies." Plausible candidates include, he tells us, 1600, 1800, "or even" 1860 (*ibid.*). On the other hand, Clark recognizes and emphasizes the escape from Malthus. That change is the most important thing that has ever happened. And from a sufficiently long-run point of view, it happened very quickly indeed.[12] In any event, the difference between fast and slow is subjective, and thus perhaps not a fit topic for dispute. We have seen that in 1948 Ashton found it "pedantic to offer a substitute" term for "Industrial Revolution." For better or worse, the term is here to stay. And it's meaning, though varying from one writer to another, is connected both to the technological changes that began in the latter half of the eighteenth century and to the increases in average income or GDP per capita enabled by those technological changes. The escape from Malthus forms no part of the definition of the term. But the greater output of the Industrial Revolution could not have enduringly improved the standard of living for most humans if we had not escaped from Malthus.

3. Wealth Before Liberalism

The Industrial Revolution was good for workers right away. Even the seemingly slam-dunk evidence on height, upon further analysis, supports the view that workers gained right off and experienced no initial period of decline and greater suffering. This immediate enrichment matters because it came before England's move to open access orders in economy and politics. In other words, it came before England's move to liberalism.

We have seen Wegner point out that England's "Industrial Revolution was at an advanced stage when the Reform Act of 1832 widened the scope of parliamentary representation in society with a first, imperfect step" (2020, 339). And we have now seen that the Industrial Revolution increased wealth from the start. Democracy followed riches in England. In the language of North, Wallis, and Weingast (2009) an open access political order came after the increase in wealth created by the Industrial Revolution.

What about an open access economic order? The idea of *laissez faire* is relative. That is, there has never been "pure" *laissez faire* (whatever that might mean) nor control so complete as to block all voluntary exchange. It is, therefore, difficult to say when "British *laissez faire*" may have begun or, indeed, whether it may be said to have ever existed. (Brebner (1948) says that "British laissez faire" was a "myth.")

[12] Hartwell's "very long-term point of view" spans "several centuries" (1969, 14). The extremely long-run point of view of Koppl *et al.* (2023) spans evolutionary time. Citing Clark (2007) they say, "Some evidence suggests that our Pleistocene ancestors may have had a standard of life not inferior to historical levels prior to the Industrial Revolution."

Claims that Britain had *laissez faire*, however, usually refer to the 19th century, *after* the enrichment of the Industrial Revolution had begun.

A few facts, given without caveat or nuance, suggest that the "Great Enrichment" (McCloskey 2016) was more cause than consequence of economic liberty. The Statute of Artificers was repealed in 1814 and not before the Industrial Revolution. The monopolistic Bubble Act was passed in 1720, before the Industrial Revolution. And it was not repealed until 1825 and then only partially. And the notorious Corn Laws were not repealed until 1846.

Both forms of liberalism, political and economic, co-evolved with the human Technosphere. Cazzolla Gatti *et al.* (2020, 118–9) draw on (Bak *et al.* 1987) to identify a material driver of this co-evolution:

> For at least some actors, any technological innovation will raise the opportunity cost of institutions that prevent or discourage the use of it. This increase in opportunity cost tends to create pressure for institutional change. Each innovation is but one grain of sand, which will usually have little power to change institutions. But, the accumulation of many such grains will eventually unleash an avalanche of institutional change. Most such avalanches will be small, but a few will be big, and a very few will be very big.

Thus, the relationships among open access political orders, open access economic orders, wealth, and technological change are relatively subtle and complex. Simple statements simplify. But I think it is fair to say, in rough summary, that technological evolution created wealth, and wealth enabled both economic and political liberalism. I have commented above on the complexities of institutional evolution in history, noting the cases of the Antonine emperors and Europe's 11th and 12th century rulers. Before the Industrial Revolution, there were many tumbles and turns in institutional evolution. And such tumbles and turns were by no means entirely set aside once the "Great Enrichment" was underway. But that enrichment has produced an increased tendency for liberty to advance and a reduced tendency for it to decline. Institutional catastrophe is forever a dreadful possibility, but since 1800 or so, the material driver identified by Cazzolla Gatti *et al.* (2020) has been strong enough to produce movement toward increased liberty notwithstanding salient interruptions and reverses.

It must be admitted that Cazzolla Gatti (*ibid.*) does not contain a fully elaborated theory of institutional evolution. But the quoted passage does identify a mechanism that produces a tendency toward increasing liberalism. Illiberal institutions have an opportunity cost. When the opportunity cost of a given restriction rises, perhaps because of a general increase in wealth, the likelihood of a movement to sweep it away grows, *ceteris paribus.* It is a general principle of economic theory that you tend to get less of a given behavior when its opportunity cost rises. The mechanism of institutional change in Cazzolla Gatti *et al.* (2020) is an application of that general principle. You tend to get less toleration of a given economic restriction when its opportunity cost rises.

Action against a now *in*tolerable restriction may take the form of a social movement as described by Mikayla Novak (2021). Social movements are loose associations of individuals driven by different combinations of self-interest and potentially selfless ideology to protest, write manifestos, take up arms, engage in civil disobedience, run for political office, or otherwise invest in institutional change. Social movements

DOI https://doi.org/10.3790/schm.2024.359745 | Generated on 2025-02-02 06:08:13

have existed, and they have often driven significant institutional change. Such change has been in the direction of greater liberalism often enough to have produced a slow and irregular movement toward ever greater personal liberty. The pace of liberty-enhancing change quickened markedly after the onset of the Industrial Revolution in the latter half of the 18th century.

Griffin (2013) provides vivid evidence of the link between the enrichment of ordinary people occasioned by the Industrial Revolution and their empowerment in matters of marriage, religion, and politics. She read over 350 autobiographical writings of working-class Britons spanning a period from the late 18th century to about the middle of the 19th century. (She read all that she could find after scouring a variety of potential sources such as "local history libraries and county record offices", *ibid.*, 6.) "My suggestion," she says, "is that the early nineteenth century witnessed a radical change in local power relations, throwing wide open new opportunities for working men to exercise power within their communities" (*ibid.*, 213–4).

The relative wealth of working-class Britons allowed them, first of all, to learn to read. Literacy among the poor was unthinkable prior to the Industrial Revolution in part because poor people could not afford books. "Commercial and benevolent night schools, Sunday schools for teenagers and adults, reading clubs, mutual improvement societies and Mechanics' Institutes all played their part in improving the literacy of the working man" (*ibid.*,16). This new-found erudition allowed common people to read the Bible and participate more actively in dissenting churches. An ordinary worker could now have theological opinions – and express them! The typical parish vicar of the Anglican Church, Griffin explains, could see "no role for a poor man" who lived "by the labour of his hands from one day to the next, to question or consider their teaching. The active and enquiring penitent simply had no place in the Anglican tradition" (*ibid.*, 200). Dissenting churches often encouraged such enquiring. Thus empowered, ordinary people began to have not only *theological* opinions, but also *political* opinions. And with political opinions came the ambition to realize them. Political activism was concentrated in the areas most enriched by the Industrial Revolution. Griffin says, "rural inhabitants were almost never involved in political agitation" (*ibid.*, 234). And "those entering the public sphere were almost always to be found in areas of industrial and demographic growth" (*ibid.*, 233). Griffin's evidence supports the view that the enrichment occasioned by the Industrial Revolution enabled the social movements that produce greater liberalism in the United Kingdom. More generally, I think, it is wealth that produces liberalism and not the other way about.

If my broad account of institutional change is about right, then we need a more fully developed theory of institutional evolution in which wealth enables social movements that often engender increased political and economic liberty.

The mechanism identified by Cazzolla Gatti *et al.* (2020) can be slow to produce improvements and does not inevitably result in some liberal equivalent to the workers' paradise of orthodox Marxism. Banal rent seeking and the darker impulses of human nature can produce illiberal changes in institutions as illustrated by the tragic history of the Soviet Union. While that regime was doomed from the start, it was able to endure for roughly 70 years and impose great suffering and hardship on the people. In the tussle between short-run folly and the long-run tendency for improvement, total victory

for either side is unlikely. And the "short run" victories of folly and oppression can last for decades.

My wealth-first thesis is based on the analyses of Cazzolla Gatti *et al.* (2020) and Koppl *et al.* (2023). In that version, the wealth-first thesis is married to a technology-first vision. It seems perfectly logically possible to reject technology-first while retaining wealth-first. But I do not personally know how such a view would explain increasing wealth. The obvious answer is "Capital accumulation!" But I think it is generally recognized that Solow (1956) made such a response untenable.

Political and economic institutions cannot in general be designed and imposed.[13] But when the people are enriched by technological change or earlier increases in liberty, then institutional changes promoting greater liberty may well emerge from the struggles of social movements as described in Novak (2021).

If that rough summary is about right, then Mikayla Novak's analysis of social movements is important. If Novak (*ibid.*) and Cazzolla Gatti *et al.* (2020) are both about right, then the arc of history bends toward liberalism. But the path is long and twisted. Setbacks and crises are possible. And there are no simple bromides guaranteeing the preservation of liberty. Each generation must choose liberty and be willing to fight for it and defend it.

It is my fervent hope that this vision of social change and emergent liberalism is adequate to the standard of argumentation and historical understanding set by Professor Wegner, without whom, I probably could not have thought such thoughts.

References

Allen, R. C. 2001. "The Great Divergence in European Wages and Prices from the Middle Ages to the First World War." *Explorations in Economic History* 38 (4): 411–47.

Álvarez-Nogal, C. and L. Prados de la Escosura. 2013. "The Rise and Fall of Spain (1270–1850)." *Economic History Review* 66 (1): 1–37.

Ashton, T. S. 1948. *The Industrial Revolution, 1760–1830.* Oxford: Oxford University Press.

Ashton, T. S. 1949. "The Standard of Life of the Workers in England, 1790–1830." *Journal of Economic History* 9 (Supplement): 19–38.

Ashton, T. S. 1954. "The Treatment of Capitalism by Historians." In *Capitalism and the Historians*, edited by F. A. Hayek, 31–61. Chicago: University of Chicago Press.

Bak, P., C. Tang, and K. Wiesenfeld. 1987. "Self-organized Criticality: An Explanation of 1/*f* Noise." *Physical Review Letters* 59 (4): 381–4.

[13] I freely acknowledge an anonymous referee's point that the "wealth first thesis" may hold good irrespective of whether "successful" constitutional design plays a role in the development of institutions, or the latter always amounts to purely spontaneous co-evolution. Nor is my stance "against design" (Devins *et al.* 2015) meant to say that no one is doing any planning in the course of institutional evolution. What is spontaneous in a Hayekian spontaneous order is the overall outcome. The component actions generating that outcome might all be perfectly planful and rational. But, if Devins *et al.* (*ibid.*) are right, planned institutional elements such as written constitutions evolve in unpredictable ways that sometimes move the system into paths that the earlier planners would not like.

Berman, H. J. 1983. *Law and Revolution: The Formation of the Western Legal Tradition.* Cambridge, MA and London: Harvard University Press.

Bezanson, A. 1922. "The Early Use of the Term Industrial Revolution." *Quarterly Journal of Economics* 36 (2): 343–9.

Bodenhorn, H., T. W. Guinnane, and T. A. Mroz. 2017. "Sample-Selection Biases and the Industrialization Puzzle." *Journal of Economic History* 77 (1): 171–207.

Brebner, J. B. 1948. "Laissez Faire and State Intervention in Nineteenth-Century Britain." *Journal of Economic History* 8 (1): 59–73.

Broadberry, S., M. S. Bruce, A. K. Campbell, M. Overton, and B. Van Leeuwen. 2015. *British Economic Growth, 1270–1870.* Cambridge, UK: Cambridge University Press.

Cazzolla Gatti, R., R. Koppl, B. D. Fath, S. Kauffman, W. Hordijk, and R. Ulanowicz. 2020. "On the Emergence of Ecological and Economic Niches." *Journal of Bioeconomics* 22 (2): 99–127.

Chaptal, J.-A. 1819. *De l'industrie française,* Vol. 2. Paris: Antoine-Augustin Renouard.

Cinnirella, F. 2008. "Optimists or Pessimists? A Reconsideration of Nutritional Status in Britain, 1740–1865." *European Review of Economic History* 12 (3): 325–54.

Clapham, J. H. 1910. "The Transference of the Worsted Industry from Norfolk to the West Riding." *The Economic Journal* 20 (78): 195–210.

Clapham, J. H. (1926) 1939. *An Economic History of Modern Britain: The Early Railway Age, 1820–1850.* Cambridge, UK: Cambridge University Press.

Clark, G. 2001. "Farm Wages and Living Standards in the Industrial Revolution: England, 1670–1869." *Economic History Review* 54 (3): 477–505.

Clark, G. 2005. "The Condition of the Working Class in England, 1209–2004." *Journal of Political Economy* 113 (6): 1307–40.

Clark, G. 2007. *A Farewell to Alms: A Brief Economic History of the World.* Princeton, NJ and Oxford: Princeton University Press.

Clark, G. 2012. "A Review Essay On: 'The Enlightened Economy. An Economic History of Britain, 1700–1850' by Joel Mokyr." *Journal of Economic Literature* 50 (1): 85–95.

Clark, J. C. D. 1986. *Revolution and Rebellion: State and Society in England in the Seventeenth and Eighteenth Centuries.* Cambridge, UK: Cambridge University Press.

Colquhoun, P. 1814. *A Treatise on the Wealth, Power and Resources of the British Empire.* London: Mawman.

De Voragine, J. 2012. *The Golden Legend: Reading on the Saints.* Princeton, NJ: Princeton University Press.

Devins, C., R. Koppl, S. Kauffman, and T. Felin. 2015. "Against Design." *Arizona State Law Journal* 47 (3): 609–81.

Engels, F. (1845) 1887. *Conditions of the Working Class in England.* New York.

Engerman, S. L. 1994. "Reflections on 'The Standard of Living Debate': New Arguments and New Evidence." In *Capitalism in Context: Essays on Economic Development and Cultural Change in Honor of R. M. Hartwell*, edited by J. A. James and M. Thomas, 50–79. Chicago: University of Chicago Press.

Feinstein, C. H. 1998. "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution." *Journal of Economic History* 58 (3): 625–58.

Floud, R. and B. Harris. 1997. "Health, Height, and Welfare: Britain, 1700–1980." In *Health and Welfare during Industrialization,* edited by R. H Steckel and R. Floud, 91–126. Chicago: University of Chicago Press.

Floud, R., K. Wachter, and A. Gregory. 1990. *Height, Health and History: Nutritional Status in the United Kingdom, 1750–1980.* Cambridge, UK and New York: Cambridge University Press.

Fogel, R. W., S. L. Engerman, R. Floud, G. Friedman, R. A. Margo, K. Sokoloff, R. H. Steckel, T. J. Trussell, G. Villaflor, and K. W. Wachter. 1983. "Secular Changes in American and British Stature and Nutrition." *Journal of Interdisciplinary History* 14 (2): 445–81.

Galor, O. and D. N. Weil. 2000. "Population, Technology, and Growth: From Malthusian Stagnation to the Demographic Transition and Beyond." *American Economic Review* 90 (4): 806–28.

Goldstone, J. A. 2002. "Efflorescences and Economic Growth in World History: Rethinking the 'Rise of the West' and the Industrial Revolution." *Journal of World History* 13 (2): 323–89.

Griffin, E. n.d. "The 'Industrial Revolution': Interpretations from 1830 to the Present." Accessed November 4, 2023. http://www.uea.ac.uk/documents/1006128/1446434/Emma+Griffin+industrialrevolution.pdf/816bcd4c-ac9b-4700-aae4-ee6767d4f04a.

Griffin, E. 2013. *Liberty's Dawn: A People's History of the Industrial Revolution.* New Haven, NJ and London: Yale University Press.

Griffin, E. 2018. "Diets, Hunger and Living Standards During the British Industrial Revolution." *Past & Present* 239 (1): 71–111.

Haines, M. R. 2004. "Growing Incomes, Shrinking People—Can Economic Development Be Hazardous to Your Health?: Historical Evidence for the United States, England, and the Netherlands in the Nineteenth Century." *Social Science History* 28 (2): 249–70.

Hartwell, R. M. 1969. "Economic Growth in England Before the Industrial Revolution: Some Methodological Issues." *Journal of Economic History* 29 (1): 13–31.

Hartwell, R. M. (1971) 2017. *The Industrial Revolution and Economic Growth.* Abingdon, UK and New York: Routledge.

Hartwell, R. M. 1990. "Was There an Industrial Revolution?" *Social Science History* 14 (4): 567–576.

Hayek, F. A. 1954. "History as Politics." In *Capitalism and the Historians*, edited by F. A. Hayek, 3–29. Chicago: University of Chicago Press.

Hobsbawn, E. J. 1963. "The Standard of Living During the Industrial Revolution: A Discussion." *Economic History Review* 16 (1): 119–34.

Horrell, S. and J. Humphries. 1992. "Old Questions, New Data, and Alternative Perspectives: Families' Living Standards in the Industrial Revolution." *Journal of Economic History* 52 (4): 849–80.

Hume, D. 1741. *Essays, Moral and Political.* Edinburgh, UK: R. Fleming and A. Alison.

Hume, D. (1777) 1987. *Essays Moral, Political, Literary.* Indianapolis, IN: Liberty Fund.

Hume, D. (1778) 1983. *The History of England from the Invasion of Julius Caesar to The Revolution in 1688.* Indianapolis, IN: Liberty Fund.

Humphries, J. 1990. "Enclosures, Common Rights, and Women: The Proletarianization of Families in Late Eighteenth and Early Nineteenth Century." *Journal of Economic History* 50 (1): 17–42.

Humphries, J. 1991. "'Lurking in the Wings …': Women in the Historiography of the Industrial Revolution." *Business and Economic History* 20 (1991): 32–44.

Koppl, R, R. Cazzolla Gatti, A. Deveraux, B. D. Fath, J. Herriott, W. Hordijk, S. Kauffman, R. E. Ulanowicz, and S. Valverde. 2023. *Explaining Technology.* Cambridge: Cambridge University Press.

Lachmann, L. (1969) 1977. "Methodological Individualism and the Market Economy." In *Capital, Expectations, and the Market Process*, 149–65. Kansas City: Sheed Andrews and McMeel, Inc.

Le Roy Ladurie, E., N. Bernageau, and Y. Pasquet. 1969. "Le conscrit et l'ordinateur. Perspectives de recherche sur les archives militaires du XIXe siècle français." *Studi Storici* 10 (2): 260–308.

Locay, L. 1989. "From Hunting and Gathering to Agriculture." *Economic Development and Cultural Change* 37 (4): 737–56.

Lyons, J. S., L. P. Cain, and S. H. Williamson. 2008. "Introduction: Economic History and Cliometrics." In *Reflections on the Cliometrics Revolution: Conversations with Economic Historians*, edited by J. S. Lyons, L. P. Cain, and S. H. Williamson. London and New York: Routledge.

Madison, J., A. Hamilton, and J. Jay. (1788) 1982. *The Federalist Papers.* New York City: Bantam Books.

Magness, P. W. and M. Makovi. 2023. "The Mainstreaming of Marx: Measuring the Effect of the Russian Revolution on Karl Marx's Influence." *Journal of Political Economy* 131 (6): 1507–45.

Malanima, P. 2011. The Long Decline of a Leading Economy: GDP in Central and Northern Italy, 1300–1913. *European Review Economic Hist*ory 15 (2): 169–219.

McCloskey, D. N. 1981. "The Industrial Revolution 1780–1860: A Survey." In *The Economic History of Britain since 1700,* Vol. 1: *1700–1860,* edited by R. Floud and D. McCloskey, 103–27. London and New York: Cambridge University Press.

McCloskey, D. N. 2016. "The Great Enrichment: A Humanistic and Social Scientific Account." *Scandinavian Economic History Review* 64 (1): 6–18.

Mill, J. S. 1848. *Principles of Political Economy, with Some of Their Applications to Social Philosophy,* Vol. 2. Boston, MA: Charles C. Little & James Brown.

Mill, J. S. 1909. *Principles of Political Economy, with Some of Their Applications to Social Philosophy.* London: Longmans, Green and Co.

Mises, L. v. (1927) 1985. *Liberalism In the Classical Tradition.* New York: Foundation for Economic Education, Inc. and San Francisco: Cobden Press.

Morin, A. A., V. Geloso, and V. Kufenko. 2017. "The Heights of French-Canadian Convicts, 1780s–1820s." *Economics and Human Biology* 26 (C): 126–36.

North, D. C., J. J. Wallis, and B. R. Weingast. 2009. *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History.* Cambridge, UK: Cambridge University Press.

Novak, M. 2021. *Freedom in Contention: Social Movements and Liberal Political Economy.* Lanham: Lexington Books.

Rahim, E. 2018. "Marx – From Hegel and Feuerbach to Adam Smith: A New Synthesis." *International Critical Thought* 8 (2): 193–209.

Smith, A. (1776) 1982. *An Inquiry into the Nature and Causes of the Wealth of Nations.* Indianapolis: Liberty Fund.

Solow, R. M. 1956. "A Contribution to the Theory of Economic Growth." *Quarterly Journal of Economics* 70 (1): 65–94.

Steckel, R. H. 2009. "Heights and Human Welfare: Recent Developments and New Directions." *Explorations in Economic History* 46 (1): 1–23.

Szreter, S. and G. Mooney. 1998. "Urbanization, Mortality, and the Standard of Living Debate: New Estimates of the Expectation of Life at Birth in Nineteenth-Century British Cities." *Economic History Review* 51 (1): 84–112.

Tarko, V. 2023. "Economic Efficiency and the Quest for a More Just World." In *Realism, Ideology, and the Convulsions of Democracy*, edited by M. Novak, M. Podemska-Mikluch, and R. E. Wagner, 129–48. New York: Springer.

Temin, P. 1991. "Soviet and Nazi Economic Planning in the 1930s" *Economic History Review* 44 (4): 573–93.

Toynbee, A. 1884. *"Progress and Poverty" a Criticism of Mr. Henry George: Being Two Lectures Delivered in St. Andrew's Hall, Newman Street, London.* London: Kegan Paul, Trench & Co.

Trussell, J. and R. Steckel. 1978. "The Age of Slaves at Menarche and Their First Birth." *Journal of Interdisciplinary History* 8 (3): 477–505.

Ure, A. 1835. *The Philosophy of Manufactures: An Exposition of the Factory System of Great Britain.* London: Charles Knight.

Wegner, G. 2015. "Capitalist Transformation Without Political Participation: German Capitalism in the First Half of the Nineteenth Century." *Constitutional Political Economy* 26 (1): 61–86.

Wegner, G. 2016. "Defensive Modernization in Germany and in the Habsburg Empire – A Historical Study of Capitalist Transformation." *Journal of Institutional Economics* 12 (2): 443–69.

Wegner, G. 2020. "Reassessing the Dependence of Capitalism on Democracy – The Case of Imperial Germany and the Weimar Republic." *Journal of Institutional Economics* 16 (3): 337–54.

Williamson, S. H. and J. S. Lyons. 2008. "Robert Fogel, interviewed by Samuel H. Williamson and John S. Lyon." In *Reflections on the Cliometrics Revolution: Conversations with Economic Historians*, edited by J. S. Lyons, L P. Cain, and S. H. Williamson, 221–31. London and New York: Routledge.

Wood, G. H. 1899. "The Course of Average Wages Between 1790 and 1860." *Economic Journal* 9 (36): 588–92.

Woods, R. 2000. *The Demography of Victorian England and Wales.* Cambridge, UK: Cambridge University Press.

Wrigley, E. A. 1969. *Population and History.* New York and Toronto: McGraw-Hill.

Wrigley, E. A. 1983. "The Growth of Population in Eighteenth-Century England: A Conundrum Resolved." *Past & Present* 98 (1): 121–50.

Wrigley, E. A., R. S. Davis, J. E. Oeppen, and R. S. Schofield. 1997. *English Population History from Family Reconstitution: 1580–1837.* Cambridge, UK: Cambridge University Press.

Wrigley, E. A. and R. S. Schofield. 1981. *The Population History of England 1541–1871: A Reconstruction.* Cambridge, UK: Cambridge University Press.

van Zanden, J. L. and B. van Leeuwen. 2012. "Persistent but Not Consistent: The Growth of National Income in Holland 1347–1807." *Explorations in Economic History* 49 (2): 119–30.

Zimran, A. 2019. "Sample-Selection Bias and Height Trends in the Nineteenth-Century United States." *Journal of Economic History* 79 (1): 99–138.