

**BOOK REVIEW ESSAY:
STRANGE PARALLELS: PATTERNS IN EURASIAN SOCIAL EVOLUTION**

Peter Turchin
Department of Ecology and Evolutionary Biology
University of Connecticut
Peter.Turchin@UConn.edu

Lieberman, Victor. 2003. *Strange Parallels: Southeast Asia in Global Context, c.800-1830. Volume I: Integration on the Mainland*. Cambridge: Cambridge University Press. 508 pages. Cloth ISBN 9780521800860, \$88.99; Paper ISBN 9780521804967, \$36.99; adobe ebook ISBN 978051105696, \$22.00.

Lieberman, Victor. 2010. *Strange Parallels: Southeast Asia in Global Context, c.800-1830. Volume II: Mainland Mirrors, Europe, China, South Asia, and the Islands*. Cambridge: Cambridge University Press. 976 pages. Cloth 9780521823524, \$130.99; Paper 9780521530361, \$36.99; adobe ebook 9780511654732, \$32.00.

Most professional historians have abandoned the search for general patterns and laws of history, but not Victor Lieberman. *Strange Parallels II (SP II)*, following on *SP I*, proposes that similar mechanisms governed state building in such different, and distant, regions as Southeast Asia, China, Western Europe, and Russia. During the period covered by Lieberman (c.800–1830) the general trend within these regions of Eurasia was towards increasing political and cultural integration. This overall trend was not monotonic; it was periodically interrupted by *interregna* – periods of state breakdown and territorial fragmentation. However, as time unfolded the interregna became shorter and less disruptive. Remarkably, during the second millennium cycles of political integration and disintegration became increasingly correlated between the widely separated Eurasian regions. Lieberman’s bold thesis is combined with truly encyclopedic scholarship and a breathtaking scope. *SP II* is a major achievement in comparative world history that will take future researchers years to fully digest. This review essay aims to make a first step in this direction.

One potential criticism of *SP II* is that it does not seriously engage with the conceptual apparatus and empirical results of world-system analysis, especially the extensions of the approach developed by the post-Wallersteinian researchers. In a previous publication, Lieberman (1990) argued that Wallerstein’s (1974, 1980) world-system model is not a useful conceptual framework for understanding economic and political dynamics in early modern island Southeast Asia. One problem is Wallerstein’s narrow emphasis on bulk-goods trading networks in defining core-periphery relations. Using this criterion, archipelagic Southeast Asia remained external to the European world-system until after 1800. Yet, between 1500 and 1800 the European impacts were of overriding importance to political and economic development of this world region.

SP I (p. 47) further notes that although there was a tendency for mainland Southeast Asia to exchange raw materials for Chinese manufactures, such systemic interactions should not be viewed as an example of core/periphery relations. Unlike in Wallerstein’s Atlantic world system, relations between China and Southeast Asia were not characterized by an imbalance in coercive

power, and there was no “methodical periphery-to-core transfer of wealth.” Lieberman’s critique of the original Wallerstein thesis, thus, is quite cogent. However, there were a number of developments in world-system analysis beyond Wallerstein’s original proposal. One particularly useful reconceptualization is Chase-Dunn and Hall (1997), who consider a broader set of interactions, than bulk-goods trade, and apply their framework to premodern societies (this work is not cited in *SP II*).

The title, *Strange Parallels*, refers to remarkable similarities in the historical dynamics of distant regions of Eurasia. But there are also strong parallels between the empirical patterns Lieberman sees and those identified by Chase-Dunn and Hall, and by myself (Chase-Dunn and Hall 1997; Chase-Dunn, Manning, and Hall 2000; Hall 1998; 2000; Turchin 2003a; 2006). I will discuss the similarities and disagreements between our approaches and propose a possible synthesis, focusing on the long-term trend of state capacity, with the cyclic oscillations around it, and the roles of Inner Asians.

THE LONG-TERM TREND WITH CYCLIC OSCILLATIONS

The central thesis of *SP II* is that people inhabiting far-flung regions of Eurasia “experienced broadly comparable political and cultural trajectories, governed by a similar constellation of forces” (p. xxii). These trajectories resulted from a superposition of a cyclic tendency on a long-term integrative trend. The long-term trend, which accelerated during the early modern period (c.1500–1800 CE), involved (1) territorial integration, resulting in a continuous reduction of the number of independent polities in each region; (2) administrative centralization that enabled the state to exert more effective regulation in the core and greater control over the outlying zones; and (3) cultural consolidation of myriad parochial ethnicities into a single “politicized ethnicity” buttressed by universal religious themes and shared secular culture (p. 899). Lieberman traces these changes in mainland Southeast Asia (Burma, Siam and Cambodia, Vietnam), Russia and France, Japan, China, South Asia, and archipelagic Southeast Asia.

All of these regions experienced integrative trends in the long run, but this trend was not monotonic. For example, between 850 and 1250 Southeast Asia, France, and Russia experienced sustained economic growth and strong states. However, between 1240 and 1470 polities in these regions collapsed, with consolidation resuming at various points between 1450 and 1560 (pp. 896–8).

Such “multi-secular cycles” (Braudel 1988, p.131) have been noted by previous authors, but mostly in European or Chinese contexts. *SP II* shows that they were a Eurasia-wide phenomenon. Furthermore, the empirical richness with which Lieberman documents economic, social, political, and ideological trajectories of Eurasian societies represents a qualitative jump over what has been done before. In *Strange Parallels* Lieberman significantly turns past neglect of Southeast Asia into a virtue (*SP I*, p. 73). Because our theories have been developed in other regions of Eurasia, Southeast Asia becomes an important empirical test of theoretical predictions.

Turchin and Nefedov (2009) have proposed that secular cycles, long-term oscillations in demographic, economic, social, and political structures of roughly 200–300 years, are a ubiquitous feature of agrarian societies. *Strange Parallels* shows that historical trajectories in Southeast Asia conform to this general pattern. In the first volume Lieberman reviews in detail the historical dynamics in the Irawaddy basin (Burma), the central lowlands (Siam and

Cambodia), and the eastern littoral (Vietnam). In each region polities went through repeated cycles of alternating integrative and disintegrative phases. The integrative phases were characterized by political consolidation and robust population growth, while during the disintegrative phases states collapsed and populations declined. In Vietnam, whose population history is best known, there were three population cycles between 1100 and 1830, with population declines taking place during the fourteenth century, between 1540 and 1620, and in the middle of the eighteenth century. The periods of population decline coincided with instances of state collapse and territorial fragmentation.

Such political-demographic cycles are very similar to those observed in Europe and China. Lieberman takes great pains to acknowledge the multitude of ways in which world regions differed. Nevertheless, to a certain degree there is a tendency in *SP II* to impose the same dating scheme of alternating consolidation/fragmentation eras on different regions. For example, Lieberman states that between 1240 and 1470 polities in all six protected regions (Burma, Siam, Vietnam, Russia, France, and Japan; see below on the protected/exposed dichotomy) “collapsed through a mix of institutional and economic woes among which the destabilizing effects of agrarian/commercial expansion may have been most potent” (p. 896). This statement implies more synchrony than is warranted by quantitative patterns in the historical data.

Thus, the period between c.1300 and 1450 was indeed a disintegrative period in France. Multiple sources of data – population, rural and urban development, state finances, and internal warfare – are in agreement on this issue (Turchin and Nefedov 2009, Ch. 4). On the other hand, *SP II* describes the period of 1250–1450 in Eastern Europe as the era of post-Kievan fragmentation, and draws a parallel with the contemporary collapse and fragmentation in Capetian France. In fact, rather than being a single disintegrative phase, this period was a complete cycle. During the first part of it the overall trend was integrative. Two huge empires expanded, and at the peak, divided the whole of Eastern Europe between them: Lithuania and the Golden Horde. Lithuania is an interesting example. After the fusion of Baltic and East Slavonic ethnic elements, the Grand Duchy of Lithuania expanded to become the most extensive territorial empire in Europe of that age. In the fourteenth century it became the true successor of Kievan Rus’, both because of the territory it controlled (including Kiev itself) and because of its cultural orientation (East-Slavonic language and Eastern Orthodox Christianity).

The lands that later became the heartland of modern Russia were during this period part of the Golden Horde. A careful analysis by Sergey Nefedov (2002) has shown that the fourteenth century was in fact the period of economic growth and population expansion in northern Rus’ (including Novgorod, for which we have very finely resolved archaeological data). Although we have abundant textual evidence that the Black Death caused significant mortality in Russia in 1351–52, quantitative data suggest that this mortality shock had only fleeting effects on the Russian trajectory. Thus, the density of leather shoe and cloth remains, amber beads, and birchbark documents grew in each successive cultural layer during the fourteenth century, with the exception of rather minor downturn in the period encompassing the epidemic of 1351–52. A similar trajectory is indicated by the number of stone churches built. By the end of the fourteenth century there are clear signs of overpopulation: collapsing real wages, numerous landless and “horseless” peasants, very high land rents, and growth of peasant indebtedness (Nefedov 2002). During the first half of the fifteenth century northern Russia experienced a demographic-structural crisis. The plagues in 1417–28 are described by chronicles in greater detail and in a more emotionally charged language than the epidemics of the mid-fourteenth century. The crisis

culminated in the civil wars during the reign of Basil II (1425–62). As a result of the crisis, population declined very substantially both in Novgorod and Muscovite lands (Turchin and Nefedov 2009:240–41). *SP II* (p.189) similarly notes that the most severe population losses occurred not in the middle of the fourteenth century, but in the fifteenth century. Thus, the years 1250–1450 in Russia were a secular cycle, complete with an integrative and a disintegrative phase.

Elsewhere *SP II* states that “in much of China – as in Southeast Asia and Europe – the period c.1270 to 1450 saw a savage mix of wretched weather, plagues, famines, invasions and depopulation” (p. 556). However, the dynamics were more complex than might be inferred from this statement. The worst demographic catastrophe actually occurred before 1279, during the Mongol conquest of China (c.1210–1279). The establishment of the Yüan (Mongol) Dynasty in 1271, on the other hand, brought a degree of internal peace and order to China. The population probably grew until China was hit by the epidemics of the 1340s and then civil wars associated with the Yüan-Ming transition. According to the estimates of Zhao and Xie (1988), between 1200 and 1250 Chinese population collapsed from over 100 million to c.55 million, increased during the next century to c.85 million, and experienced the second decline (to c.65 million) during the second half of the fourteenth century. Interestingly, the political dynamics in China during this period were similar to those in Russia, but at variance with the Western European patterns. Elsewhere I noted the remarkable synchrony between the Mongol conquest states established by Khubilai and his successors in China, by the Jagataids in Central Asia, the Il-Khans in the Middle East, and the Juchids in eastern Europe – they were all established in the middle thirteenth century, lasted for about 100 years and collapsed in the middle of the fourteenth century (Turchin 2003b, pp. 192–3).

I wish to emphasize that this is a refinement of the argument in *SP II*. It appears that all Eurasian regions went through a sequence of demographic-political cycles, but there is no need to expect that these cycles should always be synchronized (a point that *SP II* also makes). Moreover, I am substantially in agreement with the social forces that Lieberman focuses on as causes of periodic state breakdowns: “economic growth could destabilize society by creating shortages of land, offices, or currency” (p. 899). This is remarkably similar to the set of mechanisms postulated by the demographic-structural theory: overpopulation, elite overproduction, and a fiscal crisis of the state.

This observation also helps us understand why sometimes distant regions become synchronized, as they increasingly did after 1300 (*SP II*, p. 49ff). The demographic-structural forces cause long-term oscillations with integrative phases, characterized by political stability and population growth, and disintegrative phases, characterized by political instability and population stagnation or even decline (see Turchin and Nefedov 2009). These mechanisms act in an *endogenous* manner, that is, dynamics in each polity are primarily determined internally by interactions between its demographic, social, and political structures. Because in different regions these oscillations were governed by a similar constellation of forces (as is repeatedly stressed by Lieberman), cycle periods were also similar. Exogenous factors (acting on broader than regional scales) – fluctuations of world climate, pulsing trade networks, pandemics, and such truly Eurasia-wide phenomena as the Mongol conquest – sometimes brought oscillations in distant regions in synchrony. However, such periods of broad synchrony did not last long. Variations in cycle periods and factors acting locally (within world regions) eventually caused oscillations to diverge and synchrony to be lost (until another Eurasia-wide influence re-synchronizes the

system). The key point here is that oscillations are driven by internal mechanisms, not by external shocks (Turchin and Hall 2003). External factors, however, play a role in imposing a degree of synchrony on the global system.

“A similar constellation of forces” includes not only demographic-structural mechanisms but also long-term factors of social evolution. In particular, one general pattern, documented in *SP II*, is the progressive shortening of interregna – periods of state weakness and territorial fragmentation. For example, the interregnum between the Carolingian collapse and the Capetian unification was more than two centuries long, whereas the post-Capetian collapse (the Hundred Years War) was roughly a century long, and the post-Valois collapse (the Wars of Religion) was yet shorter. Similarly, in China the longest period of imperial breakdown and provincial independence occurred after the collapse of the Han Dynasty, and successive instances of state weakness and territorial fragmentation were progressively shorter and less institutionally disruptive.

Cultural evolution operates in a cumulative mode, and later polities profit from administrative and ideological innovations achieved by their predecessors. Lieberman formalizes this observation with a concept of “charter” states: first indigenous polities that provided the political and cultural charter for later generations (p. 16). Examples include Angkor in central mainland Southeast Asia, the Frankish Empire, and the Grand Principality of Kiev.

Although charter polities put an indelible imprint on later social evolution in their respective regions, their institutions were not copied mindlessly. For example, Kievan Rus’ was characterized by a highly cumbersome and conflict-prone method of princely succession: from elder to younger brother and from uncle to nephew. Muscovy switched to the much more efficient lineal succession, a development that independently occurred in Tran Vietnam and Capetian France (p. 224). It seems reasonable to suppose the progressive shortening of interregna was a result of accumulation of such cultural (in the broad sense) innovations as agrarian intensification, market monetization, cumulative institutional experiments, disciplinary revolutions, and movements of cultic reform.

THE EXPOSED ZONE AND THE PROTECTED RIMLANDS OF EURASIA

Another idea proposed by Victor Lieberman is the distinction between the “exposed zone” and “protected rimlands” of Eurasia. The exposed zone was comprised of regions whose political history was shaped substantially by the nomadic (and semi-nomadic) pastoralists of Inner Asia, e.g., China and Iran. Before the modern period the polities of the exposed zone were in constant contention with their nomadic neighbors. Conquest and establishment of ruling dynasties from the steppe was frequent. These were also the world regions which were the most precocious in civilizational development.

The protected zone was largely insulated from Inner Asian influences. Such protected rimlands as Western Europe and Southeast Asia were located on the periphery of older civilizations of the exposed zone. Protected areas absorbed institutional innovations, including world religions, from the older civilizations and went through a process of secondary state formation at a later date than the civilizations of the exposed one. In other words, first complex societies arose in regions exposed to Inner Asian stimuli and later the polities in the protected rimlands developed under the influence of the empires from the exposed zone.

This idea is a substantial revision of the core/periphery model of Chase-Dunn and Hall. In the view of Chase-Dunn and Hall, older imperial civilizations were the core because they had greater population densities and sociopolitical inequality, more developed technology, and a preponderance of military power. These complex societies dominated the periphery politically, economically, and culturally – small-scale societies of hunter-gatherers, horticulturalists, and swidden agriculturalists. Located geographically or institutionally between the two poles were semiperipheries. There are many kinds of semiperipheries (Chase-Dunn and Hall 1997, p. 78), but one type that played a particularly important role in imperial formation is the marcher states arising on steppe frontiers of agrarian civilizations (2001; Hall 1989, 2009). Chase-Dunn and Hall further make a distinction between peripheral marcher states (nomad confederations) and semiperipheral marcher states (in which nomads have recently become sedentary and gone through class formation). In either case, state formation on steppe frontiers arises in response to influences flowing from the older civilized core. A similar view of steppe polities was advanced by Thomas Barfield (1989, 1994, 2001), who termed imperial steppe confederations of Turco-Mongolian people as “shadow empires.”

In my view, neither of these models is entirely right, nor entirely wrong. Both views imply linear causation, whereas an alternative way of thinking about these issues is to realize that causation may involve feedback loops. In other words, in an interacting system each factor may be both a cause, and an effect. More specifically, I have argued for a “mirror empires” model of imperial formation on steppe frontiers (Turchin 2003a; 2009). This model proposes that antagonistic interactions between nomadic pastoralists and settled agriculturalists result in an autocatalytic process, which pressures both nomadic and farming polities to scale up polity size, and thus military power.

Barfield (1989) earlier observed that steppe imperial confederations and Chinese empires tended to rise simultaneously on both sides of the East Asian steppe frontier. From this pattern he inferred that the causation flowed from agrarian empires to steppe imperial confederations. The larger, and therefore, more powerful the agrarian empire was, the larger the steppe confederation had to be in order to extract resources from the empire by raiding, tribute, unequal economic exchange (trading on terms favorable to the nomads), or even raiding to force agrarian societies to trade (Beckwith 2009). This is correct as far as it goes, but there was an important causal arrow pointing in the opposite direction: the threat from the steppe was the catalyzing factor in the rise of agrarian empires. If one-directional causation was right, we would expect the rise of steppe imperial confederations to follow with time lag the rise of agrarian empires. Yet there is no such empirical pattern. For example, the rise of the Gok-Turk Kaghanate (552 CE) preceded Sui unification (581 CE) by a generation. Similarly, Ming unification (1368 CE), which followed the Mongol conquest (finalized in 1279 CE), was clearly a nativist reaction against the alien Yüan dynasty. If the nature of causation is a feedback loop, as I have argued, then we would expect a rough degree of synchrony between the rises and falls of the two types of polities, and, due to vagaries of the process and historical contingency, sometimes the agrarian one would get slightly ahead, and sometimes the reverse would be true.

Turning next to the interaction between the exposed zone and the protected rimlands, here the views of Lieberman and Chase-Dunn and Hall are substantially aligned. Primary locus of state formation was in frontier regions of older civilizations. As repeatedly stressed by Chase-Dunn and Hall (1997, p. 79), such frontier semiperipheries were areas where new institutional forms were generated with the potential to transform system structures. I would add, however,

that pressures for imperial formation worked on both sides of the frontier. As a result, the nonstate and nomadic peoples (often called “barbarians” by agrarian state peoples) in contact with an imperial frontier were frequently the next empire builder, such as the Germans on the Roman frontier. But frontier regions of old empires could also give rise to a new empire, as happened on the Danubean frontier, resulting in the rise of the Byzantine empire (Turchin 2006, pp. 77-88). As noted in *SP I* this pattern of new polities arising on the frontiers of old empires holds for Southeast Asia (see especially p. 151, but also pp. 122, 150, 237, 274, 342, 375).

A CULTURAL-EVOLUTIONARY REINTERPRETATION OF THE LIEBERMAN'S THESIS

Recently I proposed that cultural evolution and, more specifically, multilevel selection can provide a unifying conceptual framework for the diverse approaches to the rise of complex societies and states coming from sociology, anthropology, and social biology (Turchin 2010). A major mathematical result in multilevel selection, the Price equation, specifies the conditions concerning the structure of cultural variation and selective pressures that promote evolution of larger-scale societies. Specifically, large states should arise in regions where culturally very different people are in contact, and where interpolity competition – warfare – is particularly intense. Before the Age of Discovery cultural variation and warfare intensity were particularly high in contact zones between nomadic pastoralists and settled agriculturalists. This was due not only to the cultural chasm between the nomads and farmers, but also because novel cultural elements could rapidly travel across the Great Steppe. Therefore, we expect that steppe frontiers should be regions where imperial formation was particularly intense. Indeed, over 90 percent of largest pre-modern empires arose on steppe frontiers (Turchin 2009, 2010).

This theoretical framework suggests a reinterpretation of Lieberman's (2003; 2010) contrast between exposed and protected zones, Chase-Dunn and Hall's (1997) application of world-system analysis to the premodern history, and earlier proposals by world historians on the importance of marcher states (McNeill 1963). What follows is just a sketch – due both to space limitations and because many of the details still need to be worked out.

A key technological development occurred in the early first millennium BCE in the Eurasian steppe belt, when Iranic-speaking nomads combined horse riding and compound bow to arrive at a “killer app” that gave them a preponderance of military power over settled agriculturalists. The nomads used their new military power to raid and conquer the agrarian polities of the exposed zone. Invasions of Cimmerians and Scythians into the Middle East (Mesopotamia and Iran) began in the eighth century BCE, while the Hunnu (Xiongnu, Hsiungnu), impinged on northern China in the fifth century BCE.

The nomadic invasions placed the societies of the exposed zone under enormous pressure. The result was a greatly accelerated rate of social evolution. One set of cultural breakthroughs that occurred independently in the Middle East, North India, and North China was the rise of new integrative ideologies such as Zoroastrianism, Buddhism, and Confucianism. In other words, the Axial Age may have been a direct consequence of the military revolution in the Great Steppe (Jaspers 1953). The world religions were a key social technology that allowed new empires, which arose in response to steppe pressures, to integrate ethnically diverse populations

on a very large scale. *SP II* gives a wealth of examples illustrating the role of religion in increasing state capacity and broadening the scale at which populations were integrated.

Each major exposed region (apart from eastern Europe, on which below) saw the rise of a major empire during the Axial Age: the Median-Achaemenid Empire (625 BCE), the Mauryan Empire (325 BCE), and the Qin-Han China (221 BCE). The rise of such mega-empires, controlling millions of square kilometers of territory and populations of tens of millions, was a significant evolutionary breakthrough, representing an order of magnitude increase over the scale of polities that predated them. Interestingly, the temporal sequence of these unifications followed (but with a time lag of about two-three centuries) the arrival of horse archers in each region. The role of Scythians in the rise of the Median-Achaemenid Persia, and the Hunnu in the Qin-Han unification appears to be relatively straightforward (evidence reviewed in Turchin 2009). In each case, there was a concurrent rise of two “mirror polities” – an agrarian empire and a nomadic imperial confederation (the Achaemenids and the Royal Scythians, the Han Chinese and the Hunnu). The case of the Mauryan Empire is more complex. It probably formed under the combined pressure of the Persians and the Sakas, with Alexander’s invasion as the final triggering event. In general, as *SP II* also notes (p. 631ff), South Asian patterns are in some ways intermediate between such a quintessentially exposed region as China and the protected rim. As a result, external pressures for empire building in South Asia often came not directly from the Great Steppe, but were mediated by polities mixing steppe and agrarian features.

Although *SP II* focuses primarily on the post-800 CE period, the interaction between the steppe and the sown was a major engine of social evolution from a much earlier period, the Axial Age (c.800–200 BCE), and perhaps even before (for the case of Egypt, see Turchin 2009). This evolutionary “dynamo” affected (eventually) the whole of Afroeurasia, because the pressures from steppe nomads were transformed and transmitted into the protected rimlands by the great empires of the exposed zone. As empires repeatedly rose in the exposed zone, they expanded into their agrarian hinterlands until checked by logistical limitations. The imperial frontiers in the protected rimlands created their own interaction zones of high cultural variability and strong inter-polity competition. In addition to direct military and political effects on the polities of the protected zone, the great ancient empires (or “charter states” in the terminology of *SP II*) also exerted other far-reaching effects. First, because they had powerful and wealthy upper classes they created an enormous demand for prestige goods, whose effects extended far beyond the imperial frontiers. Second, the military, administrative, and ideological innovations, which made the functioning of these charter states (and their successors) possible, constituted an extremely attractive cultural bundle that also diffused far beyond the imperial frontiers. As a consequence, each major exposed region gave rise to a world-system: the Central System (with a core in the Middle East), the Indic System, and the Sinic (East Asian) system. The rise and fall of empires within each region caused these nested sets of political-military, prestige-goods, and information networks to “pulse” (Chase-Dunn and Hall 1997, p. 147).

In some cases the effect of empires of the exposed zone on secondary state formation was very direct, as was the case in the China’s interactions with Korea and Vietnam. In other cases, the effect was due to cultural diffusion that created “civilization/barbarism” frontiers. For example, such a frontier formed in the Japanese isles during the first millennium as a result of diffusion of rice, hieroglyphic writing, Confucianism and Buddhism from the mainland. Similarly, Indic Civilization gradually diffused into South India, the western and central lowlands of Southeast Asia, and into the Archipelago.

One civilization/barbarism frontier formed during the first millennium BCE in the Mediterranean (Turchin 2006: Chapter 6). Unlike the eastern end of the Mediterranean, its central and western parts were never incorporated into the Achaemenid empire. However, by c.400 BCE the literate urbanized culture of the Central World-System has diffused to most of the Mediterranean littoral. Meanwhile, an aggressive “barbarian” culture of Celts had been spreading from their homeland in western Europe. The clash between the Mediterranean and Celtic cultural zones created a civilization/barbarism frontier in southeast Iberia, central Italy, and northern Greece (Turchin 2006, Map 5). The great Mediterranean powers of the next two centuries – Carthago, Rome, and Macedonia – arose not in the old imperial core, but on this frontier (Macedon, in addition, was directly affected by the Achaemenid expansion).

Unlike the relatively fixed steppe frontiers, frontiers of secondary state formation can continue to move outwards, as long as there is new territory to expand into. In Europe we observe precisely this pattern of sequential imperial development, in which new empires arose on the frontiers of previous ones. Thus, the Frankish empire arose on the Roman frontier along the Rhine. In turn, such great European powers as France, Spain, Brandenburg-Prussia and Austria, arose on the Carolingian marches¹.

The spatial pattern of incidence of very large empires within Eurasia, thus, is that of a dense “imperial belt” at the interface between the Great Steppe and agrarian regions, with incidence of empires falling off rapidly as one travels away from this belt (Turchin 2009: Figure 1). The temporal pattern, similarly, is that of precocious imperial development in the steppe-frontier belt followed by secondary empires arising on the outer frontiers of the first ones, then tertiary imperial formation, and so on. The degree of regularity found in these patterns should not be overstated, however. There are many other factors that affect imperial rise and fall (Turchin 2009:200-203). Each region has its idiosyncratic features, and contingency has played a very large role in the historical development of any particular empire. As Lieberman states:

... I have been at pains to acknowledge differences in everything from geographic inheritance to charter acculturation, demography, political penetration, and cultural circulation. Such discrepancies are hardly surprising, given the physical and cultural distances at play. What is truly extraordinary, what demands explanation, is the coexistence of such particularities with ever more insistent parallels (2010, p. 896).

One could hardly agree more.

One case illustrating the importance of contingency is eastern Europe/Russia. *SP II* classifies Russia as a protected rimland, because the rise of its charter state (Principality of Kiev) postdated the rise of charter polities of exposed regions by more than a millennium. Conversely, Kiev was a contemporary of charter states in the protected rimlands (Pagan, Angkor, and Carolingian empires). I argue, instead, that Russia is an exposed region, but it could start developing as empire only after eastern European steppe frontier acquired deep agrarian hinterlands.

¹ For a PowerPoint presentation of dynamic maps showing metaethnic frontiers and evolution of states in Europe during the two millennia CE, see <http://cliodynamics.info/auxiliary/FEMaps.ppt>.

Prior to c.500 CE agriculture in eastern Europe was limited to the narrow belt of the forest-steppe transitional zone (Christian 1998). Archaeological evidence suggests that huge fortified settlements (*gorodische*) arose in this zone coincidentally with the formation of the Royal Scythian imperial confederation. However, these developments did not lead to the rise of an agrarian polity mirroring the Royal Scythians, probably because there was no agrarian hinterland for it to expand into. The nascent agrarian polities lost the scaling-up race with the nomads and were conquered by them. These agrarian people, paying tribute to the Royal Scythians, were probably Herodotus' *Skythai geōrgoi* ("Farmer Scythians").

During the second half of the first millennium farming spread eastward and northward into the zone of mixed deciduous and coniferous forests of what is now Russian heartland. At the same time, a new nomadic confederation, Khazaria, unified the Pontic and Caspian steppes. The Khazars subjugated some east Slavic groups (e.g., Polanians) and imposed tribute on others. In other words, in the eighth century a typical steppe frontier formed in Eastern Europe between Turkic nomads and Slavic farmers. The injection of a third ingredient, Scandinavian Varangians, catalyzed the formation of the Principality of Kiev. After Kievan Rus' destroyed Khazaria in the tenth century, it had to contend with a sequence of other Turkic nomads, most notably, Pechenegs and Qipchaks (Kumans). The Mongol-Tatar conquest caused as much devastation in Russia as in China and Iran. Even after the collapse of the Golden Horde, Muscovy found itself in a life and death struggle with the Horde's successor polities, the Kazan and Crimean Tatars. Judged by the number of times that Russian capitals (Kiev, then Moscow) were devastated by steppe invaders, Russia was clearly part of the exposed zone.

This critique of the misclassification of Russia is another "fine-tuning" of *SP II*'s thesis, rather than its rejection (I should also note that my definition of exposed zone focuses solely on the military impact of the nomads, whereas Lieberman uses additional criteria, developmental chronology and physical scale, p. 97). Furthermore, there is no need to impose a stark dichotomy between the exposed zone and the protected rimlands. I have already discussed the observation in *SP II* that northern India was not quite as "exposed" as China. In addition, there is an off-shoot of the Eurasian arid belt that extends down the Indian subcontinent, which historically served as a conduit of steppe influences (Wink 1997, p. 82). The Hungarian plain played a similar role in Europe, providing a base for nomadic raids that occasionally reached as far as France (by, for example, the Attila's Huns and later the Magyars). These observations suggest that a more quantitative approach is in order. For example, as already mentioned above, we could quantify steppe influences by the frequency of nomadic attacks on state capitals. Such an approach would allow us to replace the stark exposed/protected dichotomy with a spectrum, ranging continuously from "very exposed" to "very protected."

EUROPEANS AS "WHITE INNER ASIANS"

So far my discussion has focused on the period when steppe mounted archers enjoyed a preponderance of military power over the agrarian polities. However, between approximately 1500 and 1800 the nomads gradually lost their military superiority due to a combination of developments, often referred to as the Rise of the West (for a recent review, see Goldstone 2009). Perhaps the most novel idea in *SP II* is the observation that in some parts of Eurasia the Europeans replaced nomads as "extraregional catalysts of early modern integration" (p. 827). I

will expand on Lieberman's novel idea, developing it beyond his intentions (his main emphasis is on island Southeast Asia).

The "killer app" of the early modern Europeans was the ocean-going ship armed with cannons (Cipolla 1965). Whereas horse-riding (or camel-riding) nomads could reach any "shore" of the Eurasian arid belt, European ships had the ability to reach across huge distances to any coastal region of the world. Similar to the nomads before them, the European exploration and expansion created interaction zones of high cultural variation, which, I propose, we could designate as "gunboat frontiers."

Furthermore, Europeans, like Inner Asians, had the ability and willingness to destroy whole societies. Incidence of genocide, ethnocide (typically through religious conversion), and enslavement of large segments of population was common in European/native interaction zones. *SP II* gives numerous examples of the appalling disregard for human life that characterized the European conduct in archipelagic Southeast Asia. For example, to corner the market for Malukan spices, the Dutch "in 1621 exterminated the population of Banda, the sole source for the nutmeg and mace, replacing its people with slave labor under Dutch planters" (p. 843). In 1740 the Dutch massacred Batavian Chinese (p.881), while in 1812 the British sacked Yogiakarta (p. 876). Following the Spanish conquest, the population in some parts of the Philippines may have declined by half (p. 833).

Finally, European arrival brought a host of indirect pressures on native societies (Ferguson and Whitehead 1992). Warfare among native groups intensified as a result of conflicts over access to trade for new goods, spread of new weapons, and a demand for slaves. Such European influences spread far beyond the coastal zones directly affected by them. As an example, diffusion of horse from Mexico to the Great Plains revolutionized warfare among the Plains Indians (Hall 1989).

The arrival of Europeans, thus, put enormous pressures on native societies. Many of them could not stand up under these pressures and crumbled. Others were conquered by Europeans. Some, however, responded to the pressure by evolving into more cohesive and effective polities, capable of resisting European domination. The degree to which the Europeans themselves participated in the state building was highly variable.

One extreme is illustrated by such "European offshoots" as the United States, Australia, and Argentina. The Atlantic coast of North America, for example, experienced massive immigration of European settlers into areas where native populations were decimated first by epidemics and later by settlers themselves. The result was a "civilization-barbarism" frontier, which subsequently rolled away from the coastal areas.

In another scenario, the Europeans conquered other complex societies and replaced their elites (elite replacement was also the most common outcome of nomadic conquest). Examples include Mexico, Peru, India, and many cases in Africa and Southeast Asian archipelago.

Finally, the most subtle and interesting set of cases is when the European arrival aided state-building indirectly, via military pressure and new cultural variants that they transmitted. Examples include China and perhaps Japan. At the very least, both times that the gunboat frontier impinged on Japan (following the first European contact with Japan in 1543 and the "opening up" of Japan in 1854), it was followed by consolidation of state power (the establishment of the Tokugawa Shogunate and the modernization of the Meiji Era).

THE WAY FORWARD

The study of the origins and the dynamics of large-scale human societies (or states) has greatly suffered from the problem of “balkanization.” Anthropologists have advanced both functionalist (Haas 1982; Johnson and Earle 2000; Sanderson 1999; Service 1975) and conflict (Carneiro 1970; Webster 1975; Wright 1977) theories of the state. Historical sociologists have emphasized their own models (Kiser and Linton 2002; for more general reviews see Mann 1986; Tilly 1990; Turner 1995). World-system theorists have focused on interpolity interactions such as trade and warfare as well as technological development (Chase-Dunn and Hall 1997; Rasler and Thompson 1989). Social biologists have approached it from the perspective of multi-level selection theory (Richerson and Boyd 1998; Turchin 2010; Wilson 2002; 2007). Finally, world historians and comparative civilizationists have searched for empirical patterns by sifting through huge amounts of data on historical states and whole civilizations (*SP I*, *SP II*; McNeill 1963; Toynbee 1956).

Although asking similar questions, and sometimes proposing similar mechanisms, these social scientists have worked largely in isolation from each other. Furthermore, from the world-historical point of view most results obtained by historical sociologists and political scientists are highly parochial – the typical tendency is to test theories on the early modern European material, and oftentimes just on England and France (this criticism, obviously, does not apply to *SP II*).

How can we overcome this balkanization? I think we need a two-pronged approach. First, it would help to have a unifying theoretical framework that researchers working in different disciplines could use to integrate their ideas and results. Such a framework could be based on evolutionary theory, where *evolution* is understood in the broadest sense, certainly including cultural and institutional evolution (Boyd and Richerson 1985; Cavalli-Sforza and Feldman 1981; Lumsden and Wilson 1981). In fact, an evolutionary approach is implicit in most approaches to the origin of the state, and explicit in some (e.g., Carneiro 2003).

Second, and most important, we need to start testing theories empirically. *SP II* contains a wealth of empirical information on a broad range of Eurasian societies. However, these data are not in a form that could allow others to conduct statistical tests of various theories explaining the evolution of the state. What is needed is a database that would bring together, in a systematic form, what is currently known about the social and political organization of large-scale human societies. Anthropologists have the Human Relations Area Files (HRAF) and the associated standard cross-cultural sample (SCCS). They turned out to be a tremendously useful resource, which generated hundreds (if not thousands) of publications, mostly in comparative anthropology (Ember and Ember 2001), but more recently in all kinds of interdisciplinary studies (for example, to look for correlations between cultures, genes, and languages). These databases are not suitable for testing theories about the evolution of complex societies because they focus primarily on small-scale societies. More importantly, they lack a diachronic component, which is crucial for testing evolutionary, and therefore dynamic, theories.

If social scientists and historians can collaborate on constructing such a database, there is no doubt in my mind that it will enormously advance our understanding of the evolution of large-scale human organization. Furthermore, at stake are not only issues of academic concern. In the long term, a general database to assess and refine theories of the evolution of the state will inevitably have policy applications. As a more robust theory of organizational forms of large-scale social integration is developed and tested with cross-cultural data, we will obtain a much better toolkit for answering such questions as, how do we fix failed states? How can we end civil

wars and evolve political structures for nonviolent methods of resolving conflicts? How can we promote integration at the global level and stop interstate wars?

REFERENCES

- Barfield, Thomas J. 1989. *The Perilous Frontier: Nomadic Empires and China*. Oxford, UK: Blackwell.
- _____. 1994. "The Devil's Horsemen." Pp. 157-182 in *Studying War: Anthropological Perspectives*, edited by S. P. Reyna and R. E. Downs. Langhorn, PA: Gordon and Breach.
- _____. 2001. "The Shadow Empires: Imperial State Formation Along the Chinese-Nomad frontier." Pp. 11-41 in *Empires*, edited by S. E. Alcock, T. N. D'Altroy, K. D. Morrison, and C. M. Sinopoli. Cambridge: Cambridge University Press.
- Beckwith, Christopher I. 2009. *Empires of the Silk Road: A History of Central Eurasia from the Bronze Age to the Present*. Princeton: Princeton University Press.
- Boyd, R and P J Richerson. 1985. *Culture and the Evolutionary Process*. Chicago, IL: University of Chicago Press.
- Braudel, Fernand. 1988. *The Identity of France. Volume II. People and Production*. New York: Harper Collins.
- Carneiro, Robert L. 1970. "A Theory of the Origin of the State." *Science* 169:733-738.
- _____. 2003. *Evolutionism in Cultural Anthropology*. Boulder, CO: Westview Press.
- Cavalli-Sforza, Luigi L. and Marcus W. Feldman. 1981. *Cultural Transmission and Evolution: A Quantitative Approach*. Princeton: Princeton University Press.
- Chase-Dunn, Christopher K. and Thomas D. Hall. 1997. *Rise and Demise: Comparing World-Systems*. Boulder, CO: Westview Press.
- Chase-Dunn, Christopher, Susan Manning, and Thomas D. Hall. 2000. "Rise and Fall: East-West synchronicity and Indic Exceptionalism Reexamined." *Social Science History* 24:727-754.
- Christian, David. 1998. *A History of Russia, Central Asia, and Mongolia*. Oxford: Blackwell.
- Cipolla, Carlo M. 1965. *Guns, Sails, and Empires: Technological Innovation and the Early Phases of European Expansion, 1400-1700*. New York: Pantheon Books.
- Ember, Carol R and Melvin Ember. 2001. *Cross-Cultural Research Methods*. Walnut Creek, CA: AltaMira Press.
- Ferguson, Brian R. and Neil L. Whitehead. 1992. *War in the Tribal Zone: Expanding States and Indigenous Warfare*. Santa Fe, New Mexico: School of American Research Press.
- Goldstone, Jack A. 2009. *Why Europe? The Rise of the West in World History: 1500-1850*. Boston: McGraw Hill.
- Haas, Jonathan. 1982. *The Evolution of the Prehistoric State*. New York: Columbia University Press.
- Hall, Thomas D. 1989. *Social Change in the Southwest, 1350-1880*. Lawrence, KS: University Press of Kansas.
- _____. 1998. "The Effects of Incorporation into World-Systems on Ethnic Processes: Lessons from the Ancient World for the Contemporary World." *International Political Science Review* 19:251-267.
- _____. 2000. "Frontiers, Ethnogenesis, and World-Systems: Rethinking the Theories." Pp. 237-270 in *A World-Systems Reader: New Perspectives on Gender, Urbanism, Cultures*,

- Indigenous Peoples, and Ecology* edited by Thomas D. Hall. Lanham, MD: Rowman & Littlefield.
- _____. 2001. "Using Comparative Frontiers to Explore World-Systems Analysis and International Relations." *International Studies Perspectives* 2:252-268.
- _____. 2009. "Puzzles in the Comparative Study of Frontiers: Problems, Some Solutions, and Methodological Implications." *Journal of World-Systems Research* 15:25-47.
- Jaspers, Karl. 1953. *The Origin and Goal of History*. New York: Routledge & Kegan Paul.
- Johnson, Allen W. and Timothy Earle. 2000. *The Evolution of Human Societies: From Foraging Group to Agrarian State*, 2nd edition. Stanford, CA: Stanford University Press.
- Kiser, Edgar and April Linton. 2002. "The Hinges of History: State-Making and Revolt in Early Modern France." *American Sociological Review* 67:889-910.
- Lieberman, Victor. 1990. "Wallerstein's System and the International Context of Early Modern Southeast Asian History." *Journal of Asian History* 24:70-90.
- Lumsden, Charles J. and Edward O. Wilson. 1981. *Genes, Mind, and Culture: The Coevolutionary Process*. Cambridge, MA: Harvard University Press.
- Mann, Michael. 1986. *The Sources of Social Power. I. A History of Power from the Beginning to A.D. 1760*. Cambridge, UK: Cambridge University Press.
- McNeill, William H. 1963. *The Rise of the West*. New York: New American Library.
- Nefedov, Sergey A. 2002. "On the Demographic Cycles in the History of the Medieval Russia (in Russian)." *Klio* 3:193-203.
- Rasler, Karen A. and William R. Thompson. 1989. *War and State Making: The Shaping of Global Powers*. N.Y.: Unwin Hyman.
- Richerson, Peter J. and Robert Boyd. 1998. "The Evolution of Human Ultrasociality." Pp. 71-95 in *Ethnic Conflict and Indoctrination*, edited by I. Eibl-Eibesfeldt and F. K. Salter. Oxford: Berghahn Books.
- Sanderson, Stephen K. 1999. *Social Transformations: a General Theory for Historical Development*. Lanham, MD: Rowman and Littlefield.
- Service, Elman R. 1975. *Origins of the State and Civilization: The Process of Cultural Evolution*. New York: Norton.
- Tilly, Charles. 1990. *Coercion, Capital, and European States, AD 990-1990*. Cambridge, MA: Blackwell.
- Toynbee, Arnold Joseph. 1956. *A Study of History*. London: Oxford University Press.
- Turchin, Peter. 2003a. *Complex Population Dynamics: A Theoretical/Empirical Synthesis*. Princeton, NJ: Princeton University Press.
- _____. 2003b. *Historical Dynamics: Why States Rise and Fall*. Princeton, NJ: Princeton University Press.
- _____. 2006. *War and Peace and War: The Life Cycles of Imperial Nations*. NY: Pi Press.
- _____. 2009. "A Theory for Formation of Large Empires." *Journal of Global History* 4:191-207.
- _____. 2010. "Warfare and the Evolution of Social Complexity: a Multilevel Selection Approach." Unpublished Ms.
- Turchin, Peter and Thomas D Hall. 2003. "Spatial Synchrony Among and Within World-Systems: Insights from Theoretical Ecology." *Journal of World Systems Research* 9:37-64.
- Turchin, Peter and Sergey Nefedov. 2009. *Secular Cycles*. Princeton, NJ: Princeton University Press.

- Turner, Jonathan H. 1995. *Macrodynamics: Towards a Theory on the Organization of Human Populations*. New Brunswick, NJ: Rutgers University Press.
- Wallerstein, Immanuel Maurice. 1974. *The Modern World-System: Capitalist Agriculture and the Origins of European World-Economy in the Sixteenth Century*. New York: Academic Press.
- _____. 1980. *The Modern World-System II: Mercantilism and the Consolidation of the European World-Economy, 1600-1750*. New York: Academic Press.
- Webster, David. 1975. "Warfare and the Evolution of the State: A Reconsideration." *American Antiquity* 40:464-470.
- Wilson, David Sloan. 2002. *Darwin's Cathedral: Evolution, Religion, and the Nature of Society*. Chicago: University of Chicago Press.
- _____. 2007. *Evolution for Everyone; How Darwin's Theory Can Change the Way We Think About Our Lives*. New York: Random House.
- Wink, André. 1997. *Al Hind: The Making of the Indo-Islamic World. Vol. II: The Slave Kings and the Islamic Conquest*. Leiden: Brill.
- Wright, Henry T. 1977. "Recent Research on the Origin of the State." *Annual Review of Anthropology* 6:379-397.
- Zhao, Wenlin and Shujun Zhu Xie. 1988. *Zhongguo ren kou shi: China Population History* (in Chinese). Peking: People's Publisher.