

# Teleology, Discontinuity and World History: Periodization and Some Creation Myths of Modernity\*

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## **Abstract**

*Discussions of world history often focus on the pros and cons of thinking on large spatial scales. However, world history also tends to employ unusually large timescales, both for research and teaching; frequently it is framed around a teleology and a series of “revolutions” which mark milestones taking humans from a very distant past to “modernity.” Moreover, world history usually rejects regionally specific period markers (e.g. Renaissance), making periodization within this long timespan especially difficult. This article surveys various approaches to these problems, and shows that any of them, if treated as sufficient by itself, introduces significant distortions. It argues for a world history that highlights this problem, rather than hiding it, and which uses the need to*

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\* This essay has benefitted enormously from conversations over the years with Daniel Segal; one passage for which those discussions have been particularly important is noted below. I would also like to thank Julia Thomas for helpful comments on a draft of this essay, and the editors of ARWH.

*deploy multiple timescales simultaneously to clarify the distinctive intellectual contribution of historical thinking.*

## **Keywords**

*world history, teleology, periodization, revolution, environment, industrialization, early modern.*

World history is different from other histories—and not only in its scale. Robert Bain recounts the following telling pattern in numerous workshops that he has conducted for U.S.-based teachers. Asked to put together a very brief history of either the United States or Western civilization, the teachers get to work quickly, and produce results that have much in common. Asked to do the same thing for a history of the world, few start immediately, and many remain stuck on basic structural issues, such as whether to divide their course by regions (e.g. with separate narratives for South Asia, Europe, East Asia, etc.) or provide a single narrative, and into what periods they should divide their history.<sup>1</sup>

The difference is that, for better and for worse, there are widely accepted broad frameworks that structure the histories of the United States (and of other nations), and of “Western civ.” There are also very important disagreements, of course, but they are made meaningful by considerable consensus on what is worth disagreeing about. For world history, the points of consensus are much fewer, and even what consensus there may be among university-based scholars in this field is not necessarily shared by others.

Yet there are a number of broad thematic stories that most scholars in the field would agree should be part of any general narrative: increases over time in the numbers of people, the average length of their lives, the environmental impact of their activities, and their inter-connectedness across long distances are perhaps the least controversial examples. Close behind are a number of other stories. This second group might include (but not be limited

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<sup>1</sup> Robert B. Bain, “Challenges of Teaching and Learning World History,” in *A Companion to World History*, ed. Douglas Northrop (Chichester, UK: Wiley-Blackwell, 2012), 113.

to) increased mass political participation; a decline in the importance of extended kinship, and the increased importance of various institutions governed by relatively impersonal rules; a partial standardization of marriage forms; the destruction of most small-scale polities/societies; greater ability to control human reproduction (thus loosening its connection with sexual activity); the increased importance of exchanges (including labor relations) mediated by money and of differences in wealth relative to other distinctions; more widespread literacy, and so on. There may be more exceptions to these generalizations than to the first few, or more doubts about how to formulate them, or about whether they are of fundamental importance, but they would probably command fairly wide assent. Some of them became pronounced trends only in the last few centuries, but most can be glimpsed much longer ago, at least in a few places.

What all this adds up to, it would seem, is a framing narrative for world history as the origins of modernity. And that story is, indeed, what underlies whatever unity most texts and courses in the field have, whether they begin with early civilizations, agriculture, or much further in the past. It is a story that guarantees world history relevance, and—contrary to some fears—it need not be triumphalist, nor overwhelmingly homogenizing. “Modernity” can, after all, be described in ways that call attention to both sides of its enormous inequalities, and to its frightening possibilities for collapse; we need not assume that the condition of the most privileged contemporary peoples represent “modernity” while others have not yet become modern. But even so, this is a framework that is particularly prone to teleology, with all the dangers that implies.

This is exacerbated by the tendency of world history to reach much further back into the past than most national or regional histories. As much as some nationalists may strive to make their nations seem primordial, this no longer convinces many academics; too many features of nationality presuppose institutions of relatively recent vintage at least as aspirational models (e.g. states that are supra-local, but do not claim universal dominion; bureaucracies capable of sustained efforts at internal homogenization). Whatever

the artists of Lascaux were, they were not French, and a survey of French history need not deal with them. But the Lascaux artists were certainly human, and so not easily excluded from world history.

Moreover, because many of the basic story lines for world history discussed above are phrased in generic and/or relative terms (“greater numbers,” “increased environmental impact,” “more long-distance connections”) they can be begun in the very distant past. Perhaps they should be, so as to avoid painting too stark a contrast between a static “pre-modern” and a dynamic “modern.”<sup>2</sup> Beginning in the very remote past also helps us get around the radically different dates conventionally given for the origins of particular societies, allows us to address all sorts of famous and intriguing findings that we might wish to include in “general education”, and speaks to a desire for inclusiveness that has often informed a preference for “world” over national or “area” histories in the first place. At the other end of the scale, “world history” has no obvious endpoint besides the present, as the histories of, say, the Ottoman Empire, colonial Latin America, legally-accepted slavery, Manichaeism, or Ptolemaean astronomy have.

For all these reasons, world history has been much more prone than most others to include at least some of what has conventionally been called “pre-history.”<sup>3</sup> Depending on the kind of

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<sup>2</sup> In a just-published essay, Daniel Lord Smail and Andrew Shryock argue that such a distinction is an inevitable result of the concept of the “modern” itself, and suggest that we do without it; see Smail and Shryock, “History and the Pre,” *American Historical Review* 118, no. 3 (June 2013): 709-37. This does not seem to me necessary, or perhaps even possible. As I will argue later in discussing the idea of “early modernity,” I think much of the valuable work they wish to accomplish by dropping the idea of the modern can be done by being more specific about the specific features with respect to which we are labeling something “modern” and emphasizing that all periodization schemes elide not only anomalous features but counter-tendencies that are visible on different timescales, and that all such schemes are provisional arrangements adopted for the purpose of investigating some specific phenomenon. That said, what Smail and Shryock say in this article seems to me quite right with respect to any fixed and singular division between pre-modern and modern.

<sup>3</sup> See the introduction to the AHR Forum, “Investigating the History in Prehistories,” *American Historical Review* 118, no. 3 (June 2013): 708. There is no need to list here all the works in world history—especially, but not only, textbooks—that incorporate some material on the very remote past, but it is obvious that this is much more common in this field than in national, regional, or local histories.

world history, this may go back to the Holocene, or to the first behaviourally modern humans, to early proto-humans, or even to the origins of the universe; but all of these versions of world history contrast with an earlier assumption that history need only go back as far as the earliest written records.<sup>4</sup> Whatever its merits, this further exacerbates the dangers of teleology, and it requires us to be more careful and explicit than historians often are in thinking about periodization and the implications of using different timescales.

Consequently, I begin and end this essay with some general reflections on problems of timescale and periodization. The four sections in between first consider issues specific to origin stories on the very largest scale (beginning deep in pre-history); then some stories that go back to antiquity; then, some that focus on the period since Columbus, but locate that moment in a very long-run perspective; and finally, some that focus more specifically on an "early modern" period immediately preceding industrialization. The conclusion argues against seeing any single origin story or periodization scheme as adequate, while trying to sketch some characteristics which an adequate *combination* of schema ought to have.

## PROBLEMS OF TEMPORAL SCALE

Even the most seemingly straightforward historical trends only remain straightforward when we focus on one particular timescale. In the long run, for instance, it is obvious that the development of steam-powered transportation in the early 19<sup>th</sup> century marked the beginning of the end for horse-powered transit. But in fact, the *initial* effect was quite the opposite. Railroads and steamships vastly increased the amount of freight and passengers moving over medi-

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<sup>4</sup> For an extended discussion of how early versions of "Western Civ" courses, in particular, relied on the notion of a long chronology for human beings while insisting that most of that chronology lay outside of "history," see Daniel Segal, "'Western Civ' and the Staging of History in American Higher Education," *American Historical Review* 105, no. 3 (June 2000): 770-805, especially, 772-79.

um and long distances, and these greater numbers of people and goods needed to get to and from the rail station or dock at the beginning/end of the journey. The population of ten major U.S. cities doubled from 1870 to 1900; the number of teamsters in the same cities more than quadrupled.<sup>5</sup> Thus the “iron horse” actually ushered in boom times for horse-drawn carts and cabs; this lasted into the 1920s even in the United States, where the automobile became widely used earlier than anywhere else.

It matters for our purposes that the period between the beginnings of railroads and the actual decline of horse carriage was much longer than the time horizon within which most people view their world and make their decisions. Thus any historian who assumed that teamsters in 1850 or even 1900 knew they were in a “declining trade” would be quite wrong. Thus, the era in which people lived with railways but had little reason to think that motorized transport would decrease (much less eliminate) the overall demand for horses not only exceeded typical human lives and foresight; it was longer than the period covered by most historical monographs. Such examples could easily be multiplied.

What makes this story surprising—at least to most non-specialists—is that we all know what eventually happened. Bulky steam engines were followed by much smaller internal combustion engines, which made trucks, buses, and personal automobiles economical; meanwhile, increased congestion made aspects of the horse that could not be engineered away—its digestive and excretory needs, and the fact that it might respond to urban stimuli independent of its driver—increasingly burdensome. Living in an age where technological progress is expected and in which we have a category (“motor vehicles”) encompassing trains and cars, it is natural for us to take this trajectory as inevitable, but it is remark-

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<sup>5</sup> Eric Morris, “From Horse Power to Horsepower,” *Access* 30 (Spring 2007): 3. Available at <http://www.uctc.net/access/30/Access%2030%20-%202002%20-%20Horse%20Power.pdf>. For a discussion in generalized terms about the arrival of power-driven transportation first stimulating “traditional” market networks (in which transport depends on human and animal muscles) before eventually destroying them (which constitutes “true modernization”) see G. William Skinner, “Marketing and Social Structure in Rural China: Part 2,” *Journal of Asian Studies* 24, no. 2 (February 1965): 17-26.

able how long it took before this was apparent to everyone. In 1894, the prospects for horse carriage disappearing still seemed so remote that the *Times* of London was projecting the consequences for sanitation of the city's equine population continuing to increase into the 1950s; the world's first international urban planning conference, in New York in 1898, focused on the same issue.<sup>6</sup> It was almost 50 years between the first sales of internal combustion engines and the first Model T; in between, many people strongly doubted that automobiles could ever be made sufficiently cheap enough and user-friendly for them to gain a mass market.

None of this makes the large-scale, more teleological view "false." But it does make it important that we recognize it as just one possible view, and it means that we need to justify the use of a particular timescale or timescales for purposes of dealing with particular questions. This is both an epistemological and an ethical imperative: after all, some activities may be mostly beneficial within the span of one or two lifetimes, but very harmful later, or vice versa. The necessity of multiple time scales also means that in asking about whether the geographic origins of modernity are singular (somewhere in Europe), multiple (either because of development along parallel tracks, or because the effects of interactions were necessary), or global (a logical outcome of huge evolutionary processes, or dependent on the effects of so many interactions that we have to call it a product of humanity generally), we need to be careful and explicit about what time scales we use, and rigorous about not unconsciously changing timescales as we ask about different regions.

In what follows, I move back and forth between origin myths of modernity and schemes of historical periodization (a closely related phenomenon) which work on **very** large time scales and global geographic scales, and ones that work on much shorter timescales, and which often (though not always) find a much more specific geographic origin for modernity (usually in Europe, though

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<sup>6</sup> Morris, "From Horse Power to Horsepower," 1-2.

one gets an occasional vote for Song China). My basic points are that:

- A) No such scheme, even that which looks most comprehensive, is adequate on its own.
- B) Any story of the origins of modernity (indeed any history) is about change over time, and natural science—especially evolutionary biology—does provide an attractive model for making sense of gradual changes that eventually have enormous cumulative significance. However, the dangers of social evolutionism are very real. Thus there is much to be gained from taking seriously the fiercely anti-social-evolutionary, primarily synchronic perspective of the cultural anthropology derived from Boas and Levi-Strauss, and combining it with Braudelian notions of the *longue durée* and of a world-wide “biological old regime” that lasted until the Industrial Revolution.
- C) We need stories of the origins of modernity that **both** treat modernity as a product of long-running **global** (or at least multi-regional) processes that just happened to come together first in Europe (instead of being a solely European creation) **and** take very seriously the need to explain (based primarily on shorter-run, though not purely epiphenomenal trends) why it was in Europe that certain crucial pieces came together first.
- D) In constructing and narrating these stories, we should give priority to schemes of periodization that are at least potentially global rather than clearly region-specific (e.g. Renaissance, Ming). More specifically, we will need at least two kinds of trans-regional periodization.

On one level, we need very long periods based on material (usually technological) factors which at first blush seem to be either present or absent: e.g. Bronze Age, industrial (fossil fuel) era, and so on. One advantage of these kinds of defining characteristics is that one can imagine these technologies as so fundamental that they shape entire societies—as in Marx’s famous claim that “the hand-mill gives you society with the feudal lord; the steam-mill so-

ciety with the industrial capitalist,"<sup>7</sup> or in systems theory. However our earlier example of horses in "the age of railways" suggests caution here, and the need for other kinds of periodization that capture more mixed realities and ambiguous trends

Partly because of this, we probably cannot dispense with annoyingly imprecise terms based on *clusters* of characteristics which have affinities with each other, but do not necessarily imply each other. The fuzzy nature of these clusters means that we may have a hard time deciding when such a cluster is sufficiently present to count, or how much its presence implies about the dynamics of a society. But still, I would argue, at least one period based on such clusters is indispensable for avoiding problems inherent in the other kind of periodization. That example is the "early modern," with which I will close.

## VERY BIG STORIES: SOME PROBLEMS IN LINKING WORLD HISTORY TO PRE-HISTORY

Most authors of world history textbooks seem to feel the need to start with the evolution of our species, going back at least to *Australopithecus*—unless they are "big history" books that start even earlier.<sup>8</sup> Such information is certainly interesting, though I wonder how many historians are really able to evaluate and teach it well. And in most cases, its function in historical texts seems to be precisely that of a *creation myth*: that is, it provides an illusion of a complete story, and of unbroken succession from the very beginning to where our real story begins ("homo habilis was followed by homo erectus," and so on).<sup>9</sup> And where a world history text is rea-

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<sup>7</sup> Karl Marx, *The Poverty of Philosophy* (1847) Chapter 2, Part 1, Second observation. Available at <http://www.marxists.org/archive/marx/works/1847/poverty-philosophy/ch02.htm>.

<sup>8</sup> For the most influential version of Big History, see David Christian, *Maps of Time: an Introduction to Big History* (Berkeley: University of California Press, 2004).

<sup>9</sup> For an argument which embraces the idea of Big History as creation myth, see David Christian, "Big History: Why We Need to Teach the Modern Origin Story," *The Conversation*, November 7, 2012, <http://theconversation.com/big-history-why-we-need-to-teach-the-modern-origin-story-10405>.

sonably well-integrated—as Big History is—these early stories introduce *themes* that will be repeated later: increasing complexity, pockets of increasing energy density and (beginning later) collective learning. They thus help make it possible to turn a history textbook or course into what David Christian calls a “Grand Unified Story” analogous to the Grand Unified Theory sought by physicists.<sup>10</sup>

But note that—like many other myths—this kind of origin story works on a level of rough analogy between ancient and more recent dynamics, rather than by introducing specific information about concrete mechanisms that will actually be used to explain specific subsequent developments. It doesn’t matter to any discussion of the origins of writing, industrialization, or democracy when specific varieties of proto-humans succeeded each other, or when and where we find the earliest stone axe, much less when cyanobacteria changed the atmosphere, making it hospitable to our kind of life. Nor are the ways that we know about those things illustrative of the kinds of thinking that history as a discipline emphasizes.

If one thing we are trying to explain is how human beings spread across the whole planet, then some *catalogue* of our more or less unique abilities—especially sophisticated language and tool-making—is needed, but it is not clear that we need an account of how those abilities emerged (even assuming that we are capable of giving one). Given the already overwhelming volume of material that a world history needs, it is not clear why it is worthwhile to try to make the very long story of the emergence of humans part of our narrative. It only becomes necessary to do so if we want to show that the evolutionary dynamics by which early humans acquired various basic capacities parallel the *dynamics* by which crucial *conscious* inventions—writing, coinage, steam power, and others—emerged: i.e. that they are all examples of increasing “complexity,” both supported by and enabling greater mobilizations of energy. But the very fact that those later inventions were purposeful human inventions makes any such analogy shaky; and, as I will

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<sup>10</sup> See e.g. David Christian, “Scales,” in *Palgrave Advances in World History*, ed. Marnie Hughes-Warrington (Basingstoke: Palgrave/MacMillan, 2005), 64-89.

argue later, the huge frame that is required to place chemically or physically-driven change side by side with human invention is not, by itself, an adequate way to place either our own era or modernity more generally in historical perspective.

It would probably be better, then, to reference the succession of hominins very succinctly and then move to a more synchronic discussion of what we know about certain basic characteristics of humans and their environment: characteristics that will recur and will matter in explaining subsequent events. This would include things we share with other animals: *e.g.* that we don't photosynthesize and so must manipulate the environment to get food) and some which constitute humanity's distinctiveness from other species: in particular, that we adapt via what David Christian calls "collective learning"<sup>11</sup> much more than by genetic change.

Along with providing such a baseline account of what humans can do, an introduction should also note that there are basic aspects of our interactions with the physical world that remained unchanged until very recently: that land transport of bulky goods becomes prohibitively expensive after relatively short distances, that heating metals enough to shape them takes huge amounts of wood and so can't occur on a great scale in a single place until you get fossil fuels, and so on. Oddly enough, textbook narratives sometimes mention these conditions at the point in history when they are finally overcome, but do not set them up as basic conditions at the *beginning* of the book, the way that Fernand Braudel does in his trilogy on *Civilization and Capitalism*<sup>12</sup>—or the way textbooks in many other fields begin by laying out basic features that define the dynamics of their object of study.

It is hard to disagree with the way in which Big History identifies as the single most fundamental characteristic that is distinctive to humans—at least for purposes of understanding long-run

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<sup>11</sup> Christian, *Maps of Time*, 146-48.

<sup>12</sup> See *The Structures of Everyday Life: The Limits of the Possible* (New York: Harper and Row, 1981). In addition to the sub-title, note especially the emphasis on the limits of human capabilities in the long period before steam power on the very first page of the Preface (27 of the English edition).

change—our capacity for collective learning, which is in turn derived from our more or less unique capacity for symbolic language. But there is another aspect of having language which has been stressed more by social and cultural anthropologist than historians, but which is comparably important for framing the distinctive nature of human history: that humans *always* make arbitrary rules about basics aspects of life.<sup>13</sup> That is, though societies have a nearly infinite variety of rules about what you can eat and how, whom you can mate with and how, and so on, there are no societies which have no rules on these (and other) vital matters. Often these rules confer no biological advantage: consider, for instance, how many societies allow or even promote a sexual union with a person's mother's sister's child while forbidding a union with a mother's brother's child, though the amount of genetic in-breeding is the same in both cases. But the arbitrariness of these rules does not reduce their importance as regulators of people's lives.

Indeed, one could argue that what makes ALL humans historical beings is precisely that they all live in groups that have such rules, sometimes break them, squabble over them, and ultimately often change them—which is to say that they have political, social, and cultural histories.<sup>14</sup> And some of these arbitrary rules also function, over long periods of time, as important forces shaping and limiting collective learning: they make exploring certain things unacceptable, certain people impossible interlocutors, and so on.

By beginning with this kind of more synchronic, first-principles account of humanness, I would argue, we get the same benefits that beginning with evolutionary or even geologic time can provide to a search for historical understanding of modernity: that is to say, we give students and readers the scientific material

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<sup>13</sup> Much of the rest of this section draws heavily on discussions with Daniel Segal, and on jointly written work that is not yet published.

<sup>14</sup> Because all human groups also wrest their living from the environment, they also all have economic and technological histories. But this is sometimes harder to see, since the pace at which those practices change has been very slow for long periods in many places, and relative stasis in technology is hard to render as history. By contrast, conflicts arising from the breaking of social rules are easy to see as history, whether they result in successful defense of the status quo, one or more persons getting away with violating the rule while it continues to stand for most people, or a more fundamental change.

that will be useful in posing and answering questions about how humans have come to live long lives, use so much energy, rely heavily on people we will never meet (including, among others, partners in impersonal trade and "experts" who tell us what to do about many aspects of our lives), value strongly the chance to live quite differently from our parents, drive so many other species to the brink, and so on. These capacities and constraints are also crucial for exploring how these and other "modern" characteristics came to be distributed as they are among sub-groups of modern humans, and what this means for a global history of modernity.

Meanwhile, I would argue that organizing our story this way has some distinct advantages over beginning with a narrative of early humans or of something even older (such as the earth or the universe). For one thing, we avoid making excessive claims for the comprehensiveness of the story we are equipped to tell, or for resemblances between human history and stories which are about the playing out of physical laws, which (even if they are only probabilistic laws) unfold in more structured ways than any generalities we can muster. Equally important, this approach ties our story strongly to shared human characteristics without the risk that the differences of results among different groups of *homo sapiens* will appear to be linked, or at least analogous, to the differences in essential capacities among the successive groups of hominins in deep time. True, a course that shies away from making everything part of history might seem to provide less "general education" than a text or course that also gives students a smattering of astronomy, plate tectonics, evolutionary biology, and so on; but there are, I think, good reasons to mostly leave these topics to our colleagues in other fields, and focus more narrowly on the knowledge and methods from other fields which bear on the questions specific to our work as historians.

## CONTESTING THE ORIGINS OF MODERNITY: EUROPE, THE WORLD AND “THE THEFT OF HISTORY”

Let us move, now, to creation stories that are more explicitly about modernity, and operating on smaller time scales—though still larger-scale than most work produced by historians. For roughly a century after the beginnings of Western social science in the late 1800s, it was widely assumed that the origins of modernity were more or less uniquely European; early contributions elsewhere (e.g. the invention of writing in the Near East, or of paper and printing in China) were acknowledged, but usually coupled with a claim that the area in question had long since “stagnated,” and thus become irrelevant to the march of progress.

More recently, many scholars have questioned this story line, denying that we can find any clear line separating a dynamic West from a stagnant Rest. The ways in which this once taken-for-granted barrier has been eroded are varied, and so are the different ways in which people have brought the non-West into stories about the origins of modernity. Some see parallel tracks leading to modernity on a roughly similar timetable in many (though not necessarily all) parts of the world, with just one factor—often quite contingent and/or external to Europe—tipping things towards Europe at the last moment, and giving it a central place in modern history that may or may not prove lasting. Some raise questions about the “modernity” of Europe itself until quite a late date, so that modern life becomes something that may still appear first in Europe, but appears elsewhere so soon afterwards (before, for instance, it has spread across all of Europe) that the difference in timing is trivial. Others see modernity as the joint creation of many parts of the globe—with essential roles for non-European actors continuing throughout time, rather than ending after an early period—or define modernity as an intrinsically global condition which has as one of its features an uneven distribution of power and benefits favoring Europe.

Whatever the exact formulation, these narratives generally share a sub-plot that Jack Goody has called "the theft of history."<sup>15</sup> The basic outline of this plot is that even though Europe was not actually particularly "advanced" in becoming modern, or was so only briefly, and perhaps by chance, Europeans (and others influenced by them) subsequently crafted humanistic and social science narratives which made it seem that they were, for deep-seated reasons, the sole creators of modernity. In some versions of this story, Europe and its off-shoots (e.g. Canada, Australia, the U.S.A) remain the only truly modern places, even today. Goody challenges this theft by looking at 6 things that some prominent scholars have claimed were quintessentially modern and, in their modern forms, products of Europe: science, technology, economic growth, (romantic) love, self-control (in the sense meant by Norbert Elias<sup>16</sup> and Michel Foucault<sup>17</sup>), and freedom. In short, he seeks to puncture a series of Eurocentric "creation myths of modernity"—myth being used here in a pejorative sense, as the false counterparts to a true history.

This is not the place to review all of Goody's critiques of the scholars who made these claims. I have done so elsewhere,<sup>18</sup> arguing that his criticisms are largely convincing, and that more could be added to many of them. For present purposes, it is important to note that Goody actually identifies two different, but related kinds of "theft." With respect to science, technology, and economic growth, he argues that Europe has stolen for itself exclusive claims on real historical trends pointing towards a "modern" condition that is truly different from anything that existed before. But these claims miss the fact that places other than Europe can also lay claim to have generated these modern characteristics. In the case of "love," "self-control," and "freedom," on the other hand, Goody's

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<sup>15</sup> Jack Goody, *The Theft of History* (Cambridge: Cambridge University Press, 2006).

<sup>16</sup> Norbert Elias, *The Civilizing Process* (1939; repr., Oxford: Blackwell, 1994).

<sup>17</sup> Most of Foucault's work bears on this concept in one way or another, but see especially *Discipline and Punish: The Birth of the Prison*, 2<sup>nd</sup> ed. (New York: Vintage, 1995) and *The History of Sexuality*, vol. 1-3 (New York: Vintage, 1980-1986).

<sup>18</sup> Kenneth Pomeranz, "Putting Modernity in its Place(s): Reflections on Jack Goody's *The Theft of History*," *Theory, Culture, and Society* 26, no. 7/8 (December 2009): 32-51.

point is different. Here, too, he says, Europeans *may* have wrongly denied others shared title to the trait (as with science, technology and economic growth). But another, more fundamental, problem is that in these cases, the distinctiveness of modernity itself may be illusory; it is unclear, he says, that any society can claim a steadily increasing prevalence of these traits. With respect to the emotions, then, Goody suggests that we may all be “peoples without history”<sup>19</sup> (and without full modernity), or at least peoples without a reasonably linear history.

In creating an argument with this kind of dual structure, Goody brings together perspectives usually associated with two quite separate groups of scholars. On the one hand, his arguments about emotions resemble those of post-Boasian social-cultural anthropologists, who are generally suspicious of evolutionary schemas, and have sometimes elided change over time altogether in favor of the ethnographic snapshot. On the other hand, his discussions of science, technology, and economic growth are part of dialogues with macro-historians and archaeologists, who often are willing to assign societies to different “stages” in a story of long-run diachronic change, and may impute very different behaviors to people in those stages.

That Goody draws on both these traditions is perhaps unsurprising for a scholar whose works on kinship, food, literacy, and other topics have often drawn on multiple cases spread across huge time spans, and often pointed to fundamental social transformations common to several, but not all, of these cases. It is a strategy that he uses again in *The Theft of History*, though here the “cases” to be analyzed are ideas and authors, rather than societies. This approach to comparative social inquiry certainly has a historical component, but it is not principally concerned with a tightly chronological narrative; it fits quite logically with Goody’s preference for moving towards an “analytic grid” of traits and societies as the end product of cross-cultural inquiry, rather than creating a narrative of development, or a holistic characterization of a society

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<sup>19</sup> The term comes from Eric Wolf, *Europe and the People without History* (Berkeley: University of California Press, 1982).

at a particular moment.<sup>20</sup> While this strategy works very well for either a very large temporal scale or an ethnographic present, it has significant limitations when we turn our attention to understanding developments across intermediate timescales, where some sort of sequential narrative seems essential.

Meanwhile, the jury is still out on how epiphenomenal the West's post-1800 advantages will be. In such broadly and vaguely defined areas as "individualism" and "love," Goody may well be right to doubt whether any categorical distinction between a "modern" West and "non-modern" rest ever existed; but in various aspects of material well-being the differences have been real for some time, and remain substantial with respect to much of the world. Most residents of Japan, South Korea, Hong Kong, Singapore and Taiwan now have Western European living standards, and a significant minority of people in various other places (including very populous places, such as the cities of Eastern China) are gaining ground rapidly; certainly nobody could claim that the secrets of sustained economic growth belong to the West alone. Nonetheless, most of the world is no closer to the per capita income of their contemporaries in the richest countries than they were at the high tide of European hegemony, circa 1913,<sup>21</sup> and looming environmental constraints may make catch-up even more difficult than it would be otherwise.

At the same time, "long-standing" does not mean "permanent." Imagine for a moment somebody in 1100 CE. equipped with global knowledge and sharing the emphasis that Goody and many others place on urban centers as the most important motors of long-term historical change. We can easily imagine such a person concluding that, while Western Europe had not *always* been backward (at least if Western Europe included Italy), it had now been several centuries since the "great divergence"—with European ur-

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<sup>20</sup> Goody, *Theft of History*, 291-92.

<sup>21</sup> Angus Maddison, *Monitoring the World Economy, 1820-1995* (Paris: Development Center of the Organization for Economic Cooperation and Development, 1995), Table I:4; Penn World Data Tables (with data up through 2000), <http://www.bized.co.uk/dataserv/penndata/pennhome.htm>.

banism and the size of its largest political unit both collapsing after about, say, 300 CE. And since there was not yet much sign of catch-up—on the contrary Europe cities had fallen further behind those of at least the Caliphate and Song China—European backwardness was likely to be permanent. Today, of course, that looks foolish. While we might be tempted to say that the difference is that the poor parts of today’s world are in contact with the rich ones, that was also true ca. 1100—the links were much slower and weaker, but they were not absent, and in many accounts of the origins of European modernity, they are quite critical. (The links to the Middle East would eventually bring back much of the Greek heritage, often in significantly enhanced forms;<sup>22</sup> those to East Asia would bring paper, gunpowder, printing, competitive exams in which the candidate’s ascribed characteristics were unknown to the examiner, and so on.)

#### MULTIPLE GEOGRAPHIES AND MULTIPLE TIMESCALES: TALES OF THE COLUMBIAN EXCHANGE

For all these reasons, it seems reasonable to try to keep both a “why Europe?” framing and an “emergence of global modernity” framework in mind, even within a single work. But this is not easy to do, even for the most skilful historians.

Consider, for instance, Alfred Crosby’s *Ecological Imperialism*, in many ways a landmark in explaining the triumph of Europe without claiming any deep-seated superiority for European thought or institutions. To summarize crudely, Crosby argues that any group of people from a densely populated part of Eurasia would have come to dominate the temperate zones of the Americas and Australia once they came upon them, because the diseases, plants, domesticated animals, and so on that they brought with them would have devastated their counterparts from the rest of the world, as European ones did in fact do. Moreover, since moving

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<sup>22</sup> See Arun Bala, *The Dialogue of Civilizations in the Birth of Modern Science* (New York: Palgrave Macmillan, 2006).

overseas freed many of the domesticates Europeans brought with them of the predators that had co-evolved with them in Eurasia, they flourished as never before in their new settings. This increased both the prosperity of the neo-Europes and their value to the original Europe as trading partners and outlets for migrants. That the people who wrought this havoc and reaped these gains happened to be from Europe, rather than China, India, or Persia was partly a matter of their geographic location, partly of skills in blue water sailing, partly of the fact that Europeans needed to find a way to get to Asia and/or the sub-Saharan gold fields much more than any Asians needed to find a way to reach them; it had nothing to do with them being freer or more rational or more motivated to transform the world.<sup>23</sup>

So far, so good. But in Crosby's conclusion, he steps back to take a broader view, and the results are a bit jarring. Here, instead of the story being one about how Europeans and their descendants gained an advantage over others, Crosby turns his tale into a story of how humans, *as a species*, wound up in a position to generate vast food surpluses in the "neo-Europes" which allowed us to greatly increase our numbers and prosperity. Crosby compares this process to a military conquest and occupation.<sup>24</sup> The people we (retroactively) call "indigenes," who arrived in the Americas via the Bering Straits thousands of years ago, are likened to the marines storming a beach; they took enormous casualties and did not sustain their hold on the territory in the long term, but they were a critical part of the human conquest (wiping out indigenous megafauna, for instance, which left ecological niches that Eurasian quadrupeds would later occupy). The early waves of European and African arrivals Crosby likens to the rest of the invading army: much better off than the first wave, but still arriving under strict discipline (many were, after all, slaves, indentured servants, or con-

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<sup>23</sup> Alfred Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900 - 1900*, 2<sup>nd</sup> ed. (New York: Cambridge University Press, 2004). The preface for this edition emphasizes more explicitly than the first did, the connection between this work and the challenge of explaining Europe's outsize role in the modern world without assuming a deep-seated European superiority.

<sup>24</sup> Crosby, *Ecological Imperialism*, 295.

scripts) and enduring great privation.<sup>25</sup> The vastly larger wave of post-1830 migrants represent the civilian occupiers: whatever hardships they bore, their lives were strikingly easy, free, and secure compared to their predecessors, and they reaped by far the greatest material benefits.

This metaphor, which places all humans on the same team in a struggle to get the most out of the planet, is useful from a certain Olympian and biological perspective.<sup>26</sup> But because the metaphor minimizes the struggles among groups of humans that are central to most versions of history, it also poses serious problems—epistemologically and, potentially, ethically—if we use it without a balancing attention to the origins and present reality of global inequality (which is, at least in some versions of the idea, an uneven participation in being “modern”).

With this in mind, let us return briefly to Jack Goody. Goody has no problem in accepting that large portions of the world were headed, over the long haul, in some similar directions.<sup>27</sup> And if we grant the existence of some sort of common trajectory, it also seems hard to disagree with Goody’s estimate that Western Europe was far behind various other parts of Eurasia in 1000 CE, still somewhat behind in 1500, and well ahead by 1850—though plenty of scholars have disagreed with the first two claims,<sup>28</sup> and it is only lately that one could even suggest that Goody’s position might represent the scholarly majority.<sup>29</sup>

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<sup>25</sup> See for instance Ulbe Bosma, “Beyond the Atlantic: Connecting Migration and World History in the Age of Imperialism, 1840-1940,” *International Review of Social History* 52, no. 1 (2007): 116-23.

<sup>26</sup> Whether the grain surpluses of the neo-Europes, undoubtedly crucial circa 1850-1960, actually deserve this much emphasis in a longer term narrative, is, however more questionable; the worldwide surge in yields per acre since 1960 has undoubtedly been more important to feeding the surge in human population that is now probably near peaking.

<sup>27</sup> Goody, *Capitalism and Modernity*, 159-60.

<sup>28</sup> *Ibid.*, 103-25, 155-58. For two examples of claims that Europe had “led” for many centuries before industrialization, see David Landes, *The Wealth and Poverty of Nations* (New York: W.W. Norton, 1998) and Deepak Lal, *Unintended Consequences: The Impact of Factor Endowments, Culture and Politics on Long-Run Economic Performance* (Cambridge: MIT Press, 1998).

<sup>29</sup> For a recent effort to measure “social development,” which concludes that “the West” overtook “the East” as recently as 1773, see Ian Morris, *Why the West Rules – For Now: The Patterns of History and What They Reveal About the Future* (New York: Farrar, Strauss and Giroux, 2010).

This is not the place to debate the empirical details of these disputes; I have discussed one aspect of this—economic development—at great length elsewhere.<sup>30</sup> What is more important for now is that once we acknowledge that Western Europe was a “laggard” for any significant period, we must reject all attempts to base its 19<sup>th</sup> and 20<sup>th</sup> century advantage on permanent characteristics: a point that Goody, along with many other recent scholars, emphasizes. If one is still interested in explaining Europe’s subsequent advantages, there are basically 2 options.

### MORE PROXIMATE ORIGINS AND NARROWER DIFFERENCES

First, one can look for some alleged European advantage (or Asian disadvantage) that emerged relatively late and (by historical standards) fairly quickly. Depending on what that advantage is—more effective dissemination of knowledge based on movable type, windfalls of New World resources, an individual genius such as Newton—one can also locate the explanation(s) along a continuum from completely generated within Europe itself to entirely the

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<sup>30</sup> Among others: Kenneth Pomeranz, *The Great Divergence: China, Europe and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2000); Pomeranz, “Beyond the East-West Binary: Resituating Development Paths in the Eighteenth Century World,” *Journal of Asian Studies* 61, no. 2 (May 2002): 539-90; Pomeranz, “Is there an East Asian Development Path? Long-Term Comparisons, Constraints, and Continuities,” *Journal of the Economic and Social History of the Orient* 44, no. 3 (2001): 322-62; Pomeranz, “Without Coal? Colonies? Calculus? Europe, China and the Industrial Revolution” in *Unmaking the West: “What-If” Scenarios that Rewrite World History*, ed. Ned Lebow, Geoffrey Parker, and Philip Tetlock (Ann Arbor: University of Michigan Press, 2006), 241-76; Pomeranz, “Le machinisme induit-il une discontinuité historique ? Industrialisation, modernité précoce et formes du changement économique dans l’histoire globale,” in *Histoire globale, mondialisations, capitalisme*, ed. Beaujard P., Berger L. and Norel P. (La découverte, 2009), 335-73; Pomeranz, “Ten Years After: Responses and Reconsiderations,” response to a forum in *Historically Speaking* 12, no. 4 (September 2011): 20-25; “Repenser le changement économique de longue durée: la Chine, l’Europe, et l’histoire comparée,” in *L’histoire économique en mouvement: entre héritages et renouvellements*, ed. Jean Claude Daumas (Villeneuve d’Ascq: Presses universitaires du Septentrion, 2012), 293-310 .

product of exogenous factors or the dynamics of some larger global system.

Alternatively, one can look for a long-standing difference between parts of Eurasia that at some point went from being disadvantageous to advantageous for Europe. For instance, one might argue that the very large number of free rural Chinese who either owned land or had strong cultivation rights after ca. 1500 (as compared to any place in Europe, but especially as compared to England's hugely unequal distribution of land) benefitted economic development for a long time, because having lots of small, relatively secure cultivators encouraged both intensive cultivation and high levels of investment in improving the land. However, tenants were difficult to dislodge under this system, and sellers and mortgagors of land kept for a long time the right to repurchase any land they had alienated; consequently, this property rights system did not make it efficient (and therefore cheap) to use land as abstract capital, borrowing against it for other ventures. This mattered relatively little so long as few technologies were available that could dramatically change levels of productivity in other sectors.<sup>31</sup> Once such technologies did exist—and once Europeans also gained access to vast new land frontiers, making it less important to maximize per acre yields—a different property-rights regime, much closer to those in Western Europe, may have become advantageous.

To cite another example, Jean-Laurent Rosenthal and R. Bin Wong have recently argued that the lower incidence of war in China (compared to Europe) ca. 1000-1800 meant that there was less incentive for Chinese entrepreneurs to locate their fixed capital behind city walls. Since labor was more expensive in cities (reflecting higher food costs) while capital was cheaper (since concentration lowered information costs), this difference imparted a capital-intensive bias to European production methods relative to Chinese

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<sup>31</sup> Kenneth Pomeranz, "Chinese Development in Long-run Perspective," *Proceedings of the American Philosophical Society* 152, no. 1 (March 2008): 83-100. It gives an overview of the system and its implications; Pomeranz, "Land Markets in Late Imperial and Republican China," *Continuity and Change* 23, no. 1 (April 2008): 101-50. It describes the land rights and their emergence in more detail.

ones. In this story, too, what was an advantage for China for a long time—relative peace—eventually became a disadvantage, as both a capital-intensive bias and the positive effects of geographic specialization on skill development and technical innovation eventually produced the capital (and energy) intensive, labor-saving innovations that redefined economic possibilities.<sup>32</sup> (Note further that these two stories are potentially complementary, as the Chinese land system I have described should have helped keep food cheap while keeping people on the land—thus providing a drag on urbanization rates while perhaps also raising the cost of capital.)

It may often be difficult in practice to distinguish arguments based on the emergence of some new factor from those based on a reversal in the influence of some older one—especially with respect to less material issues as love or individualism—and it generally makes sense to draw on both of these approaches. More generally, this suggests we should be looking for multiple, specific differences, each one relatively narrow, rather than a few overriding ones. The challenge, then, becomes one of identifying circumstances under which a relatively narrow difference might come to have much more influence than its initial size and range of application would have suggested—to generate increasing returns, in the economist’s parlance, or to become the “want of a nail” for which “the kingdom was lost” in a proverbial caricature of history.

Here, too, a Sino-European comparison may provide a useful example. There is little doubt that Chinese mining had become relatively backward by the 16<sup>th</sup> century, not even making use of certain useful technologies (such as sophisticated water pumps) widely used for other purposes in the same society. There were a number of reasons for this. One was the unfortunate location of the most important mineral deposits. Another was Ming and Qing regulation that encouraged small-scale mines (in order to minimize the number of poor, unmarried men collected in any one

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<sup>32</sup> Jean-Laurent Rosenthal and R. Bin Wong, *Before and Beyond Divergence* (Cambridge: Harvard University Press, 2011).

place); such mines, being generally under-capitalized, were probably less likely to innovate.<sup>33</sup>

At least two points are noteworthy here. First, these impediments to more productive mining did not reflect barriers to private economic activity or to technological change more generally. Second, relatively inefficient mining was for a long time a minor factor in the overall economy—certainly as compared to China’s very efficient agriculture and well-integrated product markets across a vast territory.<sup>34</sup> At a certain point, however, more innovative and capital-intensive mining practices—specifically, deep coal mining using steam engines to remove water—emerged as a crucial solution to an energy bottleneck that affected many densely populated societies, including China. This breakthrough had much to do with important synergies between coal mining and the development of the steam engine; something that also occurred when and where it did because of a confluence of various “narrow” factors, rather than any broad one.<sup>35</sup>

Indeed, part of what is striking about the first Industrial Revolution is that its central technology, the steam engine, took over a hundred years after its first commercial application to spread significantly beyond one particular location and use—pumping water out of English mines—because *only* there did a rather freakish combination of circumstances make its early, inefficient forms economically rational. Yet once subsequent refinements—which would probably not have happened had not this first use created a reliable market for the machine—reached a certain point, the

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<sup>33</sup> Pomeranz, *Great Divergence*, 62-65; Yu Mingxia, *Xuzhou meikuang shi* (A History of Xuzhou Coal Mines) (Nanjing: Jiangsu guji chubanshe, 1991); Peter Golas, *Chemistry and Chemical Technology*, part 13: *Mining*, vol.5 of *Science and Civilisation in China*, ed. Joseph Needham (Cambridge: Cambridge University Press, 1999).

<sup>34</sup> Robert Allen, “Agricultural Productivity and Rural Incomes in England and the Yangtze Delta, c. 1620 – c. 1820,” *Economic History Review* 62, no. 3 (2009): 525-50; Carol Shiue and Wolfgang Keller, “Markets in China and Europe on the Eve of the Industrial Revolution,” *American Economic Review* 97, no. 4 (2007): 1189-216.

<sup>35</sup> Pomeranz, *The Great Divergence*, 60-68; Pomeranz, “La machinisme”; Allen, *The British Industrial Revolution in Global Perspective*. Also see the discussion in *Historically Speaking* 12, no. 4 (September 2011): 20-25 with essays by Peter Coclanis, Philip Hoffman, Jan DeVries, R. Bin Wong, and Kenneth Pomeranz.

steam engine transformed much of the world in less than a hundred further years.<sup>36</sup>

Here, then, is a classic example of something relatively small capable of making a large difference, and thus helping to explain a relatively sudden divergence between societies that had many basics (e.g. private property, relatively high literacy, etc.) in common. For all the problems we face in achieving consensus on the importance of some such factors as opposed to others, this seems a necessary counterpart in comparative *history* to Goody's more sociological or anthropological proposal that we place societies on a grid. Both allow us to identify multiple subtle differences which point in multiple directions—but which nonetheless, taken collectively, may have made some outcomes more likely than others -- rather than looking for the categorical presence or absence of a single feature of such broad significance that it would characterize the whole society (Well-known candidates for such factors have included Weber's Protestant ethic on the one hand and various theories of "Oriental despotism" on the other).

#### TOWARDS FUZZY PERIODIZATION

Thus, running multiple origin stories on vastly different scales side by side seems the best strategy available to us for providing a nuanced account of the origins of the modern world. When used in classes, such a strategy also has a pedagogical advantage: it trains students in a *self-conscious* practice of switching analytical lenses, evaluating with each switch what is gained and lost. This, I would argue, is an essential part of historical thinking which needs to be foregrounded, especially in any basic course or text—as my earlier example of the horse in the age of steam suggested. In this final section, I argue that this creates the need for multiple schemes of periodization, including some that are annoyingly ill-defined; and that in some cases, being both conceptually and chronologically a

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<sup>36</sup> Allen, *The British Industrial Revolution*, 135-81.

bit ragged actually makes a period label more, rather than less, useful. A crucial example, for current purposes, is the rather odd concept of the “early modern” period.

Both the strength and the weakness of “early modern” is that it has rather little agreed-upon content. Unlike “feudalism”—where almost everybody agrees that a particular constellation of parcelized sovereignty, sub-divided land rights, and hierarchically-ordered service obligations represents a defining feature—being “early modern” seems only to require having several features from a grab-bag of features; no single one of those features is essential, and there are no necessary connections among most of them. The many features used to label various societies as early modern have included (but are not limited to): accelerating population growth, increased local and long-distance commerce, an increasingly powerful and bureaucratic state, growing and upwardly mobile literate groups (whether in commerce, public administration, religious groups, or elsewhere), new kinds of organized lay piety, a growing social role for the written and printed word, and an increased interest in mapping, enumerating plant and animal species, and cataloguing the diversity of human beings. While some scholars have tried to make one or another of these features the defining characteristic of the period, no consensus has emerged that is nearly as strong as that underlying “feudalism.” Moreover, it is easy to identify cases in which some of these features have been present for centuries in a given society without others following. Consequently, some scholars have suggested that the term “early modern” is so vague that we should simply not use it; and since the term has been applied to societies as old as ancient Mesopotamia and as recent as the end of the 19<sup>th</sup> century, it does seem overly elastic, at least in certain hands.<sup>37</sup>

But periods with definitions that are seemingly clearer and easier to operationalize than the “early modern” turn out to have

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<sup>37</sup> For an interesting critique, see Jack A. Goldstone, “The Problem of the ‘Early Modern’ World,” *Journal of the Economic and Social History of the Orient* 41, no. 3 (1998): 249-84. For a discussion of a parallel proliferation of dates for the onset of the “modern” —some of them very far back in “pre-history” —see Smail and Shryock, “History and the ‘Pre,’” 714-17.

their own problems. A few technologies have been so fundamental that they seem promising as markers of historical eras. Agriculture, animal husbandry, writing, metallurgy, fossil fuels and electricity come to mind as examples that changed the societies that adopted them so fundamentally as to be truly epochal, and more could be added. The examples just listed, and some others, are often grouped into a "Neolithic Revolution," a "Bronze Age Revolution" and an "Industrial Revolution" that represent key moments of concentrated innovation. Some overviews also effectively collapse the first two of these transitions, based on the idea that once agriculture was firmly established, the increased population densities and specialization that it enabled made other key features of civilization very likely to follow sooner or later.<sup>38</sup>

Basing periodization on these sorts of technological watersheds has obvious attractions. Their features are certainly important; they have impacts that can be understood in terms that are not tightly culture-bound, and whether they were present or absent at some time or place seems to be subject to fairly objective assessment (assuming one can overcome shortages of evidence). Goody, for instance, seems quite comfortable with treating at least Bronze Age metallurgy and the industrial revolution as marking periods useful for a global history, while he rejects temporally and geographically narrower constructs such as "antiquity" and "feudalism."<sup>39</sup>

One striking feature of very long periods defined by technological breakthroughs is that they are better for helping us see the disjuncture between periods than for helping us see them as a continuous sequence. We have very little fine-grained evidence about the Neolithic Revolution, but what little we have does not suggest an earlier—much less a linear—pattern of local changes which

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<sup>38</sup> As in Jared Diamond, *Guns Germs and Steel: The Fates of Human Societies* (New York: W.W. Norton, 1997), in which the adoption or non-adoption of agriculture becomes the fundamental moment dividing future "haves" and "have-nots," and the Bronze Age is mentioned only in passing – though that era is obviously crucial to understanding the guns and steel in his title, which not all agricultural societies developed.

<sup>39</sup> Goody, *Capitalism and Modernity*, 5-6, 69, 131, 157-60; Goody, *Theft of History*, 26-98.

made it very likely that a few societies would make this transition independently while most others would not. The pre-existing factor that most plausibly explains why domestications happened where they did seems to be simply the geographic distribution of species that were relatively easy to domesticate;<sup>40</sup> but that cannot explain much about when or how agriculture began and spread.

Samuel Bowles and Jung-Kyoo Choi have recently emphasized that a good explanatory model of this transition must be consistent with archaeological evidence suggesting that the societies with the earliest known agriculture also continued to engage in foraging for centuries, or even millennia, after beginning cultivation. They make a strong case that the technical changes involved in agriculture were not hard to discover—indeed we know of no society that was unaware of the relationship between seeds and plants, whether they undertook planting or not—but could only take hold where they were combined with new ideas about property: ideas that apparently spread only slowly.<sup>41</sup> This slowness becomes all the more understandable when we recall that agriculture did not make people in general demonstrably better off for a very long time.<sup>42</sup> Other recent scholarship suggests that if we think of both farming and many techniques of non-farmers—e.g. using fire to improve hunting grounds—as being forms of manipulating landscapes, the line between cultivators and gatherers becomes very uncertain.<sup>43</sup>

Yet accounts in large synthetic works of world history—including but not limited to textbooks—still often portray a rela-

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<sup>40</sup> See Diamond, *Guns, Germs, and Steel*, 131-75, for a useful summary of the argument.

<sup>41</sup> Samuel Bowles and Jung-Kyoo Choi, “Coevolution of Farming and Private Property during the Early Holocene,” *Proceedings of the National Academy of Sciences* 110, no. 22 (May 2013): 8830-835. Note that “private property” here need not mean individual private property.

<sup>42</sup> For a brief, easily accessed, version of the argument, see Jared Diamond, “The Worst Mistake in the History of the Human Race,” *Discover* May 1987, available at <http://discovermagazine.com/a987/may/02-the-worst-mistake-in-the-history-of-the-human-race>. For an early, now classic, piece of the argument (for which much more evidence is now available), see Marshall Sahlins, “The Original Affluent Society,” in *Stone Age Economics* (Chicago: Aldine-Atherton, 1972), 1-39.

<sup>43</sup> John Terrell, John P. Hart *et al.* “Domesticated Landscapes: The Subsistence Ecology of Plant and Animal Domestication,” *Journal of Archaeological Method and Theory* 10, no. 4 (2003): 323-68.

tively clear, even sudden, agricultural or Neolithic “revolution.”<sup>44</sup> Treating agriculture as if it was something that happened relatively quickly—like revolutions, which are at least partly the product of conscious strategizing—then facilitates treating the spread of farming as a choice, even when scholars acknowledge that the first farmers could not have consciously chosen agriculture.<sup>45</sup> In a further step, agriculture often appears as a “solution” to a “problem” of over-population, though the demography behind such a claim is very speculative.<sup>46</sup>

Positing population pressure as an explanation for agriculture does more than just prematurely close a gap in our knowledge; it has consequences for the plot structure of world histories that adopt it. It makes the origins of agricultural and sedentary life appear analogous to later inventions that *were* conscious responses to (real or imagined) economic and/or ecological bottlenecks, and even to current and future challenges of that sort. Alfred Crosby’s formulation of the presumed relationship is both memorable and revealing. After asserting that late Paleolithic populations were indeed pushing the limits of what could be supported with existing technology, he continues: “*Homo sapiens* needed, not for the only time in the history of the species, to become either celibate or clever. Predictably, the species chose the latter course.”<sup>47</sup>

But if we instead emphasize the gradual, non-linear, and non-deliberate origins (rather than the “invention”) of agriculture, this has at least two implications for the concerns of this essay. First it suggests that even what is often seen as the most fundamental

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<sup>44</sup> For instance, David Christian acknowledges the problems with calling a gradual, stop-and-start, process of change a “revolution,” but defends the formulation on the grounds that even 4,000 years is the blink of an eye on the scale of all human (not to mention universal) history. *Maps of Time*, 210. That is, of course, true, but it does not deal with the issue of why such a huge scale is the one we want for this purpose, or with the possible costs of this particular simplification. Still, Christian does give the reader considerable evidence of how slow and complex the transition was, which s/he can use to question the “revolutionary” formulation. Many textbooks do not even acknowledge the artificiality of the “revolutionary” framing.

<sup>45</sup> Diamond, *Guns, Germs, and Steel*, 108-13.

<sup>46</sup> Mark Cohen, *The Food Crisis in Pre-History* (New Haven: Yale University Press, 1977) is an important source for this argument. For its application by prominent world historians, see Christian, *Maps of Time*, 231-32, and Crosby, *Ecological Imperialism*, 19-20.

<sup>47</sup> Crosby, *Ecological Imperialism*, 20.

technological divide of all may seem to yield a clean “before and after” division of eras because of a trick of perspective. It is only because we have so little evidence from this long period of transition that we can treat it as sharp and unidirectional, and even then, only when summarizing it quickly. Second, we can see that when people do treat the Neolithic as analogous to better-documented and more rapid changes, and assimilate both to a long-run pattern of increasing human control of the biosphere,<sup>48</sup> they may be invoking a grand historical pattern that they have invented by first projecting modern dynamics of innovation back onto very different processes. After all, many of the historically significant technical changes of the last few centuries were consciously sought, and most required no fundamental change in people’s values to gain their first foothold in society; using the histories of these inventions as even a loose model for a far slower, less clearly desired, and much more contingent development that probably required very big changes in ideas about sharing, possession, and thus social relations seems to me a major stretch.

This makes it all the more troubling when very long-ago and drawn-out processes of change are not only collapsed in time and assimilated to the category of “revolution,” but then invoked as a model for a revolution in clean energy (and other) production that would enable us to avoid ecological catastrophe without decreasing our consumption today. The very last sentence of Crosby’s *Ecological Imperialism* invokes that analogy—thus seeming to make it one of the lesson’s that follows from the book’s story—but with a significant, ambiguous hedge: “We are in need of a flowering of ingenuity equal to that of the Neolithic, or lacking that, of wisdom.”<sup>49</sup> Crosby does not specify what he means by “wisdom,” but given the discussion of both economic plenty and ecological devastation in the book’s preceding pages, it seems overwhelmingly likely that at

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<sup>48</sup> See, for instance, Christian, *Maps of Time*, 139-41.

<sup>49</sup> Crosby, *Ecological Imperialism*, 308. Note that the crisis that Crosby saw us facing was not climate change in particular (the book was originally published in 1986), but environmental degradation more generally, and the threats it poses to the adequacy of food production in particular. The logic, however, remains the same if one focuses on energy more broadly (of which food calories are one form).

least part of that “wisdom” would involve restraining our consumption in some way(s).

What seems odd here is the implication that “wisdom” and “ingenuity equal to that of the Neolithic” are alternatives—and the illusion that they are probably results from framing the issue on only one, gigantic, time scale. Ingenuity, that is, may eventually make specific kinds of restraint unnecessary, but we are almost certain to need those same forms of restraint in order to postpone disaster long enough to give ingenuity time to work. Moreover, it seems extremely unlikely that ingenuity can ever make restraint/wisdom entirely superfluous.

Lest this seem both too vague and too grandiose, let me return to where I began, linking the limitations of history periodized solely by large-scale “revolutions” in material circumstances with the specific example of the history of workhorses in the age of steam. By eliding a whole series of medium-term adjustments to focus on a long-term technical fix, taking the idea of an agricultural “revolution” too literally—especially if it is also seen as a solution to a population crisis—resembles jumping directly from the railroad to the automobile, ignoring intervening decades in which the “doomed” horse was used more than ever for transit.<sup>50</sup> One way of thinking about the argument here would be to notice the analogy between ignoring the increased use of horses in the age of railroads and ignoring what are likely to be many years in which we will continue to rely on fossil fuels for various applications while ways of using cleaner forms of energy for those processes are improved and phased in—even if we were to solve the basic problems of using clean energy for, say, powering cargo ships, tomorrow. (Ocean shipping would be the equivalent to long-distance overland transportation using steam-powered railways in this scenario; or, in a significantly gloomier reading, it would be the equivalent of pumping water out of mines with earlier steam engines.) In the mean-

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<sup>50</sup> This is even more true for the even more metaphorical uses of “revolution” to describe other changes in the deep past, even including the emergence via evolution (necessarily a very slow process, and often seen as the polar opposite of “revolution”) of anatomically and behaviorally modern humans. For examples, see Smail and Shryock, “History and the ‘Pre,’” 715-16.

time, our hopes for avoiding devastating levels of atmospheric carbon build-up would rest on restraining our energy use, rather than on harvesting the fruits of a great new macro-invention; without the former, the latter would probably be too late. Or, to tell the same story from the perspective of an imagined happy future, one could say that if we eventually find a new energy source that allows further dramatic increases in consumption without climate catastrophe, that would become the big story in any large-scale history that a future society would produce; but that history would be forgetting that negotiating the passage to their new energy order had required using a great deal of the eventually-to-be-superseded measure of restraining consumption, just as we forget that since taking advantage of the railway required getting to and from the railway station, it required for many years that people make increasing use of the eventually-to-be-superseded horse. Thus, a history written today which took *only* the long view, and made the slow messy “Agricultural Revolution” look relatively linear might have “lessons” for contemporary affairs which would serve us very poorly, indeed.

We know much more about how the Industrial Revolution occurred, and enormous amounts of scholarly energy have gone into explaining why some countries industrialized sooner than others. (There is some irony in this, since the vastly greater speed and density of communication across societies by this time makes the whole idea of “independent invention” much trickier for industrialization than it is for the emergence of agriculture or writing.) Certainly, we can find various ways in which certain societies were economically more “advanced” than others on the eve of the huge increases in mechanized production, fossil fuel use, and so on that came in the 19<sup>th</sup> century. But we lack convincing causal arrows connecting differences in the earlier period to differences in the later one.

Focusing within Europe, Nicholas Crafts showed years ago that while Britain was more prosperous than France in the 18<sup>th</sup> century, there was no compelling link between the ways in which these economies differed and the fact that Britain industrialized

first.<sup>51</sup> Subsequently, many economic historians of Europe became less concerned with explaining the few decades separating industrialization in different parts of Western Europe, and even less with taking that lag as a “failure” which should be the explanandum of the previous century or more of Continental and British histories. Instead they increasingly minimized the significance of those gaps in the interests of telling a story about Europe in general.<sup>52</sup> More recently, several historians (myself included) have shown that in terms of the variables that mattered most to an 18<sup>th</sup> century economy—the efficiency of agricultural production, the extent, openness and integration of markets for staple goods, popular levels of nutrition and life expectancy, and so on—parts of East Asia compared pretty well to even the wealthier parts of Europe until the middle to late 18<sup>th</sup> century.<sup>53</sup>

While disputes continue about many empirical details of these claims to parity, another point matters more for current purposes. Relative success at the things that were central to prosperity in an 18<sup>th</sup> century economy—which involved having institutions that facilitated thorough exploitation of the productive possibilities given by slowly changing supplies of land, labor, energy, and other resources, and of technologies that also changed fairly slowly—was simply not predictive of 19<sup>th</sup> century growth, which depended much more on harnessing technology rapidly, changing technologies and using unprecedented amounts of energy.<sup>54</sup> That the time

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<sup>51</sup> Nicholas Crafts, “Industrial Revolution in England and France: Some Thoughts on the Question ‘Why Was England First?’” *Economic History Review* 30, no. 3 (1977): 429-41.

<sup>52</sup> A very influential example is Patrick O’Brien and Caglar Keyder, *Economic Growth in Britain and France, 1780 – 1914: Two Paths to the Twentieth Century* (London: G. Allen and Unwin, 1978). But see Jack Goldstone, *Why Europe: The Rise of the West in Early Modern History* (Boston: McGraw Hill Higher Education, 2009) and Allen, *British Industrial Revolution* (Boston: McGraw Hill Higher Education, 2009), for reaffirmations of British centrality—and in Allen’s case, for an assertion that a legacy of England’s earlier economic lead over most of the Continent—higher wages—is indeed important for explaining its precocious mechanization of industry.

<sup>53</sup> On product markets in particular, see Shiue and Keller, “Markets in China and Europe.”

<sup>54</sup> E.A. Wrigley, *Continuity, Chance, and Change: The Character of the Industrial Revolution in England* (Cambridge: Cambridge University Press, 1988); R. Bin Wong, *China Transformed: Historical Change and the Limits of European Experience* (Ithaca: Cornell University Press, 1997); Pomeranz, *Great Divergence*; Pomeranz, “Responses and Reconsiderations”; Jack

lag between, say, British and Japanese industrialization now looks relatively short compared to the gap between both of them and much of today's "third world" has undoubtedly helped change which questions seem more interesting, just as improving living standards in France, Northern Italy and elsewhere helped change dominant approaches to European industrialization. Consider, for instance, the following figures for relative agricultural labor productivity as late as 1800/1820, as estimated by Robert Allen, and consider how little they resemble the sequence of industrializations in the following century<sup>55</sup>:

*Relative Agricultural Labor Productivity in Selected Locations  
ca. 1800/1820 (England = 1.00)*

Netherlands: 1.01  
 England: 1.00  
 Yangzi Delta: 0.90 \*  
 Belgium: 0.78  
 Poland: 0.75  
 France: 0.58  
 Austria: 0.57  
 Spain: 0.49  
 Germany: 0.47  
 Italy: 0.40

\*Yangzi Delta/England comparison is based on output per labor day; figures for other countries relative to England are comparisons per agricultural worker, and thus assume no great difference in the average number of days worked per year within Europe

We should also note that this represents only labor productivity, which one might expect to be higher at the more sparsely populated western end of Eurasia. Land productivity in the Lower

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Goldstone, "Efflorescences and Economic Growth in World History: Rethinking 'The Rise of the West' and the Industrial Revolution," *Journal of World History* 13, no. 2 (2002): 323-89.

<sup>55</sup> Data from Robert Allen, "Economic Structure and Agricultural Productivity in Europe, 1300 – 1800," *European Review of Economic History* 3, no. 1 (2000): 20 and Allen, "Agricultural Productivity and Rural Incomes in England and the Yangtze Delta c. 1620 – c. 1820," *Economic History Review* 62, no.3 (2009): 542.

Yangzi dwarfed that of any place in Europe—it was 9 times higher than in England<sup>56</sup>—so that the Delta’s total factor productivity would have comfortably exceeded the level anywhere in the occident. (Total factor productivity in Japan’s Kinai region was probably higher still.)

Obviously, this is not to deny that there were many significant economic continuities across the pre-industrial/industrial divide. Nor does it suggest that the study of how more subtle changes paved the way for more radical changes later is necessarily futile—far from it. But it does suggest that even if we could agree on naming periods based on fundamental changes in human technological capacities, this would probably be of little help in explaining those changes.

Moreover, even the most fundamental changes yield periods with very ragged edges—nomadic lifeways remained important on a very large scale for millennia after the first sedentary crop-raising and animal husbandry, for instance. Periods based on intellectual or cultural trends are likely to be even more ragged, since the mechanism by which, for instance, metal tools and weapons ultimately marginalized stone ones no doubt operated much more swiftly and thoroughly than any mechanism by which more “modern” ideas of the individual would make it impossible to keep using older ones. (Consider, for instance, how fragile the triumph of “secularization” has proved to be—not least in the United States, the modernity of which is rarely questioned.) Finally, it is worth noting that defining epochs based on technological changes that are sufficiently profound to ultimately change the whole society is likely to yield periods so lengthy (at least until quite recently) that they are not that useful when scholars are writing or teaching on the kinds of temporal scales most humanists and social scientists find meaningful.

Perhaps, then, there is something to be said for imprecise terms such as “early modern,” especially if we use them while foregrounding their provisional nature. They do call attention to a gen-

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<sup>56</sup> Allen, “Agricultural Productivity and Rural Incomes,” 548.

eral set of phenomena that we would expect to see becoming more prominent during a given period, without insisting that any **one** of them *must* be there, much less that it should determine all the others. They may not explain much, but they also don't get in the way of explanation very much, unless we make the mistake of assuming that "early modern" implies a necessary momentum toward a modern, *industrial* world. And we do need terms with which to talk about trans-regional history on a less enormous time scale than those generated by marking some of the most fundamental technological changes in human history.

We need such histories not only for the materialist issues—that I have emphasized here—but to trace meaningful patterns that do exist in the histories of values and affect. For while Goody is quite right to question whether we can really see long-term trends in very general attitudes such as "individualism," there are more concrete and narrow pieces of these large ideas where reasonably clear, directional changes can be traced across relatively large times and spaces.

One such example concerns accepted ideas about the relationship of people to the polity they live in. Two hundred years ago, the sale of inhabited territory for cash by one state to another was still unremarkable; today it is essentially unthinkable, although the conquest of occupied territory still occurs. (A key difference between these two is that since armed conquest occurs against resistance, the losing state does not de-legitimize itself the way it would if it admitted that it was consensually terminating its relationship with some of the people it claims to embody.) On the other hand, the notion that debts incurred by an ousted government can legitimately be collected from the people of that territory via the new government—even if these people clearly did not choose the old government or benefit from its borrowing—is, though not uncontested, much closer to being taken for granted than it was one or two centuries ago (not to mention three or four), when state defaults after major political upheavals were more common. It is not clear that this pair of changes represents either greater or lesser "freedom" or "individualism," but it does represent a significant set

of changes with a clear direction—tightening the conceptual bond between a polity and its people—across a period spanning several human lifetimes (That does not necessarily mean, of course, that it is irreversible).

Or consider some changes in ideas and values that gathered steam a bit earlier. For instance, no matter how limited actual social mobility is in many societies today (including some “advanced” ones), one would be hard-pressed to find supporters for any contemporary regime proudly asserting that in their society the children of farmers should and will always be farmers, those of officials and so on.<sup>57</sup> Yet for many centuries, it would have been easy to find open support for that position in many societies, in many parts of the world. What we might think of as the “modern” position in favor of social mobility was, of course, enunciated by some people many centuries or even millennia ago, but much of the shift in the balance between those opinions has been relatively recent. To this one can add a number of other shifts: apparent acceleration of fashion and non-elite consumerism over the last 500 years or so (when, as Goody notes, it is found in a number of societies<sup>58</sup>); an increased stress on material possessions as opposed to human retinues as a key marker of elite status; an increased emphasis on the value of work above and beyond the amount needed to secure subsistence; and so on.

None of these examples represents a categorical shift from the complete absence of some value to a complete consensus in support of it; none of them are found everywhere in the same form or to the same degree; and none has advanced in a completely linear fashion, much less on a uniform timetable. Yet all of these tendencies can be said to have begun several centuries *before* the massive technological shifts accompanying industrialization; and all of them, I would argue, are sufficiently associated with the *last few*

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<sup>57</sup> One important partial exception to the professed preference for social mobility would be the large number of societies in which there is a very strong and explicitly held presumption that women should be stay at home mothers. But with respect to social class and occupation for those who have a non-domestic occupation, the generalization still seems to me largely valid.

<sup>58</sup> Goody, *Theft of History*, 263-65.

pre-industrial centuries (and the first two industrial ones) that we lose something by simply seeing them as part of a very long-run *continuous* elaboration of the Bronze Age urban revolution. There is, then, a need for new temporal markers to help us think through these tendencies. These markers should not be rooted in the specific historical trajectory of any one place the way “antiquity,” “feudalism,” or “age of the shoguns” are. But we do, I think, still need to sub-divide the massive time span between bronze and steam, even if we can only do so roughly; and we need stories about those periods that have some relevance to many regions without reducing most of them to deviations from expectations derived from any one of them.