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The Indian Ocean in Eurasian and African World-Systems before the Sixteenth Century*

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*Une nouvelle connaissance de l'organisation est de nature à créer
une nouvelle organisation de la connaissance.*

New thinking about organization can lead to a new organizing of our thinking.

—E. Morin

Writing of the Mediterranean, Fernand Braudel has remarked, “It isn’t water that links its shores,” but “seafaring peoples.” From a very early date, the Indian Ocean, too, was traversed by sailors, traders, religious men, and migrants moving in search of goods, new lands, or the great unknown. Their movements were shaped by numerous factors, both geographic and social in origin. Over the centuries, these exchanges transformed the Indian Ocean into a unified space.¹ Trade—above all, long-distance trade—played a central role in this process.

* I am grateful to Dr. S. Fee for having translated this article from the French. I thank Drs. C. Coquery-Vidrovitch, E. Alpers, and M. Garden for their comments on this article.

¹ On the Mediterranean, cf. F. Braudel, vol. 1, *La Méditerranée et le Monde Méditerranéen à l'Époque de Philippe II*, 9th ed. (Paris: A. Colin, 1990), p. 253; and *Civilisation Matérielle, Économie et Capitalisme, XVe–XVIIIe Siècle*, vol. 3, *Le Temps du Monde* (Paris: A. Colin, 1979), p. 12. K. N. Chaudhuri, in *Trade and Civilization in the Indian Ocean: An Economic History from the Rise of Islam to 1750* (Cambridge: Cambridge University Press, 1985), explicitly modeled his work on the Indian Ocean after Braudel's *La Méditerranée*. On the unity of the Indian Ocean, cf. M. N. Pearson, *The Indian Ocean* (London: Routledge, 2003), p. 5.

A study of the history of trade networks, together with political and religious factors, allows us to understand the creation of particular societies, as well as the larger area to which they were linked.

Trade implies not only an exchange of goods, but also an exchange of knowledge, beliefs, and values. The power of trade to unify, create, and transform cultures can be appreciated only by viewing it from the widest possible angle. The Indian Ocean, our case in point, became a unified space through exchange networks that went far beyond its own borders, reaching from China to Europe and Africa. Gradually over time, transcontinental networks—both maritime and terrestrial—linked the Indian Ocean to the Mediterranean, turning it into a unified zone wherein events and developments occurred interdependently. Therefore, the Indian Ocean should not be considered as a discrete case that underwent processes *similar* to those of the Mediterranean, as K. Chaudhuri has suggested, but rather as an area that was integrally *tied* to the Mediterranean. The fact that the different regions of the ancient world united by trade experienced a demonstrable synchronization in their development suggests (but is not yet sufficient proof for) the systemic nature of their relations.

It is not only the interconnections or the size of the networks but the regularity, intensity, and speed of the exchanges that resulted in the different regions being progressively integrated and shaped into a world-system. This notion was originally conceived by I. Wallerstein in 1974, in a holistic perspective that “looks for an explanation at the level of the whole.” This perspective, which E. Morin has rightly pointed out the limits of, has not clearly defined the concept of “system” itself. Before proceeding with the discussion, I should identify what I mean by the term “system.” I follow the definitions established by Morin, namely, (1) a system represents a “*complex* unit and the complex of relations between the whole and its parts,” (2) a system is made up of cumulative *interactions*, (3) which constitute the *organization* of the system.² The character of this organization is, in essence,

² E. Morin, *Science avec Conscience* (Paris: Fayard, 1990), pp. 244–245, 252. A system is more than the sum of its parts, but is also less than the sum of its parts (*ibid.*, pp. 241–243; also I. Wallerstein, *The Modern World-System*, vol. 1, *Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century* [San Diego: Academic Press, 1974], p. 8). An explanation is to be found out not only at the level of the whole but through the interactions between and within the parts, which constitute the whole. Morin undertook to transpose the theories of the chemist Prigogine in the anthropological field. Cf. I. Prigogine and I. Stengers, *Order Out of Chaos: Man's New Dialogue with Nature* (London: Heinemann, 1984), and *The End of Certainty: Time, Chaos and the New Laws of Nature* (New York: Free Press, 1997).

both complex and dynamic. The system generates both order and disorder, unity and diversity. Taking into account these general characteristics of all systems and their implications can aid the interpretation of the available historical data for the Eurasian and African zone. The systemic approach provides a new “logic,” and leads to a new understanding of world history.

Wallerstein forged the concept of world-system in relation to the modern era but, in fact, the creation of an Eurasian and African world-system can be traced much further back in time. He enumerated twelve characteristics of the “modern world-system,” which include ever-increasing capital accumulation, a division of labor, growing imbalances of power between cores and peripheries, phases of hegemony—within a given core—that alternate between a single power exercising control and several rival powers vying for control, and the existence of cycles. Frank and Gills argue that these same characteristics have also been present in world-systems for the past several thousand years.³ According to these authors, for too long scholars have underestimated the importance of capital accumulation, markets, and individual enterprise in ancient societies. Available actual data, however, show the formation of an Eurasian and African world-system with the Christian era.

From its origins, the Eurasian and African world-system developed and was restructured following the rhythm of economic cycles that lasted several centuries (periods of growth followed by periods of decline). Understanding these cycles, their nature, and possible origins provides a key to unlocking the history of the region.

Based on geographic factors and exchange networks, the Asian and East African maritime zones can be divided into three main areas: the China Sea, the eastern Indian Ocean, and the western Indian Ocean, with the latter area being further divided—except during some rare moments of unity—between the Persian Gulf and the Red Sea. Each of these subsystems had its own “core” (China, India, western Asia,⁴ and Egypt) that determined the nature of trade with its peripheries. I agree with Frank and Gills that transfers of surplus between regions “necessarily imply” a division of labor, issues of hegemony, and the

³ A. G. Frank and B. K. Gills, eds., *The World System: Five Hundred Years or Five Thousand?* (London: Routledge, 1993). Before Frank and Gills, cf. K. Ekholm and J. Friedman, “‘Capital’ Imperialism and Exploitation in Ancient World-Systems,” *Review* 4, no. 1 (1982): 87–109.

⁴ As part of my efforts to avoid Eurocentrism, I employ the terms “western Asia” and “eastern Asia,” in place of the more usual Near East (or Middle East) and Far East.

emergence of core-periphery relations,⁵ but this is not the only source of power. One needs to examine the ensemble of mechanisms that lie behind these transfers, which Frank and Gills, in my view, have not done sufficiently. The concept of value of transferred surplus has not yet been properly considered.⁶ I argue, in addition, that the levels of integration in the construction of a system must be taken into account.⁷ Furthermore, while the surplus the center takes from the periphery creates a particular type of relation between these two zones, it affects their respective internal social relations as well.

Cities are sited at the nodes of the networks; they direct production and exchange according to a hierarchical structure. Within a given core or periphery, there exists a further hierarchical division between each metropolis and its dependent zones. Urban points linked by long-distance trade create a string of conglomerations or relay points—“archipelagos of towns” to use Braudel’s delightful phrase⁸—whose interconnections form the spine of the system. Within the constellation of towns, city-states—or, more precisely, certain cultures of city-states—played a particular role in the evolution of the global system, especially through their ideological and institutional innovations (see below).⁹

Throughout the ages, observers of these metropolises have underscored their cosmopolitan Tower of Babel character as places fostering interrelationships that give birth to innovative creations. Along the perimeter of the Indian Ocean, trade gave rise to the formation of “fringe cultures,” a term and concept used by anthropologist P. Ottino to account for the similarity in many of the syncretic societies that developed on the Indian Ocean rim.¹⁰

⁵ A. G. Frank and B. K. Gills, “The Five Thousand Year World System in Theory and Praxis,” in *World System History: The Social Science of Long-Term Change*, ed. R. A. Denemark, J. Friedman, B. K. Gills, and G. Modelski (London: Routledge, 2000), p. 4.

⁶ The “surplus” represents the difference between what has been produced and what has been consumed by the producer. On the concept of value, cf. *infra*.

⁷ It seems to me that a certain level of integration is required. For Frank and Gills, “mere” trade makes a system,” but they speak also of a “regular and significant trade” (Frank and Gills, “Five Thousand Year World System,” p. 6).

⁸ Braudel, *Civilisation Matérielle*, vol. 3, p. 20.

⁹ Following Hansen, it is possible to define city-states as “self-governed cities which consider themselves as political units” and are recognized as such by the other political units of the region. These cities may be independent, or dependent through diverse modes (within a hierarchical ensemble of city-states, within a federation, as a tributary of a macrostate, and so on). M. H. Hansen, “Conclusion: The Impact of City-State Cultures on World History,” in *A Comparative Study of Thirty City-State Cultures*, ed. M. H. Hansen (Copenhagen: Det Kongelige Danske Videnskaberne Selskab, 2000), pp. 606, 608–609.

¹⁰ M. N. Pearson also underlines the key concept of “littoral society” (*Indian Ocean*, pp. 37–41). J. Friedman has pointed out that “the wave of discourses on cultural hybridity

Not all coasts enjoy the same opportunities to become a trade nexus. Zones at the intersection of two subsystems are particularly favored in this respect, hence the successes of Southeast Asia, southern India and Ceylon, Aden and Yemen, Hormuz and Oman. The success of a particular port is tied to the quality of its haven, its geographical position, and its relation to commercial routes, both maritime and terrestrial—the most striking example being that of the famous Silk Roads that ran through China, central Asia, India, and Persia. The development of maritime trade also depended in part on the relations established between the coast and its hinterland. The same held true for waterways, such as rivers and streams, for the mouths of large rivers have always served as points in the development of commerce and trade. Likewise, the availability of resources and labor naturally played a role in the construction of a system.

Exchanges are not solely shaped by geographic and economic factors, but also by systems of ideas and by the balance of power. I want to emphasize two points. First, trade is not the only method for transferring surplus. Political domination and conflict also play roles (for example, the imposition of tribute and taxes, looting, and so forth), as do religious networks and relations of production (the relationship between the governing elites and the producers). The export and import of products are closely tied to ideologies, themselves inseparably meshed with political forms. Once an ideology has become ascendant in a given network, it can influence the desirability of certain products and contribute to the determination of their commercial value. Thus, studies of world-systems must consider how the economic can be encompassed by the cultural and the sacred. The organization of marketplaces and their varying levels of importance are closely linked to social structures and to the politico-military competition of states and elites. A study of trade circuits requires a reconstruction of the political, economic, and religious history of the regions where the network operated, at both international and local levels. Built around

consist of the analysis of cultural elites and their discourses. [. . .] the ideology of hybridity is primarily an elitist discourse in a world that is otherwise engaged in the opposite. Hybridization and balkanization are two simultaneous processes of the global shift in hegemony” (“Concretizing the Continuity Argument,” in Denmark et al., *World System History*, p. 147). The concepts of “fringe culture,” networks, and hybridity get their full meaning only if they are analyzed at the level of the whole through a systemic approach that goes beyond a holistic perspective, as the latter “expresses only a partial and simplifying vision of the whole.” Pascal had already expressed this “new paradigm brought by the idea of system: ‘I consider as impossible either to know the parts without knowing the whole, or to know the whole without knowing each of the parts’” (Morin, *Science avec Conscience*, p. 240).

religious sites that are also sites of production and trade, religious networks become spaces where, following the paths of pilgrims, wealth and information circulate. Second, transfers of surplus are not the only means for cores to achieve dominance. This they also accomplish through ideological and political power acting via diverse strategies, such as colonization, alliances, religious conversions, intermarriages, and so forth.

Understanding the processes in the construction of an area unified by exchanges and contacts, and capturing both the changes and continuity in the articulation of the network, can be achieved only through a study of the long term, through a consideration of the very origins of the Eurasian and African world(s)-system(s), and through a comparative perspective that encompasses the entire region under consideration, that is to say, whole oceans (Indian Ocean, China Sea, Mediterranean) and continents. The study must be both transdisciplinary and systemic. In essence, it requires an examination of the relationships between economic, political, and religious data; technological innovations; climatic changes; demographic trends;¹¹ and the grasp of the dynamics of interaction and organization between the system as a whole and its constituent parts.

THE BIRTH OF THE EURASIAN AND AFRICAN WORLD-SYSTEM

As early as the fourth millennium B.C.E., the rise of the state, especially interrelated city-states, in Mesopotamia and the expansion of trade networks with neighboring regions may have resulted in the formation of a world-system, with southern Mesopotamia acting as a core. This system probably included at least a part of the Persian

¹¹ Unfortunately, we do not have quantitative figures to determine the level of integration of the various parts of the world-system for the eras that concern us here. Establishing a direct measure of commercial volume is also, of course, impossible. We must therefore rely on the indices to be found through archaeological excavations and ancient writings. They allow us to estimate size and intensity of exchange networks and follow their expansions and shrinkages (cf. J. Abu-Lughod, *Before European Hegemony: The World System A.D. 1250–1350* [New York: Oxford University Press, 1989], p. 368). The number and size of the principal cities, and their localization, provide precious indications as to the general direction of activity (growth or decline) and the internal structure of the world-system (A. Bosworth, "World Cities and World Economic Cycles," in *Civilizations and World Systems: Studying World-Historical Change*, ed. S. K. Sanderson [Walnut Creek, Calif.: AltaMira Press, 1995], pp. 206–227). In addition, other methods, such as palynological studies, ice core analysis, and dendrochronology are useful because they allow for the reconstruction of historic climatic and environmental conditions, which in turn can be compared to demographic, economic, and political trends.

Gulf.¹² In the third millennium, the Indian Ocean was not yet a unified space, but a world-system took shape between the urbanized societies of Mesopotamia, Elam, and Indus through maritime roads in the Persian Gulf and land routes that ran all the way to Turkmenistan and Bactria (ca. 2600–1800 B.C.E.).¹³ Frank and Gills support the idea that a single system united Egypt, Arabia, Mesopotamia, and the rest of western Asia from the third millennium B.C.E. “The confluence occurred . . . about 2700–2400 B.C.”¹⁴ The weakness of the ties between Mesopotamia and Egypt makes this hypothesis hard to accept. Up to the eighteenth century B.C.E., bronze was rarely used in Egypt. In fact, Egypt and Mesopotamia during that period do not follow the same rhythm.¹⁵ As would again later be the case, from 1000 to 600 B.C.E., the exchange networks that can be identified point to the articulation of two different “spheres of interaction” and not so much to a supposed unique world-system (Figure 1).¹⁶

¹² G. Algaze, *The Uruk World System: The Dynamics of Expansion of Early Mesopotamian Civilization* (Chicago: University of Chicago Press, 1993).

¹³ The network may have reached all the way to East Africa (C. Chase-Dunn and T. D. Hall, “Comparing World-Systems to Explain Social Evolution,” in Denmark et al., *World System History*, p. 106) if the copal necklace found in a tomb at Tell Asmar (near Baghdad) and dated to 2500–2400 B.C.E. can be proved with certainty to come from Zanzibar or its environs (C. Meyer, J. M. Todd, and C. W. Beck, “From Zanzibar to Zagros: A Copal Pendant from Eshnunna,” *Journal of Near Eastern Studies* [1991]: 296–297). Some scholars, such as J. Philipps (“Punt and Aksum: Egypt and the Horn of Africa,” *Journal of African History* 38 [1997]: 437), have expressed doubts about this origin.

¹⁴ B. K. Gills and A. G. Frank, “The Cumulation of Accumulation,” in *The World System*, p. 82.

¹⁵ Chase-Dunn and Hall’s attempt to compare the size of the empires of Mesopotamia and Egypt shows two very different growth rates for the period 2500–3000 B.C.E. and opposing trends from 2000 to 1500 B.C.E. (“Comparing World-Systems,” Fig. 4.9, p. 106). This opposition in terms of political integration nevertheless does not exclude synchronism on an economic level.

¹⁶ Frank and Gills (“Rejoinder and Conclusions,” in *The World System*) trace the beginnings of the Eurasian world to the third millennium B.C.E., but they do not offer “proof” of definite cycles (with phases of growth and decline) until after 1700 B.C.E. Wilkinson meanwhile dates the origin of his “central civilization” to 1500 B.C.E. (D. Wilkinson, “Central Civilization,” in Sanderson, *Civilizations and World Systems*). A comparison of the cycles put forward by Frank and Gills with Chandler’s data (*Four Thousand Years of Urban Growth: An Historical Census* [Lewiston: The Edwin Mellen Press, 1987]) demonstrates well the difficulties faced by scholars for the period before the first century C.E. Analyses of world-systems for the Bronze Age and the beginning of the Iron Age face very difficult obstacles (Bosworth, “World Cities and World Economic Cycles”). I have stressed that, owing to the limits of archaeology and the paucity of texts, we can ascertain only general tendencies and sometimes chains of dependency. Ongoing debates on the chronologies of the third and second millenniums B.C.E. clearly show that the phases of growth and retraction for certain zones put forward by authors such as Frank and Gills can often be taken only as mere hypotheses (cf., for example, “Just in Time: Proceedings of the International Colloquium on Ancient Near Eastern Chronology [Second Millennium B.C.],” *Akkadica* 119–120 (2000), and D. T. Potts, “Tepe Yahya, Tell Abraq and the Chronology of the Bampur Sequence,” *Iranica Antiqua* 38 [2003]: 1–11).

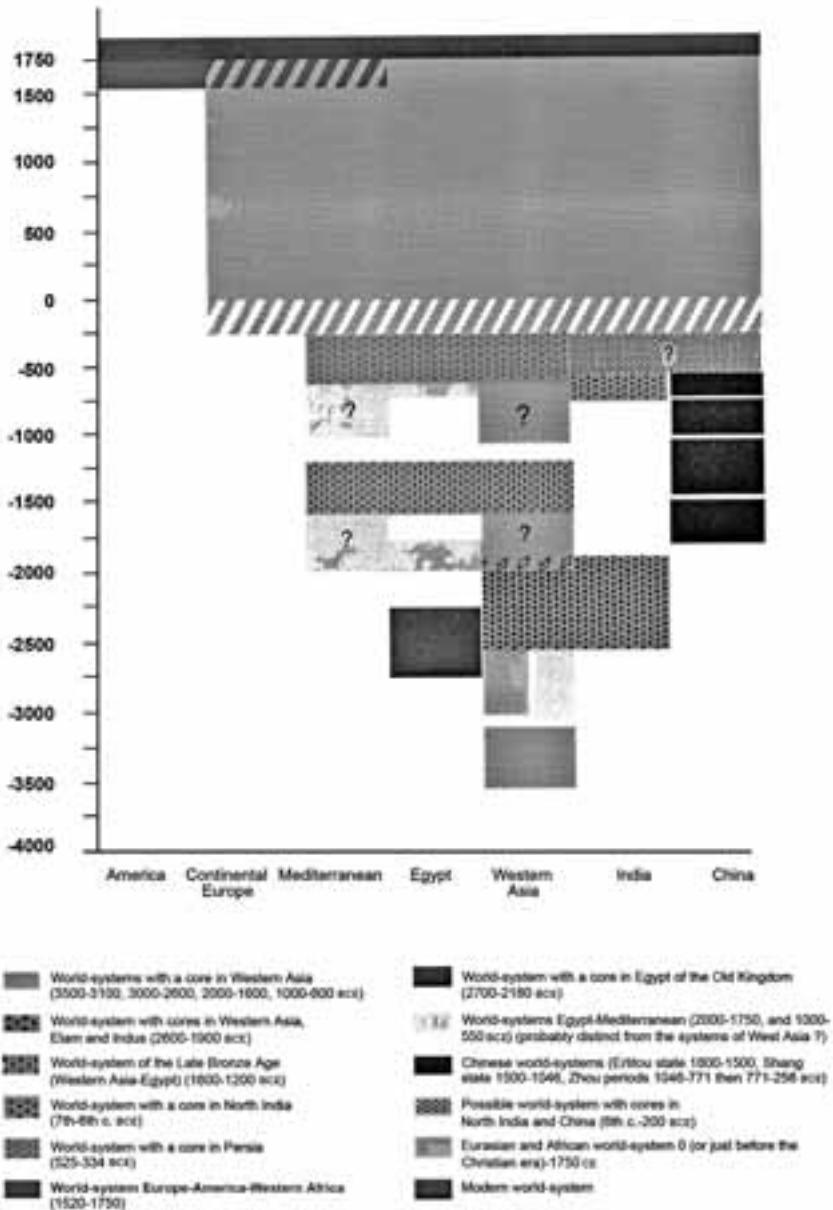


FIGURE 1. Asian, African, and European world-systems, from 3500 B.C.E. to 1750 C.E.

From 1600/1500 B.C.E., one can discern the emergence of a multi-centered system (Hittite kingdom, Mitanni, Assyria, Egypt) in which the western Indian Ocean (Persian Gulf, Red Sea) remained peripheral. The eastern Mediterranean, where the Mycenaean civilization blossomed, was then a central maritime space. This system disintegrated with the invasions of the thirteenth through twelfth centuries B.C.E.

In the first half of the first millennium B.C.E., a Mediterranean sphere grew out of Phoenician and Greek networks that was linked, but not united, to the sphere of Mesopotamia/Persian Gulf. The development of an alphabet in Phoenicia (eleventh century B.C.E.), soon borrowed by the Greeks, represented a major innovation during this period and in this region, which provided the basis for a transformation of the relation between the individual and the existing powers.¹⁷

The eastern and western parts of the Indian Ocean remained discrete units before the first millennium B.C.E.¹⁸ A limited integration of the different regions of Asia took shape only from the sixth century B.C.E.¹⁹ At this time, spices such as cinnamon and cassia arrive in the Persian Gulf and reach the Greeks. Notably, from 550 B.C.E., the largest cities of western and eastern Asia seem to show similar growth and transformations.²⁰ The sixth century B.C.E. also witnessed the emergence of the first empire in western Asia, the Persian empire,

¹⁷ The complexity of earlier scripts matched the limited number of their uses and of their users; simplicity and efficiency of alphabetical scripts transformed not only their social function but also the relationship of the individual with the different spheres of power.

¹⁸ The archaeological discovery of cloves at the site of Terqa on the central Euphrates, at a stratigraphy dated 1700–1600 B.C.E.—if it can be verified—would, however, point to contacts between the Austronesian world and the western Indian Ocean from 2000 B.C.E. G. L. Possehl, “Meluhha,” in *The Indian Ocean in Antiquity*, ed. J. Reade (London: Kegan Paul, 1996), p. 190.

¹⁹ Evidence of these interconnections includes the introduction of barley, wheat, and sheep into China in the third millennium B.C.E. and the appearance of horse-drawn chariots in China in the second millennium B.C.E. Silk, which has been found in the Sapalli tombs of Bactria (ca. 2200 B.C.E.) probably came from China (A. A. Askarov, *Sapallitepa* [Tachkent: Fan, 1973]). On China in the second millennium B.C.E., cf. L. Liu and X. Chen, *State Formation in Early China* (London: Duckworth, 2003).

²⁰ Cf. Figure 10.8 in Chase-Dunn and Hall, *Rise and Demise: Comparing World-Systems* (Boulder, Colo.: Westview Press, 1997), p. 219. Frank and Gills (“Five Thousand Year World System,” p. 12) hold that a simultaneity in phases can be discerned between eastern and western Asia from the middle of the first millennium B.C.E. In my opinion, even if an interconnection did indeed exist between eastern Asia, India, and western Asia from the sixth to fifth century B.C.E., the relations do not display the regularity and intensity that characterize a system; for this period it is difficult to demonstrate synchronous evolution in the various regions, whereas it can be shown for somewhat later periods.

which took possession of the pivotal regions between the Mediterranean and the Indian Ocean and attempted to control all commercial routes. From China to the Mediterranean, social transformations gave rise to new views on the universe and society, which went hand in hand with the emergence of individualism. This can be witnessed in the sudden appearance of the great philosophical and religious doctrines claiming universal truths (Jainism, Buddhism, Confucianism, Mazdeism) and the flourishing of a rationalist humanism in the Greek world, a scientific current in China (Mohists), and a political rationalism in India (the writing of the Arthashastra). The “universal” far-reaching Greek empire built by Alexander and his armies in the fourth century B.C.E. largely follows the path of the earlier Persian one in linking the Mediterranean sea and the western Indian Ocean. At the same time, it founded inland and coastal settlements at nodes of the preexisting trade networks.

Beginning in the third century B.C.E., the unification of a large part of India under the Mauryas, together with the fast spread of Buddhism, the increasing integration of western Asia, and the unification of China by King Qin Shi Huangdi (221 B.C.E.) made possible the opening of land routes across Central Asia (the Silk Roads) and maritime routes in the China Sea and Indian Ocean.

However, it is only on entering the first century C.E., with the creation of links between the various networks and the development of a regular, high level of commerce, that there emerged a Eurasian and African world-system²¹ in which the different regions evolved in tandem,²² a world-system that would endure without major changes until

²¹ Africa was only gradually incorporated into the spheres of interaction or the Eurasian and African system(s): Egypt and its hinterland, the coast of the Red Sea, and the horn of Africa from the third millennium B.C.E. in a system centered on Egypt and its hinterland, North Africa from the second millennium B.C.E. in a Mediterranean space, East Africa and its hinterland around the first century C.E. (or a little earlier) in the global world-system that takes shape in that time, sub-Saharan Africa from the seventh century at the latest (but perhaps from as early as the first millennium B.C.E.) in the Mediterranean, and Egypto-Nubian spheres.

²² See also I. C. Glover, “The Archaeological Evidence for Early Trade between South and Southeast Asia,” in Reade, *Indian Ocean in Antiquity*, p. 368 and W. H. McNeill, “World History and the Rise and Fall of the West,” *Journal of World History* 9 (1998): 129. The inconsistencies in Phase B (250/150–100/50 B.C.E.) put forward by Frank would argue against the existence of an Eurasian and African world-system for this time period (the Mediterranean and China were enjoying economic expansion while Egypt, Mesopotamia, Persia, and perhaps India—in the second century B.C.E.—were experiencing some level of decline). But maybe an Asian unified space was taking shape at that time (cf. J. Bentley, *Old World Encounters: Cross-Cultural Contacts and Exchanges in Pre-Modern Times* [Oxford: Oxford University Press, 1993], p. 29). If the regularity and intensity of exchanges must be

the modern era. The birth of this system accounts for the movements of Europeans toward the Orient and the voyages of Austronesians toward the western areas of the Indian Ocean and toward China. It also explains the development of a pre-Swahili culture in East Africa and the “Indianization” of Southeast Asia.

PULSATIONS IN THE WORLD-SYSTEM

From its beginnings, the world-system developed at a progressive rate, following economic cycles that largely corresponded with cycles of political and religious events (Figure 2).²³ This synchronous evolution, which points out an increasing integration of the different parts of the world-system, reveals four cycles, each with a phase of expansion and a phase of contraction from the end of the first millennium B.C.E. until the sixteenth century. These can be represented as four ascending waves—on an upward curve—with a corresponding growth in population, production, the volume and rapidity of trade, and urban development (especially of the system’s most important cities).²⁴ These developments are precipitated or accompanied by technological improvements and increased capital investment. The cycle lengths that I have established differ somewhat from those put forward by Frank and Gills.²⁵ The first cycle ran from the first to the sixth century (marked by the rise and fall, within the cores, of the Han, Kushan, Shatavahana, Gupta, Parthian, Sassanid, and Roman empires); the second, from the sixth to the tenth century C.E. (in the cores, empires of the Tang, the Pallavas, the Rashtrakutas, the Muslim and Byzantine empires); the third, from the tenth to the fourteenth century C.E. (Sung and then Yuan empires, Chola empire, Delhi sultanate, Abbasid and then Ilkhanid empires, Egyptian state); the fourth, from the fifteenth to the sixteenth century and from then until the Industrial Revolution in the middle of the eighteenth century (for the fifteenth

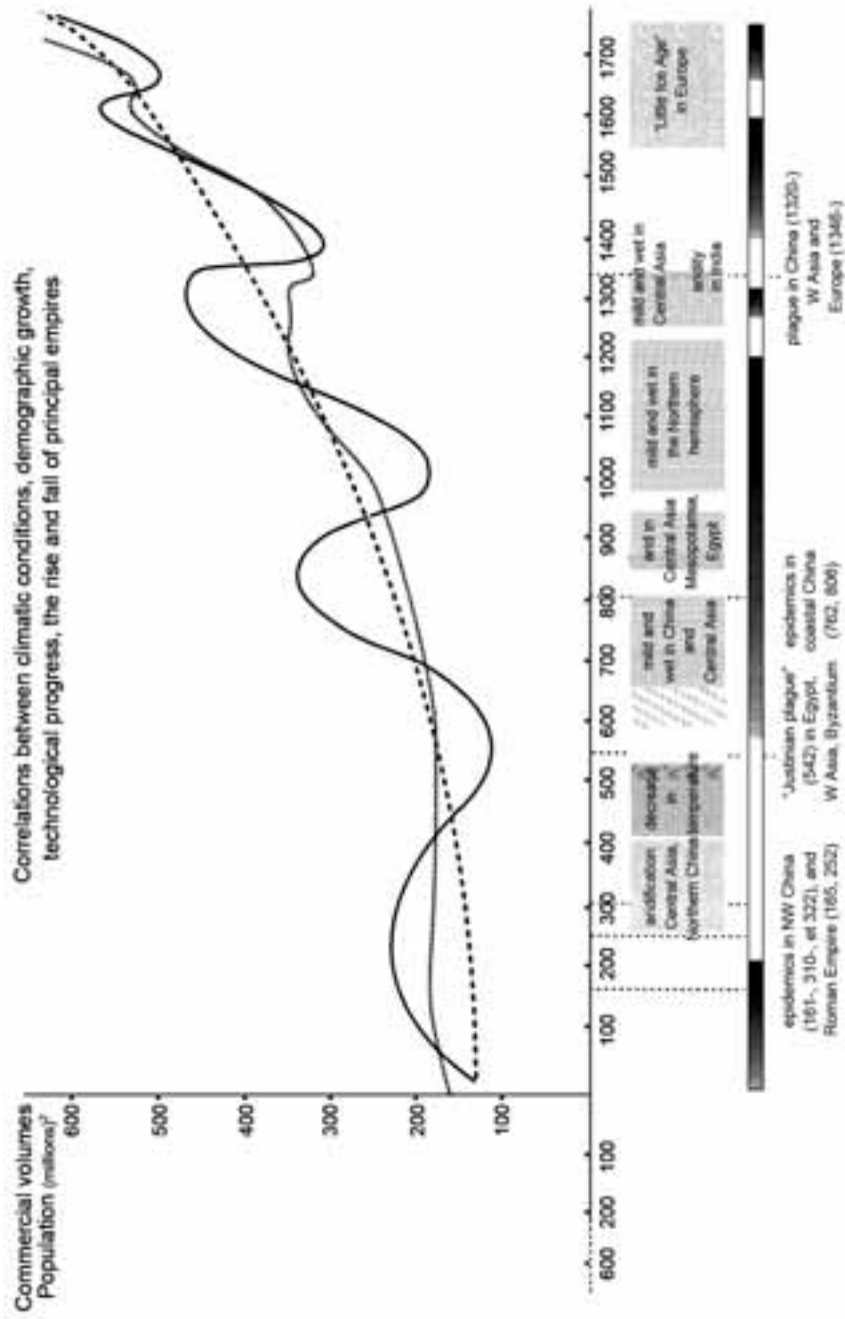
taken into account, it is obviously difficult to establish the threshold at which the integration of several world economies will allow them to constitute a single world-system. Furthermore, the available historical data are richer from the first century C.E., and this might introduce a bias to the analysis.

²³ But see C. Edens on this point (cf. *infra*).

²⁴ Cf. C. McEvedy and R. Jones, *Atlas of World Population History* (Harmondsworth: Penguin Books, 1978), and Bosworth, “World Cities and World Economic Cycles.”

²⁵ B. K. Gills and A. G. Frank, “World System Cycles, Crises, and Hegemonic Shifts, 1700 B.C.E. to 1700 C.E.,” in *The World System*. But from the beginning of the Christian era, phases of growth that have been recognized are in accordance to the periods delimited by Bentley, *Old World Encounters*, pp. 26–28.

Correlations between climatic conditions, demographic growth, technological progress, the rise and fall of principal empires



through sixteenth centuries, Ming empire, sultanates of Gujarat, Bengal, Deccan, empire of Vijayanagara, Ottoman, and Egyptian states).²⁶ The sixteenth century does indeed represent an important moment in world history, with the two sides of the Atlantic being joined to the primary system and with Europe's creation of a second world-system (Europe-Americas-West Africa). But it did not create a rupture in the Indian Ocean as has commonly been argued.

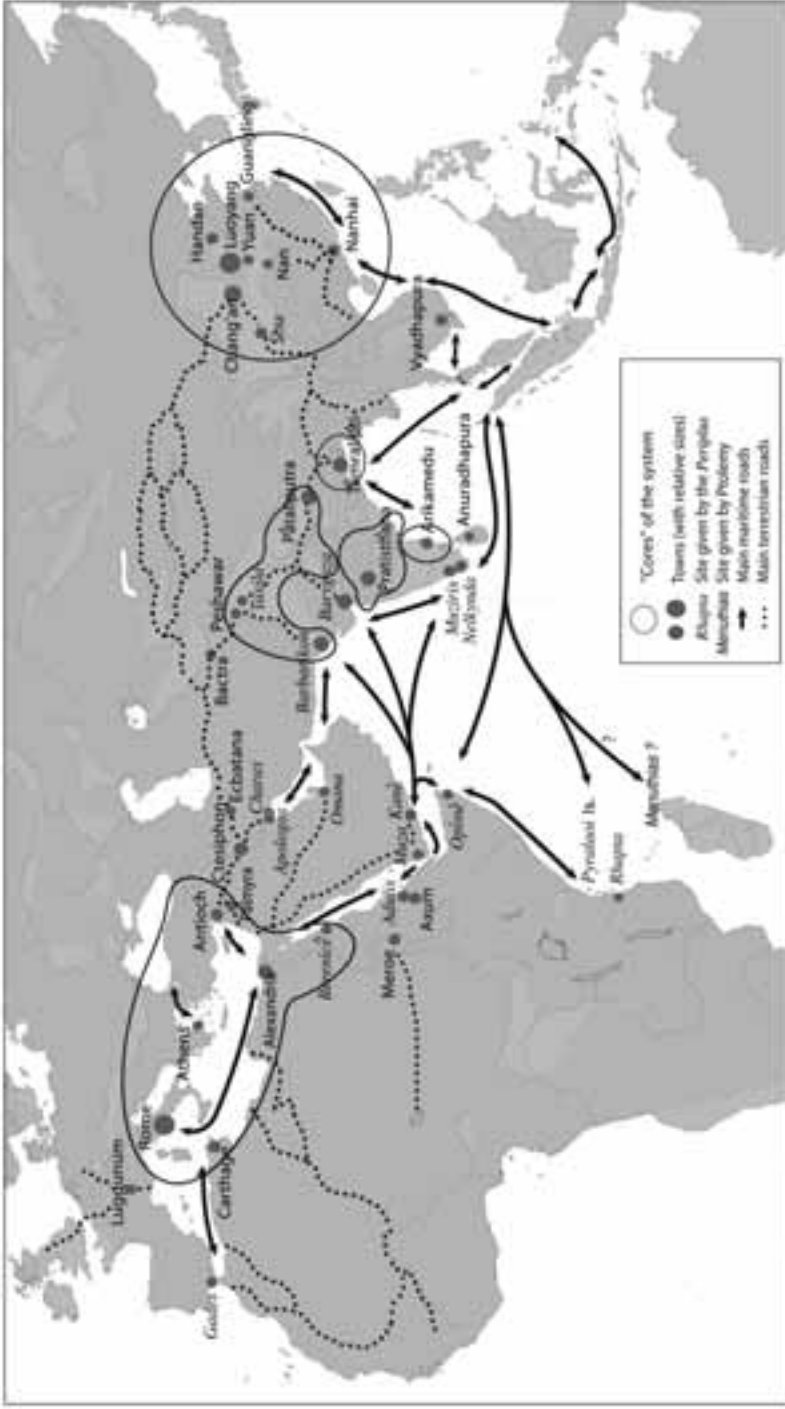
From the beginnings of the Eurasian and African world-system, China played a crucial role.²⁷ Every period of growth in the world-system followed China's phases of unification and its economic rises, with the Chinese momentum spreading like a wave from east to west, reaching the West with some delay. Already detectable with the Han dynasty (first century c.e.), China's influence grew with the ascension of the Tang (seventh century), increased under the Sung (end of the ninth century), and continued with the Ming (beginning of the fifteenth century). Conversely, each Chinese recession initiated a downward trend in the system and/or its restructuring. The Ming decision to withdraw from the system in 1433 and the development of capitalism in Europe in the fifteenth century laid the groundwork for the future shift westward for the core of the Eurasian world-system.

Induced by demographic pressure, progress in agriculture went hand in hand with ascendant phases in each cycle. This in turn led to a new rise in population²⁸ and the growth of cities and artisan activity. Increases in agricultural output were often linked to favorable climatic changes, such as those in China and Central Asia in the seventh and eighth centuries, and in all the northern hemisphere from the end of the tenth to the beginning of the fourteenth century.

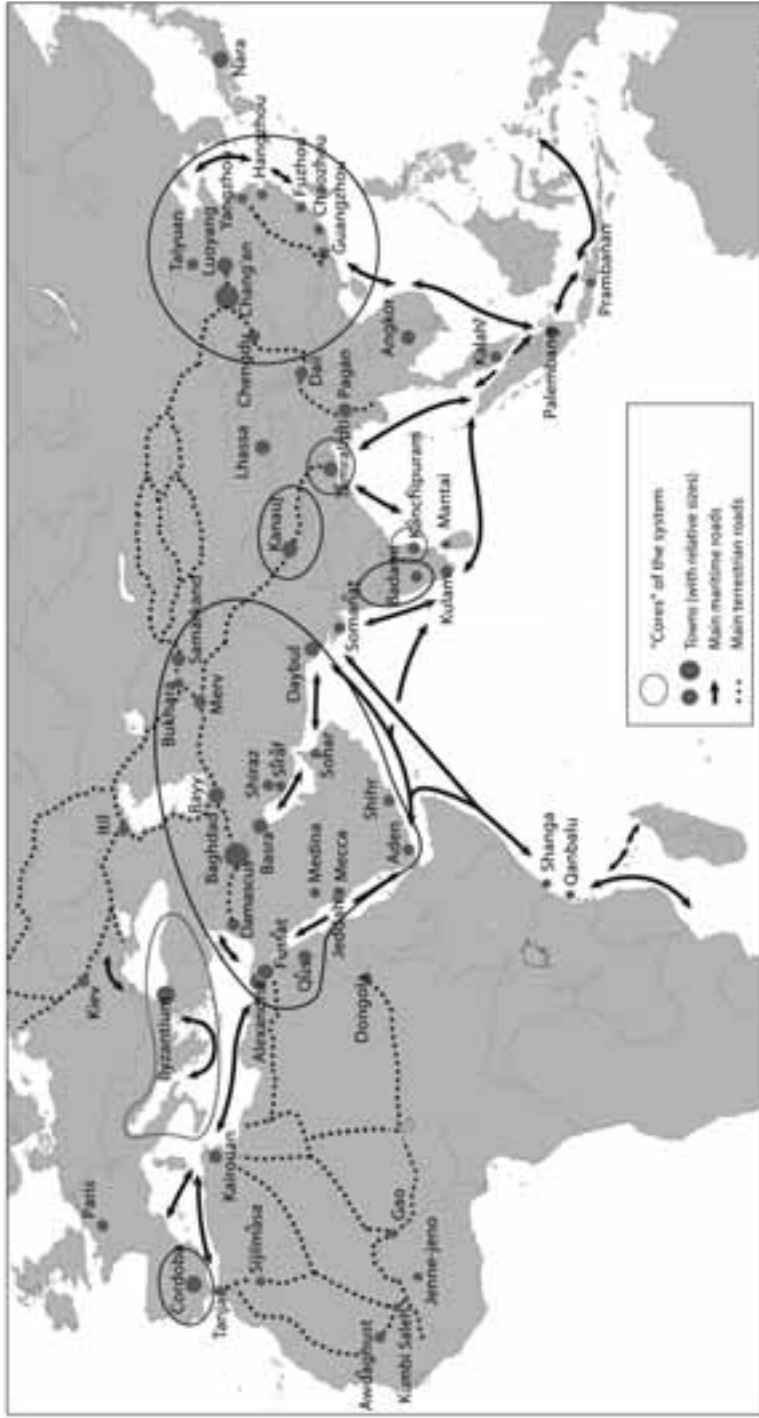
²⁶ The nature of the recession that occurred in the middle of the seventeenth century is still being debated (cf. *infra*).

²⁷ Various authors have underscored China's pre-eminence in the world-system, cf. W. H. McNeill, *The Pursuit of Power: Technology, Armed Forces and Society since A.D. 1000* (Chicago: Chicago University Press, 1982), chap. 2, and McNeill, "World History and the Rise and Fall of the West," pp. 219–220; A. G. Frank, *ReORIENT: Global Economy in the Asian Age* (Berkeley: University of California Press, 1998), and especially J. Needham, *Science and Civilisation in China*, 20 vols. (Cambridge: Cambridge University Press, 1959–1998). Some scholars have placed an emphasis on the role of central Asia and its nomadic herders in the system's dynamics. I would argue that central Asia—even when it attained political ascendancy in the thirteenth century—was only dancing to the rhythm set by other players.

²⁸ I agree with Frank (*ReORIENT*)—as against G. Arrighi ("The World According to Andre Gunder Frank," *Review* 22, no. 3 [1999]: 336)—that demographic growth and economic gains went hand in hand. Braudel (*Civilisation Matérielle*, vol. 1, *Les Structures du Quotidien*, p. 17) argued a similar point: "if men become more numerous, there is an increase in production and trade." Besides the role of the demographic pressure, political power can force farmers to increase their labor input and to transform the use of land, but this is more likely to happen in periods of global growth of the system.

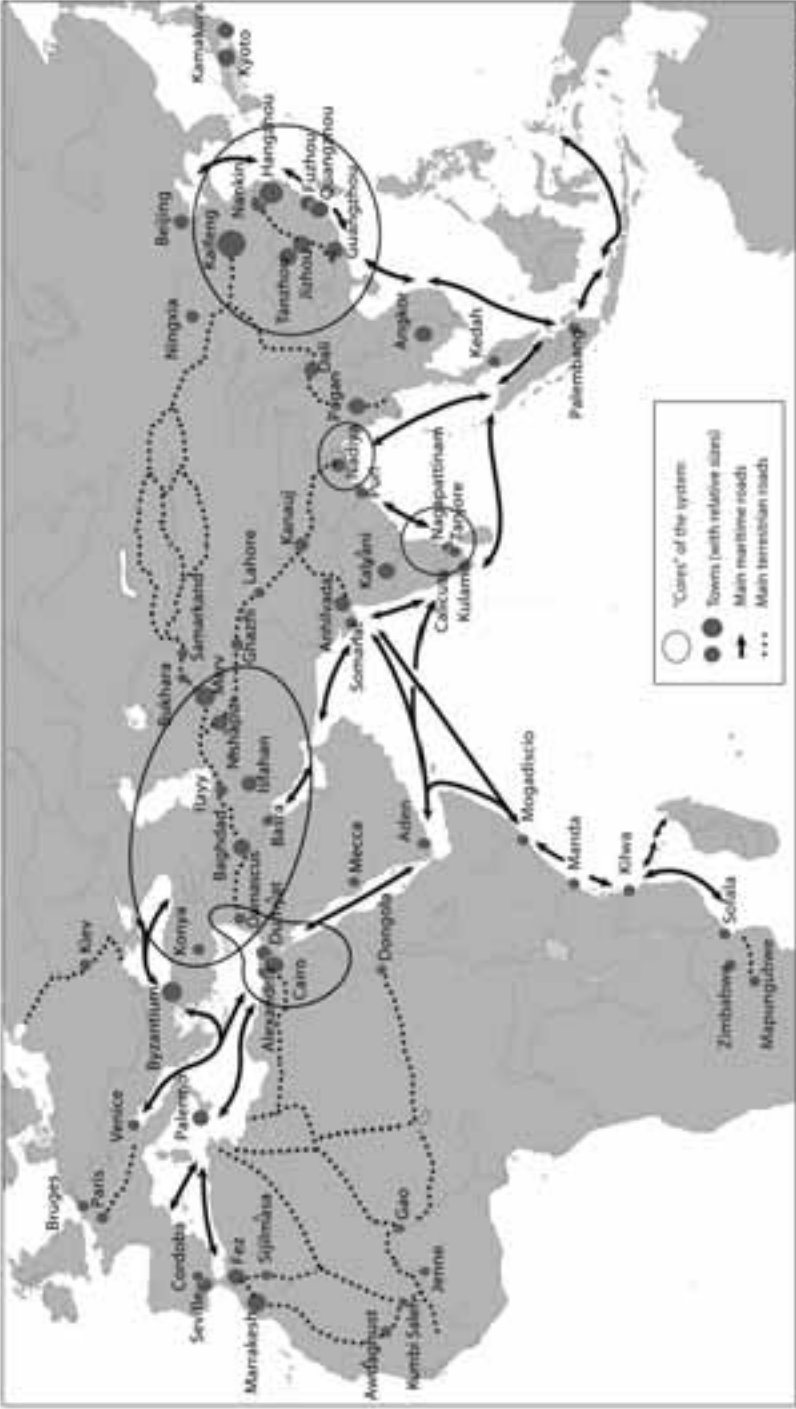


MAP 1. The Eurasian and African world-system from the first to the third century.



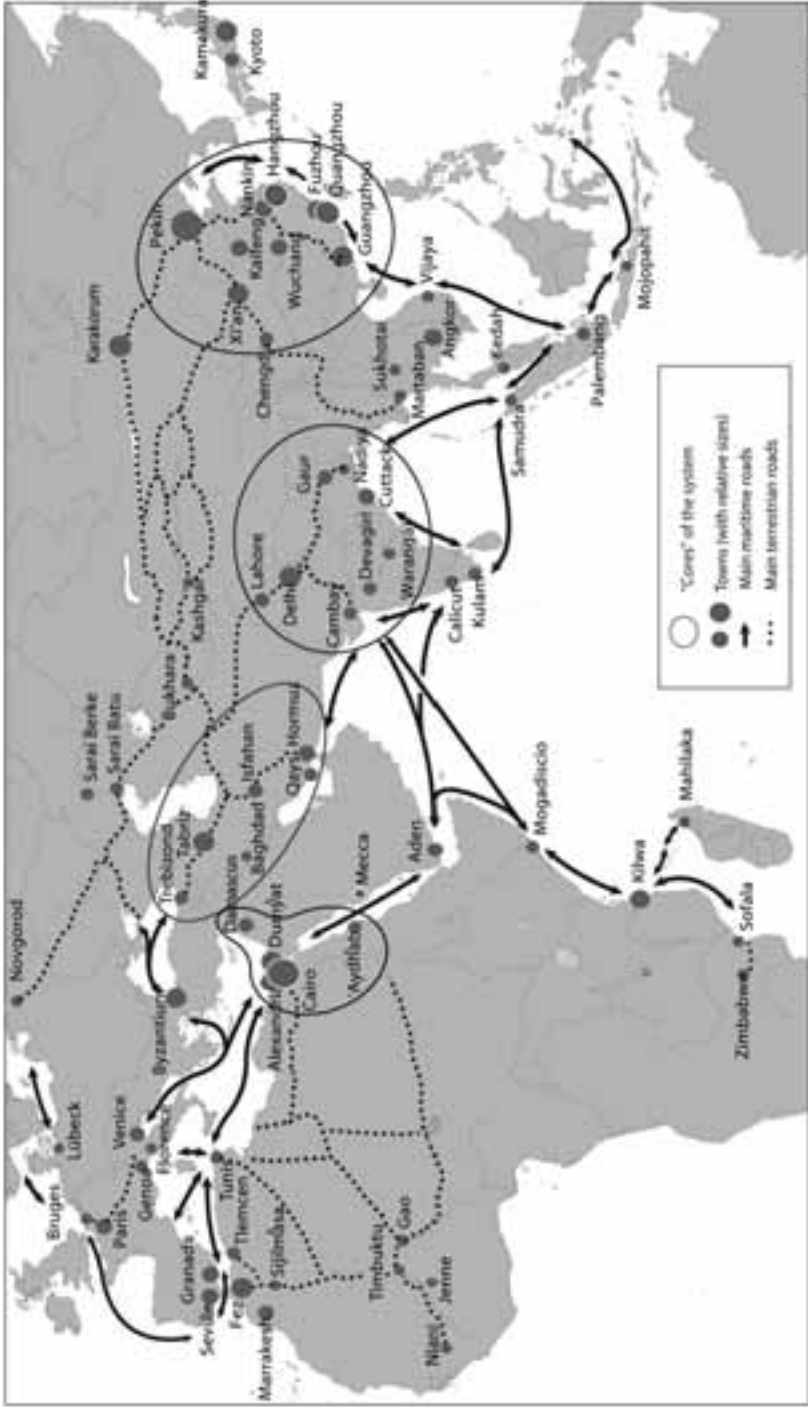
P. Beatty

MAP 2. The Eurasian and African world-system from the seventh to the ninth century.



P. Beaupard

MAP 3. The Eurasian and African world-system from the eleventh to the early thirteenth century.



P. Beaumont

MAP 4. The Eurasian and African world-system in the thirteenth and fourteenth centuries.

Each period of growth was accompanied by technological innovations in the domains of production, transportation, and trade, which allowed populations to overcome ecological constraints and human limitations by increasing productivity and transforming production.²⁹ In a beneficial cycle, these innovations led to a rise in production, trade, and social complexity; they encouraged the development of hierarchies and inequalities that in turn modified the nature of constraints. By innovation, I mean the greater use of inventions, some of them known from earlier times. We can find many examples. Iron ploughs using different kinds of molds were perfected at the period of the earlier Hans. Paper was invented at the same period (second century B.C.E.). The Romans made use of cement at the end of the first century B.C.E. or just after. Xylography, invented in China in the eighth or ninth century, developed only in the Sung period. The compass appeared on Chinese ships in the eleventh century, even if the properties of lodestone were known since the fourth century B.C.E. In the eleventh century, the Chinese built junks of a larger size.

Ideological and institutional innovations also emerged in phases of expansion in the system. And thus, new philosophical doctrines or religions—"tools of ideological power" in the words of M. Mann (1986)—appeared during the initial phases of growth within a large region or within the entire world-system: Christianity is born in the first century C.E. and Islam at the beginning of the seventh century; neo-Confucianism appears in the eleventh century as part of the intellectual movement of the Sung period. The role played by the

²⁹ It is processes of growth, however, that tend to give rise to innovations. The use of inventions takes place only when it becomes profitable to invest in technological development. If it is true that a certain demographic density is necessary to allow for the development of more efficient transport, I do not agree with the position of Chase-Dunn and Hall ("Comparing World-Systems," p. 98) that demographic pressure is generally at the root of technological progress and is the reason for political expansion. In the case of agriculture, the spread of plants occurred during moments of increased trade. In the seventh and eighth centuries, the Arabs transported as far away as Spain fifteen types of vegetal species from the Indian peninsula. In the tenth century, the Sung dynasty promoted the introduction of rice varieties from Champa, which made possible two harvests per year. However, while innovations in manufacturing, the realm of science, and "techniques of power" occur most often during moments of economic growth, or at the beginning of growth, it appears that innovations in agricultural domains also take place during phases of decline (indeed, because they provide solutions). For the relations between demographic pressure and technological change, see E. Boserup, *The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure*, new ed. (London: Earthscan Publications, 1993). In certain cases, unfavorable climatic conditions can lead to innovations in agriculture, usually through intensification. This is no doubt what happened during the phase of cooling of the Younger Dryas (ca. 11,000–9800 B.C.E.), which played a role in the development of agriculture and the domestication of plants in western and eastern Asia.

major religions in the processes of integration has often been underlined.³⁰ Religions and philosophical doctrines have been a base for many large political organizations, which in turn have contributed to their expansion (cf. *infra*). They have also promoted the rise of extensive trade networks. The Indian merchant guilds and the city-states of East Africa and Southeast Asia—sites of self-governance³¹ and innovation—flowered in periods of economic upturn.³²

Increases in trade led to competition between states. Although this could stimulate commerce and encourage innovation, it could also lead to wars of expansion.³³ Each ascendant phase was accompanied by the rise of empires³⁴ whose investments in public works (for example, the building of roads and canals by the Han, Tang, and Sung in China in the first, sixth, and tenth centuries; the Muslim empire of the seventh century; and so forth) often contributed, at least in the early stages, to economic growth until the state's level of complexity reached a point of diminishing returns on investments.³⁵ India offers a good example of

³⁰ Cf. H. P. Ray, *The Archaeology of Seafaring in Ancient South Asia* (Cambridge: Cambridge University Press, 2003), p. 11; on Buddhism and Hinduism, Chaudhuri, *Trade and Civilization in the Indian Ocean*; and on Islam, A. Wink, "Al Hind: India and Indonesia in the Islamic World-Economy, c. 700–1800 c.e.," in *Comparative History of India and Indonesia*, vol. 3, ed. P. J. Marshall et al. (Leiden: E. J. Brill, 1988), pp. 33–72.

³¹ Self-government is one of the main characteristics of city-states. Not all of the city-states have developed democratic institutions but "even in monarchies, the percentage of the population involved in the direction of the government is much higher than in other types of states" (M. Hansen, "The Concepts of City-State and City-State Culture," and "Conclusion: The Impact of City-State Cultures on World History," in *A Comparative Study of Thirty City-State Cultures*, p. 18 and p. 607).

³² These trends are even clearer in the economically growing European continent from the twelfth century. The discovery of Greek and Arabic philosophy and sciences (eleventh through twelfth centuries) is a prelude to the development of corporations and autonomous universities (self-governed) and to the initiation by R. Bacon and other scholars of the experimental method in sciences (thirteenth century). Republican institutions of Italian city-states allow the individual—within certain limits—freedom of thinking and freedom of enterprise, which will develop in the fifteenth century during the Renaissance.

³³ The development of the state (internal and external) can result from different factors: growth in population and in production and commerce, increases in social complexity, and innovations. Competition between city-states and states probably explains part of the technical progress at the time of the Warring States in China (steel production in the fifth century B.C.E., the invention of the crossbow in the fourth century B.C.E.). It led to the ascendancy of the Qin state in the third century B.C.E.

³⁴ Imperialist expansion might also represent "an alternative to the domestic redistribution of riches," a sort of release valve for social tensions.

³⁵ "Investments in socio-political complexity as a problem-solving response often reaches a point of declining marginal returns. . . . Once a complex society enters the stage of declining marginal returns, collapse becomes a mathematical likelihood" (A. Tainter, *The Collapse of Complex Societies* [Cambridge: Cambridge University Press, 1988], pp. 194–195).

these competitions. States periodically have difficulty trying to control both the oriental and occidental maritime shorelines of the peninsula (the Gupta empire in the fourth and fifth centuries, the Delhi sultanate in the thirteenth and fourteenth centuries, the Bahmani sultanate and the Vijayanagara empire in the fourteenth and fifteenth centuries). However, India is most often structured as a multicentered core, as seen on the maps *supra* (for example, between the seventh and twelfth centuries, with the Gurjara Pratiharas in the north, the Pala dynasty in Bengal, the Rashtrakutas and then the Chalukyas in Deccan, the Pallavas on the eastern coast, the Cholas in the southeast and the south; in the fourteenth and fifteenth centuries, with the sultanates of Gujarat, Bengal, and the Deccan states [Bahmani sultanate and Vijayanagara empire]). Control of Egypt, Palestine, and Syria, situated at the articulation of different maritime and land spaces, has also represented a major issue for the great powers in periods of growth of the system (cf. *infra*).

Between periods of prosperity (for the elites, at least) there came periods of decline and disorder in the system whose causes were usually multiple: internal contradictions within states and societies, state policies that discouraged production and commerce (for example, interference from state structures, state-sponsored wars that interrupted investments in the productive sector, excessive taxation), political struggles for the control of wealth and state apparatus, and so on. Such cycles are probably inherent to the structure of the system itself (Figure 3).³⁶ K. Ekholm and J. Friedman adduce internal economic factors to explain the ending of a period of growth: overaccumulation at the core leads to an increase in prices and a decrease in the levels of profit and investment, which result in decentralization and disintegration.³⁷ In a more general fashion, the demographic increase that accompanies

³⁶ The model I describe differs in several ways from that of Chase-Dunn and Hall ("Comparing World-Systems," p. 98). Here, I can offer only its outlines. It is indeed likely that there exists "a plurality of logics," but all the same I hold, as against Wilkinson, that there is a "systemic logic" (D. Wilkinson, "Civilizations, World Systems and Hegemonies," in Denmark et al., *World System History*, p. 78). One example of possible other interactions is that linking the environment to technological innovations (for example, in eighteenth-century England, deforestation led to the increasing rarity and value of wood, which led to the use of charcoal in blast furnaces). Frank and Gills ("Rejoinder and Conclusions," p. 305) have called for a new reading of world history that would take into account how "world system development both altered and was in turn altered by the natural environment," but they have not really pursued this line of inquiry.

³⁷ K. Ekholm and J. Friedman ("Capital' Imperialism and Exploitation in Ancient World Systems," in Frank and Gills, *The World System*, p. 73 n. 19) and I. Wallerstein (*Historical Capitalism* [London: Verso, 1983], pp. 59–60) have noted the high military price of maintaining hegemony.

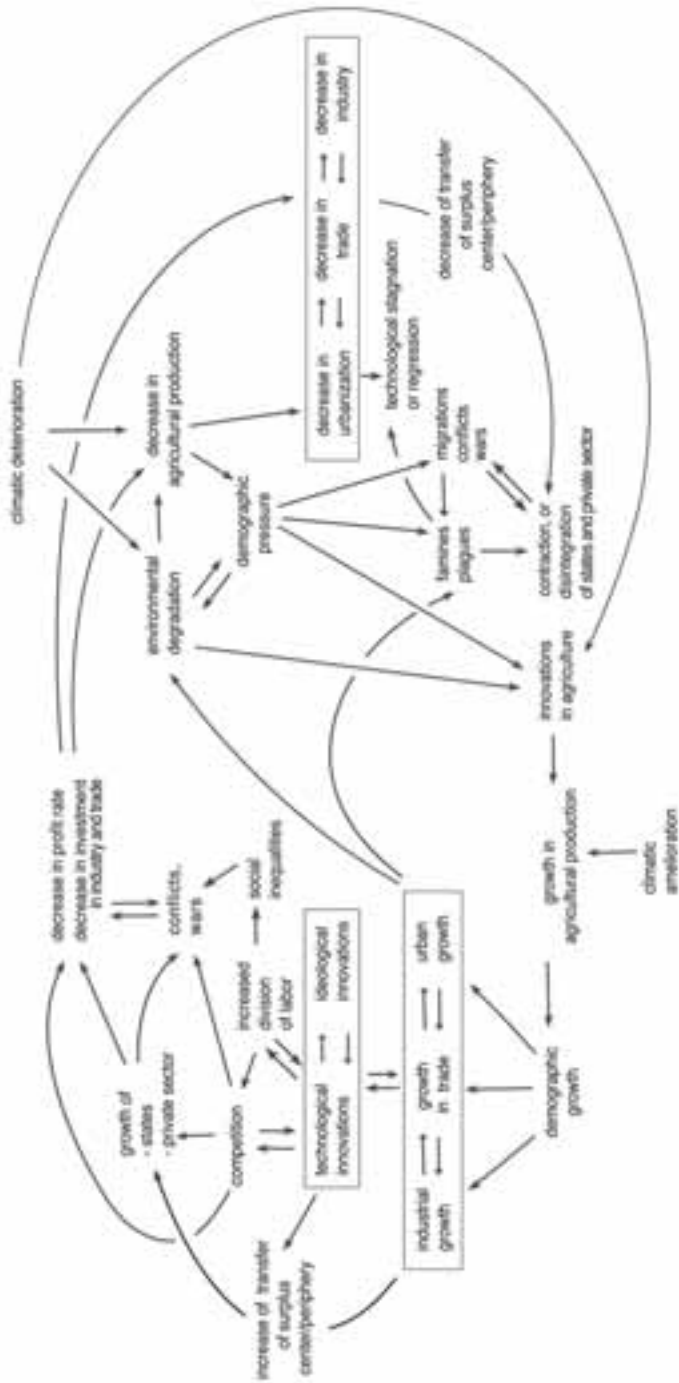


FIGURE 3. Cyclical logic of the world-system before the Industrial Revolution.

periods of economic growth creates, in the end, social tensions and environmental problems, which in turn lead to a decrease in production and an increase in the cost of production. In addition to ideological causes, environmental perturbations probably explain the migrations out of central Asia during various eras. Examples of this include the movements of peoples from the end of the third to the sixth century: the Xiongnu toward China; the Huns toward India, Persia, and Europe.³⁸ The bringing into contact—direct or indirect—of distant peoples favors the spread of disease.³⁹ Moreover, Chew has emphasized the damaging processes of deforestation and soil erosion that are the results of the development of the cores at each phase of growth, and their negative impact on this growth.⁴⁰ But first of all, environmental disruptions and the cycles themselves might be linked to climatic changes, probably connected to cycles in solar activity. Recent research seems to show the existence of long solar cycles during the Holocene (200, 400/500, 950, and 1500 years).⁴¹

In times of recession, the world-system does not disappear but undergoes a phase in which its networks are restructured, as are its implicated states and their societies (at economic, political, and ideological levels). Then comes the next upswing brought on by various factors (cf. *supra*). In sum, a group of forces working together produces a pulsation in the system, leading to an upward movement in the curve.

Recessions can be either brief (about seventy years in the fourteenth century) or drawn out (third through sixth centuries, eighth through tenth centuries). They do not affect, however, all parts of the system to the same degree, either because of the partial integration

³⁸ These migrations appear to be tied to increased aridity in central Asia, the south of Russia, and northern China during this period (R. Brown, *History and Climate Change: A Eurocentric Perspective* [London: Routledge, 2001], p. 73).

³⁹ W. H. McNeill, *Plagues and Peoples* (New York: Anchor Books Editions, 1998).

⁴⁰ S. C. Chew, *World Ecological Degradation: Accumulation, Urbanization, and Deforestation 3000 B.C.–A.D. 2000* (Walnut Creek, Calif.: AltaMira, 2001). Nevertheless, the rise in the density of population often induced technological innovations in agriculture that brought about improvement in soil fertility, thereby initiating a new cycle of economic growth (Boserup, *Conditions of Agricultural Growth*, pp. 21–22).

⁴¹ G. Bond et al., “Persistent Solar Influence on North Atlantic Climate during the Holocene,” *Science* 294, no. 5549 (December 2001): 2130–2136; Feng Sheng Hu et al., “Cyclic Variation and Solar Forcing of Holocene Climate in the Alaskan Subarctic,” *Science* 301 (September 2003): 1890–1893. At Arolik Lake in Alaska, “increases in temperature and moisture apparently corresponded to intervals of elevated solar output and reduced advectations of ice-bearing (cooler) surface waters eastward and southward in the North Atlantic. Conversely, decreases in temperature and moisture corresponded to intervals of reduced solar output and increased advectations of North Atlantic ice-bearing waters.”

of certain subsystems or, more often, because of particular local conditions. Developments in India and Southeast Asia, most notably, appear to occur sometimes out-of-sync with the rest of the world-system.⁴² For example, the Gupta empire (fourth through fifth centuries c.e.) emerged at a time of recession. Indeed, the intense contacts between India and Southeast Asia during this time led to the Indianization of the latter region. Although the recession in western Asia from the ninth to the tenth century produced a sharp decrease in its urban populations—Baghdad being a notable example—Indian cities experienced modest growth during the same time period, and trade between India and Southeast Asia remained strong. In the fourteenth century, the downward spiral greatly affected the two far ends of the world-system (perturbations in China; outbreaks of the plague in China, Egypt, and western Asia; economic problems in the Ilkhanid empire and its ensuing demise), while trade between India and Southeast Asia continued with little change, and Mojopahit (Java) enjoyed great prosperity. In the fifteenth century—after 1433 to be precise—when China, along with its huge market, practically cut itself off from foreign trade,⁴³ commerce was thereby forcibly disrupted in the China Sea, but in Southeast Asia commerce continued to flourish, and Malacca was described by Portuguese at the start of the sixteenth century as “the biggest warehouse in the world.” This relative stability in Southeast Asia might be attributed to a stability in climatic conditions, to the strategic importance of the Straits of Malacca, and/or to the high demand for spices from Moluccas, the main product from the region. This asynchrony also appears to be tied up to the pace of China,

⁴² Gills and Frank have remarked on these phenomena of desynchronization that, they argue, allow for the restructuration of the world-system. “It is precisely because some regions and states get out of phase that the transformation and development of and in the system can take place” (“World System Cycles,” p. 149). They postulate that the rise of certain powers at a moment of global crisis stems from the weakening of others, but I do not find this to be sufficient explanation. Why, precisely, is one state better positioned for ascent than another? Chase-Dunn and Hall (*Rise and Demise*, pp. 149, 221, 224; “Comparing World-Systems,” p. 107) have likewise noted that South Asia and Southeast Asia have “dynamics . . . less tightly (coupled) to the emerging Afroeurasian world system” than other regions such as China or western Asia. Growth and decline of states in Southeast Asia occur often in opposition to those of Chinese and Indian empires. Wilkinson shows that subregions of the Eurasian continent are often out of sync during phases of slowdown in the world-system (“Civilizations Are World Systems!” in Sanderson, *Civilizations and World Systems*). A final example of desynchronization: the expansion of Byzantium from the late ninth into the tenth century.

⁴³ For reasons still debated: threat from the Mongols, fear of a massive outflow of copper cash through trade, reactions against the excessive costs of Zheng He’s expeditions, environmental problems (deforestation due to excessive shipbuilding).

which often moved ahead of the rest of the system: enjoying links to two systems (India and China), Southeast Asia could more easily compensate for recessions and take quickest advantage when China entered an upward trend. For the same reasons, southern India and Ceylon likewise appear to have escaped the ups and downs of the system. Moreover, unlike China or West Asia, these regions were usually not the targets of foreign invasions. The Indian peninsula was continuously able to take advantage of the multiplicity of commercial routes to which it was connected.

The rise and fall of cities—whose interconnections form the system's "basic foundation"—serve as useful indicators of economic activity, the level of interconnectedness of regions, and transformations in the system(s). T. Chandler's 1987 calculations of the population of the twenty-five largest cities are useful in this sense, but they need to be approached with at least two caveats. First, his estimations for the oldest periods are questionable, especially for India and China.⁴⁴ Second, his method tends to underestimate the important role of city-states, whose economic and cultural influences are usually greater than their demographic standing. The prominent cities belong mainly to the great powers that control the cores of the system: Luoyang, Chang'an (Han empire), Rome, Alexandria (Roman empire), and Ctesiphon (Parthian empire) in the first centuries of the Christian era; Chang'an, Luoyang (Tang empire), Baghdad (Abbasid empire), Byzantium (Byzantine empire), and Cordoba (Umayyad caliphate) from the seventh till the tenth century; Kaifeng, Hangzhou, Tanzhou, Jizhou (Sung empire), Merv (Seljukid empire), and Kalyani (Chalukya empire) in the eleventh and twelfth centuries; Peking, Hangzhou, Quanzhou (Yuan empire), Delhi (sultanate of Delhi), and Cairo (Mamluk empire) in the thirteenth and fourteenth centuries; and Peking, Hangzhou (Ming empire), Vijayanagara (Vijayanagara empire), Cairo (Mamluk empire), and Istanbul (Ottoman empire) in the fifteenth and beginning of the sixteenth century. But in that last period, we find also important towns that are city-states belonging to semiperipheries: Malacca and Venice.

⁴⁴ The work of T. Chandler should today be revived and improved upon. The evolution in the number and size of cities with more than forty thousand inhabitants shows an abrupt increase in 1400, which can be attributed in large part to the fact that the data used by Chandler are more consistent than for preceding periods. It is nevertheless remarkable that the data collected by Chandler show a decrease in size for the twenty-five biggest towns in the world between 100 and 361 C.E. During this period, the Han, Kushan (ca. 200), and Parthian (226) empires disappear.

CORES AND PERIPHERIES, ELITES AND DOMINATED CLASSES

From its very beginnings, the world-system has been characterized by hierarchy, its cores and peripheries experiencing interactions that produce inequalities between regions and within the interconnected societies. These power relations are structured—most notably—by the transfers of surplus that occur all along exchange networks.⁴⁵ A crucial factor for the success of a core—both in relation to its periphery and its competition with other cores—is its efficient extraction of surplus. This efficiency is based on commercial and financial mechanisms, production processes, ideological power, and sometimes military might (Figure 4).⁴⁶

Four permanent cores can be identified: China, India, western Asia, and Egypt, their success based on both geographic and historical factors.⁴⁷ Agricultural productivity in Mesopotamia, the Nile valley, the Ganges, the Yellow River, and the Yangzi was obviously a vital attribute in the creation of these cores, as were the ensuing high rates of urbanization and extension of trading networks. Egypt and western Asia enjoyed a vital advantage: they lie between two or three maritime areas (the Persian Gulf and the Red Sea, the Mediterranean, and the Black Sea). With the exception of Persian and Arab ships, which plied the entire route from China to the Persian Gulf from the seventh to the ninth century, trade was divided into three zones or subsystems: the western Indian Ocean, the eastern Indian Ocean, and the China Sea.

These large zones were linked by intermediary areas. Various regions of Arabia, Persia, India, and Southeast Asia served as cross-roads and hinges between the sections. They were the end points of trade routes that changed little over the ages, owing in part to the pattern of trade winds, but also, in the case of some regions, to their posi-

⁴⁵ A. G. Frank, "Bronze Age World System Cycles," *Current Anthropology* 34, no. 4 (1993): 387. Chase-Dunn and Hall ("Comparing World-Systems," p. 91) contend that the core/periphery distinction does not necessarily imply hierarchy, but the mechanisms of the world-system itself would seem to contradict this possibility.

⁴⁶ Gills and Frank ("Cumulation of Accumulation" and "World System Cycles") have not sufficiently explained the mechanisms that assured the transfers of surplus in ancient times.

⁴⁷ In effect, India was generally a core with multiple centers (cf. *supra*). Rome and its empire formed another center or "core" for the first cycle of the system. Western Europe acquired the status of a center again only at the end of the fifteenth century in the ancient Eurasian and African world-system and in a new system that had as peripheries North and West Africa and the Americas. As cores, Egypt and western Asia were sometimes separate, sometimes united.

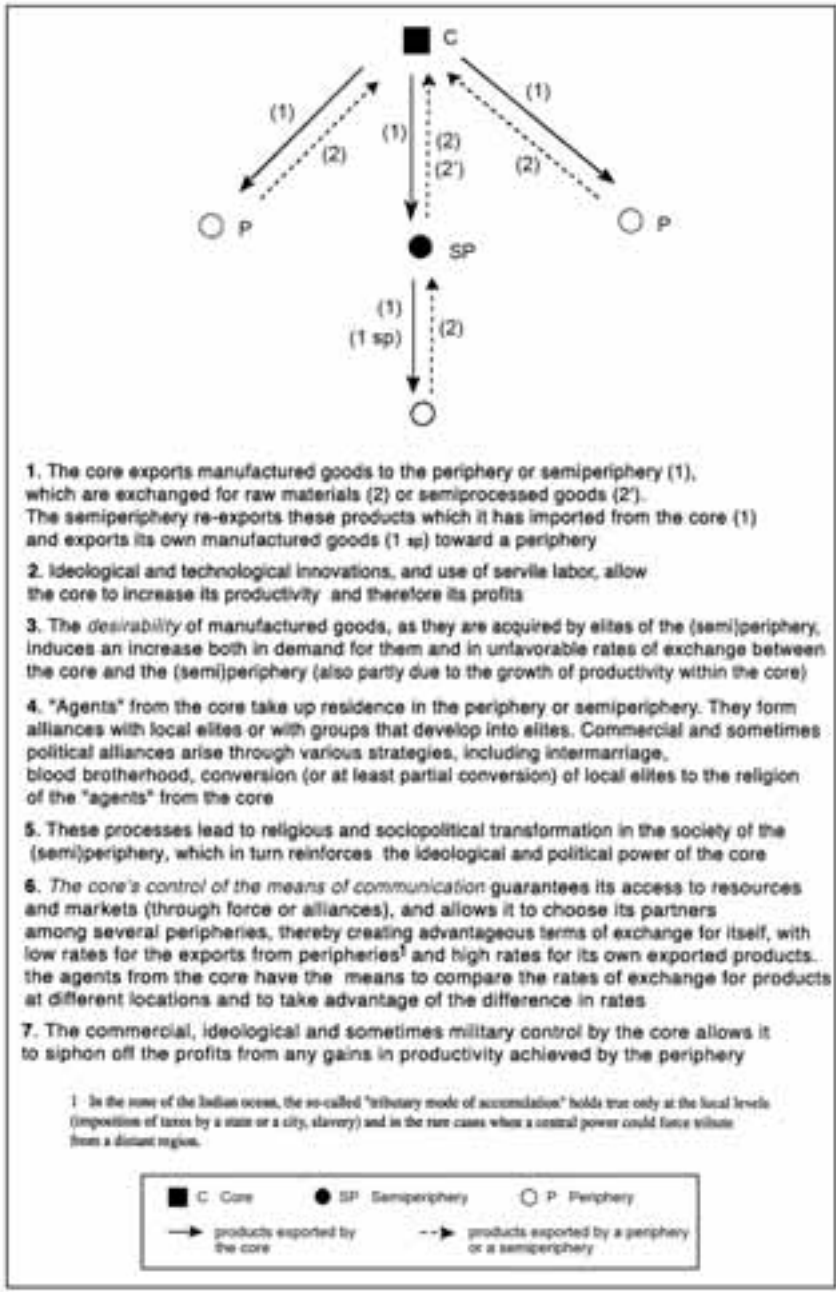


FIGURE 4. Diagram of the mechanisms of dependence core/periphery or semiperiphery.

tion in regard to land or river routes. Trade winds, moreover, caused merchants to spend prolonged periods in the ports of these areas, which favored the exchange of techniques and religions.

In the modern world-system, cores dominate peripheries and bring about their "underdevelopment."⁴⁸ Were such economic trends also the norm before the sixteenth century, in other words, does the nature of core-periphery relations change after the Industrial Revolution or after the sixteenth century? The evolution of the world-system before the sixteenth century shows in fact that cores *did* exploit their peripheries, but also that the two evolved together, pointing to a phenomenon of "co-evolution" or "spread effects," made possible by the advantages in geography or human resources that some regions were able to turn to their profit. Different authors argue that it is difficult to verify, with any certainty, the existence of the same clear division of labor that Wallerstein claims as a characteristic of the modern world-system. However, the pattern of a core producing manufactured goods and extracting raw materials from a periphery is well in evidence before the sixteenth century.⁴⁹

Besides geographic factors, the long-term advantages enjoyed by some regions (cores and, to a lesser extent, semiperipheries) in regard to production and commerce depended on their output of manufactured goods. Gains in productivity were made possible, on the one hand, by technological innovations and, on the other hand, by an efficient harnessing of labor, whether it be a slave or salaried work force, controlled by state or private capitalism, or a system of tax or tribute imposed by an elite. Once the system took shape, textile products constituted efficient commercial weapons for the cores: silks from China and then Persia, cotton fabrics from India, linen and woolen fabrics from western Asia and Egypt. But there were also ceramics (porcelain from China from the seventh or eighth century, ceramics from the Persian gulf), glass (Roman world, western Asia, Egypt), metal objects (Roman world, western Asia, India, China), beads (India), and so forth.

Cities attracted cheap labor from the countryside; they also gave rise to an elite class of artisans. Cores enjoyed a flexibility in their pro-

⁴⁸ On the "development of underdevelopment" and "unequal exchange," see A. G. Frank, *Le Développement du Sous-développement* (Paris: Maspéro, 1970); A. Emmanuel, *L'échange Inégal* (Paris: Maspéro, 1973); and S. Amin, *L'échange Inégal et la Loi de la Valeur: La Fin d'un Débat* (Paris: Anthropos, 1981).

⁴⁹ In this regard, I do not share the reservations of Chase-Dunn and Hall, "Comparing World-Systems," p. 91. Ancient Mesopotamia, which these authors cite, in fact provides a good example of this process, as it was exporting textiles and metal goods.

duction and a fluidity in their organizational systems, much more so than their peripheries, where the chances of increasing supply could be limited or nonexistent (the growing difficulty of procuring gold and ivory in certain regions of East Africa is a good example).⁵⁰ The streamlining of production and commercial practices as well as the power of ideology and military might could all tip the balance in favor of cores over peripheries. In the creation of dominance between centers and peripheral regions, the control of routes where exchanges occur appears to be of fundamental importance. Merchants of peripheries use these routes little or not at all, unlike merchants of the cores, who are able to use them to take advantage of the different exchange values of products in different markets (Figure 4).

The notion of exchange value can be considered from various angles. It can be evaluated by the amount of labor time used in obtaining raw materials and slaves or in producing a commodity. On the other hand, it can be measured by what has been obtained in the exchange process. The exchange value in the periphery remains low because of (1) inefficiency (for example, in capturing slaves and in gold mining), but more so (2) the exchange rate dictated by the core through different mechanisms. Cores were in a position to impose their products at their own prices or exchange rates, thereby structuring the international order of labor. The useless nature of the raw exported goods in the periphery increases the loss in exchange value. These raw materials were most often luxury goods (for example, ivory, gold, aromatic resins from East Africa and Madagascar), but "luxury" only from the standpoint of the importing core. In exchange, cores offered cloth, beads, and pottery that they mass produced. The contrast between the desirability of imported manufactured products and raw local goods along with the gap between the societies trading with each other appear to be fundamental elements in the formation of unequal exchange,⁵¹ on the East African coast for example. This difference in desirability tends to grow over time because imported manufactured products contribute in part to the social status of the elites within

⁵⁰ Moreover, because cores control commercial routes and markets, gains in their industries' productivity do not bring about a decrease in profit for their manufactured goods; conversely, the profits from gains in productivity that occur in peripheries are recouped by cores.

⁵¹ Versus M. N. Pearson, *Port Cities and Intruders: The Swahili Coast, India, and Portugal in the Early Modern Era* (Baltimore: Johns Hopkins University Press, 1998), p. 116, and P. Sinclair and T. Hakansson, "The Swahili City-State Culture," in Hansen, *A Comparative Study of Thirty City-State Cultures*, p. 475.

peripheries. The imbalance of power in an exchange was proportional to the gaps—in terms of technology, military might, social complexity, and so forth—between the two concerned parties. Besides the export of raw materials, peripheries also served as a labor pool, supplying the ever-voracious cities with artisans, soldiers, servants, or food producers. Indeed, slaves from East Africa were traded throughout the Indian Ocean, all the way to China, from the time of the Tang dynasty. So too, the Muslim world in western Asia and Egypt was importing slaves from East Africa and Sudan, as well as from central Asia and the “Slavic lands.” This “international division of labor” becomes sharper with each succeeding cycle in the system.⁵²

The movement of surpluses through networks—which occurs in various ways⁵³—gives rise to political and economic hierarchy between regions, states, and classes and to the creation of “chains of dependency.” This pattern holds true for zones lying outside of, but interacting with, cores, for whom economic success is also tied to the exploitation of their own “fringes” (rural areas, underprivileged social classes). The concept of semiperipheries—which combine organizational and institutional characteristics of both cores and peripheries—developed by I. Wallerstein, C. Chase-Dunn, and T. D. Hall, captures well the nature of the intermediate zones that develop between cores and the lands they exploit. This notion helps to shed light on the success of trading centers on the East African coast and its Swahili civilization. It also accounts for the “Indianization” of Southeast Asia, which lay between the cores of China and India, a process marked by the creation of the Funan state in the first century, the thalassocracy of Sriwijaya

⁵² From the sixteenth century, the African inland was a hinge between the two existing world-systems. At the center of the slave trade networks, Africa provided the West and the East with slaves. See the map of the slave trades published by C. Coquery-Vidrovitch, *L'Afrique et les Africains au XIX^e Siècle* (Paris: Colin, 1999), p. 190. Moreover, earlier evidence for links established through the African inland are cowries, which represented a well-established currency in West Africa from the twelfth until the nineteenth century (C. Coquery-Vidrovitch, personal communication). These shells—which came ultimately from the Maldivian islands—were found even earlier at Awdaghust (western Sahara) in levels belonging to the ninth through tenth centuries (J. Devisse, “Commerce et Routes du Trafic en Afrique Occidentale,” in *Histoire Generale de l'Afrique* [UNESCO, NEA, 1990] p. 450).

⁵³ Unlike S. Amin (“History Conceived as an Eternal Cycle,” *Review* 22, no. 3, [1999]: 308), I believe that core-periphery relations in periods before the sixteenth century are already “defined in terms of economic exploitation” (although not uniquely so). Wallerstein and Amin have unnecessarily assumed that politics and ideology dictated the economy before the end of the fifteenth century in terms of a “tributary system.” Indeed, the notion of “a tributary age” (*ibid.*, p. 316) before 1500 runs squarely against the historic facts.

in the seventh century, the expansion of Mojopahit in the thirteenth and fourteenth centuries, and the development of the Pasai (from the thirteenth century) and Malacca city-states (fifteenth century). The current debate over whether these semiperipheries came about through “colonization” or indigenous initiative is misplaced. In fact, “agents” from cores (or centers of semiperipheries) were present and active in the merchant circles of the peripheries—for example, the Persians, Egyptians, Arabs, and Indians residing on the coast of East Africa. The alliances they created with the local elite, or the elite that eventually formed in the area—through commercial alliances, but also through intermarriage, the formation of “blood brotherhood” pacts and the religious conversion of elites—gave rise to centers that played an intermediary role between the main core and the periphery (for example, the African hinterland, and the Comoros Islands and Madagascar for East Africa). These alliances resulted in the ideological, economic, and political configuration of the periphery or semiperiphery, which increased the dependency and flow of goods toward the core, a dependency that profited the elites at the expense of the “fringes” of their own sociopolitical entities. Indeed, it is the addition of a new periphery to the world-system that brings about the creation of new commercial centers that serve as “pivots” between the distant land and the main core. “For the various craft activities,” the Swahili, for example, “were able to exploit the technological advantage gained through their wide-ranging contacts, and possibly by the actual settlement of overseas craftsmen within the towns.” The Swahili restricted the supply of many items to which they had access through their Indian Ocean partnerships, and they have “actively kept Islam as a coastal monopoly.” As Horton and Middleton underline it, “The trading relationship between the coast and the interior has always been asymmetrical—one of exploitation of Africa by the outside world. Typically, the interior has exchanged its natural and raw materials for manufactured commodities.”⁵⁴ Scholars such as M. Pearson, who claim that on the East African coast exchange was not unequal but beneficial for all trading partners willfully ignore the mechanisms of exploitation, the size of the

⁵⁴ M. Horton and J. Middleton, *The Swahili: The Social Landscape of a Mercantile Society* (Oxford: Blackwell Publishers, 2000), p. 102. Cf. also E. A. Alpers, *Ivory and Slaves: Changing Patterns of International Trade in East Central Africa to the Later Nineteenth Century* (Berkeley: University of California Press, 1975); and A. Sheriff, “Trade and Underdevelopment: The Role of International Trade in the Economic History of the East African Coast before the Sixteenth Century,” in *Hadith 5: Economic and Social History of East Africa*, ed. B. A. Ogot (Nairobi: East African Literature Bureau, 1976), pp. 1–23.

exchanges—in volume, space, and time⁵⁵—social stratifications produced by long-distance trade,⁵⁶ and the existence of a sustained and prolonged slave trade.⁵⁷

While semiperipheries adopt many technological and social aspects of the core, they can also create novel ones; among many examples, one can cite the creation of an alphabet in Ugarit and Palestine toward the thirteenth century B.C.E., the development of navigation in South-east Asia around the first century C.E., and the banking systems and “Republican” forms of organization in Italian cities after the thirteenth century C.E.

In the modern world-system, the proof for the underdevelopment of peripheries is readily visible—and quantifiable—in the “decline in the rates of exchange,” but such figures are not available for the Indian Ocean before the sixteenth century. Some peripheries were no doubt impoverished by their weaker position in a network structured by power relations, but maybe in a less permanent and irremediable manner than in the modern era. It is probable that the peripheries most

⁵⁵ Ivory was not only a by-product of elephant hunting, and searching for gold was not just an occasional activity to exchange gold for cloth. See *The Book of the Wonders of India*, which speaks of Africans working like ants in galleries, and Abu al-Fida', who quotes Ibn Sa'id (beginning thirteenth); G. S. P. Freeman-Grenville, *The East African Coast: Select Documents from the First to the Earlier Nineteenth Century* (Oxford: Clarendon Press, 1975), pp. 15, 24. Cf. also Portuguese accounts about the Manica country and the chiefdoms of Amçoçe and Mazofe (Mazoe) in 1512 and 1573, W. G. L. Randles, *L'Empire du Monomotapa du XVe au XIXe Siècle* (Paris: Mouton, 1975), pp. 81, 122. Pearson himself acknowledges an export of ten tons of gold a year from the coast of Sofala before the end of the fifteenth century (*Indian Ocean*, p. 84).

⁵⁶ Cf. the effects of long-distance trade on the construction of hierarchical societies as in the Limpopo area and Great Zimbabwe between the twelfth and fifteenth centuries. According to M. N. Pearson, the Swahili and foreign merchants were able to make their “huge profits” without any recourse to exploitation. Instead, “Overall, the advantage lay with Africa. . . . Africans could work as much or as little as they wanted” to extract gold and acquire imported products that “were discretionary rather than necessities in their agricultural and hunting lives, except for cloth on the plateau.” Thus, for Pearson, cloth is bought only for protection against the cold. It is not tied to social status, about which Pearson has little to say anyway. Pearson, *Port Cities and Intruders*, pp. 117, 124. Moreover, it is certainly erroneous to consider that in the fifteenth or sixteenth century, “the traders from the [East African] coast had to try and create a market de novo” (*ibid.*, p. 113). Exchanges have been developing between coast and interior for more than a thousand years. If it was so difficult for the traders to sell their products, how did they manage to make such “huge profits”?

⁵⁷ It is as if the *razzias* for slaves carried out by coastal groups did not inflict any harm or social damage on the peripheral societies. These *razzias* probably are just part of the “benign” effects of the trade mentioned by Pearson (*Port Cities and Intruders*, p. 119). The effects of the slave trade were all the more devastating because women probably formed the larger number of slaves. On the East African coast, women play an essential role in agricultural production.

subject to domination were those within the core itself, both the geographic edges and weaker social groups. With the advent of European capitalism, the chasm between the core and the periphery widened deeply, owing in part to the rapid rate of technological innovation, which was much more marked than in the system(s) of the ancient world. But innovation was only one of the tools of power.

The instruments of economic exploitation and/or cooperation were moreover embedded in ideological influence and domination. The spread of Islam and Christianity appear to have been tied to economic and political relations. "The Missionaries teach the natives that they are naked and the merchants sell them cloth."⁵⁸ Religious men often become traders. Thus scholars who argue that societies have "choice" in their trade relations overlook the glaring issues of power relations and the fact that the desirability of products is largely the result of processes of domination.

Contacts between cores, semiperipheries, and peripheries can be violent or pacific. In East Africa, the establishment of relations with the outside world stimulated trade far inland and gave rise to the creation of ruling chiefdoms and city-states on the coast, whose relations with the interior tended to be formed through alliances rather than military force,⁵⁹ even if the continued existence of local slavery and the exportation of slaves resulted in raids and wars.⁶⁰ This ability to form alliances—combined with their geographic advantage—no doubt explains the stability of the Swahili cities despite their seemingly fragile position.

As a different strategy for cores or semiperipheries, the creation of an empire is a policy to control directly—through force—the totality of routes and accumulation centers in a system (or a part of a system) and therein to increase the level of surplus extracted. Various political constructions have aspired to become "universal" empires: the Achaemenid empire, the Greek empire under Alexander the Great, and the Mongol empire under Gengis Khan and his successors.

When points of trade are separated by long distances, the extraction of resources tends to be accomplished through commerce and

⁵⁸ A. Sherratt, "Envisioning Global Change: A Long-Term Perspective," in Denmark et al., *World System History*, p. 121.

⁵⁹ For the case of Southeast Asia, see P.-Y. Manguin, "The Amorphous Nature of Coastal Polities in Insular Southeast Asia: Restricted Centres, Extended Peripheries," *Moussons* 5 (2004).

⁶⁰ Cf. for example Ibn Battuta on Kilwa: "They are devoted to holy wars because their country is near pagan Zenj" (Ibn Battuta, *Voyages*, vol. 2, *De La Mecque aux Steppes Russes* [Paris: F. Maspéro, 1982], p. 90).

taxes, and only rarely through raids or a military presence. Dominance was achieved, in large part, through economic and ideological power. Yet occasionally we find examples of a core undertaking military incursions in a semiperiphery: the raids of the Chola empire against Sriwijaya in the eleventh century, the expedition of the Yuan of China against Java and Champa in the thirteenth century, and the campaigns of Egypt into Yemen in the twelfth century and again in the fifteenth century. Before the arrival of the Portuguese, there occurred only one large-scale economic and politico-military intrusion across the length of the Indian Ocean, that of the imperial Ming flotilla at the start of the fifteenth century. Conversely, however, a (semi)periphery frequently conquered a core or several cores, as was the case for the Arab semiperiphery in the creation of the Muslim empire, for a Central Asian semiperiphery in the emergence of the Kushan empire in India (first century), and for the Mongol invasions of Mesopotamia and China (thirteenth century) and later of Mesopotamia and India (from the end of the fourteenth through the early fifteenth century).

Power relations evolve within the spatial and temporal context of the pulsations within the system. Cores and peripheries underwent alternating phases of integration and disintegration: after holding a dominant position, a power went into decline, followed by the emergence of several regional rival powers. This tended to happen during times of downturn. The history of India, particularly northern India, provides a good example of these alternating moments of centralization and decentralization. In a similar way, between the Han, Sui then Tang, Sung, and Ming empires, China went through periods of political fragmentation and often social chaos. The balance of power oscillated, too, between regions, the result of economic competition and changing politico-military strength. In the west, politico-economic preeminence went back and forth between the Persian Gulf (third through ninth centuries) and the Red Sea (second century B.C.E. through second century C.E., tenth through fourteenth centuries C.E.). Periodically, a dominant power was able to simultaneously control both of these maritime trade "corridors" to the Indian Ocean (for example, the Assyrian empire in the seventh century B.C.E., the Persian Achaemenids, Greece in the time of Alexander the Great, and the Muslim caliphate), or at least it made the attempt (for example, the Roman empire in the first century B.C.E. and the second century C.E., the Mongols in the thirteenth century). In Southeast Asia, the route to China and the spice route first passed over the northern end of the Malay Peninsula (until the sixth century), then moved to go around the southern end of the Malay Peninsula and the southeast coast of Suma-

tra (seventh through thirteenth centuries), next shifting to Java (thirteenth through fourteenth centuries) before finally returning to the Malay Peninsula at Malacca in the fifteenth century.

Hierarchies are not immutable in space or time and the history of the world-system is not “an eternal cycle” (S. Amin, 1999). Spurred by technological innovations, along with processes of accumulation and demographic increase, the general trend, from one cycle to another, has been for ever-increasing hierarchy and specialization among the zones of the system—and within zones—and for ever-increasing political and economic integration.⁶¹ In general, the given data point to incrementally increasing expansion.

CONTINUITY AND CHANGE: THE EXPANSION OF THE WORLD-SYSTEM

The succeeding cycles in the system are at once similar and different. Any changes that do occur do not affect the structure or the nature of the system. Fundamental transformations are noticeable at only two moments: (1) from 3500 to 2400 B.C.E. in western Asia and Egypt and in the second millennium in China, when the state was born along with private means of accumulation, which broke with the former mode of accumulation based on kinship relations, and (2) toward the middle of the eighteenth century, during the Industrial Revolution—which also represents an ideological revolution—when the capitalist mode of accumulation became, for the first time, preeminent in a world-system that would henceforth link America, Africa, and Eurasia. The sixteenth century, however, also represents a decisive moment, when a new ocean, the Atlantic, was joined to the Indian and Mediterranean Oceans—linked since ancient times—a moment when Europe emerges as core of a new space.

Each new period of growth creates a new spatial division of labor, although it builds on the preceding one. With the exception of the oscillations between rival regions mentioned above, commercial routes—at least the principal ones—vary little over time. Secondary networks are more flexible, widening and becoming more dense during phases of growth in the world-system and contracting during periods of regression, as these secondary routes arise or disappear according to

⁶¹ Cf. C. Chase-Dunn and T. D. Hall, “The Historical Evolution of World-Systems,” *Sociological Inquiry* 64, no. 3 (1994): 271.

the resources on offer (raw materials, manufactured goods) and to those in demand, as well as in relation to geographic and political factors. Trade winds, for instance, are of great importance to ports located between two oceans. Pivotal regions (for example, Southeast Asia, Oman, Yemen, and Ceylon) retain a primordial role in the networks throughout history. The same holds true for ports situated at the mouths of rivers or harbors that serve as the final destination for major land routes (for example, the mouths of the Tigris and the Euphrates, the Indus and the Ganges, the Yangzi, and the Gujarat, which abuts the roads leading to and from the Ganges valley) and for certain regions that lie close to essential raw materials (the gold of Zimbabwe, the spices of the Moluccas, and so forth).⁶²

In the far hinterland, particular zones can exert a marked influence, creating a link or, conversely, a barrier. For example, central Asia, through which passed the Silk Roads, played a crucial role in the commerce between China, India (by way of the Hindu Kush), and western Asia. The confederations and empires of the peoples of the steppes developed hand in hand with those of China. All the great empires, whether of China, northern India, Persia, or the Abbasid caliphate—with the exception of the Sung empire—sought to control central Asia, a strategy that was profitable, however, only during periods of expansion in the system. Mention should be made too of the “steppe routes” lying farther to the north and the importance of the routes between China and Burma and the trans-Indian passage between the Ganges and Gujarat or across the Deccan.

Land routes tend to complement sea routes rather than compete with them. They tend to develop in conjunction with sea passages, even if a state may concentrate its efforts on a certain route, with the purpose of getting around another state’s control over a key region. In the first century, the Romans were able to bypass Arab merchant caravans by the building up of shipping in the Red Sea. Byzantium relied on a route across the steppes of Khazaria in order to avoid Persian competitors in the sixth century. But the flourishing of the Silk Roads and the route across the Mongol steppes in the thirteenth century did not weaken trade in the Indian Ocean.⁶³

⁶² Some ports, however, that served as warehouses and crossroads had practically no hinterland and owed their success entirely to their strategic geographic location. This was the case for Hormuz and Malacca.

⁶³ I therefore disagree with Bosworth who sees a “tension” between land and sea routes and argues for the existence of cycles that alternated between silk routes by land and spice routes by sea (Bosworth, “The Evolution of the World-City System, 3000 BC to AD 2000,” in Denmark et al., *World System History*, p. 282).

Not only was there continuity in commercial routes, there was also continuity in the types of products being exported. India, for example, was exporting cotton cloth as early as the first century C.E., along with beads and precious stones. The general trend has been for certain basic types of goods and products to influence commerce and the movements of peoples over the course of several centuries; such products include metals (both precious and nonprecious), clothing items, luxury goods for body adornment, perfumes, medicines (for religion and health), aromatics (for health and cooking), means of production (slaves, tools, and so forth), means of transport (for example, ships), instruments of war (weapons, horses, elephants), food, rare goods, and sacred objects.

This continuity was embedded in a general trend of expansion and intensification that itself was linked to technological innovation and social developments brought about, in part, through economic constraints and sometimes—especially in the case of agriculture—demographic and ecological factors.⁶⁴ This rhythm could intensify in certain times and in certain places. The free trade promoted by the Sung in China from the tenth to the thirteenth century gave rise to innovation and growth. The competition between states in Europe from the sixteenth century had the same effects. As I have underscored, progress in agriculture played a crucial role, as it is the cornerstone for urbanization and the development of handicraft or semi-industrial production that fuels trade in both internal and external markets.

Progress in ship building, especially in the twelfth and thirteenth centuries, reduced transport times and influenced the types of products that were shipped. It allowed for the transport of ever-larger loads of heavy and inexpensive materials (for example, raw materials, agricultural products, and so forth). This point is important for our discussion of world-systems. Wallerstein rejects “Frank’s so-called world-system” before the sixteenth century on the grounds that it traded only in luxury goods, not staple items, and thus, in consequence, it could not have been organized by the “axial division of labor” that characterizes the modern world. This reasoning, however, does not hold up under

⁶⁴ Building on Julian Steward’s notion of “cultural ecology” (*Theory of Culture Change: The Methodology of Multilinear Evolution* [Urbana: University of Illinois Press, 1955]), J. Diamond uses data from archeology, history, genetics, and molecular biology to argue that environmental conditions gave rise to the development of agriculture and conferred a decisive advantage on Eurasian societies (*Guns, Germs, and Steel: The Fates of Human Societies* [New York: W. W. Norton, 1997]).

scrutiny.⁶⁵ Agricultural products—and raw materials in general—were part of trade networks from the very beginnings of the system, evidence of which can be found in the *Periplus of the Erythrean Sea*⁶⁶ and recent archaeological excavations of the Egyptian port of Berenice.⁶⁷ Well before this time, in the third millennium B.C.E., evidence shows tar, oils, and grain moving from Mesopotamia to Dilmun and Oman, wood and dairy products from India to Mesopotamia and Dilmun, and copper and hard stone from Oman to Mesopotamia. Moreover, some authors, as Gills, think that the systemic nature of trade does not derive primarily from the types of products that are exchanged (“preciosities”/“necessities”), but from the fact that there exists a transfer of surpluses between the zones of the system.⁶⁸ In addition, one could question Wallerstein’s notion that the trade in luxury goods has no important systemic impact.⁶⁹ Indeed, some authors have argued the opposite, that the circulation of luxury goods has structural implications because of their close connection to ruling elites, who wish to control them, any change in the supply of these goods having repercussions for political hierarchies.⁷⁰

Significant gains in production and commerce are made possible through the use of money and the buildup of banking services. Thus we find that financial institutions arise from the very start of Islam. They built on the experiences of the Sassanid Persians, the Byzantine empire, and from even further back, Persia and Mesopotamia of the first millenium B.C.E. In the western Muslim world and in India, guilds and merchant associations played the role of bankers, prime examples being the Ayyavole of Deccan and the Manigramam of Tamil Nadu

⁶⁵ I. Wallerstein, “World System Versus World-Systems: A Critique,” in *World System: Five Hundred Years*, pp. 293–294; and Chase-Dunn and Hall (“Comparing World-Systems,” p. 92) also contend there was “no movement in raw materials” in ancient times.

⁶⁶ Cf. L. Casson, *Periplus Maris Erythraei* (Princeton, N.J.: Princeton University Press, 1989).

⁶⁷ Cf. R. T. J. Cappers, “Archaeobotanical Evidence of Roman Trade with India,” in Ray, *Archaeology of Seafaring*, pp. 51–69, W. Z. Wendrich et al., “Berenike Cross-Roads: The Integration of Information,” *Journal of the Economic and Social History of the Orient* 46, no. 1 (2003): 46–87.

⁶⁸ B. K. Gills, “Capital and Power in the Processes of World History,” in Sanderson, *Civilizations and World Systems*, p. 146.

⁶⁹ Wallerstein, *Modern World-System*, vol. 1, pp. 41–42.

⁷⁰ J. Schneider, “Was There a Pre-Capitalist World-System?” *Peasant Studies* 6, no. 1 (1977): 20–29; P. Peregrine, “Prehistoric Chiefdoms on the American Mid-Continent: A World System Based on Prestige Goods,” in *Core/Periphery Relations in Precapitalist Worlds*, ed. C. Chase-Dunn and T. D. Hall (Boulder, Colo.: Westview Press, 1991), pp. 193–211; Chase-Dunn and Hall, *Rise and Demise*, pp. 13–14.

from the eighth to the thirteenth century, and the Karimi Egyptians from the twelfth to the fourteenth century (even if the latter was not strictly a guild). Increasing monetarization occurs over the centuries, although at different, sometimes opposing, rhythms from region to region.⁷¹ The creation of large political entities (for example, the Abbasid empire, the Delhi Sultanate, the various Chinese empires) naturally facilitated the spread of monetary systems over wide zones.

Precious metals—in the form of merchandise and/or money—and their flow played an important role in the structuring of the world-system and its evolution. Precious or highly sought-after objects, which sometimes served as money (a standard of value and/or means of exchange), were spread along commercial routes. Cowries were used from Bengal to Assam, in Burma and Yunnan, as well as in Thailand and Annam. Silk, of course, was ubiquitous in caravan and maritime networks and served in different regions as a means of exchange and also as a unit of value (for example, Nanzhao in the ninth century, or Cambodia from the eighth to the thirteenth century).

Cores that lacked precious or semiprecious metals sometimes overcame the shortfall and created a tool of economic expansion through the development of credit, as was the case for the Muslim world from the eighth to the tenth century, in Ayyubid Egypt, and in China from the ninth century.

From ancient times, market prices played a role in the movements of goods. In the first century C.E., the *Periplus* records that Egypt exported copper to Barygaza (Gujarat), and that this same port also exported copper (either of Egyptian origin or coming from production centers in the Northwest of India) to Apologos (near Basra). Marco Polo described a favorable gold-to-silver ratio that encouraged merchants to transport silver from Yunnan to Burma.

Commercial routes, however, were not the only networks that contributed to the birth and evolution of the world-system; other types of networks intersected with those of merchants. Religion, for example, played a key role in the history of the Indian Ocean and the China Sea. The development of Buddhism, Christianity, and then Islam, which saw the worshipper's relation to the divinity move toward an increasingly individualized encounter, occurred within the context of

⁷¹ For Southeast Asia, see, for example, R. S. Wicks, *Money, Markets, and Trade in Early Southeast Asia: The Development of Indigenous Monetary Systems to AD 1400* (Ithaca, N.Y.: Cornell University Press, 1992).

increasing private enterprise.⁷² Buddhism and Islam spread along merchant routes, contributing to their growth. H. P. Ray has argued for a tie between Buddhism and entrepreneurial spirit, and D. Lombard has made a similar case for Islam.⁷³ Clearly tied to commerce, the expansion of Islam went hand in hand with the growth of the world-system and contributed to the integration of its different parts. Indeed, D. Lombard has called the Indian Ocean before the fifteenth century the "Islamic Sea." In Islam, religion and trade formed a continuum. Pilgrimages to shrines or to tombs of saints gave rise to merchant gatherings and even to fairs, notably in India.⁷⁴

Other religious diasporas created fairly powerful networks over the centuries. Jewish communities, based on the coast of Kerala from the time of the Romans, were present in China from the eighth century and probably earlier. Their networks of the eleventh through twelfth centuries, which radiated from Egypt, are well known, thanks to the Geniza documents of Cairo.⁷⁵ I have already made reference to the role of merchant organizations such as the Tamil guilds (active until the fourteenth century). On a more modest scale, Nestorian Christians were also active throughout the Indian Ocean and along the routes of central Asia. Along with trade networks, large political organizations have also contributed to the expansion of the major religions: the

⁷² L. Dumont (*Essays on Individualism: Modern Ideology in Anthropological Perspective* [Chicago and London: University of Chicago Press, 1986], p. 27) writes, "There is no doubt about the fundamental conception of man that flowed from the teaching of Christ: as Troeltsch said, man is an 'individual-in-relation-to-God.'" Cf. also M. Augé, *Génie du Paganisme* (Paris: Gallimard, 1982), p. 139, about the figure of an individual human destiny shaped by Christianity. "Salvation, Transcendence and the Mystery," Augé continues (*ibid.*, p. 14), "are essentially absent . . ." from paganism. The importance of the individual was established in schools of thought from Hellenistic times (e.g., Cynics, Epicurians, Stoics). Dumont holds that Christianity's emphasis on the individual reached its peak with Calvin during the Reformation: "the individualist value now rules without contradiction or restriction" (Dumont, *Essays on Individualism*, p. 57).

⁷³ H. P. Ray, *The Winds of Change: Buddhism and the Maritime Links of Early South Asia* (New Delhi: Manohar, 1994); D. Lombard, "Y a-t-il Une Continuité des Réseaux Marchands Asiatiques?" in *Marchands et Hommes d'Affaires Asiatiques dans l'Océan Indien et la Mer de Chine: 13e-20e Siècles*, ed. D. Lombard and J. Aubin (Paris: EHESS, 1988), pp. 11-18.

⁷⁴ As M. N. Pearson underlines it ("The Indian Ocean and the Red Sea," in *The History of Islam in Africa*, ed. N. Levtzion and R. L. Pouwels [Athens: Ohio University Press; Oxford: James Currey; Claremont: David Philip, 2000], p. 44), "the hajj is a remarkably efficient method of integrating the worldwide [Muslim] community."

⁷⁵ See S. D. Goitein, "From the Mediterranean to India: Documents on the Trade to India, South Arabia, and East Africa from the Eleventh and Twelfth Centuries," *Speculum: A Journal of Medieval Studies* 29 (1954): 181-197, for the networks linking Egypt and India.

Roman, then the Byzantine and Carolingian empires to the development of Christianity, the Umayyad and Abbasid empires, then the sultanate of Delhi to the spread of Islam.

Cities served as the point of articulation between commercial routes and religious networks. Increasing urbanization along with general demographic growth and improvements in communication were integrally tied to the creation and expansion of the world-system. Although originating in the cores of the system, urbanization also spread to the peripheries. The engines of production and trade, cities were everywhere marked by social divisions, although these were more pronounced in cores than in peripheries. The development of networks resulted, moreover, in a hierarchical relationship between metropolises and their satellite cities. "Clusters" of cities were thus formed, the intensity of their interactions being shaped by pulsations in the system. Over the ages, metropolises rose, fell, and replaced one another, such changes accompanying a restructuring of networks and hierarchies, which could be political and economic in nature, sometimes also social or ideological. Commercial centers moved between competing zones. In the Persian Gulf, they moved from Siraf (seventh to ninth century) to Qays and Hormuz (from the eleventh century, and especially from the fifteenth century in the case of Hormuz); from the mouth of the Indus (Daybul from the eighth to the tenth century) in the Sind to Gujarat (Somnath in the eighth to the tenth century and Cambay from the thirteenth to the fifteenth century) in the northwest of India; in East Africa, from Rhapta (at the mouth of the Rufiji River, from the first century) to the archipelago of Lamu, Pemba, and Zanzibar (ninth through tenth centuries especially) then to Kilwa (after the eleventh century, and especially from the fourteenth through fifteenth centuries), then to Mogadishu and Mombasa (in the fourteenth and fifteenth centuries). D. Lombard has shown that in Java in the thirteenth century (with the momentum building in subsequent centuries) the major centers moved from the "hydraulic" cities of the interior to the political and economic ports on the coasts.

A distinguishing feature of cities throughout the world-system, and from its very beginnings, is their cosmopolitan nature, which only increased as the network developed. This went hand in hand with religious tolerance: tolerance at the level of political authorities and also, at certain moments, through the intermingling of religious networks (for example, by Muslim and Jewish merchants in Egypt and Yemen in the eleventh century), and although it may not have been the general rule, it is nevertheless a remarkable feature. In this regard, J. Aubin has justly remarked on "the indifference of the economic world to reli-

gious matters.”⁷⁶ As counterpart to the cosmopolitan cities was the transnational character of networks (cf. for example, the Gawan family of the fifteenth century).⁷⁷ S. D. Goitein’s description of Egypt in the twelfth century is applicable to other cities in other times: the pertinent division “was less in terms of religion and nationality than in terms of the warrior leaders and the merchant entrepreneurs.”⁷⁸

STATES AND PRIVATE CAPITAL

Data show that from the first millennium B.C.E., private capital has played an important role, alongside state capital. Characteristics considered particular to the modern capitalist system—increasing production of goods, enterprises seeking maximal profit, salaried labor, technological progress—are in fact present before the sixteenth century in numerous states. In some periods, the state is the major engine of accumulation; in others, private entrepreneurs. Recent research has questioned the presumed importance of the state in the development of commerce in ancient Mesopotamia, Maurya India (fourth through third centuries B.C.E.), and the Roman empire in its relations with south Asia.⁷⁹ In any event, it is clear in other cases such as the period today known as “medieval,” in the Abbasid caliphate (eighth and ninth centuries), southern India (eighth to eleventh centuries), Ayyubid Egypt (twelfth to thirteenth centuries), the sultanates of Bengal (fourteenth to fifteenth centuries) and Gujarat (fifteenth century), that capitalism came to dominate the spheres of production and commerce, a phenomenon that has been qualified incorrectly as “merchant” capitalism. As would later be the case in Europe, these entrepreneurs were at the same time producers, merchants, and financiers. Indeed, a general trend can be observed for “a complex mixture or articulations of modes (of accumulation) at all times in the develop-

⁷⁶ J. Aubin, “Y a-t-il Interruption du Commerce par Mer Entre le Golfe Persique et l’Inde du XI^e au XIV^e Siècles?” in Lombard and Aubin, *Marchands et Hommes*, p. 197.

⁷⁷ As but one example, Mahmud Gawan was a learned man and horse merchant whose family originated in Gilan. He served as a minister in the Bahmani sultanate of India while his brother, Ahmad, was based in Egypt. One of Ahmad’s sons did business with India while two others, Koranic scholars, lived in Mecca. On the importance of diasporas and networks that bypassed “ethnicity” and nations, see also P. Curtin, *Cross-Cultural Trade in World History* (Cambridge: Cambridge University Press, 1984).

⁷⁸ Goitein, “From the Mediterranean to India,” p. 197.

⁷⁹ For example, cf. Ray, *Archaeology of Seafaring*, pp. 188–189, 192.

ment . . . of the world-system,"⁸⁰ with alternating phases of development and decline in the private sector.⁸¹ It is true that capitalism in ancient times rarely assumed a preeminent position, which contrasts with Europe after the sixteenth century, when capitalism permeated the structures of the state, thereby laying the groundwork for the birth of the capitalist world-system.⁸² The Chinese Sung empire provides an example of a state and its society being transformed by burgeoning capitalism, with the creation of an urban bourgeoisie and internal markets. This evolutionary path in China would, however, be halted by the foreign threat that weighed on the country and internal contradictions in Chinese society. Under the Ming, commerce would be more strictly controlled by the state, especially after 1433. State policies vis-à-vis private long-distance commerce varied greatly, ranging from encouragement (under the Abbasids, the Egyptian Ayyubids, and the Sung) to restrictive measures (direct or indirect) to outright control. Control could take various forms. Sriwijaya in the eleventh century established a monopoly in the trade of sandalwood (and probably in other products). The Yemeni Rasulids, in the 1420s, discouraged merchant activity through imposing high taxes and making various exactions. In Egypt, from 1429, the Burji Mamluks created a monopoly on the trade in spices, fixed market prices, and overburdened merchants through taxation and the strict restricting of their business, thereby killing "the goose that laid the golden egg" in what was an already difficult international scene.

Capitalism developed not only within states but also within the context of the transnational networks that I have described.

Another setting for the development of capitalism, one that was

⁸⁰ Frank and Gills, "The 5000-Year World System: An Interdisciplinary Introduction," in *The World System*, p. 46. Here I am in agreement with Frank, at least for the periods preceding the eighteenth century. Frank holds that it is illusory to try to distinguish a qualitative difference in phases of the world-system based on modes of production. There was never a progressive succession of modes of production; instead, the various types of modes could be operating simultaneously, in different combinations and relations. Indeed, Frank goes so far as to say "This received conceptualization has continued to divert our attention away from the much more significant world systemic structures and processes" (*ReORIENT*, p. 331).

⁸¹ Chase-Dunn and Hall (*Rise and Demise*, pp. 212–213, and "Comparing World-Systems," p. 101) make reference to the "oscillation between state-based and private capitalist accumulation."

⁸² Chase-Dunn and Hall, *Rise and Demise*, p. 47. Gills, however, argues, "the entire Eurasian world-economy/system of the thirteenth century was perhaps already 'capitalist' (and perhaps even that of) the tenth century" ("Capital and Power," p. 139). It does, in fact, appear that capitalism played an increasingly important role from one cycle to the next.

historically primordial, was the city-states and small merchant sultanates that flourished from the thirteenth century in India, Southeast Asia,⁸³ and on the Swahili coast. Particular cases of note include Honavar and Calicut in India in the fourteenth and fifteenth centuries; in Southeast Asia, Samudra-Pasai from the end of the thirteenth to the fifteenth century; cities on the north coast of Java in the fourteenth through fifteenth centuries—dependencies of Mojopahit that became increasingly independent from the fifteenth century; Malacca in the fifteenth century; and Aceh after 1511. For the Swahili coast, the most important cities were Kilwa from the twelfth to the fifteenth century and Mogadishu in the fourteenth and fifteenth centuries. As seats of power but also the results of social contracts between political elites and merchant-producers, these cities blossomed in the interstitial regions of empire, in the semiperipheries of the system. Occasionally, however, a more or less autonomous city-state developed within a central state of the system (for example, Hormuz in the fifteenth century). In other cases, they have been able to build real empires, as Sriwijaya from the seventh century⁸⁴ and, much earlier in history, Phoenician ports and Greek cities in the first millennium B.C.E. The latter represent a good example of these city-states where a merchant capitalism flourished, based on investment in production aimed at export.

The notion of city-states as interstitial formations (but we have seen that they have not only developed in that framework) has been used by G. Arrighi, following F. Braudel. It is to them, and to transnational commercial networks, that can be traced the essential origins of the modern capitalist system. The obvious examples are the Italian city-states—Pisa, Venice, Genoa, Florence—which, from the twelfth century, took advantage of the absence of a strong Italian “country-state”⁸⁵ to form a semiperiphery. Other cities likewise emerged in northern Europe (Bruges, Lubeck, and the ports of the “Hanseatic League”).

Specialized in specific forms of production, in long-distance commerce, and intermediary activities, city-states—those “cités à l’état

⁸³ The city-states of the Malaysian world in fact appear much earlier (P.-Y. Manguin, “City-States and City-State Cultures in Pre-15th Century Southeast Asia,” in Hansen, *A Comparative Study of Thirty City-State Cultures*, pp. 409–416), as well as the city-states of the Swahili East African coast (Sinclair and Hakansson, “Swahili City-State Culture”).

⁸⁴ Manguin, “City-States and City-State Cultures.”

⁸⁵ Hansen, “Concepts of City-State and City-State Culture,” p. 16. Hansen proposes to use this term “country-state” or “macro-state” instead of “territorial state.”

pur”⁸⁶—were extremely efficient, owing in part to the low cost of the state sector and, even more so, to their dynamic momentum, which attracted capital and skilled labor. But they were also evidently a vulnerable and tempting prey for territorial states. Thus, they were always careful to build up forms of defense, create alliance networks (for example, the relations between Swahili cities and groups in the interior), and take the best advantage of their geographic location (for example, the cities of the Straits of Malacca). Even guilds and private merchants made recourse of men at arms; examples include the great Indian guilds of the fifth to fourteenth centuries, the ships of the west coast of India in the fourteenth century, and Chinese junks during the same time period. Concerning the princes who engaged in commerce, two interpretations are possible: they might represent merchants who prefigured capitalist entrepreneurs, or they may have acted as predators.⁸⁷ Ibn Battuta provides numerous examples of flotillas owned by government officials. His descriptions reveal the close ties that existed between commerce, political power, and also piracy, as illustrated in the case of the sultan of Honavar, Jamal al-Din (fourteenth century).⁸⁸

Likewise, within the core of a system, certain periods of weak political integration seem to have encouraged the development of production and commerce: competition between states or city-states stimulated the economy, and private entrepreneurs enjoyed greater liberty than those operating in stronger states. C. Edens has clearly demonstrated this phenomenon for Early Dynastic III (in the middle of the third millennium B.C.E.) and for the Isin-Larsa period in western Asia (beginning of the second millennium B.C.E.).⁸⁹ This point is essential for understanding the evolution of capitalism in Europe.

⁸⁶ Braudel, *Civilisation Matérielle*, vol. 3, p. 88.

⁸⁷ Cf. M. Morineau, “Eastern and Western Merchants from the Sixteenth to the Eighteenth Centuries,” in *Merchants, Companies and Trade: Europe and Asia in the Early Modern Era*, ed. S. Chaudhury and M. Morineau (Cambridge: Cambridge University Press, Maison des Sciences de l’Homme, 1999), pp. 116–144.

⁸⁸ S. Digby, “The Maritime Trade of India,” in *The Cambridge Economic History of India*, vol. 1, c. 1200–c. 1750, ed. T. Raychaudhuri and I. Habib (Cambridge: Cambridge University Press, 1982), p. 155.

⁸⁹ C. Edens, “Comments” on the article of A. G. Frank, *Current Anthropology* 34, no. 4 (1993): 408. The end of the Spring-and-Autumn period and the Warring States period (fifth through fourth centuries B.C.E.) might represent another example of growth in a time of intense competition. I do not, however, agree with Edens’s rejection of Frank’s causal tie between volume of trade and levels of urbanization. Regarding the first point, Friedman goes further than Edens when he writes “centralized empires were often a symptom of slowdown or even decline. . . . Expansion is most often and systematically linked to political decentralization” (J. Friedman, “Comments” to the article of A. G. Frank, *Current Anthropology*, 34, no. 4 [1993]: 409). He disputes the idea that the decline of an empire serves as evidence for a B phase in the cycle (slowdown). Available data, however, would seem to support Frank.

It would be erroneous, however, to assume there was an automatic opposition between private modes of accumulation and state modes of accumulation. There is evidence for competition between the state and private enterprise, but also instances of cooperation, for example in the Sung Chinese dynasty or the Abbasid empire. In large agricultural empires, princes relied on merchant-bankers to convert wealth in foodstuffs into forms of revenue that could be used by the state.⁹⁰ Merchants, who furnished merchandise as well as services to elites, did not simply coexist with bureaucratic structures, but rather the two worlds penetrated one another. States often called on merchants to serve in their administrations. During the Tang dynasty, traders were given the task of collecting the tax in salt. Likewise, in the Abbasid caliphate, some tax collectors were merchants. In Egypt and Iraq of the tenth and eleventh centuries, representatives of Jewish merchant families were established as both bankers and tax collectors. Also in the tenth century, the king of East Java used merchants—Javanese, but also Sinhalese, southern Indian, or Burmese—to collect taxes. In China during the time of the Yuan, Muslim merchants held a virtual monopoly on the gathering of taxes.

The state created favorable conditions for economic development through investments in public works such as the digging of canals and the improvement of roads in China under the Sui, Tang, and Sung dynasties, and sometimes through a policy of economic stimulation.⁹¹ So too, in providing security the state encouraged commerce, as trade could only hope to flourish in a peaceful and relatively predictable setting. The state might also play a role in the redistribution of wealth, and so indirectly contribute to production and social equilibrium. Conversely, political instability or violent competition between states negatively affected commerce, as did an excessive expansion of the state bureaucracy and the corruption that often went with it. Or, the state itself could function as producer or merchant, as can be seen for the Chinese Sung or the Abbasid caliphate.

Another site for capital accumulation was religious institutions, which enjoyed relative autonomy; it could also bring them into con-

⁹⁰ K. N. Chaudhuri, *Asia before Europe: Economy and Civilization in the Indian Ocean from the Rise of Islam to 1750* (Cambridge: Cambridge University Press, 1990), pp. 256, 387. Gills, "Capital and Power," p. 139.

⁹¹ Ancient Egypt offers an example of growth being directly instigated by actions of the state, through its technological innovations (the invention of writing, irrigation, etc.) and especially through its efforts to stimulate demand (D. Warburton, "Before the IMF: The Economic Implications of Unintentional Structural Adjustment in Ancient Egypt," *Journal of the Economic and Social History of the Orient* 43, no. 2 [2000]).

flict with political authorities.⁹² Religious networks might intersect with merchant networks and thereby provide the state with a means of political integration, as for example the Buddhist and Brahman centers in South and Southeast Asia.

The volatility of merchant-elites and their desire for independence—some guilds achieved true autonomy—could pose challenges for local authorities, who had to choose between cajoling and controlling them.⁹³ The operating rationale of states and private enterprise can be very different. Several authors have underscored this ambiguous nature of the relationships between political powers and merchants and their networks. D. Lombard has noted that “we must conclude that merchants in Asia were kept out, or kept themselves out, of politics,”⁹⁴ but there are, in fact, many examples which show the opposite. In Fatimid Egypt in the eleventh century, the Tustari brothers, who were bankers and traders in luxury goods in the Indian Ocean, rose to the position of vizier. In China, under the Sung, merchants played important roles in the commercial centers and sometimes obtained official positions. Likewise, in India, in Deccan, and on the Malabar coast (among the Islamic Mapilla communities), trade and politics intermingled, leading M. Gaborieau to justly remark on “the lack of a dividing line between the merchant and the soldier-administrator.”⁹⁵ In Yemen under the Rasulids, merchants—often foreigners—could hold official positions. But rather than enter directly into political structures, merchants usually preferred to aim at influencing leaders.⁹⁶ The evidence appears to be on the side of Aubin and Lombard and against Y. Lacoste when he

⁹² Burma provides a good example of the contradictions that can arise between the development of religious entities and state interests. Periodically, in phases of “purification,” the state seized the wealth that had been amassed by religious orders. From 843 to 845, the Chinese emperor likewise confiscated the belongings of Buddhist monasteries.

⁹³ Ibn Battuta notes for example the warm welcome given to traders by the lords of Kulam and Calcutta, but also the practices of extortion and piracy inflicted by local lords of the west coast of India (*Voyages*, vol. III, Inde, *Extrême-Orient, Espagne et Soudan*, pp. 206–207, 213–214).

⁹⁴ Lombard, “Y a-t-il une Continuité,” p. 117. Also Aubin, “Y a-t-il Interruption du Commerce,” pp. 88–89. Aubin (*ibid.*), however, makes reference to “condottieri merchants,” “who were both viziers and military leaders.”

⁹⁵ M. Gaborieau, “L’Islamisation de l’Inde et de l’Asie Orientale,” in *Etats, Sociétés et Cultures du Monde Musulman Médiéval*, ed. J. C. Garcin, M. Balivet, T. Bianquis, H. Bresc, J. Calmard, M. Gaborieau, P. Guichard, and J.-L. Triaud (Paris: PUF, 1995), p. 456. Indeed, the merchant Ibn al-Kawlami became governor of Cambaye through the auspices of the sultanate of Delhi (Ibn Battuta, *Voyages*, vol. 3, pp. 102–103).

⁹⁶ S. Digby (“Maritime Trade of India,” p. 52) gives the example of the Tibi family, which played the role of kingmakers in the Pandya kingdom of South India at the end of the thirteenth century.

writes that “in the Indies, in China, in the Arab world . . . merchants [were] permanently integrated into the aristocratic minority and so had no reason to wish to change the society.”⁹⁷

Capitalist entrepreneurs oscillated between two strategies: remaining outside politics to try to reduce the role of the state (but capitalist networks could hardly do without the state because they require a stable world to develop their operations and/or a military force to defend their access to vital resources), or investing in the state. On the other hand, the elites of the state had to choose between taking control of the economy or encouraging success in the private sector and then taxing its activities.

THE ADVENT OF THE MODERN CAPITALIST WORLD-SYSTEM

The history of the Indian Ocean to the sixteenth century shows its different regions becoming progressively integrated into the Eurasian and African world-system, as can be seen in the economic cycles synchronized with political, social, and ideological evolutions; the development of urbanization; the general growth of commerce and production; and the simultaneous development of hierarchical relations between cores and peripheries within the international division of labor. This early history also sheds light on the period that would follow—the emergence of the capitalist world-system—and perhaps also provides some hints as to the possible futures of the system.

Whether or not the beginnings of the sixteenth century represent a true break in world history is still debated. The arrival of the Portuguese in the Indian Ocean occurred during an ascendant phase of a cycle, a phase that would continue throughout the sixteenth century. Their appearance most likely does not represent a rupture, but rather a temporary disturbance. Far too few in number, the Portuguese did not have the means to implement the maritime policy that they tried to assert. Moreover, the real break had already occurred earlier in China in 1433, when the Ming prohibited trade with its southern seas. All the same, coming just after the discovery of America, the arrival of the Portuguese in the Indian Ocean signifies the creation of a new order

⁹⁷ This situation contrasts with that of Europe, which accounts for the fact, according to Y. Lacoste (*La Géographie du Sous-développement*, 5th ed. [Paris: PUF, 1982], p. 270), that it was in Europe that capitalism emerged as the dominant system and paved the way for the Industrial Revolution.

in the world-system, one in which the center of gravity moved toward the West and that indicates a structural transformation.

The history of the Indian Ocean completely undermines the idea that capitalism is a European invention. Nevertheless—during the seventeenth century?—capitalism would become characteristic of the world-system that began to grow up around Europe toward the end of the fifteenth century. Beyond the Italy of the thirteenth century, capitalism has its origins in the Afro-Eurasian world-system in which Europe was simply a periphery. Braudel, it is well known, did not share Wallerstein's fascination with the sixteenth century.⁹⁸ Frank and Gills meanwhile are totally opposed to the idea that a qualitative change took place in the world-system of the sixteenth century.

The interstitial growth of capitalism, which Braudel has demonstrated for the European area, is in fact found in other regions of the world-system at various points in time. However, it was only in Europe that capitalism could fully impose its rationale on "country-states" and thereby become the dominant mode of production in the world-system. Regarding this phenomenon, G. Arrighi has adduced three supplementary causes.⁹⁹ First, the competition of relatively weak centralized states for mobile capital resulted in the latter setting the terms. The system of relations existing between city-states and the very philosophy of these cities became a model for emerging nation-states. Second, the military competition between European states encouraged advances in technology and organization that led to the expansionist orientation of the modern world-system. The bypassing by Europe of the three "central corridors" of the world-system (central Asia, Persian Gulf, Red Sea) led to the establishment of trans-Atlantic connections. Third, the plundering of the Americas and the African slave trade—an imperialist policy that differs little from that of the Roman empire—constituted the foundations of Europe's capitalist takeoff. European states built what can be considered a new world-system¹⁰⁰—including the Americas and parts of Africa—one that would

⁹⁸ Braudel, *Civilisation Matérielle*, vol. 3, p. 44. Marx also expressed that the "biography of capital begins in the sixteenth century."

⁹⁹ G. Arrighi, "Capitalism and the Modern World-System: Rethinking the Nondebates of the 1970s," *Review* 21, no. 1 (1998): 127–128, and *The Long Twentieth Century: Money, Power and the Origins of Our Times* (London: Verso, 1994), chaps. 1–2.

¹⁰⁰ Frank and Gills, however, do not support this interpretation. According to these authors ("Rejoinder and Conclusions," p. 304), the Americas were a periphery to a core situated in Europe, but the latter was not the core of a discrete world-system. The gold and silver from the Americas only "(permitted) the Europeans to participate more actively" in exchanges in the system (Frank and Gills, "Five Thousand Year World System," p. 7). Yet,

eventually subsume the old system, after the Industrial Revolution of the eighteenth century. Henceforth, the world-system became coterminous with the whole world, with Europe and then the United States acting as the dominant centers.

Moreover, the Industrial Revolution was preceded and accompanied by an agricultural revolution marked by technological innovations (for example, abandonment of the fallowing of land and the introduction of new crops), as well as by juridical changes, the enclosure movement, and changes to the Corn Laws in England. The majority of the yeomen disappeared, reduced to becoming salaried employees in agriculture or forced to flee to the towns.¹⁰¹

Scholars have long wondered why China or another Asian country did not follow a similar path. The advantages Europeans enjoyed from their spoils of silver¹⁰² and gold from the Americas cannot alone account for their success. Paradoxically, it is probably the large size and strength of Asian states that prevented their evolving as Europe had done, thereby discouraging both initiative and capitalist accumulation. If the progression of capitalism in Asia did not end in an industrial revolution, it was not from a lack of technological evolution, but because entrepreneurs did not create a great enough force of change. Asia never experienced an industrial revolution, but it also never underwent the ideological revolution of Britain, the United States, and France in the eighteenth century.¹⁰³ The Declaration of the Rights of Man and Citizens adopted by the Constitutional Assembly of 1789 “marks in a way the apotheosis of the individual.”¹⁰⁴ Along with the

elsewhere, Frank (*ReORIENT*, pp. 277–279, 316) does describe a world-system centered in Europe. This debate ties in with the question of whether European states of the sixteenth century were qualitatively different from other states and if the logic of the system changed with the rise of modern Europe. It could be argued that the Netherlands in the seventeenth century, before England, represent the first example of a capitalist state. But, asks Braudel (*Civilisation Matérielle*, vol. 3, p. 161), “Can the United Provinces be called a ‘state’?” The East India Companies, in the seventeenth and eighteenth centuries, offer a good example of association between state and capitalism.

¹⁰¹ M. Mazoyer and L. Roudart, *Histoire des Agricultures du Monde du Néolithique à la Crise Contemporaine* (Paris: Seuil, 1998), p. 313.

¹⁰² The discovery of silver mines at Potosí (Bolivia) in 1545 and at Zacatecas (Mexico) in 1548 would, in the decades to come, greatly augment the silver supply in the trade circuits of the ancient world. Access to this silver, along with gold, enabled Europe to compensate for its commercial trade deficit with Asian states. The influx of precious metals also became a factor for growth in production and commerce in the Eurasian and African zones.

¹⁰³ The notion that mass education can provide a structural base for technological innovation was developed only in the twentieth century.

¹⁰⁴ L. Dumont, *Essays on Individualism*, p. 92. In addition, see the “Bill of Rights adopted by certain (American) States and particularly that of Virginia of 1776” (*ibid.*, p. 93).

agricultural expansion, the Industrial Revolution was also preceded and accompanied in Europe by a scientific revolution that saw the birth of an experimental method in science. Yet this method played practically no role in the technological innovations of the Industrial Revolution of the eighteenth century.¹⁰⁵ Europe alone cannot be credited for its developments. “The rise of modernism is the product of an economic and technological synergy that was generated over several millennia in different parts of Eurasia.”¹⁰⁶ There is no necessary and direct tie between the growth of modern science and capitalism in Europe, but the two events are both tied to the granting of liberty to individuals by city-states (Italy, Netherlands) and then European states: the liberty to conduct business, to make profits, and also to think and experiment, a liberty free from interference by political and religious powers.¹⁰⁷ In this connection, some scholars, such as Y. Lacoste, have argued that the feudal system which developed in Europe—and Japan—by removing merchants and bankers from power, resulted in the “individualization of the bourgeoisie” as a revolutionary class, and also conferred on it “its essential role in economic and social evolution.”¹⁰⁸ The bourgeoisie’s takeover of power opened the way for the Industrial Revolution, coming at a time when all the conditions for major technological innovations were ripe in Europe. In the eighteenth century, Asia, on the other hand, found itself in a phase of

¹⁰⁵ J. E. McClellan III and H. Dorn, *Science and Technology in World History: An Introduction* (Baltimore: Johns Hopkins University Press, 1999), p. 292.

¹⁰⁶ D. Christian, “Silk Roads or Steppe Roads? The Silk Roads in World History,” *Journal of World History* 11 (2000): 25.

¹⁰⁷ It is noticeable that the emergence of rational thinking in Greece took place in the context of city-states that developed democratic institutions. The Mohist Chinese wave of logician thinking appeared at the same period (fifth through fourth centuries B.C.E.), but it will not have the same posterity, because of very different political and social contexts (within a strong central state marked by Confucianism). As in the Greek cities of antiquity, some freedom of thinking along with liberty to conduct business existed in Sung China, with different kinds of limitations (the importance of external threats nevertheless constituted an inhibiting factor for growth in both cases). Freedom is restricted in Ming China by state power, based on a neo-Confucianist philosophy; in the Muslim world, by religious power itself.

¹⁰⁸ Lacoste, *La Géographie du Sous-développement*, pp. 269–270. According to Lacoste (and to Marx), it is the unique character of the European feudal system that explains the creation of a revolutionary bourgeoisie, the triumph of its ideology, and the advent of capitalism as the dominant mode of production. Open to question, however, is Lacoste’s contention that “in a country without feudal structures, merchants did not constitute a bourgeoisie,” but were part of the ruling aristocracy (*ibid.*, pp. 260, 267, 273). Likewise refutable is Lacoste’s assertion—made in order to fit with Marx’s “Asian mode of production”—that there was no private ownership of land in Asia. For the Tang, Sung, and Ming, cf. J. Germet, *Le Monde Chinois* (Paris: Armand Colin, 1999), pp. 230, 275–278, 360.

regression, demographic increase having generated economic, social, and environmental pressures; the overabundance of labor and the scarcity of capital put a brake on investment and technological innovation. The situation in Europe was just the opposite, with a scarce and costly work force and much capital available for investment.¹⁰⁹

The thesis from Lacoste that I evoked may be rather simplistic. It ignores or underestimates the changes in Europe in the twelfth and thirteenth centuries (with the discovery of the Greek and Arab philosophers, the legalist and institutional changes, the emergence of corporations, the birth of universities) and then in the Renaissance. As Hansen underlines it, “the roots of the political culture of the contemporary world lie in the cultures of city-states,” in particular those, Greek and Latin, that developed republican institutions. The funda-

¹⁰⁹ Frank, *ReORIENT*, pp. 301–306. Before broaching the topics of population increase and the resulting imbalances, Frank puts forward a seemingly paradoxical argument. The assets of Asian cores were also the source of their weakness: the growing supply of silver resulted in “increased purchasing power, income, and demand on domestic and export markets in the world economy. That presumably increasingly skewed the distribution of income, which could have led to constraints on effective demand and growing political tensions” (*ReORIENT*, p. 267). But why would the influx of money be extremely beneficial to Asian economies in the sixteenth and seventeenth centuries and then suddenly become nefarious in the eighteenth century? The argument makes sense only if it assumes a reverse in the cycle, induced by growing demographic pressure and a decline in the levels of profits. Frank emphasizes the unequal distribution of income in Asia, which I mentioned above. Other authors see a phase of decline in the seventeenth century, but the character of the recession of the mid-seventeenth century is still under debate. Was it a global event affecting the entire world-system or a more localized recession? Was it a slowdown at the end of a long phase or the second phase of a Kondratieff cycle? Frank (*ReORIENT*, p. 231) today rejects the idea of a generalized economic crisis in the seventeenth century. However, there was a decrease in the population of the ancient world between 1600 and 1650 (McEvedy and Jones, *Atlas of World Population History*; C. Clark, *Population Growth and Land Use* [London: McMillan, 1977]) and a global decrease in temperature in what is called the Little Ice Age (1640–1705). Moreover, “in the period 1640–1650, the white metal from America no longer arrived in Spain in large quantities” (F. Braudel, “Monnaies et Civilisations de l’Or du Soudan à l’Argent d’Amérique: Un Drame Méditerranéen,” *Annales-économie, Sociétés, Civilisations* 1 [1946]: 20). According to Frank, Europe has (only) taken advantage of the weakness of the Asian cores in the eighteenth century, thus managing to acquire a dominant position, which leads I. Wallerstein to say ironically that “Frank proves the European miracle” (“Frank Proves the European Miracle,” *Review* 22, no. 3 [1999]: 365–371). Considering the existence of only one world-system in the eighteenth century, which is Frank’s view, we are led to ask ourselves why this B phase (phase of decline) that he describes (a B phase valid “at least for Asia,” says Frank, *ReORIENT*, p. 259), brings about a general demise in Asia and a spectacular upturn in Europe. It seems to me necessary to think of the competition between two world-systems, the old Eurasian and African one (maybe truly in a B phase before the Industrial Revolution) and a new one centered on Europe (and then North America)—a situation that Frank himself seems to describe (*ReORIENT*, p. 283): “While the Europeans were gathering strength from the Americas and Africa, as well as from Asia itself, Asian economies and polities were also becoming weakened during part of the eighteenth century—so much so that the paths finally crossed.”

mental ideas and the institutional innovations of these city-states are in fact rediscovered by Europe from the thirteenth century. Rousseau, one of the thinkers who influenced the French Revolution, took Rome in its early republican period as a model, as Machiavelli did earlier. In 1787, says Hansen, some American federalists refer to “the Greek Amphictyonic council and hellenistic federations.” In almost all the city-states, even those built on monarchic systems, “decisions are taken in assemblies, by a vote of the majority, and after a debate among the participants.”¹¹⁰

From its inception in the eighteenth century, the capitalist world-system continued its path of ascent (the first half of the twentieth century representing only a relatively short-lived phase of regression). The pace of economic growth in the system and the integration of its different parts accelerated even further after World War II. However, demographic and ecological pressures, which exist now at both local and global levels, may in the near future mark the upper limits of growth in this system,¹¹¹ for this particular phase of it, or even for the system as a whole, unless new technological (and ideological as well) advances or adaptations in the system can be found. Already in 1970, a team directed by D. H. Meadows of the Massachusetts Institute of Technology prepared an alarming report for the Rome Club that revealed that the limits for growth had previously been reached, as seen in the exhaustion of certain resources (notably fossil fuels), of land and fresh water, and in the pollution created by growth. At the current (1970) rate of growth, wrote the authors of the report, the world’s ecosystem is bound to collapse in a brutal manner. They recommended the passage from a state of growth to one of equilibrium, knowing that the longer we wait to break with growth that we cannot control and that is destructive for the environment, the less chance we have of ever attaining equilibrium. Since 1970, little progress has been made in the

¹¹⁰ Hansen “Conclusion,” pp. 612–613. The United Provinces after 1579 provide a more recent example of a federation (*ibid.*). “Republicanism and federalism represent major aspects of the modern state which have their roots in the cultures of city-states. Before the end of the eighteenth century, they were practically only to be found in the city-states” (*ibid.*, p. 616). When they eventually managed to emerge (in India, Southeast Asia, but not in China), Asian city-states were not able to impose their ideology to the regional states.

¹¹¹ Chase-Dunn and Hall (“Comparing World-Systems,” p. 108) predict a collapse circa the “year 2020.” Some experts think that oil supply could stay at reasonable prices in the world until 2030, but “these forecasts are not the most probable” (P. Testard-Vaillant, “Pétrole: Les Raisons de la Tourmente. Pourquoi les Prix Flambent-ils?” *Le Journal du CNRS* 178 [2004]: 19).

direction advocated by Meadows and his team, and although the conclusions struck many at the time as being overly pessimistic, today their accuracy is becoming more apparent. “The period 2000–2050 will thus be chaotic.”¹¹² The pressing question for us now then is “whether the fall will take place in totalitarianism and barbarity or whether it will . . . be channeled through humanism and democracy,”¹¹³ guided by a new economic model. Here, echoing Wallerstein, I believe we must decide what kind of society we want to see develop in the new world-system that will evolve.¹¹⁴

¹¹² I. Wallerstein, “The World We Are Entering, 2000–2050 (32 Propositions),” in *The World We Are Entering, 2000–2050*, ed. I. Wallerstein and A. Clesse (Amsterdam: Dutch University Press, 2002), p. 22. “The modern world-system (which is a capitalist world-economy) is in a structural crisis and it will not be able to go on functioning under the historic way it took. The system enters a chaotic period of transition towards something different” (ibid., p. 17). “The crisis of the system disfavours the survival of the capitalist world-economy as a historic system.” “During this period (of chaos), there will be a political struggle about the nature of the system which will follow” (“Introduction,” in *World We Are Entering*, p. 7).

¹¹³ *La Décroissance*, 2004, p. 2. Cf. N. Georgescu-Roegen, *La Décroissance: Entropie, Écologie, Économie* (Paris: Sang de la Terre, 1995). S. Latouche, *Survivre au Développement* (Paris: Mille et Une Nuits, 2004).

¹¹⁴ I. Wallerstein, *Utopistics, or Historical Choices of the Twenty-first Century* (New York: New Press, 1998), and “Introduction,” in *World We Are Entering*, p. 8.