Niall Ferguson has made the transition from academic historian of great repute to popular writer of even greater repute. This has advantages for the current book: a flowing and accessible style, a wealth of interesting details, and a compelling if contentious argument. But there are disadvantages as well: a tendency to be selective with data in support of his views, and on some occasions a willingness to favor flashy phrasing over logical and consistent argument.

Ferguson presents three main arguments in this volume. First, he offers us the keys to Western global economic domination from 1500 to 2000; these are six „complexes of institutions and associated ideas and behaviors,” which he labels in current tech vocabulary as the „killer apps” of Western civilization. The six are: competition (including all kinds of political and economic competition, local to international); science; property rights (including rule of law and limitations on state power); medicine; the consumer society; and the work ethic (meaning rational pursuit of capital accumulation). Second, he suggests that by not recognizing the power of these „killer apps,” westerners have lost an appreciation for their own society and the virtues that made it rich and strong; this argument includes an apologia for much of western imperialism and an insistence on a return to „Western Civ” as a core of the educated person’s schooling. Third, he argues that China is well on its way to absorbing the „killer apps,” and that since the West is neglecting their importance, the days of Western domination of global power and wealth are waning.

In making these arguments, one finds elements of brilliance and profound insight along with self-contradiction and special pleading. In regard to the killer apps, Ferguson is right to point to the critical importance of modern experimental science, arising c. 1600, and leading to a divergence of western understanding and ability to manipulate the world from that of other major civilizations. It is refreshing to find that where most economists emphasize factor prices, and most political scientists emphasize pluralism and democracy, Ferguson the historian makes room for multiple causation and gives science a deservedly important role. At the same time, he is a bit weak on why Western science diverged from the science of the Islamic lands and India, on which it was based, and why China did not develop a comparable natural philosophy, although he does note that the Ottomans turned against the advance of astronomy in their lands after 1500. Much of this chapter focuses on western bureaucratic efficiency, as personified by Frederick the Great of Prussia, versus the harem-bound sultans of Turkey.

There are similar tangents in other chapters. The chapter on medicine is in fact mostly devoted to a discussion of Western imperialism. Ferguson makes the nice point that vicious racism was developed in the treatment of African colonies, but then came home to roost in Nazi eugenics in Europe. Much of the chapter, despite cataloging the horrors of imperialism, nonetheless points to the advantages of Western civilization and the gifts it brought to other regions – modern medicine to save and extend lives, modern administration to keep order (often lost when the colonies gained independence), and engineering to enhance travel and communication and productivity.

Of the other „killer apps,” some seem weaker or contradictory. The chapter on „consumption” seems mostly wrong to me. Ferguson argues that it was a new consumer society that wanted cotton textiles, and the relatively high cost of wages and cheap coal that facilitated industrial production of those textiles, that caused Britain to lead the way in industrialization. Yet consumer society existed wherever consumers had the means to indulge – 16th century China as well as medieval France passed sumptuary laws to try (unsuccessfully) to curb rampant consumer spending that led ordinary people to buy formerly aristocratic and high-status luxury goods. Rising agricultural productivity in 17th century Europe and higher real wages produced a consumer society throughout Europe, creat-
ing, among other things, a mass market for paintings, household furnishings, imported Chinaware, pewter, sugar, coffee and tea, as well as textiles. But of course the very items that made the ‘consumer revolution’ in Europe – coffee, sugar, tea, Chinaware, Indian cotton goods – were in fact already articles of widespread consumption in Asia! Europe was a latecomer in this regard, not a leader.

When Ferguson further focuses on textiles as the motor of growth, he misleads. He says „The Industrial Revolution is often misinterpreted as if a broad range of technological innovations simultaneously transformed multiple economic activities. This was not the case. The first phase of industrialization was firmly concentrated on textiles“ (p. 198). This is wrong. As Robert Allen¹ points out through careful measurement, the real cost of cotton yarn dropped by only 20% in England from 1760 to 1784; it did not drop by 50% until the integrated mills of the 1830s, using Samuel Crompton’s mule and James Watt’s steam engine, emerged. During the same years, tin and coal mining were revolutionized by the adoption of steam engines (which themselves underwent dramatic increases in efficiency with Watt’s redesign); transport was greatly improved by the McAdam road-surfacing methods, the first steamships appeared, the cost of pig iron was more than halved by innovations in coke smelting while new methods of casting improved metal work; new chemical methods were invented for creating soda; Josiah Wedgwood developed mass production of high-quality ceramics in Britain; John Wilkinson invented boring machines for cannon and cylinders, and John Harrison revolutionized navigation with the first marine chronometer to accurately measure longitude at sea. So invention was extremely widespread; indeed one of the puzzles of the Industrial Revolution is why invention suddenly erupted across a huge range of enterprises.

Ferguson follows Allen in suggesting that Britain leapt ahead because the high cost of labor and the low cost of capital there created great incentives for shifting from labor to capital-intensive manufacturing. It is certainly true that Britain had higher wages and lower capital costs than France, and even more so than China. Yet in the 17th century, when the Netherlands and Britain had roughly equal wages and the Netherlands had lower capital costs, the Netherlands’ leap ahead into capital-intensive machine-driven industry led to widespread use of windmills, not steam engines. That proved a dead end. So in the 18th century, when the Netherlands still had higher wages and lower costs of capital than Britain, it did not move into more capital-intensive manufacturing. Allen notes that one key reason Britain forged ahead in industry is that gearing was crucial to making machines that worked, and Britain had an extensive clock-making and scientific instrument-making artisanal workforce, which could provide the gears that industry needed. This brings us back to science as the crucial „killer app;“ consumption was just widespread background noise.

The chapter on „Work“ points to Protestantism’s key role in western economic growth. Ferguson doesn’t just follow Max Weber’s emphasis on work as a vocation here; he points to the role played by the Reformation in spreading literacy, and the importance of literacy for economic modernization. Yet he also argues that Protestantism pushed the virtues of hard work and thrift (although this latter seems contradictory in terms of the prior chapter’s emphasis on consumption as a driver of Western growth.) Moreover, Ferguson worries that today’s Europeans and Americans have lost the habits of hard work and thrift that brought them global advantage; instead he sees these characteristics, and even Protestantism itself, growing rapidly in Asia.

Despite the key role that China plays in this book as a shadow adversary of the West, both in the past and the future, Ferguson seems rather uninformed on Chinese history. On p. 20 he praises Adam Smith’s view of China as ‘standing still’ economically since 1500. Yet we know this is nonsense – after 1500 China developed widespread double-cropping and complex crop rotations, greatly boosting productivity and allowing the population to grow by 300 million without a decline in living standards. China also devel-

oped a global mass-production ceramics industry, expanded geographically to the south and west, and dominated trade with Japan and southeast Asia. On p. 304 Ferguson tells us that „there was no capital accumulation in Ming China; rather the opposite.“ Yet this is the same dynasty that rebuilt the Grand Canal and the Great Wall, and whose leading merchants were far richer than their counterparts in Europe! Ferguson gleefully notes that in the 1700s, English convicts were nearly five inches taller than Japanese soldiers, as if this one datum proves broad English superiority. Of course, at the same time the average Wa-
tusi warrior in East Africa was much taller than the average Englishman – but that did not indicate the former’s civilizational advantage. The fact that in 1700 the Japanese capital city of Edo had a population of over 1,000,000 brimming with craftsmen and merchants, almost twice that of contemporary London, is nowhere mentioned.

The last chapter suggests several reasons why America and the West will lose their global edge. The main one is „the real threat … [of] our own loss of faith in the civilization we inherited from our ancestors“ (p. 325). If westerners fail to encourage their children to study science and technology, fail to value the role of competition and rule of law in their societies and protect them, and fail to practice thrift and hard work, we will doom ourselves to fall behind the Asian societies, mainly China, that are enthusiastically adopting many of the „killer apps.“

To me this fear mongering seems largely unfounded. Yes, Westerners have let their states grow too indebted, and fewer graduate students in science and technology are home-grown. But China is struggling with rule of law and lagging in scientific innovation; and its demographics – with a declining labor force and rapid aging due to set in after 2015 – auger poorly for future growth. This year, economists at China’s Academy of Social Sciences\(^2\) announced that China’s years of double-digit growth are over, and that it will have to grow at a more sustainable and slower pace in the future.

Ferguson’s emphasis on science is valuable but underdeveloped, and he puts on display a wide range of hypotheses on em-
pires, economic development, and global futures garnered from many sources. But readers looking for a systematic comparison of the economic trajectories of diverse civilizations should look elsewhere for a less idiosyncratic account.
