Was there an “early modern” world? From a glance at book titles, one would think there is a well-defined period in global history that cuts across nations and is recognized as “early modern.” According to literally hundreds of volumes covering Europe, North Africa, the Ottoman Empire, China, India, Japan, and the New World, these societies either had their own “early modern” periods, or were part of an “early modern” world. Moreover, a number of major universities have established centers or programs for the study of “Early Modern History.”

However, I would now argue that we (for I include the title of one of my own books) have fallen into a terrible error when we use the term “early modern.” In a word, the “early modern” world wasn’t. That is, it was not in any way “modern,” and certainly not an “early” form of modernity. Somewhat as the Holy Roman Empire, in a famous aphorism, was neither Holy, Roman, nor an Empire, so I would now say a rigorous review of evidence would show that the “early modern” world was neither “early,” nor “modern,” although it was arguably, in its trade relations, a single “world.”

“Modernity” as a Historical Term and a Sociological Term

“Modernity” has many guises. It marks a historical period in Europe and its colonies, roughly from the late eighteenth century onward. By 1750, many leading intellectuals of Europe were convinced that there was an ideal of “modern” man—a man (not yet a woman) who saw himself as an intellectual and moral individual, believing in the findings of experimental science, and in the desirability of theological and political freedom. These intellectuals joined battle to
defend the superiority of “modern” thought against that of the “ancients.”

By 1850, with industrial expositions and railroads spreading across Europe and its colonies, most of the populations of these countries accepted that they were living in a new, “modern” age.

In the arts and architecture, the term “modern” similarly implies a certain stylistic break with the past: departing from classically-inspired representational art in painting and sculpture, and from traditional proportions, ornamentation, and concealment of functional structures in architecture. As such, it dates a later and shorter period, beginning in the late nineteenth century and dominating the first three-quarters of the twentieth. Interestingly, there is no “early modern” art; just as there was no battle of the “moderns” vs. the “early moderns.” Western art styles progress from the Renaissance to the Baroque, then to the Neo-Classical; indeed in one of the little ironies of history, the pivotal “modern” historical event—the French Revolution of 1789—was announced not by modern art, but by J-L David’s neo-classical paintings. Thus some scholars prefer to see “modern” art as essentially the art of the twentieth century.

But “modernity” is also a sociological term, and it is there that we can find the roots of the idea of the “early” modern. Sociology was born in the years 1780 to 1860 in the works of Henri de Saint-Simon, Auguste Comte, John Stuart Mill, Karl Marx, and Alexis de Tocqueville. Living at the core of the transition to modern society, these thinkers sought to identify what was “modern” about their societies, and how they had become so. By the early twentieth century, in the work of Emile Durkheim and Max Weber, the problem of the origins of the modern world had become the central problem of sociology.

Sociologically, it is fairly easy to define a “modern” society. It is one in which religion is a lifestyle choice, not an inescapable and uniform discipline, and in which belief in science has largely supplanted belief in active spirits and miracles. It is one in which most consumer goods are produced by mass-production facilities powered and lit by fossil fuels and/or electricity, rather than by craft production in households powered and lit by muscle, water, wood, dung, or tallow, and in which transportation is powered by engines—on land or water—rather than by wind or animal power. It is one in which government is designed by men to meet their perceived needs, rather than accepted as sanctified by immemorial tradition.

While this list may, from today’s perspective, seem straightforward, just a few decades ago defining “modernity” would have been anything but easy. This was because there were different prevailing notions of what constituted “the

modern,” depending on which theory of social change—Marxist or functional­ist—one was committed to use. The above sociological definition of “modern” society is basically functionalist, drawing on the work of Talcott Parsons, who sought to interpret and synthesize key insights of Durkheim, Weber, and other European masters.4)

“Modernization theory” is now somewhat in disrepute, as the version presented by Parsons had an air of inevitable progression from an undifferentiated, universal “pre-modernity” to a holistically different, but similarly homogenous “modernity,” in which European societies led the way down a path that all other societies would follow. We now recognize this version of modernization as Eurocentric and misleading. There is no universal “pre-modernity,” but rather a wide range of societies with distinctive cultures and structures that went through their own historical development over centuries or millennia before and after Western contact. Moreover, even countries that have adopted modern industrial technology and discarded traditional government and the dominant role of religion do not simply become homogeneously “modern”—some have become communist, other highly capitalistic; some have become autocratic, others democratic; some have remained highly religious, others have become severely secularized. Moreover, many of these differences reflect continuities of culture across the pre-modern/modern divide, or particular contingencies of history that were given no place in modernization theory. “Post­modernists” have therefore argued that “modernization” is itself an illusion or myth, and it is the essential variety and uniqueness of different societies that matters and should be central to social theory.5)

Nonetheless, no one can seriously deny that methods of production, the basis of government authority, and the dominance of religion in daily life changed dramatically in the West following the Revolution of 1789 in France and the Industrial Revolution of the late eighteenth and nineteenth centuries in Europe, and that such changes have been spreading around the globe ever since. David Washbrook points out that “only a sociology of profound insensitivity could regard [modern-day] Japan, the United States, France and Scandinavia as ‘essentially’ the same.”6) True enough, but only a historian with profound myopia could regard the economies, levels of per-capita energy production and consumption, forms of government, and even modes of dress in these modern­day societies and not see that they are enormously more similar to each other in these respects than they are to the same societies two-and-a-half cen­turies ago.

If one grants that the societies that encountered this complex of changes were themselves diverse and had prior developmental histories; that the terms on which these modernizing changes were accepted and integrated into existing societies differed greatly depending on the character of those societies and the contingencies of their history, and that there is no moral or evolutionary basis for assuming that “modern” changes were either inevitable or wholly superior to what came before, then I would argue that “modernization” is simply a fact of history, just as the earlier adoption of agriculture, urbanization, and stable social stratification—the complex of changes sometimes referred to as “the neolithic revolution”—is a fact of history.

There was yet another view of “modernization,” however; one that dominated historical writing for many decades. This was the view of Karl Marx that history represented a progression of modes of production, from slave to feudal to capitalist, with each stage dominated by a particular class, and each transition marked by violent expropriation through war or revolution. For many years, Marxist interpretations of key events were major elements, if not dominant perspectives, in European history. Works such as Rodney Hilton’s on the transition from feudalism to capitalism, Christopher Hill’s studies of the English Revolution, Albert Soboul’s analyses of the French Revolution, E.P. Thompson’s narrative of the rise of the working class, and Eric Hobsbawm’s sweeping histories of Europe from the “Age of Revolutions” onward, reinforced Marx’s message that the “modern world” began when the rule of kings and feudal barons was challenged by bourgeoisie developing the lineaments of modern capitalist economies and replacing feudal serfdom with a wage-earning proletariat. This Marxist view was also incorporated by many Japanese and Chinese scholars in their own view of their nations’ histories.

Of course, it became clear almost as soon as this wave of scholarship was launched that the “transition from feudalism to capitalism” was not a sudden, short-term event. Although as Tocqueville observed, the French Revolution completed the task of abolishing the remnants of feudal seigneurial domination in the French countryside, feudalism had been dying for some time. The high point of European feudalism, with largely independent knights and manor-lords binding their loyalties to superiors through oaths, a mainly local non-market economy, and serfs wholly bound to the land, disappeared well before 1500, in

9) Fu and Li 1956; Tsukahira 1970.
the century-and-a-half that followed the slow recovery from the Black Death. By the beginning of the sixteenth century, market economies, state-like political structures dominated by a central government under a King, and abolition of serfdom had spread across most of Europe west of the Elbe. Yet it was not until well after 1850 that a truly “modern society,” with a work force dominated by an industrial proletariat, and governments dominated by bourgeois politicians rather than by titled nobles and aristocrats, was the norm even in Western Europe. The period from 1500 to 1850 (or perhaps to 1832 in England, 1848 in France and Germany, and perhaps a bit later in Italy and Spain) was thus neither clearly feudal, nor clearly modern, but an age of transition, or of revolutions. Although some scholars, noting the consolidation of power by monarchical central governments, called this the “Age of Absolutism,” insofar as it was a period of rising bourgeois power, of laying the foundations for the “modern” world to come, it could with justification be labeled the “early modern” period, and so it was.

Now the essence of “modernity” in this view lies in the mode of production of modern society, namely “capitalism.” But since industrial capitalism and the proletariat were not evident on a significant scale before 1850, what was the mode of production that prevailed from 1500 to 1850, since classical feudalism, with its local non-market economy, had also passed from the scene? The answer was that a form of capitalism was growing from 1500 to 1850, namely “merchant capitalism,” or “proto-industrial” production, in which goods were produced for markets, and in which profits were made by market trading of commodities, and accrued mainly to non-members of the dominant class, as the latter were still feudal (e.g. mainly rentier) in their economic outlook and practices. What was defined as characteristically “early modern,” then, was a form of society in which markets were an active source of profits to merchants, who ordered their affairs rationally in order to pursue profits, in a manner different than the still “feudal” (e.g. concerned with rank and honor) nobility. Moreover, governance was neither “modern” (e.g. dominated by bourgeois politicians) nor “feudal,” (e.g. decentralized and dominated by independent lords), but centralized and partly bureaucratized, albeit under the direction of traditionally-sanctified monarchies and their noble ministers and officers.

We thus come to one crucial problem in the use of the term “early modern” and its application to world history. “Early Modern” derives from a particular sociological theory of history that privileges modes of production in character-

11) Beloff 1962.
12) Tracy 1976.
izing and powering history, not from any “natural” historical periodization, such as the rise and fall of major political units, or changes in styles of cultures, which are commonly used to periodicize history for other periods and societies than post-1500 Europe. Moreover, there is a second problem that arises because this particular sociological theory defines “early modern” primarily through contradistinction from a “feudal” mode of production that had no exact analogue (or even close analogue except perhaps in Japan) outside of Europe. Thus if we apply the term “early modern” to regions outside of Europe, we are doing one of two things:

(1) We are simply using the term—without regard to meaning or content—to label a particular span of years, roughly 1500 to 1850. Thus we could say the “EM” period in world history is just shorthand for a particular segment in historical time of 3.5 centuries, like “Eocene” denotes a period in geological time. However, when we do this, what is the justification for cutting world history, or the histories of various world nations and regions, at 1500 and 1850? This use of the term would ignore all of the usual markers taken for historical periodization in history, such as changes in regimes or dominant cultures, for all global societies except that of Western Europe.

For example, in Chinese history some of the major turning points in this millennia were the expulsion of the Mongols in 1368, the overthrow of the native Ming dynasty by the Manchus in 1644, and the overthrow of the Manchus in 1911. The date 1500 in Chinese history is, as Ray Huang says of the year 1587, “A Year of No Significance.” And while the years around 1850 see the Opium Wars, the Taiping Rebellion, and the intrusion of the Western powers, none of these events has anywhere near the significance of the overturning of millennia of Confucian patterns of rule and culture in 1911 and the following decades. What portion, if any, of the five and a half centuries of Ming and Qing rule should be singled out as “early modern?” Similarly, in the Middle East the key turning point in control is the Ottoman conquest of Byzantine Constantinople in 1453, and the end of Ottoman power occurs only after World War I, with the secularizing Kemalist Revolution of 1923. Again, of some five centuries of Ottoman rule, what part is “early modern?” Russia too offers problems in dating its key transitions. Where does its “early modern” period begin? In 1547, when Ivan the Terrible suppresses the boyars and becomes the first Czar of Russia? In 1682, when Peter the Great turns Russia toward Europe and begins its enforced modernization? Or is Russia still “feudal” until its abolition of serfdom in 1861? Certainly Russia does not become fully modern until after

14) R. Huang 1981.
the Bolshevik Revolution of 1917. So how do we date the “early modern” period in Russia? We have at least three possibilities: 1547-1917, 1682-1917, and 1861-1917, none of which corresponds well with the canonical “early modern” period in Europe.

That is not to say the years 1500-1850 do not have some resonance with global history.

These years roughly embrace the period of Latin American colonial rule by Spain and Portugal, from Cortés’ conquest of the Aztecs in 1521 to Brazil’s independence in 1822. In India, they nicely bracket the years from the onset of Mughal rule in 1526 to the final victory of the British Raj in the Mutiny of 1857-58. In Japan, although the initial turning point lies at the end of the sixteenth century, not the beginning, historians increasingly are using the term “early modern” as an English code for what Japanese historians call the *kinsei* period, from the unification wars begun in the 1560s by Nobunaga Oda to the end of the Tokugawa Shogunate in 1868. Indeed, trying to find a common causal element behind these temporal configurations, some historians have pointed to the rise of firearms c. 1500 and considered the rise of the Spanish, Portuguese, Ottoman, and Mughal empires and the Tokugawa Shogunate as marking an era of “gunpowder empires.”

Still, the problem with using “early modern” simply as a code to denote the period 1500-1850 is that China, Korea, Southeast Asia, Russia, the Middle East, and Africa are, in effect, left out of the account. For these regions, the years 1500-1850 do not denote a particular regime or cultural era. As Yabuta Tōru has recently argued “Defining early modernity according to a ‘western model’ of periodization leads to common problems in Japan, China, and all of Asia.” Thus, at very best, “early modern” is a code that has some, but certainly not global, application to world history.

(2) Far worse, however, and more dangerously misleading, is what happens when we attach meaning to the words “early modern” and apply them broadly in world history. If we take the words in terms of their intended meaning, to demarcate a stage in economic and political development, then speaking of a society as “early modern” is to say that society had clear elements of “modern” society beginning to emerge. A fortiori, if we speak of an “early modern world,” that suggests that over large portions of the world different societies shared some key elements of “modern” society, and were actively in transition to modernity.

Is there, then, such a thing as an "early modern" stage of economic and technical development that at some point was widely shared among the societies of the globe; and how closely tied is it to the emergence of fully modern societies?

What is "Early Modern?"

It is interesting that among most current scholars of the major European revolutions, the Marxist approach which privileges relations of production and conflict among economic classes has been largely discarded. Recent work on the English Revolution\(^\text{18}\) and on the French Revolution\(^\text{19}\) does not discount economic factors in motivating social protest, but presents the major cleavages that led to revolution as cultural and political, and presents the transition to "modernity" in terms of political culture (Baker) or relations between people and their government (Kishlansky). Nonetheless, many scholars continue to use the term "early modern" in terms of its Marxist criteria, rather than in terms of some other viewpoint, such as one based on the more functionalist account of "modernity" given above. This has remarkably powerful implications, for searching for an "early modern" stage of development based on Marxist criteria often gives diametrically opposite results from using a more functionalist view.

If modern society is marked by the combination of consciously constructed authority in lieu of traditionally-sanctified rule, modest or minimal religious authority, and the extensive application of factory mass-production powered by fossil fuels and electricity, then we shall look in vain for truly "modern" societies prior to 1850 in England, and prior to 1900 or later elsewhere in the world. Certain elements of this combination do appear elsewhere. Consciously designed constitutional authority among landed citizens is evident in ancient Greece, although it coexisted with slavery.\(^\text{20}\) Elements of constitutional authority also existed in medieval townships and the Swiss cantons of the twelfth century, and in the later Venetian Republic. Nonetheless, we do not consider the constitutional governments of 2500 years ago, or of 500-700 years ago, to be "modern," or even "early modern," because these societies showed no other signs of progress toward full "modernity" in the following centuries. Religious freedom and minimal or modest religious authority appears sporadically in the

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20) The constitutions of Solon for Athens and Lycurgus for Sparta are the best known, but constitution-making was an extensive activity in Greece in the sixth and seventh centuries B.C., viz. Forrest 1966.
late Roman Empire, and again in Muslim Spain, but remained rare until the
late seventeenth century, when the Netherlands and England and certain
American colonies enshrined freedom of religious practice. Still, despite its reli-
gious freedom for individuals, no historians consider late Rome or Muslim
Spain to be “modern,” or “early modern.” It is even difficult to consider early
Colonial America to be “early modern,” in the sense of being clearly on the
road to “modernity,” for at the time of the Salem witchcraft trials, religious
authority and the power of the King still remained paramount, and notions
that the American colonists should write republican constitutions and declare
themselves free citizens were almost a century away. Finally, Song China
made extensive use of coal in a variety of factory processes, to the degree that
Hartwell speaks of an eleventh century “Industrial Revolution” in China.\(^{21}\) And
some scholars would push the origins of “early modern” China back to 960
A.D.\(^{22}\) Yet here we would have an entire millennium between the onset of
“early modernity” and the beginning of fully “modern” China c. 1911. We can
also note that although modern factory production powered by steam and rail-
road transportation appear in substantial degree in late Czarist Russia, yet
the grip of religion and traditional authority (as shown by the government’s
dependence on the personal whims of the Czar, and the Czar’s dependence
on the religious charlatan Rasputin) void any efforts to call pre-World War I
Russia a truly “modern” country.

In addition, the modern Kingdom of Saudi Arabia offers an interesting exam-
ple of a country that clearly is technologically “modern,” yet remains ruled by
wholly traditionally-sanctified modes of governance. Also in the Middle East
we find the Islamic Republic of Iran—again, a technologically advanced soci-
ety, and with a recently created constitutional government that arose through a
revolution against monarchical rule. Yet the dominant position of religious law
and of the clergy in Iran has moved some scholars to declare that this was not
a modernizing revolution, and that Iran is neither fully modern nor, as long as
the clergy and Islamic law remain so dominant, on its way to becoming so. In
short we have in Saudi Arabia and Iran two countries that exploit advanced
technology, yet are rarely considered to be fully modernized.

In sum, individual elements of “modernity” may appear in a scattering of
places, but such individual elements in isolation do not necessarily make a soci-
ety “modern,” or even “early modern.” If by “early modern” we seek to denote
a society that was simultaneously progressing toward fossil-fueled powered

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\(^{21}\) Hartwell 1962, 1966.

\(^{22}\) Fairbank and Reischauer 1989, pp. 116ff.
economies, constitutional government, and religious freedom and secularization of daily life, we do not find such societies until eighteenth century England and nineteenth century Europe and America; in other words when the modern world is already upon us.

It is true that England is something of an exception; because of its succession settlement of 1689, England had already started in the direction of religious tolerance and constitutional government. And England had been using coal for home and industrial heating since the sixteenth century. But even in England, prior to 1689 the potential still existed for the domestication of Parliament and the establishment of an authoritative state Church; indeed that is what incited the 1688 revolt against James II. Elsewhere in the world, we simply do not find steady progress toward the combination of fossil-fuel technology, constitutional governance, and religious freedom in the two centuries 1500-1700 that are so often taken to be a substantial part of the “early modern” world.

The belief that “early modern” is a sensible adjective for the period 1500 to 1850 rests on the belief that no other term captures the period of transition between feudalism and capitalism, an era marked by the emergence of markets dominated by merchant capital and proto-industry. Perhaps then, the best way to check for the existence of “early modern” societies outside of Europe is to simply seek for markets, merchant capital, and proto-industrial (e.g. household market-oriented) production.

This, in fact, has been the most common mode of extending the term “early modern” to non-European societies. Scholars of all parts of the world have been remarkably successful in demonstrating that Europe had no monopoly on markets, merchants, and market-oriented households. Unfortunately, such scholars have perhaps been too successful. We now have evidence of “early modern” practices in eighteenth century Japan, thirteenth century China, eleventh century Java, and even of an entire capitalist “world system” in the Indian Ocean basin in the thirteenth century. Perhaps most startling of all is the study of “early modern” business practices in land-leasing among Egyptian landlords at least from Greaco-Roman times, and even more, among Assyrian merchants operating in Anatolia not in this era, but c. 1900 B.C.!

In eighteenth century Japan, the activities, indeed the increasing economic and social dominance, of the major urban merchants of Edo and Osaka is well known. But commercial interests also penetrated deeply into the countryside. In 1780, a commentary on an uprising in Fukuyama han, where poor samurai

23) Nef 1932.
had supported peasant demands to be allowed freely to pursue rural crafts, lamented the fading of the civil and military arts, and that “nowadays they are both abandoned and profits are pursued (emphasis added).” Much earlier, in thirteenth century China, the Southern Song enjoyed a golden age of commerce and economic dynamism—although many scholars would date the growth of commercial expansion even further back, to the Tang-Song divide in the tenth century, and its rapid expansion of iron and coal technology. In Indonesia, Jan Christie details the activities of “highly capitalized merchants and merchant associations (banigrama)” during the Javanese trade boom of the tenth and eleventh centuries. During this period, Java’s overseas trade expansion led to dramatic changes in consumption and in the domestic ceramics and textile industries, oriented to increasing profits. Indeed, Janet Abu-Lughod has documented the activity of active trade networks of international and domestic merchants throughout the Indian Ocean and Southeast Asia in the thirteenth century.

While finding such extensive profit-oriented activity by merchants and producers in the tenth to thirteenth centuries A.D. in East Asia may not be surprising, what is startling is the recent uncovering of similar practices stretching back to the ancient world. The trade “boom” of the sixteenth century proclaimed as the onset of capitalism by Wallerstein and other early modernists is actually just one of a series of booms in international trade—earlier ones include the tenth-thirteenth century boom noted above in Java and China, and associated with the Chinese commercial expansion of the Song and the Mongol unification of central Asia; the seventh-eighth century boom associated with the spread of Islam; and the second century B.C.-second century A.D. boom associated with the peaceful eras of the Roman and Han empires. Indeed, some scholars have argued that similar pulses can be traced back to the Bronze Age.

Aside from the question of whether international trade can be traced back this far, it is certain that profit-seeking by merchants and peasants, and the use of market-oriented credit and leasing strategies, can be identified in documents regarding ancient Egyptian land-leases, and the partnerships of Assyrian traders operating in Anatolia. Christopher Eyre finds letters dating back to the Pharaonic Middle Kingdom, as well as lease documents from the Graeco-Roman period, that show a fine balancing of lease terms, access to capital and water,

25) Quoted in Bix 1986, p. 115.
and paid labor arranged to produce maximum gains for the land-owners. Klaas Veenhof similarly finds that Old Assyrian traders, when operating out of trading posts in Anatolia, and thus out of the normal “jurisdiction” of the Assyrian ruler, developed sets of rules for a variety of commercial transactions, including credit, “bearer notes,” transfer of commercial debts, and methods to deal with insolvent creditors. Norman Yoffee similarly notes recent archeological findings from the early Old Babylonian Period (c. 2000-1600 B.C.) that show “profound economic changes that were wrought in the aftermath of the Ur III empire. Land was rented, bought, and sold in the north and property was accumulated, inherited, and disputed in both north and south. Although palace and temple-estates managed great plots of land . . . the newest investigations show the extensive degree to which entrepreneurial middlemen supplied [them. For example,] temples leased fishing rights to businessmen who then sold fish for their own profit (emphasis added)."

While this scholarship has been stunningly successful in overturning the idea that the world outside Europe somehow remained stuck in a “feudal” mode of production, or an unchanging “Asiatic mode,” these studies also raise the question—how can merchant practices in isolation, or in networks of long-distance trade, which are found as far back as 4000 years ago, and are so widespread as to be found throughout Asia from the tenth century onward, be meaningfully “early modern?” After all, the evidence from the tenth-thirteenth centuries would mean that Asia was “early modern” for centuries while Europe was still mainly feudal. Thus the “early modern” world would be something centered in Asia, which Europe joined as a latecomer, not as a leader or pioneer. Yet the discovery of such practices in ancient Assyrian outposts, in Egypt and Babylon, as well as in tenth century China and eleventh century Java makes one ask—what sense does it make to talk of an “early modern” era that reaches back one thousand to four thousand years? Can it meaningfully be argued that ancient Assyria, Graeco-Roman Egypt, tenth century China, or eleventh century Java, were in “transition” to full modernity? Can it be argued that these societies had much in common with, say, eighteenth century England or early nineteenth century France? It increasingly appears that, if the definition of “early modern” is simply pegged on the existence of production and trade for profits in markets, the “early modern” period will cover all of history from the onset of urban civ-

33) Frank 1998.
ilization and written records, and lose any meaningful connection to what is distinctive about the “modern” world.

Historians thus seem, in searching for “early modern” history, to be caught between the Scylla of finding it nowhere and the Charybdis of finding it everywhere. If we define “early modern” societies as those clearly transitioning toward the fully “modern” in respect to government, religion, and technology, they are almost nowhere to be found. Even in Europe, it took major revolutions that simultaneously disestablished religious authority and formally replaced monarchy with constitutional regimes, along with a transformation of the basic structure of production, to create “modern” societies. Similar wrenching transitions were required in Russia (1917) and China (1911 and after). Elsewhere, particularly in the third world, modern societies developed only in the wake of throwing off colonial authority. Although modernity emerged in some cases without such major transformations (e.g., Canada, Switzerland), the transition from non-modern to modern-societies typically occurred in a dramatic and short-term change, not in a 350-year period of “transition.”

On the other hand, if we define “early modern” societies in the Marxist fashion of societies with market-oriented production and profit-oriented merchants, then we find such societies almost everywhere, from ancient Assyria and ancient Egypt to Song China to the early Muslim Middle East, to sixteenth century Europe. There was, by this definition, certainly an “early modern world,” but it had little or no necessary connection to the “modern” world, and began very early indeed!

In other words, “early modern” can mean almost nothing, or almost everything, and as such, is a wholly meaningless term. It developed out of the need to fill in a space in the Marxist theory of stages of history, where it fills the gap between feudalism and industrial capitalism in Europe by interpolating commercial practices that have been widespread from the earliest days of commerce, while erroneously concluding that those practices represent something new, something essentially Western, and something closely tied to the emergence of “modern” societies. In fact, none of these latter propositions are valid. Thus the term “early modern” is founded on a series of errors, and has no useful application to world history.

The Advanced Organic Societies

Nonetheless, if there are common social practices to be found among merchants from ancient Assyria to Song China to sixteenth century Europe, it is worth bracketing the issue of transitions to modernity, and simply asking if there is,
in fact, some social formation that is extremely widespread c. 1500 and does represent a common stage of political and economic development in world history. I believe that there is, and that it corresponds to what E.A. Wrigley has called the "advanced organic societies."\(^{34}\)

Wrigley coined this term to point out that, prior to the exploitation of coal for cheap energy, all societies were dependent on organic sources of energy—biomass from crops that could be converted into muscle power of men and draft animals, and forest wood that could be used for fuel and (as charcoal) for industrial processes. The problem with these organic sources (and with wind and water-power that supplemented them) is that they existed as fixed flows—muscle power from draft animals was limited by how many animals the land could feed, and wood fuel from forests was limited by how fast forests would grow and how much land could be kept out of food cultivation. Of course, exploitation of virgin forests on a vast scale (as in Siberia, the early United States, and Amazonia) can give the temporary illusion of unlimited resources, but we have seen that even these vast resources reach their limits in two or three generations.

In contrast, the amount of energy stored in large coal-fields (or, a fortiori, large oil-fields) completely dwarfs the energy available to strictly organic societies. As Wrigley pointed out, the classical economists—Adam Smith, David Ricardo, John Stuart Mill—were cognizant of the efficiency gains to be had from economic specialization and free trade, but remained extremely pessimistic about the chances for sustained long-term economic growth. Ricardo's insistence on diminishing returns was based—as surely as Malthus' gloomy predictions of famine—on the belief that the economy was in the last analysis dependent on the yield of the land, something that could not be indefinitely increased. (Even our modern agriculture, which has attained remarkable sustained growth, depends for that growth heavily upon inputs of artificial fertilizer that are obtained from inorganic feedstocks. About one-third of the protein content of the current global food supply comes from non-organic fertilizers.\(^{35}\)

Thus, although advanced organic societies could grow mightily through exploitation of efficiencies of manufacturing and trade, such societies would inevitably reach a limit to growth when they fully tapped their arable land and forest. For most of history, when land was abundant relative to labor, this was not a significant check on economic growth; rather the main check on that growth was inefficient organization of manufacturing and limits on trade. Thus the

\(^{34}\) Wrigley 1988, pp. 60ff.

\(^{35}\) Smil 1994, p. 190.
importance of Smith's treatise on *The Wealth of Nations*. But by the nineteenth century, land was increasingly becoming the scarce factor in production—certainly in Western Europe and China. From that point on, those societies that could overcome the organic "limits" by tapping into a virtually unlimited energy source, by learning to mine and utilize coal on a vast scale in heating and industrial processes, started to dramatically pull away from even the most advanced of the "organic" societies.

In short, the transition from advanced organic societies to "modern" societies, which could experience sustained exponential growth, depended at least in part on exploiting fossil fuels. No society which did not begin to do so could claim to be solidly "on the road" to modernity. Nor was this a smooth, long-term transition. In Europe, c. 1200 A.D., one hundred percent of primary power came from human and animal muscle, and wind- and water-mills; in 1800 A.D. ninety-five percent of primary power came from these same sources. But by 1900 only *forty percent* came from these inorganic sources.\(^{36}\) Modernity, in this respect, came on with a rush.

Wrigley gives as his key example of this the nation of Holland.\(^{37}\) In the seventeenth century, Holland dominated the European economy. Exploiting wind power and peat deposits, a detailed division of labor and significant technological innovation, immense stores of capital and sophisticated markets for borrowing and trade, and an internal and international transport system based on canals and superior cargo vessels, Holland was the European leader in shipping, finance, textiles, shipbuilding, brewing, and sugar refining. Yet despite these enormous leads, Holland soon lost its position of European leadership. Whether this was because of its high wages, or lack of accessible coal deposits, or because of a preoccupation with finance instead of manufacturing remains debatable.\(^{38}\) But what is certain is that Holland was relatively late to industrialize, lagging behind Belgium and even Germany. There is certainly no reason to believe that Holland, on its own, would have made the leap to material and technological "modernity."

What are we to make of the Dutch experience of the "golden age?" Certainly if any European society deserves to be called "early modern" by our joint criteria of using fossil fuel, having designed a constitutional regime, and enjoying religious freedom, then seventeenth century Holland would qualify (treating the use of peat for industrial heating processes as an early form of tapping fossil fuel resources). During this period of precocious or early modernity, Holland


\(^{37}\) Wrigley 1988, pp. 57-60.

\(^{38}\) DeVries 1974; Mokyr 1976.
was indeed the dominant European power in terms of economic growth, living standards, technology, and trade. Yet we need to carefully note two implications of the Dutch experience: (1) During Holland's period of dominance, it was the only state in Europe that has any claim to be called "early modern," as attested by the substantial gap between Holland and its neighbors in so many areas of capital, technology, governance, agriculture, and trade. That very exceptionalism of Holland argues strongly against any claim that in the sixteenth and seventeenth centuries there was a meaningfully "early modern" Europe or "early modern" world; indeed, to use the latter terms blots out Holland's exceptional achievement and extends its precocious development by fiat to regions that did not share it. (2) Holland's "early modern" period did not smoothly lead to a modern and dominant Holland; rather Holland's "early" modernization was abortive. When peat stores ran low, Holland did not take the seemingly obvious step of switching to imported coal to continue its energy- and capital-intensive growth.

If "modern" societies are distinguished by continuous exponential growth in output per capita, Holland's early modernity peters out in the eighteenth century. We can grant that Holland was an exceptional advanced organic society on several counts—it not only had "liberal" constitutional and religious institutions, it also made some use of non-organic fuel in its use of peat. But even this society was not "early modern" in the sense of experiencing a phase of economic development that led inevitably to full industrialization.

Equally striking cases of high levels of technological and economic achievement without steady progress toward modernization can be found in China and Japan. China's technological achievements from an early date are legion—the invention of gunpowder and the compass are only two of the best known.\(^{39}\) In addition, as Zurndorfer rightly points out, China's economy looks "early modern" in the Marxist sense of undergoing rapid commercial development from the tenth century.\(^{40}\) Wealthy merchants, commercial tenancy, and a vast network of trade along the Silk Road and through China's river basins created a whirl of commercial activity that would astonish Marco Polo (or whomever his accounts were based on) a few centuries later. By the nineteenth century, after almost 1000 years of commercial development, China could boast extensive manufacturing, internal transport networks, highly commercialized peasant households producing grains, beans, cotton, and silk for distant markets, and large urban centers.\(^{41}\) Yet what progress was there toward "modernity?" China

\(^{40}\) Zurndorfer 1997a, pp. 462, 465.
\(^{41}\) P. Huang 1985, 1990; Pomeranz 1993.
remained, and had even become more orthodox, in its Confucian rituals;\(^{42}\) its
technology remained fully organic, with its earlier vast exploitation of coal dis­
continued, and its government, of course, remained based on a traditional impe­
rial system which, despite its often-efficient semi-meritocratic bureaucracy, still
operated on the basis of imperial omnipotence. To call China “early modern”
from 960 to 1911 may be inappropriate, even anachronistic. But to call China
an advanced organic economy over this millennium, or even longer, seems
quite accurate.

Similarly, if we look carefully at Tokugawa Japan, we see an economy that
is rich in trade, in agricultural production, and had a standard of living proba­
bly higher than that of eighteenth century Europe. But it was not a “growth”
economy. Population was controlled for much of the Tokugawa period by
infanticide and birth spacing; and while metallurgy reached fabulous heights
of skill in the production of steel swords and armor, and craft skills and archi­
tectural wonders in the use of wood and silk testify to the ability of Japanese
craftsmen, there is no evidence that fossil-fuel powered factory production,
much less constitutional government or religious freedom, were underway prior
to the “opening” to the West forced on Japan in 1858.\(^{43}\) Again, though one
cannot maintain that Tokugawa Japan was in an “early” stage of becoming
“modern,” it was certainly an advanced organic economy.

Just as modernity requires more than simply technological advancement,
however, I would like to suggest that an advanced organic society requires
more than just commercial markets and a division of labor. S.N. Eisenstadt
has pointed out that a major transformation of social organization occurred
across the globe during what he called the “Axial Age.” This era, roughly from
500 B.C. to 700 A.D., was marked by the emergence of the major world reli­
gions.\(^{44}\) During the following centuries, religious institutions became something
more than alter-egos for state authority. Instead, a transcendental set of values
acquired an elite of spokespeople that existed in formal tension with the state
and its bureaucracy. To be sure, individual religious authorities (e.g., cardinals
in many European monarchies) could still hold positions in the secular govern­
ment, the church generally upheld and cooperated with the government, and the
king or emperor often took the role of supreme head of the church. None­
theless, there remained a separate hierarchy and organization of the religious
“experts,” not directly under state control—the Catholic Church in Western
Europe, the Confucian gentry and Buddhist monasteries in China and Asia,

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43) Hanley and Yamamura 1977.
the brahminic order in India, the Islamic scholars and preachers attached to mosques, \textit{waqfs}, and universities in the Islamic lands, and the Eastern Orthodox Church in Byzantium and later Eastern Europe.

This religious/state differentiation was associated with a highly differentiated elite that included members whose wealth or power came from a variety of sources in religion, government, military, trade, and landholding, and a highly diversified economy and society. Although such societies remained primarily agrarian, with a predominantly peasant population, they also had a substantial urban culture, a centralized and, at least, semi-bureaucratic government that depended on the regular collection of taxes, and substantial market activity, both domestic and international. In addition to the cases mentioned above (Holland, China, Japan), the “gunpowder empires” of the Ottomans and Mughals certainly qualify, as do most European and Asian and Latin American societies from 1600 onward, if not far earlier.\footnote{Arjomand 1984, p. 94, points out that “the bifurcation of the Islamic structure of domination in to caliphate and rulership had become fully established” by 1100 A.D. Brady 1991, p. 126, adds that “the postclassical ‘gunpowder empires’—Ottoman Turkey, Safavid Persia, and Mughal India—all practiced the de facto separation of religious from military authority . . . the Byzantine[s] evolved a very similar pattern: a highly centralized monarchy and a clerical hierarchy, each recognizing the divine origins of the other’s authority.”}

Indeed, it seems certain that large-scale “advanced organic societies” emerged first in Asia—certainly in the Islamic states of the twelfth century, in China from the tenth century (or perhaps somewhat later, from the Southern Song of the twelfth century, which abandoned a command-based economy and tax system for one based on commerce and commercial taxation),\footnote{Zurndorfer 1997b, p. 388.} and the Byzantine Empire in Anatolia from the period of the Comneni emperors in the eleventh century,\footnote{Diehl 1957; Runciman 1956.} while the first such societies in Western Europe are probably the Italian states of Venice and Genoa, followed by England under the Tudors, France under François I and Spain under Philip II.

We thus can begin to periodicize world history more sensibly as moving first from the neolithic revolution to the “ancient empires,” those of Egypt, Assyria, Babylon, Persia, the Hellenic Era, Rome, China, and India, in which Church and State were not clearly separated and the ruling elite remained more-or-less homogenous in the basis of their wealth and power, with interludes of city-state, warring-states, and republican governance. Such ancient empires dominated global politics for over four thousand years. Then gradually, between the fifth and fifteenth centuries, the ancient empires gave way either to feudal societies (decentralized congeries of “lords” depending on control of land...}
and labor, with limited urban centers and manor-centered economies, and no bureaucratized and centralized government collecting taxes in recognized national currency), or to more advanced organic societies, in which the elites grew more diversified, and the economies more commercialized. These advanced organic societies spread and endured for 500 to 1000 years in most parts of the Old World, and for several centuries in the New World. During these many centuries almost all of the advanced organic societies, despite considerable economic growth, specialization, and market activity, showed no signs of becoming “modern,” in the functionalist sense described above. Yet one such society—one of those that had only recently, since perhaps 1530, become an advanced organic society—suddenly burst forth and changed all the rules, moving rapidly from 1689 to 1848 to create the first fully modern society on Earth, and partly in consequence, assembling the largest empire the world had known. This was England, followed in the space of a few decades by several of its European neighbors.

**Europe’s Peculiar Path and the Emergence of Modern Society**

The tendency in most prior studies of the emergence of the modern world has been to see it as something that builds in Europe, and spreads outward. Whether this occurs through military technology (McNeill), economic breakthroughs (Rosenberg and Birdzell, Landes), the slow accumulation of incremental advantages (Jones), superior institutions (North, Hall) or the domination of global trading networks (Wallerstein), the “rise of the West” is seen as an inevitable process of progress, fueled by Europe’s internal competition, ingenuity, resources, or “modern” approach to science and technology, that proved irresistible. Moving steadily from overseas conquest and colonization in the sixteenth century in the New World, to pushing back the Turks and extending colonization into Asia into the seventeenth and eighteenth centuries, and finally to becoming the workshop of the world and carving up Africa in the nineteenth century, Europe’s progress to world domination seems like one smooth, steady, process. Every European victory—from that of Cortés over Moctezuma, to that of Spain over the Turks at Lepanto, to that of the Dutch in the East Indies, to that of Austria over the Turks at Vienna, to that of England over the Mughals and Nawabs in India, to that of Perry and the United States over Japan—is interpreted as a “European” victory, as if there was a single “European” leader who orchestrated a vast global campaign.

But I would argue that this is very much “winner’s” history, written from the perspective of a mid-twentieth century in which Europe and the United States dominated the global economy. Looked at differently, from 1500 to 1750 the nations of Europe were a group of squabbling minor nations, tearing each other apart in fights over some of the least productive, most barren, and weakest territories on the globe, minor players fighting over the crumbs left behind by the advance of the great Asian societies.

As Geoffrey Parker has pointed out, in the first two-and-a-half centuries following the discovery of the New World and the Cape routes to Asia, Europeans had managed to conquer only the sparsely populated regions of Siberia and the Americas (in the latter assisted mainly by disease), some coastal areas of sub-Saharan Africa, and some parts of the Indonesian and Philippine archipelagoes.49) No doubt these outposts were valuable as bases for trade, but until the rise of the British Raj from 1757, no major Old World territory came even remotely close to falling to European conquest.

Looking at the world as late as 1750, the overseas empires of Spain and Portugal had failed to vault them into the rank of first-rate powers in Europe; indeed Spain’s position had fallen considerably. France and England were locked in a series of costly wars; the colonies that were to become the United States and Canada were weak and peripheral. Germany and Italy were severely divided, and Austria was losing territory to a resurgent Ottoman Empire. The Dutch continued to play a role in the East Asia trade, but were being squeezed by the English, Chinese, and Japanese. In Eastern Europe, Russia was expanding to the north, but in the south was debarred from the Black Sea under terms of its defeat by the Ottomans at Pruth.

In contrast, China under the Qing was vast, united, expanding to the east and south, and prosperous. Japan was unified under the Tokugawa Shoguns, at peace, and enjoying perhaps the highest per-capita income of any large country in the world.50) Both China and Japan treated the Europeans as barbarians, with nothing to offer their advanced economies but the raw materials brought from the silver mines of Latin America. The Ottomans, although suffering some turmoil from the Janissaries, nonetheless enjoyed a considerable revival: “for almost fifty years in the eighteenth century the state enjoyed peace and prosperity and was able to regain some of the territories lost after the debacle of Vienna in 1683.”51) Only India, disintegrating after the death of Aurangzeb and

49) Parker 1991, p. 163.
50) Hanley 1983.
51) Karpat 1974, p. 90.
ripe for outsiders to exploit its internal rivalries, was weak enough to fall under European domination.

And why should it have been otherwise? After all, the Chinese and Islamic civilizations had been advanced organic societies for many centuries, far longer than most European states, which emerged from feudal chaos only in the fifteenth and sixteenth centuries. By 1750, what British visionary would have foreseen their nineteenth century queen as Empress of India? Half a century before Napoleon’s exploits in Egypt, and even longer before steam-powered gunboats or railways, what European strategist would have foreseen a European coalition imposing humiliating terms of defeat on the Emperor of China, or of carving up Mesopotamia and the Middle East into European protectorates?52

In short, something dramatic happened in a very short time, such that between 1750 and 1850, the global balance of power dramatically altered. What “happened” is that most western European countries, exploiting the results of a peculiar set of chance results, occurring mainly but not wholly in England, became “modern,” and against such societies the advanced organic societies of Asia were simply overmatched.

Modern societies not only enjoyed the significant technical advantages of steam-powered warships and locomotives, built with cheap steel, but also of nearly unlimited cheap energy for production. Using that energy to turn out volumes of cheap cotton goods and metal tools, England and later Europe’s trade invaded that of Asia, first in the Ottoman Empire and India, and later in China. Yet this was not their only advantage. In the course of the seventeenth and eighteenth and nineteenth centuries, most European countries had greatly reformed or revolutionized their governments, reducing the power of the Church and traditional elites and increasing that of both the secular government and independent entrepreneurs. The pursuit of rational means to increase power, and the opening of state and business careers to talent, rather than the following of traditional government and economic practices by elites with old-fashioned training and largely hereditary recruitment, meant that Western nations were more efficiently led, more creative, and more flexible in the confrontation of Western and Asian powers. In the nineteenth and twentieth centuries, every major Asian power either underwent a modernizing revolution, or became a subject territory of modern Western (or in the case of Korean and Taiwan, modern Asian) nations.

What was this transition to modernity, and how was it accomplished? We

52) In fact, in 1783 Edmund Burke asked in Parliament “Could it be believed, when I entered into existence [in 1727] that on this day . . . we should be . . . discussing the conduct of those British subjects who had disposed of the power . . . of the Grand Mogul?” and
have already alluded to part of the story—a series of political revolutions in England, the Netherlands, France, and of major reforms in Prussia, took the reins of government and the economy out of the hands of traditionally trained and recruited elites, and allowed the gradual-to-rapid infusion of better, more technically-trained and entrepreneurial newcomers. However, as I have argued elsewhere (Goldstone 1991), the material foundations for these revolutions were not exceptional. Much the same causes produced these Western revolutions in the seventeenth to nineteenth centuries as produced the contemporaneous revolts in Asia, from the regional revolts in the Ottoman Empire and the fall of the Ming Empire in the seventeenth century to the Taiping Rebellion in the nineteenth. What differed was the outcome of these power struggles. In Asia, such revolts were interpreted as revealing the failure of regimes to abide by traditional virtues, and the need to reinstill devotion to traditional religious and social practices. As a result, in the aftermath of the revolts in the Ottoman and Qing empires social hierarchies were reinforced and hardened, the state church became more powerful, and “new” knowledge from the West was eschewed as only leading to errors and deviation from the foundations of a strong—but traditional—state. The result was several decades of renewed strength for these Asian societies, but at the price of a reinforcement of the traditional political and economic structures of the advanced organic societies.

In the West, however, these revolutions led to very different outcomes (which is why, in fact, they are today called revolutions in contrast to the revolts or rebellions of Asia). There, the failure of existing regimes was interpreted as pointing to the need for something new, something better, in the governance of society, as evidence that the older models were flawed or obsolete. Such an interpretation harked back to a redemptive and eschatological view of history, but also drew on Enlightenment ideas of social progress. Building on long-developing views of natural rights and the power of reason, political and social institutions were modified in ways that allowed for the emergence of new social groups. This was not always the case—in southern Europe the Inquisition and the reinforcement of traditional society won out, and even in England if Hobbes’ views had triumphed over those of Locke, the solution to the conflict between King and Parliament might have been resolved very differently. But as it turned out, in northern Europe at least, a weakening of the power of Crown and Church to shape and control society occurred.

In the Netherlands, after the successful revolt against Spain, religious free-
dom and an oligarchical form of republican government paved the way for the Dutch Golden Age. In England, not so much as a result of the civil wars of 1640-1660, but of the Revolution of 1688-89 which followed from the unresolved legacies of the civil wars, religious toleration was established, as was the permanent role of Parliament as guardian of the liberties of the elite against the potential excesses of the King. The entrepreneurial talents of English and Scots Protestants and sectarians emerged in the next century to propel England to the crest of the world’s manufacturing economies. In France, the Revolution of 1789 permanently weakened the hold of Church and King, although their Restoration after 1815 meant that it was not until the Second Republic and Empire that France’s development as a fully modern nation went unimpeded. In Germany, a series of reforms beginning with the Prussian Reform Movement of 1807-1812, and continuing with Prussian responses to the Revolutions of 1848, accomplished many of the same ends, if more slowly and incompletely. Still, these changes in government and society, however necessary, would not have been sufficient of themselves to launch the dominance of the modern West without the development of steam power, and more generally of inorganic power for locomotion, smelting, brewing, heating, brick-making, glass-making, and a hundred-and-one other industrial processes. Without inorganic power, all of Europe might have simply progressed to look more like seventeenth century Holland—healthy, prosperous, advanced in the use of organic technologies, and competitive, although far from dominant, in competition with the major Asian societies. Europe would have been more free than Asia, but would never have achieved centuries of exponential economic growth, and thus not become fully modern, without greatly advancing its exploitation of coal.

Now, the origins of the Industrial Revolution are such a complex field that I can do no more here than offer my own interpretation, with minimal defense. But it seems to me that the exploitation of coal power was a happy chance, a concurrence of diverse trends in English history that happened, by a rare and perhaps one-in-a-million conjuncture, to produce the rapid development of steam-power. One portion of that concurrence was cultural, one portion was technological, and one portion was environmental/geological.

The cultural key we have already mentioned. Without the various strands in European thought and culture that led to “liberalizing” outcomes in several European revolutions, European economic and social history could well have been “frozen” in its traditional forms, much as Spain, Italy, the Ottomans, and

53) For a good survey of the difficulties of the explaining the Industrial Revolution, see Mokyr 1985.
China were after their seventeenth century crises. None of these societies, even after the technological advances of England were known and available to them, moved rapidly to seize and develop those advances. Instead, they held to their past ways of doing things, until they were submerged by the power of the modern nations around them and forced to modernize to survive.

Clearly, the non-liberalizing advanced organic societies had great internal stability. The partnership of state and church, even as separate bureaucratic hierarchies, was enormously potent. The diversified portfolios of traditional elites in the military, government, church, and agrarian economy met their needs for prestige and power. And the advanced organic economies provided sufficiently well to allow substantial growth of their populations, and hence a meaningful family life for ordinary peasants and workers. To “rock this boat” by investing in wholly new technologies would have offered considerable risk, for rather uncertain gains. It is no wonder that such societies not only persisted for tens of centuries, but even resisted the adoption of modern technology when other nations’ modernization had made it available to them.54)

The liberalizing advanced organic societies, however, were far more open to risk-taking.55) They opened the way for new social groups to rise by unorthodox ways, if the payoff was sufficient. Moreover, the ability of the state, or church, or traditional elites to squelch new ways of thinking or new modes of economic activity were formally limited.56) Thus, if into such societies, there found its way a new source of energy, or a new way of organizing production, there was little to stop its rapid development.

The second portion of this novel combination was technological, and involved a combination of heating, boring, pumping, and digging. Britain has a cold damp climate, and its agriculture and fuel needs on a moderate sized island led to heavy demands on its forests. Japan faced similar pressures, and facing a fuel shortage in the sixteenth century, engaged in careful forest management.57) But Britain had another resource that could be used for heating and that was coal—lots of it, fairly near the surface, in thick seams that were readily mined. Since the sixteenth century, therefore, England had used coal for heating, and from the Auld Reekie of Edinburgh to smoggy London coal-fires warmed British hearths, especially in the major cities.

But surface coal too could be exhausted, and digging deeper ran into problems: ground-water filled the mineshafts, and had to be pumped out or mining

54) Parker 1991; Elvin 1996.
56) North 1990.
57) Totman 1989.
had to cease. Fortunately, English craftsmen were fairly ingenious, and one Thomas Newcomen developed a very crude, very inefficient, very costly pumping engine that operated by heating water to steam whose expansion powered a pump. The Newcomen engine was so bulky, and so inefficient, that it would have been useless anywhere except someplace that had a virtually unlimited supply of both cheap coal and water—such as the mouth of a deep shaft coal mine. The Dutch had found windmills a superior and wholly adequate means of pumping their levies clear, and it was just the chance that England had been using coal for so many centuries, and now needed a way to pump clear deep mines that held exactly the fuel needed for the clumsy Newcomen pumping machine, that made this a reasonable solution.

Once in place, however, the Newcomen pump made it possible to build deep shaft mines, which raised another problem—how to move coal from the mine face along a tunnel back to the mine shaft for transport to the surface. Here another idea that would have been impossibly expensive in almost any other setting was useful—lay a short track of wood or iron rails, and run a cart along those rails back and forth from the mine-face to the shaft. The basis for the railways thus was also laid in England’s coal mines.

Once in regular use, the Newcomen engine became subject to tinkering and improvement. Two major breakthroughs were achieved by James Watt. One was the introduction of the condenser, which made the engine self-contained as it recirculated the water that was heated to become steam; the other was the introduction of precision boring of the cylinders (using equipment developed for manufacturing canon) that made the engine reasonably efficient. With further refinement, the steam-engine became useful for locomotion on land or water, and for powering a wide range of construction and manufacturing machinery.

The third portion of this unusual combination was environmental/geological. England had a climate and limited forest area that led it to use coal from an early era, taking it to the point where it was desirable to exploit deep-shaft mines. This was desirable not only because the coal was in the ground in sufficient quantity, but because it was readily transportable to points of use. Because some of the largest deep coal deposits were near Newcastle, on the sea, and because England was blessed with a wealth of navigable rivers, the coal could be taken cheaply in bulk via barges from the mines to most points in England that consumed it. Imagine if such deep coal deposits existed only in the black forest in Germany, or in the Massif central of France, or central Scotland. Even if you got it out of the ground, how far would you have to transport the coal

58) Mokyr 1990, pp. 88, 90.
by oxcart before it could be shipped by barge to points of use? (Remember, you can't conceive of a railway to carry the coal from the mine without steam power or cheap iron rails, both of which became possible only after the cheap production of bulk coal.) Even a journey of a dozen miles over land for heavy bulk goods was often more expensive than a hundred miles by sea. Thus, the location of England's coal was doubly fortunate—in deep thick seams, and near the sea.

By contrast, China's coal was concentrated in the north and was far inland. Though this coal had been used extensively during the northern Song, these regions were lost to China when the northern portion of the empire was conquered. The shift of China's cultural and commercial centers to the south and east during the Southern Song era was never fully reversed, and by the time China recaptured its rich coal lands, they were so far from the main commercial centers of Chinese society that their massive exploitation would have been hopelessly expensive.

Once cheap coal became ever more plentiful in England, as deep mining was extended, a revolution could be extended to the production of metals. Although the value of iron and steel as tools and weapons had been recognized for millennia, as long as the smelting of ore depended on using wood or charcoal for fuel, iron would remain expensive and scarce. Wrigley points out that "as long as the production of 10,000 tons of iron involved the felling of 100,000 acres of woodland, it was inevitable that it was used only where a few hundredweight or at most a few tons of iron would suffice for the task at hand." The tensile strength of steel makes it not only a fine weapon, but a fine material for tools, and for products ranging from watch springs to building construction. But where the use of steel is enormously restricted in an organic economy by its cost, the use of coal to produce iron and steel from ore allows the production of such materials cheaply and in bulk, to the point where construction of railway systems or fleets of ships weighing thousands or even millions of tons can be undertaken without fiscal or ecological disaster.

Cheap heat from coal does more than drastically increase the production of metals; cheap heat allows brick-making, brewing, glass-making, and a hundred other industrial processes to be carried on with large supplies of cheaper fuel. And cheap bricks and cheap glass make for far cheaper construction of homes and factories, while cheaper metal tools of all sorts aid even traditional craft processes, at the same time that metal and metal-reinforced machinery aid in factory production. Even agriculture is affected, as the use of tile drainage (the

larger volumes of cheaper tile pouring forth from coal-heated ceramic kilns) opens up land, while steam-powered threshing equipment saves labor in processing the land's bounty.

The Newcomen engine, therefore, started an enormously productive synergy. Cheap coal made possible cheaper iron and steel. Cheap coal plus cheap iron made possible the construction of railways and ships built of iron, fueled by coal, and powered by engines producing steam. Railways and ships made possible mass national and international distribution of metal tools, textiles, and other products that could be more cheaply made with steam-powered metal-reinforced machinery than was possible with muscle-powered wooden home or workshop tools. And of course, modern railways and ships made it possible to move men and weapons in volumes and at speeds unimaginable in organic societies.

In short, once you take a society open to innovation and entrepreneurship, and start it down the road that begins with a wretchedly inefficient steam pump clearing water from deep-shaft coal mines, you have opened the doors to what becomes, over the course of four generations, an inorganic and recognizably "modern" economy.

Note, however, that there was nothing necessary or inevitable about this transition. Quite the contrary. In the sixteenth century, the basic political and economic systems of the advanced organic economies of northern Europe were not significantly different—except in being much smaller and far inferior in the range and quality of goods produced—from those of southern Europe and of Islamic and East Asian civilizations. True, England and the Netherlands and France had parliaments or representative institutions; but so had Castile in its cortes, but like the Republic of Rome, that was readily extinguished. What mattered is that in some nations, the world-wide revolts and rebellions of the seventeenth century, due to particular cultural frameworks prevailing among certain elites, produced liberalizing regimes, overturning the grip of government and religion on society and breaking the monopoly on power of traditional elites. These events help break the solid stability that gripped most advanced organic societies, including those of major Asian civilizations, which for the next two centuries remained resistant to economic and political change. Once one of these liberalizing societies stumbled into a technological/geological/environmental conjuncture that put it on the path to developing an inorganic economy, the way to modernity was open.
The assumption that history from 1500 to 1850 marked a steady progress of "Europe" as a whole, a dynamic "early modern" period that paved the way to modernity, has grossly deformed our view of world history. For if Europe was progressing toward modernity during this period, while other countries were not, what was "wrong" with them? If such "progress" was normal, then one of two conditions had to apply elsewhere. One possibility is that societies outside of Europe simply had no impetus or capacity for growth—they were unchanging, stagnant, fossilized, a view we find in both Marx and Weber, and which we have only recently come to realize is wholly false and misleading. During these centuries Asian civilizations underwent major growth and extension of their market networks, developed new technologies for the production of cotton and ceramics, and greatly expanded the size of their populations and economies.

The other possibility is that these societies had a normal impetus to growth, but that something in them was "blocking" that capacity; a lack of capital, of science, of markets, of agricultural productivity, or perhaps an excess of population, or of government regulation and interference. Unfortunately (or fortunately for non-European societies), none of these blockages can be documented as sustained. China and India had great concentrations of capital in the hands of merchants; both had substantial accomplishments in science and technology; both had extensive markets. Eighteenth century China and Japan had agricultural productivity and standards of living equal or greater than that of contemporary European nations. As to excesses of population, Japan clearly controlled its population, as (we now know) did China; the vast "overpopulation" of classical Asia is an anachronism from the late nineteenth and early twentieth centuries. Government regulation and interference in the economy were modest in Asia, for the simple reason that most economic activity took place in free markets run by merchants and local communities, and was beyond the reach of the limited government bureaucracies of advanced organic societies to regulate in detail. Cultural conservatism did keep economic activities in these societies on familiar paths, but those paths allowed considerable incremental innovation and long-term economic growth. Although neither hypothesis now looks empirically solid, for a long time, Europe's development was seen as "normal," and non-Europe as pathologically "stagnant" or "blocked."

It is clearly time to abandon these notions, along with the whole idea of an "early modern" period in European or world history. The current use of the term "early modern" to describe a vast array of societies and civilizations over spans that range from the sixteenth to the nineteenth century at best presses a hopelessly Eurocentric and mode-of-production focused version of history onto a world that is culturally, politically, and economically diverse and not driven by European patterns of change, and at worst is quite falsely teleological.

What we have from roughly the fifth or sixth century onward is a world of feudal and advanced organic societies; and by the sixteenth century most of the feudal societies are gone from Eurasia, having developed into advanced organic societies with centralized and bureaucratic regimes. Prior to the seventeenth century in England and Holland, and the late eighteenth century in the United States and France, none of these are modern in any way. True, toward the end of the 1500-1800 period these relatively small societies—rather tiny parts of "Europe" or the "world"—become liberalizing advanced organic societies, and then, taking what is by world standards an extremely peculiar path, lead the way to modernization in the following centuries. But for most of the world, and even by far the greater part of Europe, there are no "modern" societies—early or otherwise—before the nineteenth century.

What shall we call the period from the sixteenth to the nineteenth centuries, in which there is considerable organic economic growth around the globe, but hardly any progress toward true "modernization," and even that occurring in only a few tiny outposts? Perhaps the most accurate answer would be to label the period from 1500 to 1800 as the period of AOS; a period in which all the world's major regions (except parts of Africa) were dominated by advanced organic societies. Some of these had their roots going back many centuries; others had just emerged. But in this period, the AOS were clearly dominant throughout the world. The period from 1800 to World War I could perhaps more legitimately be called "early modern" if we wished to find a use for that term. This is the period in which the first modern societies emerged and gained global dominance, although many major countries such as China, Russia and the Ottoman Empire still had their modernizing revolutions ahead of them. The period from World War I to the present would then be the "modern" world (or until such time as the world is recognized as having become "postmodern").

In this view of history, there is nothing pathological about Asia during the AOS period. Instead, parts of Asia and certainly China have a substantial lead over Europe, whose feudal period lasts to the beginning of the AOS period,

while China has already enjoyed many centuries as an advanced organic society. Instead of reading history backwards from the perspective of modernity, we can then read history up to at least 1689 in England, or to 1789 in France, as a period of considerable global unity in social and political organization. What needs to be understood and appreciated in this period is the intricacy and stability of the diverse advanced organic societies, their different cultural bases, their varied patterns of social, authority, and family relationships, and their capacity for economic growth.

The departure of England, and later of Europe, from the pattern of AOS is then something that needs to be explained not as an inevitable movement down a long-marked different path, but as a rather sudden, unexpected, and peculiar shift—a jump or quantum leap, if you will, that in the space of four generations (say 1730 to 1850) creates a fundamentally different world from that of the AOS. At the beginning of this period, the consensus of European social thinkers was that growth would be slow and limited by agrarian development (notably France’s philosophers). By the end of this period, the consensus of European social thinkers from J.S. Mill to Marx is that growth will be unlimited.

Now, I do not mean to say that modern societies are in any way “better” than AOS. That is a judgement call, and a moral judgement, that I would not presume to make. There have been bitterly tyrannical and murderous ancient societies, feudal societies, advanced organic societies, and modern societies. And there have been peaceful, artistically vibrant, and prosperous ancient, feudal, AOS, and modern societies. We have much to learn about the bases for social stability and prosperity, and it is clearly a matter of differences that cannot be summed up in the differences between the ancient, AOS, and modern kinds of social organization.

What is clear is that “modern” societies and AOS are different, and that most AOS can go on for centuries without in any way becoming modern. In terms of world history, then, it is the Asian societies that represent the common, ordinary, “normal” case of the persistence and growth of AOS. Europe is the “sport,” or the “exception.” If this should come to be accepted it would mean a dramatic inversion in the manner in which we study Europe. The Weberian model of global history was to study Europe first, then draw comparisons by looking at Asian societies and asking why “they” were not like Europe. But if Europe is the sport or exception, this is scientifically backwards. The correct way to study global history is to understand the AOS first, and once these are well-understood, then we can turn to Europe and try to understand how portions of Europe were unlike the “normal” AOS, and turned on to their peculiar path. In other words, a detailed understanding of Oriental societies is required
before we can hope to understand what made Europe’s eighteenth and nineteenth century development distinctive.

This would be a dramatic change in the study of world history. But it would make the role of JESHO in historical studies more central than ever, a welcome thought as we celebrate the fortieth anniversary of this journal.

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