A History of the Global Economy, by Colin White (Edward Elgar, Cheltenham, UK, 2018), pp. ix + 495.

This is a history of the global economy, starting with the appearance of homo sapiens and ending with the 21st century with a final chapter that attempts to look into the future. It belongs to the new genre of histories of the human species or homo sapiens from the time the species emerged: other recent examples are the books by Blainey (2000), Harari (2014) and Rutherford (2016).¹ The book by White differs from the others in that it uses the concepts and tools of the discipline of economic history to enlighten our understanding of the history of global economic activity. I shall use my understanding of growth economics and the analysis of globalization to evaluate what the discipline of economic history adds to our understanding of global history.

Part I outlines the approach of the book. The central theme and organizing principle is the dominant role played by the development of technologies in economic history. To use one of his own quotes

“Technology is what separates us from the Middle Ages: indeed, it is what separates us from the way we lived 50,000 years ago. More than anything else technology creates our world. It creates our wealth, our economy, our very way of being.” (p. 22)

In adopting this primacy, White rejects other possible primacies. He rejects explicitly the view of some economists who stress the influence of an expanding network of exchange and a growing division of labour and specialization. He also rejects explicitly the view of those who attach first importance to the role of government regulation in explaining cross-country differences in rates of economic growth and the long-run performance of national economies, or those who give primacy to the choice of institutions, or to geography (climate and resources).

¹ These works in their turn are a sub-genre of the much broader genre of works which look at the history of our planet from the Big Bang and draw upon multiple disciplines. This field is known today as “big history”; for example, see the work by Christian (2004) who coined the term. The narrower field covered by White can be labelled Big Economic History.

Australian historians are over-represented in the genre. Christian, Blainey and White are all Australians.

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While White sees these other factors as playing an important role in determining the path of economic development, they are not the guiding principle. I concur with these judgements. Economic development is a complex multi-factoral process.

To interpret the historical development of technology, White uses the concept of a general-purpose technology (GPT). These are general process-type innovations which have many applications and thereby raise productivity of factors greatly and transform the economies. They include inventions which have commonly been considered pivotal to the development of economies such as the invention of the use of fire for cooking, boats, the domestication of plants and animals, the wheel, the plough, and writing, but many more are identified. They lead to the transition from one dominant mode of activity to another. A propensity to innovate is seen to be ubiquitous in time and space.

The big phases in the evolution of the global economy are foraging, agriculture, industry and services. The transition from one phase to another is led by the development of general-purpose technology. To trace the phases through which groups of humans have passed, White adopts a periodisation which is based on the changing nature of the predominant economic activities.

Most of the book is devoted to a chronological account of the phases in different regions of the world. This done in considerable detail over 20 chapters. After a brief account of the emergence of homo sapiens, it begins with the foraging phase, passes through the agricultural phase and the rise of agrarian civilisations to the development of commerce as an enabler of modern economic development and the industrial revolution and then to the service revolution.

Two major examples will illustrate the method. One example is the development of the first civilization in Mesopotamia, the land between the Tigris and Euphrates rivers, centred on a succession of cities beginning with Sumer and including Babylon, Ur, Nineveh and others. This area is well-known as the “cradle of civilisation”, mainly because of its historical precedence over other civilisations. In creating the first “civilisation”, they created a huge list of first general-purpose technologies. These include both of perhaps the two most important GPTs ever – the wheel and writing. They invented the first written language – and as a consequence of this the first epic literature, proverbs and love songs. The wheel was first used in the form of the potter’s wheel and then in chariots. The list of first GPTs also includes the clock, arch, glass, maps and many others. They also created the first of some institutions including the first

schools, library, museum and bicameral congress. They are credited with creating the origins of the sciences of chemistry, botany and zoology. Perhaps the most remarkable of their intellectual achievements is their foundation of mathematics. In their number system, they used base 60 not base 10 - which is the origin of the 60 seconds in the minute, 60 minutes in the hour, and 360 degrees in the circle. They developed methods for solving linear, quadratic and even cubic equations.²

The second example is the Industrial Revolution. The Industrial Revolution began in Britain some time after 1700, though economic historians argue about the date. It marks the transition to the modern economy with much higher standards of living and associated with that an unprecedented increase in the rate of population growth. It was a complex transition.

Traditionally the Industrial Revolution is presented as a series of dramatic innovations in Britain, which every school child educated in the British Empire at the time of myself and the author learnt. These innovations were linked, most involving machines powered initially by watermills and then by steam engines. White shows that this revolution in industry was accompanied by crucial changes in personal behavior – an increase in literacy, and an increased propensity to work and to save. He also shows the vital importance of changes in social and political organization: these are grouped under three headings – security (peace and law and order), civility (greater social cooperation) and autonomy (which is interpreted as the willing consent of citizens and a restriction on the coercive powers of government rather than democracy).

From the point of view of the economy, it saw a large increase in the capital /labour ratio and labour-saving technologies leading to increased factor productivity and an explosion of international trade, chiefly to source raw materials cheaply. The transformation was accompanied by two organizational changes – the introduction of factory production and the modern business enterprise.

² After the publication of White's book, two University of New South Wales mathematicians [Mansfield and Wildberger, 2017] claimed the Sumerians and Babylonians created a form of trigonometry based on the ratios of sides of right triangles in place of angles. However, this interpretation has been disputed by some other mathematicians (see, for example, Lamb, 2017).

White traces carefully aspects of the phases of economic development in all parts of the world. His book is a very valuable source of information and key references. I do applaud too the excellent selection of quotes provided at the beginning of sections.

This leads the author to propose some generalisations about the evolution of the global economy. The most important and the boldest of these is his belief that there is “a common economic pathway through which all societies pass” (p. 12), albeit as he notes at differing paces and each in its distinctive way. The common pathway or experience includes the huge and dramatic transitions in the agricultural and industrial revolutions.

To explain the very jerky movement of each society/economy along this pathway, White lists a number of enabling (growth-promoting) and disabling (growth-inhibiting) factors that have influenced the speed of transition. These are discussed in detail for the Industrial Revolution, as noted above, but much less for other transitions. In some instances, the nature of the changes in technology is explained, or in the language of contemporary growth economics “endogenized”, by changes in factor prices. Changes in factor prices provide an incentive to entrepreneurs to change technologies. Again this is documented in most detail for the Industrial Revolution. From the time of the Black Death the price of labour rose and the price of capital fell which induced the development of labour-saving technologies. Similarly, in the earlier transition from foraging to agriculture, innovations were biased towards land-saving and labour-using as the land/labour ratio fell.

White puts forward two “general historical laws”. The first is that “faced with similar problems in similar contexts humans independently come up with similar solutions.” (p. 4). There are many examples of parallel innovations and technological developments. This explains, in the view of the author, the common pathway along which economies in all times and places move. The second “law” is that “... humans like variety for its own sake... Such variety is a precondition for innovation and change.” This is strongly reminiscent of the “love of variety” which is the driving force of national production and trade in the “new trade theory” initiated by Paul Krugman.

The notion of a common pathway is troublesome. It is not well defined. Do economies in all times and places have to pass through all phases? Evidently not. There are many examples of island economies and small countries such as Luxembourg which have gone from foraging

and/or the agricultural phase to the service phase without passing through the industrial phase. And what of colonies of European countries that went from foraging to post -Industrial Revolution technologies brought by colonists from the home country; for example, Argentina, Australia, Brazil, Canada, New Zealand and even the USA. And is all movement in the pathway in the forward direction? The common pathway is presented as if movement is always forward, though irregular. Yet, there are many examples of phase regression; for example, the Roman Empire and the Khmers and other civilisations after their collapse. Perhaps one can dismiss these examples by asserting, in the case of the colonies that they were a geographic expansion of the home territory or, in the cases of the civilisations, that they ceased to exist but this does not do justice to the history of these peoples.

What is in a title? The term “global economy” immediately brings to mind the now common term “globalisation”. There is no analysis of globalisation. The phenomenon is discussed in a handful of paragraphs where it is treated as the emergence of a global integrated system. But is it simply the end of a long trend in the growth of world trade and commerce, or is it something qualitatively different from earlier expansions of international trade and foreign direct development? There is no mention of global governance, the establishment of multilateral institutions with legally binding rules to regulate trade and conflict between nations.

Another omission is that the work ignores or pays very scant attention to two harmful effects of the movement along the pathway as civilisations and empires grew, namely, the suppression and in many cases the elimination of local indigenous societies/economies, and harmful large-scale environmental degradations. Both of these have been taking place for millenia. (Neither indigenous societies nor the environment appear in the index.) In the case of West European indigenous populations, one can instance the reduction of the once widespread Basque peoples and the contraction of the Celtic peoples to pockets in Great Britain and France. One form of environmental degradation, the loss of species, has been occurring for thousands of years in Europe and in the areas of Asia where the civilisations of India and China spread and cleared more land for cultivation or grazing. Both of these negative effects have occurred in all parts of the globe and are still occurring today.

One must mention too the periodic annihilations of populations on a grand scale which have occurred, often as part of the expansion of an empire or “civilisation”. For example, in creating

the largest inland empire in history, Genghis Khan, Tamburlaine and other Mongol leaders murdered millions of resident in the lands they conquered. During the conquest of the Gauls terminating in the battle of Alesia where the Gauls were led by Versingetorix, the troops of Julius Caesar killed an estimated 1 million people, which was a substantial portion of the Gallic population. The twentieth century has surely been the bloodiest century in Big History. It witnessed two World Wars and numerous other wars between neighbouring states. It also witnessed internal struggles killing a million or millions in each case in the Stalinist purges, the Nazi German holocaust, the Partition of India, the Cultural Revolution of Mao Zedong, the Khmer Rouge purge in Cambodia and civil war in Ruanda.

A global history is inevitably selective, as White recognises (p.7). Yet, these mass murders are important in an economic history. First, they have dramatically and suddenly changed the population of various regions or countries. Second, there are strong links between the economic pathways and these mass murders. The internal struggles mentioned in the previous paragraph were primarily the result of ideological or religious division but competition for resources played a major part in the two World Wars. Third, the increased scale of death in Twentieth Century conflicts resulted from the development of more powerful military technologies. The development of military technology is part of the flow of the GSP technologies which have powered the increasing productivity of non-military labour; two major examples are the wheel and atomic science.

As a generalization, White and other Big Historians have paid little attention to the “bads” of environmental degradation, the suppression of indigenous populations and mass murders. White himself summarises the lessons of history with the view that “Human history has been remarkable and, by all sensible criteria, a success story.” (p. 453) Unlike the proverbial journalists, Big Historians have focused on the “good news” rather than the “bad news”. Perhaps Big History needs to have its Lucky Jim moment.³

Economic history can learn much from the developments in growth economics, the field of economics which examines patterns of growth in national and regional economies. Growth economics has put much effort into quantifying growth patterns. Of particular relevance to this

³ This refers to the realistic and heterodox view of medieval England society presented by a University History lecturer in the novel of Kingsley Amis (1954).

review, they have provided description and analysis of the convergence of levels of incomes in China, India and some other poor countries towards the levels of rich countries that has occurred since about 1980.⁴ This is a surprising and hugely important trend in the modern world economy. Economic historians are now referring to this trend as The Convergence or the Great Convergence, and to the growth spurt of the industrialised countries during the Industrial Revolution which caused their incomes to diverge from those of China, India and other countries as The Great Divergence.

Surprisingly, there are only two tables in the whole book and no graphs. In his monumental study Angus Maddison (2006) constructed 1,000-year time series of GDP, Population and GDP per capita and other series for major groups of countries and for the whole world. Graphical representation of these very long time series would have given precision to the phase changes described in the book. Maddison (2007) has many tables and graphs and he extends the measurement of aggregate output and population back to one of the early civilisations described in the book, that of Rome and the Roman Empire.

While the quantitative analyses of recent growth economics are confined mostly to the period of post-World War II because of data limitations, their findings have much in common with those of White. The consensus among growth economists is that the explanation of modern growth patterns requires many factors, though the relative importance of these is still debated. White's emphasis on his three headings of security, civility and autonomy is echoed by the findings of Besley and Persson (2011) and Collier (2007) and others. In particular, political violence – both internal and wars or disputes with neighbours - has a strong negative effect on the long-term economic growth performance of nations.

Big Economic History can make a major contribution to the study of Big History, along with other non-history disciplines such as Genetics and Environmental Studies.

Peter Lloyd

⁴ For a survey of these issues, see Lloyd and Lee (2018). For an insightful analysis of the poor countries which have been left behind, see Collier (2007).

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Author/s:

Lloyd, P

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