

## Hemispheric Integration, 500–1500 C.E.\*

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IN 1963 Marshall G. S. Hodgson published an article on “The Interrelations of Societies in History.”<sup>1</sup> Hodgson registered a vigorous complaint about the Eurocentric vision of the past that traced the mainstream of historical development from Mesopotamia and Egypt to Greece, Rome, and western European lands, which then spread their power, influence, and values throughout the world. As an alternative he urged scholars to understand the past in the context of a vast Afro-Eurasian zone of cultivation, urban life, and interaction. For almost three millennia, from 1000 B.C.E. to 1800 C.E., Hodgson argued, interconnections between the societies of Europe, southwest Asia, India, and China resulted in technological and cultural diffusions that profoundly influenced historical development throughout the eastern hemisphere. By concentrating analysis on these interconnections, historians could place the development of individual societies, including European society, in pertinent context.

Hodgson offered only a brief outline of Afro-Eurasian history in his article—it sketched patterns in hemispheric history from the age of

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<sup>1</sup> Marshall G. S. Hodgson, “The Interrelations of Societies in History,” *Comparative Studies in Society and History* 5 (1963): 227–50; reprinted in the posthumously published collection of Hodgson’s essays, *Rethinking World History: Essays on Europe, Islam, and World History*, ed. Edmund Burke III (Cambridge, 1993), pp. 3–28. This article developed further some ideas Hodgson had explored in an earlier essay, “Hemispheric Interregional History as an Approach to World History,” *Cahiers d’histoire mondiale* 1 (1954): 715–23. On Hodgson as a world historian, see Edmund Burke III, “Marshall G. S. Hodgson and the Hemispheric Interregional Approach to World History,” *Journal of World History* 6 (1995): 237–50.

the ancient river-valley societies to the era of the gunpowder empires in about eight pages—but he did not shrink from describing it as “closer to a true world history than is the traditional historical image of the West.” Hodgson’s narrative emphasized the building of empires, the spread of religious and philosophical traditions, and the diffusion of technologies. Among the empire builders, Alexander and Chinggis Khan merited mention by name in his capsule hemispheric history, which also made room for technologies involving chariots, mold-board plows, paper, compasses, printing, and gunpowder. About half of his account focused on cultural traditions of the axial age and the spread of universal religious faiths.

Some might fault Hodgson for an unnuanced understanding of religious and cultural exchanges, which he presented as a rather unproblematic spread of sophisticated universal religions to peoples harboring simpler beliefs. Others might notice an excessively mechanical notion of technological diffusion. It is possible, too, that in seeking an alternative to the Eurocentric vision of the past, Hodgson inclined toward an Islam-centered world history that obscured the roles of other societies, particularly India and China, even if it clearly registered an improvement on Eurocentric historical analysis.

In spite of these reservations, however, Hodgson’s article posed a challenge that historical scholarship sorely needed but has not yet entirely met. So far as I am aware, the only scholarly, analytical, and comprehensive world history that works along lines similar to those envisioned by Hodgson is William H. McNeill’s *Rise of the West: A History of the Human Community*, which appeared the same year as Hodgson’s article on the interrelations of Afro-Eurasian societies.<sup>2</sup> And the notion lingers even today that the world’s various peoples began to interact intensively only after 1492. In his recent book *The Clash of Civilizations*, for example, Samuel P. Huntington made this point in no uncertain terms: “During most of human existence, contacts between civilizations were intermittent or nonexistent.”<sup>3</sup>

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<sup>2</sup> William H. McNeill, *The Rise of the West: A History of the Human Community* (Chicago, 1963). McNeill developed his vision of world history independently of Hodgson: in the preface to *The Rise of the West* (pp. vii–viii) he mentioned that he had conceived the book in 1936 and had begun writing it with the aid of research grants in 1954. See also McNeill’s reflections in “*The Rise of the West after Twenty-five Years*,” *Journal of World History* 1 (1990): 1–21.

<sup>3</sup> Later in his book Huntington softened this point: “For more than three thousand years after civilizations first emerged, the contacts among them were, with some exceptions, either nonexistent or limited or intermittent and intense.” See Samuel P. Huntington, *The Clash of Civilizations and the Remaking of World Order* (New York, 1996), pp. 21, 48.

Two features of historical scholarship go a long way toward explaining the persistence of this notion. One is a kind of modernist bias that I call “modernocentrism”—an enchantment with the modern world and the processes of modern history that has hindered many historians from recognizing the significance of cross-cultural interactions in earlier times. The other is the powerful influence of national states and individual societies, which professional historians have taken almost exclusively as the focus of their work. As a result, historians have paid insufficient attention to processes that have worked their influence across the boundary lines of national states and individual societies and that push societies toward integration. This article will draw attention to several specific instances of modernocentrism and the distortions it has caused for the analysis of the period 500–1500 C.E., and it will not hesitate to trespass the boundary lines of individual societies in the interests of outlining the effects and the significance of large-scale historical processes.

A rapidly expanding body of scholarly literature explores cross-cultural interactions and processes that transcend individual states, societies, and cultural regions. This literature confirms the conviction of Hodgson and McNeill that a hemispheric perspective deepens and enriches the understanding of the past before modern times. More particularly, it throws light on the political and social structures that served as foundations for cross-cultural interactions, and it illuminates processes, such as long-distance trade, biological diffusions, and cultural exchanges, that profoundly influenced the lives of individuals and the development of their societies throughout the eastern hemisphere during the millennium 500–1500 C.E.—the period between the collapse of classical societies, such as the Han and Roman empires, and the establishment of a genuinely global economy in early modern times. Taken together, this literature suggests that cross-cultural interactions brought about an impressive degree of integration in the eastern hemisphere well before modern times.

From the viewpoint of structures that supported cross-cultural interactions, the period 500–1500 C.E. falls into two fairly equal halves.<sup>4</sup> For the first half-millennium, both political and economic foundations facilitated cross-cultural interactions. Political foundations were the large, stable societies organized by centralized imperial states—particularly the

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<sup>4</sup> For a historical periodization from a global point of view, see Jerry H. Bentley, “Cross-Cultural Interaction and Periodization in World History,” *American Historical Review* 101 (1996): 749–70.

Tang empire in China and the Abbasid empire in southwest Asia, and to a lesser extent the Byzantine empire in the eastern Mediterranean basin and even the Carolingian empire in western Europe. The economic foundations were the overland trade networks linking east Asia and the eastern Mediterranean region by the silk roads and the emerging maritime trade networks of the Indian Ocean basin. The imperial states promoted overland trade and communication in a way similar to the Han, Kushan, Seleucid, Parthian, and Roman empires of an earlier era, but they promoted a great deal more cross-cultural interaction than their classical predecessors. With the exception of the Carolingian empire, they all presided over societies that were far more productive than their predecessors. Furthermore, technologies of transportation lowered the costs of long-distance trade: the camel increasingly replaced the horse as the principal beast of burden, thus increasing the efficiency of overland transport, and the establishment of sea lanes and the development of maritime trade networks in the Indian Ocean opened new and cheaper avenues to travel and trade.<sup>5</sup>

The framework sketched here works best for temperate and tropical Eurasia from east Asia to the eastern Mediterranean region; it has a more limited application for outlying areas, including Japan, the islands of southeast Asia, western Europe, and sub-Saharan Africa. These lands participated in the larger hemispheric economy, although sometimes indirectly and never to the same extent as the societies embraced by the large imperial states. Maritime links brought Japan and the islands of southeast Asia under the economic influence of China: already by the late fourth century C.E. Chinese demand drove a thriving market in the fine spices (cloves, nutmeg, and mace) from Maluku, and by the seventh century Japan engaged in regular trade with China and Korea. Western Europe and sub-Saharan Africa participated more indirectly in the larger hemispheric economy, Europe by way of Frisian and Scandinavian intermediaries and west Africa by way of trans-Saharan camel caravan.

Large imperial states continued to promote cross-cultural interaction in the half-millennium from 1000 to 1500 C.E., but the states in question were transregional nomadic empires rather than political structures

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<sup>5</sup> On camel transport see Richard W. Bulliet, *The Camel and the Wheel* (Cambridge, Mass., 1975); and William H. McNeill, "The Eccentricity of Wheels, or Eurasian Transportation in Historical Perspective," *American Historical Review* 92 (1987): 1111–26. On the Indian Ocean trading network, see K. N. Chaudhuri, *Trade and Civilisation in the Indian Ocean: An Economic History from the Rise of Islam to 1750* (Cambridge, 1985).

arising from settled agricultural societies. From the tenth through the sixteenth century, nomadic Saljuqs, Khitans, Jurchens, Tanguts, Mongols, Timurids, Ottomans, Mughals, Safavids, and others embarked on a remarkable round of empire building that shaped Eurasian affairs from the China seas to the Danube River. The nomadic empires had a mixed legacy for long-distance trade. They brought turmoil and destruction to settled agricultural societies, especially in China and southwest Asia, which lost considerable productive capacity. Yet many of the nomadic empire builders placed high value on trade and diplomacy, and their states offered special protection to merchants and other travelers. On balance, the volume of overland trade across Eurasia probably increased during the era of transregional nomadic empires. And maritime trade in the China seas and the Indian Ocean burgeoned, as improvements in nautical technology and commercial organization brought increased efficiencies to sea transport.

Enhanced transport integrated the outlying lands of Japan, the southeast Asian islands, western Europe, and sub-Saharan Africa more directly than before into the larger hemispheric economy. Increased shipping drew Japan, southeast Asia, and sub-Saharan east Africa into the trade networks of the China seas and the Indian Ocean, while larger and more frequent camel caravans increased trade and communication with sub-Saharan west Africa. European merchants, missionaries, and diplomats took advantage of the Mongol empires to travel throughout much of Eurasia. In most of these outlying lands, increased trade helped finance the establishment of regional states.

These political and commercial structures supported a range of cross-cultural interactions that influenced individual lives and social organization throughout the eastern hemisphere. Here the focus will fall on interactions having to do with exchanges—commercial, biological, and cultural exchanges—between peoples of different societies.

The best studied of these cross-cultural interactions is long-distance trade. Yet the understanding of cross-cultural trade in the period 500–1500 C.E. suffers from a bit of conventional wisdom current among economic historians of modern times. While acknowledging that trade passed over long distances in premodern times, many have held that it was relatively insignificant for one reason or another. Economic historians have argued variously that the volume of trade was too small to have economic significance, that it mostly involved “luxury” goods rather than basic commodities, that it was largely an affair of political and economic elites, and that it did not

generate a division of labor or lead to the restructuring of economies and societies.<sup>6</sup>

This view assumes an anachronistic comparison against the standard of modern commerce, and it leads to misunderstanding of cross-cultural trade and its significance in premodern times. For one thing, modernocentric economic historians overlook the point that cross-cultural trade had implications far beyond economics. Trade facilitated biological, technological, and cultural exchanges that profoundly influenced all societies engaged in cross-cultural trade. Besides that, rare, exotic, expensive, and luxurious commodities served as markers of political and social status. Even if its economic value was slight, trade in luxury goods had enormous political and social significance in premodern times.<sup>7</sup>

Furthermore, the volume of premodern trade was much larger than modernocentric economic historians have generally recognized. Scattered bits of information survive about individuals like the merchant-scholar al-Marwani of Córdoba who made his *haji* in 908, then traveled to Iraq and India on commercial ventures. His profits amounted to 30,000 dinars, all of which he lost in a shipwreck during his return to al-Andalus.<sup>8</sup> Even more impressive was the experience of the twelfth-century Persian merchant Ramisht of Siraf, who amassed a huge personal fortune from long-distance trading ventures and enjoyed a reputation as the wealthiest and most prestigious merchant of his age. One of his clerks, who was much less prosperous than Ramisht himself, once returned to Siraf from a commercial voyage to China with a cargo worth half a million dinars. In 532/1137–38 Ramisht provided a new Chinese silk cover for the Ka'ba that reportedly cost him 18,000 Egypt-

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<sup>6</sup> Some studies take premodern trade seriously: see, for example, Philip D. Curtin, *Cross-Cultural Trade in World History* (Cambridge, 1984); S. D. Goitein, *A Mediterranean Society: The Jewish Communities of the Arab World as Portrayed in the Documents of the Cairo Geniza*, 6 vols. (Berkeley, 1967–93); Janet L. Abu-Lughod, *Before European Hegemony: The World System, A.D. 1250–1350* (New York, 1989); and C. G. F. Simkin, *The Traditional Trade of Asia* (London, 1968). Yet the conventional wisdom that premodern trade was a fairly insignificant activity remains strong. For several expressions of the point from radically different theoretical perspectives, see Immanuel Wallerstein, *The Modern World-System*, 3 vols. (New York, 1974–89), 1:19–21, 39–42; W. W. Rostow, *How It All Began: Origins of the Modern Economy* (New York, 1975), pp. 14–15; Rondo Cameron, *A Concise Economic History of the World from Paleolithic Times to the Present* (New York, 1989), pp. 32–33, 78, 121–22; and Patricia Crone, *Pre-Industrial Societies* (Oxford, 1989), pp. 22–24, 33–34.

<sup>7</sup> For expanded discussion of these points, see Bentley, "Cross-Cultural Interaction and Periodization in World History," pp. 752–56. See also the important article of Jane Schneider, "Was There a Pre-capitalist World System?" *Peasant Studies* 6 (1977): 20–29.

<sup>8</sup> Olivia Remie Constable, *Trade and Traders in Muslim Spain: The Commercial Realignment of the Iberian Peninsula, 900–1500* (Cambridge, 1994), pp. 36, 80.

tian dinars, and he also founded a hospice and a religious sanctuary in Mecca.<sup>9</sup> Numerous textual descriptions also testify that cities such as Quanzhou, Guangzhou, Palembang, Calicut, Cambay, Baghdad, Aden, Alexandria, Cairo, Constantinople, and Venice were bustling commercial centers.

Going beyond the texts, archaeologists have shed revealing light on some sites of premodern trade by digging up their remains, and the size of postclassical trading centers reflects high levels of commercial activity. Excavations at Siraf, for example, a port city on the Persian Gulf coast of Iran about 220 kilometers south of Shiraz, have revealed a thriving city surrounded by desert, whose wealth depended exclusively on commerce. The merchants of Siraf traded in India before the eighth century, and they probably began to trade directly in China and east Africa about the mid-eighth century. On the basis of this trade, Siraf flourished especially between the eighth and the twelfth centuries. In the ninth century its population was probably in the tens of thousands, and its walls embraced about 250 hectares (almost one square mile) of space. Apart from merchants, the population of Siraf included shipwrights, weavers, metalworkers, jewelers, and potters. One pottery had thirty kilns. During the ninth century residents of Siraf built a great mosque and a bazaar, and they set their tables with porcelain imported from China. Similarly, the port of Dorestad (Durstede), located at the confluence of the Lek and Rhine (Kromme Rijn) Rivers near modern Utrecht, occupied a site of about 250 hectares in the eighth and ninth centuries. Alongside the rivers there were merchants' shops with plank wharves leading to the waters, which linked Dorestad and Carolingian Europe to the North Sea and the Baltic Sea.<sup>10</sup>

In the large, settled agricultural societies of China, India, southwest Asia, and the eastern Mediterranean region, long-distance trade was voluminous enough to help shape the organization of industrial production. According to Mark Elvin, the thriving market economy of Tang and Song China encouraged the Chinese peasantry to become "a class of rational, adaptable, profit-oriented, petty entrepreneurs." Partic-

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<sup>9</sup> S. M. Stern, "Ramisht of Siraf, a Merchant Millionaire of the Twelfth Century," *Journal of the Royal Asiatic Society* (1967): 10–14.

<sup>10</sup> On Siraf see two articles by David Whitehouse: "Siraf: A Medieval Port on the Persian Gulf," *World Archaeology* 2 (1970): 141–58; and "Siraf: A Medieval City on the Persian Gulf," *Storia della città* 1 (1976): 40–55. On Dorestad see Richard Hodges and David Whitehouse, *Mohammed, Charlemagne and the Origins of Europe: Archaeology and the Pirenne Thesis* (Ithaca, 1983), especially pp. 133–41; see also Richard Hodges, *Dark Age Economics: The Origins of Towns and Trade, A.D. 600–1000* (New York, 1982), especially pp. 74–77.

ularly in southern China peasants sometimes abandoned the cultivation of foodstuffs in favor of producing silk, hemp, and ramie textiles or manufacturing paper, porcelain, lacquer wares, or iron tools. Song dynasty records mention individuals who built private industrial enterprises on a remarkably large scale: Li Fang, for example, who maintained 500 looms for the weaving of silk damask in his house, and Wang Ke, who ran an iron-smelting foundry that employed some 500 furnace workers, presumably not counting miners, woodcutters, charcoal burners, and others. Much of this production no doubt went to domestic consumers, but large quantities of silk, porcelain, and lacquer, in particular, found their way to destinations throughout Eurasia and the Indian Ocean basin. Alongside these luxury items, Chinese exports included bulk commodities, such as rice, sugar, copper, and iron goods. Some regions consciously oriented production of goods (for example, silk, porcelain, and lychees) toward the export market.<sup>11</sup>

Increasing trade helped shape economic structures also in India, southwest Asia, and the eastern Mediterranean region. K. N. Chaudhuri has surveyed the geography of Asian industrial production—particularly in textiles, but also in metals, glass, and ceramics—and drawn persuasively on central-place analysis to explain the prominence of iron and steel production in India and China, silk production in the Yangzi River valley, and cotton manufacture in the Punjab, Gujarat, Bengal, and the Coromandel coast.<sup>12</sup> Again, cross-cultural trade did not account for all of this economic specialization in the large settled societies of Eurasia: sizable domestic economies by themselves encouraged production for the market. But cross-cultural trade certainly reinforced the tendency toward specialization and fostered increasing economic integration in the eastern hemisphere.

Cross-cultural trade had both political and economic implications also in lands beyond the large settled societies that were centers of industrial production. Demand for raw materials, luxury goods, and exotic products helped shape local economies and called forth timber and mercury from Japan; spices, exotic bird feathers, and tortoise shells from southeast Asia; amber, furs, honey, and slaves from northern Europe; and gold, ivory, animal skins, and slaves from sub-Saharan Africa. Because of high demand for these products, cross-cultural trade encouraged the building of states that organized these outlying soci-

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<sup>11</sup> Mark Elvin, *The Pattern of the Chinese Past: A Social and Economic Interpretation* (Stanford, 1973), especially pp. 164–75.

<sup>12</sup> K. N. Chaudhuri, *Asia before Europe: Economy and Civilisation of the Indian Ocean from the Rise of Islam to 1750* (Cambridge, 1990), pp. 297–337.



eties. In both southeast Asia and east Africa, ruling elites in port cities controlled trade and organized their hinterlands to ensure a continuing flow of goods. Wealth generated by trade helped finance Funan, Srivijaya, and other states in southeast Asia—particularly in strategically located sites in Java, Sumatra, and the Malay peninsula—as well as the independent Swahili city-states of east Africa after the twelfth century.<sup>13</sup>

Cross-cultural trade likely played a role also in the political organization of early medieval Europe. Richard Hodges and David Whitehouse have recently revived the argument of Sture Bolin that the Carolingian empire depended heavily on Abbasid silver obtained through Frisian and Scandinavian intermediaries in exchange for wine, jugs, glassware, and stone querns produced in the Rhine valley. Frisian and Scandinavian traders consumed the Carolingian products in their own society and obtained the silver in the Abbasid empire in exchange for primary products and slaves from the north.<sup>14</sup>

From these considerations it is clear, first, that contrary to conventional wisdom, premodern trade was an affair of considerable economic significance and, second, that cross-cultural trade integrated the fortunes and experiences of societies throughout the eastern hemisphere. Yet the significance of cross-cultural trade goes far beyond economics. Biological and cultural exchanges leveraged by cross-cultural trade had effects at least as important as the economic and social effects of commerce itself.

Integration sponsored by cross-cultural trade influenced the structural development of societies and economies throughout the eastern hemisphere. Integration resulting from biological exchanges had massive demographic and social effects similar to those that followed from the Columbian exchange in later centuries. As in the case of cross-cultural trade, however, a modernist bias in historical scholarship has obscured the significance of biological exchange in premodern times. Emmanuel Le Roy Ladurie, for example, once spoke of a microbial unification of the world, which he dated to the period about 1300–1730 C.E. because of the dramatic spread of bubonic plague throughout much of the eastern hemisphere, followed by the transmission of smallpox and other diseases to the Americas and Oceania.<sup>15</sup>

<sup>13</sup> Kenneth R. Hall, *Maritime Trade and State Development in Early Southeast Asia* (Honolulu, 1985); Derek Nurse and Thomas Spear, *The Swahili* (Philadelphia, 1985).

<sup>14</sup> Sture Bolin, "Mohammed, Charlemagne and Ruric," *Scandinavian Economic History Review* 1 (1953): 5–39; Hodges and Whitehouse, *Mohammed, Charlemagne and the Origins of Europe*.

<sup>15</sup> Emmanuel Le Roy Ladurie, "L'histoire immobile," *Annales. Économies, Sociétés, Civilisations* 29 (1974): 673–92, especially pp. 679–84.

These diseases certainly had dreadful effects, but the microbial unification of the world and the exchange of biological species was a long-term process that began long before the fourteenth century. Smallpox, measles, bubonic plague, and perhaps cholera, as well as other diseases, all traveled the trade routes and took heavy demographic tolls from ancient times onward. The earliest persuasive evidence of smallpox comes from three Egyptian mummies dated between 1570 and 1085 B.C.E., and the disease may well have been in existence for hundreds or even thousands of years by that time. It spread readily to complex societies throughout Eurasia, reaching India during the first millennium B.C.E., Greece by the fifth century B.C.E., and China by the third century B.C.E. Ancient commentators often confused smallpox with measles, and the earliest clear distinction between the two came about 910 C.E. in the work of the Persian physician Rhazes. But Rhazes quoted the Jewish physician El Yahudi, who lived three centuries earlier, and it is clear that measles ranged widely long before the tenth century C.E. Indeed, measles may have originated in Sumer as early as 3000 B.C.E. and may have spread to the Indus River valley by 2500 B.C.E. and to the Ganges River valley and the Mediterranean basin by 1000 B.C.E. It was most likely among the diseases that caused epidemics in China and the Roman empire in the second, third, and fourth centuries C.E. By 500 C.E. it had certainly spread throughout Eurasia. The case of cholera is less clear. Some scholars believe that true cholera caused by *Vibrio cholerae* bacteria did not depart its homeland of India for a career in the larger world until the pandemics of the nineteenth century, but reports of choleralike maladies survive from tenth-century Iraq, and there are many descriptions of what seems to have been true cholera in early modern Europe.<sup>16</sup> In spite of gaps in the historical record, it is clear that by the fourteenth century microbes and other biological species as well had long crossed political and cultural boundary lines and had influenced the development of societies throughout the eastern hemisphere.

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<sup>16</sup> On smallpox see Donald R. Hopkins, *Princes and Peasants: Smallpox in History* (Chicago, 1983), especially pp. 13–21. On measles see Andrew Cliff, Peter Hagggett, and Matthew Smallman-Raynor, *Measles: An Historical Geography of a Major Human Viral Disease* (Oxford, 1993), especially pp. 45–54; William H. McNeill, *Plagues and Peoples* (Garden City, N.Y., 1976), especially pp. 117–18, 133–35; and Robert J. Kim-Farley, “Measles,” in Kenneth F. Kiple, ed., *The Cambridge World History of Human Disease* (Cambridge, 1993), pp. 871–75. On cholera see Dhiman Barua, “History of Cholera,” in *Cholera*, ed. Dhiman Barua and William B. Greenough III (New York, 1992), pp. 1–36; and G. C. Cook, “The Asiatic Cholera: An Historical Determinant of Human Genomic and Social Structure,” in *Cholera and the Ecology of Vibrio cholerae*, ed. B. S. Drasar and B. D. Forrest (London, 1996), pp. 18–53.

During the millennium 500–1500 C.E., two kinds of biological exchange had especially important effects. The first involved the transfer of food and industrial crops from tropical lands to new environments, mostly in the subtropical and temperate regions of the eastern hemisphere. In one case information survives to throw light on the circumstances of biological exchange. According to the eleventh-century Buddhist monk Shi Wenying, the Song emperor Zhenzong (reigned 998–1022 C.E.) learned about drought-resistant rice from Champa (central Vietnam) and dispatched envoys to bring seeds to China. In fact, Champa rice had probably already reached China, but imperial encouragement facilitated its spread. As it turned out, Champa rice not only resisted drought but also grew in poorer soil and ripened faster than the strains cultivated in China. Champa rice matured in about 100 days, as opposed to 150 days for Chinese rice, and selective breeding resulted in strains that matured in 60–80 days. (Indeed, by the nineteenth century there were strains that ripened in 30 days.) Although it had a very low gluten content and did not store well, Champa rice vastly increased harvests because cultivators could grow it on terraced hillsides that previously had gone unplanted, and they could double-crop Champa rice with other crops. In the far south they sometimes even triple-cropped Champa rice. Increased supplies of rice contributed to a demographic surge in China, where the population almost doubled in the course of two centuries, rising from 60 million in the year 1000 to 100 million a century later and 115 million by 1200.<sup>17</sup>

Other crops spread mostly westward after the seventh century, moving from India or southeast Asia to southwest Asia, the Mediterranean basin, Europe, and sub-Saharan Africa. Although often there is little precise information about the circumstances of their diffusion, it is clear that they traveled readily through the realm of Islam. Merchants, soldiers, administrators, diplomats, pilgrims, missionaries, migrants, refugees, and others traveled throughout the region from India to Spain and Morocco. The ground-breaking work of Andrew Watson shows how their movements facilitated the spread of food and industrial crops throughout the Islamic world. The transplants included staples, such as sorghum, sugarcane, and hard wheat; vegetables, such as spinach, artichoke, and eggplant; tropical fruits, such as lemon,

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<sup>17</sup> On Champa rice and its effects in China, see Ho Ping-ti, "Early-ripening Rice in Chinese History," *Economic History Review*, 2nd ser., 9 (1956): 200–218; Mark Elvin, *The Pattern of the Chinese Past* (Stanford, 1972), pp. 121–24; and Hugh R. Clark, *Community, Trade, and Networks: Southern Fujian Province from the Third to the Thirteenth Century* (Cambridge, 1991), pp. 153–55. The population figures come from Colin McEvedy and Richard Jones, *Atlas of World Population History* (Harmondsworth, 1978).

lime, sour orange, banana, coconut palm, watermelon, and mango; and industrial crops, such as cotton, indigo, and henna. The food transplants enriched diets throughout the Islamic world and beyond in Mediterranean Europe, east Africa, and west Africa, while cotton had considerable economic and commercial significance. Since many of the transplants grew well only in hot weather, they made it possible to cultivate lands in southwest Asia, the southern Mediterranean, and Africa that formerly had lain fallow during the summer months, and as a result they contributed to increased agricultural yields. As in China after the diffusion of Champa rice, population surged in the Islamic world after the spread of these crops; land came under more intense cultivation, and cities burgeoned. The population of Baghdad may have reached or exceeded 1 million in the ninth and tenth centuries, while that of Cairo stood at about 500,000, and Merv, Nishapur, Isfahan, Basra, and Damascus all had populations between 100,000 and 500,000.<sup>18</sup>

Sub-Saharan Africa benefited not only from biological exchanges mediated by the realm of Islam, but also from pre-Islamic diffusions across the Indian Ocean. The most important of them involved bananas, which encouraged accelerated migrations by Bantu-speaking peoples and helped fuel demographic expansion. First domesticated in southeast Asia, bananas entered Africa in the early centuries C.E. and spread throughout the continent between 500 and 1000. Malay seafarers probably brought bananas to east Africa when they visited coastal sites and colonized Madagascar between about 300 and 500 C.E. (Their voyages to Madagascar continued until about 1200.) By about 500 several varieties of bananas had become well established in eastern and central Africa. They provided a nutritious supplement to the diets of Bantu-speaking cultivators, and they also made it possible for the Bantu to expand into heavily forested regions where yams did not grow well. The population of sub-Saharan Africa clearly reflected the significance of bananas. At the turn of the millennium, human numbers there exceeded 11 million. By the year 500 C.E. the population had risen slightly to about 12 million. By 1000 C.E., after banana cultivation had spread throughout the continent, sub-Saharan population had passed 22 million, and by 1500 it stood at 35.5 million.<sup>19</sup>

The diffusion of food crops underwrote demographic expansion,

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<sup>18</sup> Andrew M. Watson, *Agricultural Innovation in the Early Islamic World: The Diffusion of Crops and Farming Techniques, 700–1100* (Cambridge, 1983).

<sup>19</sup> On the significance of bananas in sub-Saharan Africa, see Jan Vansina, *Paths in the Rainforests: Toward a History of Political Tradition in Equatorial Africa* (Madison, 1990), especially pp. 61–65. The population figures are from McEvedy and Jones, *Atlas of World Population History*.

but a second, unintentional type of biological exchange was not so kind to human populations. The most dramatic cases of microbial exchange in the millennium 500–1500 involved the transmission of bubonic plague. The first well-documented case of bubonic plague was the so-called plague of Justinian that broke out in 541 and ravaged the Mediterranean basin until the late eighth century. Contemporaries reported that the plague came from Egypt, in which case it may have traveled trans-Saharan trade routes from a focus of infection in the Great Lakes region of east Africa, or it might have arrived from India aboard merchant ships sailing the Indian Ocean and the Red Sea. Whatever its precise route, Justinian's plague spread rapidly throughout the Mediterranean basin and soon (in 547) sparked epidemics as far away as England and Ireland. It raged for four months at Constantinople, killing as many as 10,000 people per day, according to Procopius, and claiming 300,000 victims, by the account of Evagrius Scholasticus. Gregory of Tours reported that plague ravaged the Frankish kingdom in the 580s and 590s, striking Narbonne, Marseilles, Lyons, Bourges, Dijon, Avignon, Angers, and Nantes, among other places, and he mentioned that on a single Sunday the bodies of plague victims at St. Peter's basilica in Clermont numbered 300. Demographers estimate that during its initial onslaught (in 541–44) the plague reduced the population of Mediterranean Europe by 20%–25%. After the eighth century the plague tailed off, but it did not entirely disappear: isolated epidemics of plague struck Italy, southern France, and Spain between the eleventh and the early fourteenth centuries. Moreover, plague spread also to southwest Asia and east Asia. Muslim chroniclers recorded five great outbreaks of plague in Iraq and Syria between 627 and 717, and evidence also survives of many other epidemics, some of them likely caused by plague. By the late sixth or early seventh century plague had reached coastal China, most likely by way of Arab and Persian merchant ships, and periodic epidemics flared in port cities and in Guangdong province (in southern China) until at least the ninth century. Meanwhile, plague extended its reach to Korea, Japan, and Tibet during the seventh century.<sup>20</sup>

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<sup>20</sup> On Justinian's plague and other plague epidemics before the fourteenth century, see especially Pauline Allen, "The 'Justinianic' Plague," *Byzantion* 49 (1979): 5–20; J.-N. Biraben and Jacques Le Goff, "The Plague in the Early Middle Ages," in *Biology of Man in History*, ed. Robert Forster and Orest Ranum (Baltimore, 1975), pp. 48–80; Michael W. Dols, *The Black Death in the Middle East* (Princeton, 1977), pp. 13–35; McNeill, *Plagues and Peoples*, pp. 123–28; and Josiah C. Russell, "That Earlier Plague," *Demography* 5 (1968): 174–84. For Gregory of Tours's reports, see his *History of the Franks*, trans. E. Bréhaut (New York, 1916), 4:31, 6:14, 9:21, 10:23, and 10:25, pp. 92, 154, 218, 244–45, respectively. On early plague outbreaks in China, see McNeill, *Plagues and Peoples*, p. 134.

The pandemic of the fourteenth century is well enough known that it does not require extensive discussion here. Perhaps the most important points for present purposes are, first, that fourteenth-century plague almost certainly spread from southwestern China to northern China and then along the silk roads to central Asia, southwest Asia, the Mediterranean basin, and north Africa, and, second, that it was by no means an isolated event. Wherever it struck, its demographic effects testified to the significance of cross-cultural interactions for the experiences of human societies throughout the eastern hemisphere in premodern times. The population of China, reeling under the impact of Mongol conquest as well as plague, fell from 115 million in 1200 to 85 million in 1300 and 75 million in 1400 (a 35% decrease over two centuries). Southwest Asia faced the same pair of challenges and underwent less drastic but still noticeable population decline, from 19.5 million in 1200 to 18.35 million in 1300 and 16.4 million in 1400 (a 16% decrease over two centuries). Although largely unafflicted by the Mongols, Europe faced severe plague epidemics and experienced population losses from 79 million in 1300 to 60 million in 1400 (a 24% decrease over one century).<sup>21</sup>

Alongside commercial and biological exchanges, the eastern hemisphere also witnessed cultural interactions of large significance during the period 500–1500 C.E. And here, too, a peculiar kind of modernist bias has sometimes skewed the understanding of premodern experiences. Literary analyses have recently associated European representations of other peoples with an orientalizing project and have argued for a close relationship between European travel and travel writing, on the one hand, and imperialism, on the other. John B. Friedman, for example, has lodged the charge of orientalism because medieval European maps marginalized foreign peoples. More pointedly, Mary B. Campbell has read medieval travel writing in light of the European conquest of America: “Pilgrimage became crusade; the search for Marco Polo’s Cathay ended in the conquests of Mexico and Peru. Many pilgrims were soldiers, many missionaries were military spies, most early explorers were conquistadors. So in following the early history of travel writing

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<sup>21</sup> On pandemic plague in the fourteenth and later centuries, see McNeill, *Plagues and Peoples*, especially pp. 149–98. Regional studies include Michael W. Dols, *The Black Death in the Middle East* (Princeton, 1977); Daniel Panzac, *La peste dans l’empire ottoman, 1700–1850* (Louvain, 1985); Robert S. Gottfried, *The Black Death: Natural and Human Disaster in Medieval Europe* (New York, 1983); Colin Platt, *King Death: The Black Death and Its Aftermath in Late-medieval England* (Toronto, 1996); and Carol Benedict, *Bubonic Plague in Nineteenth-century China* (Stanford, 1996). The population figures are from McEvedy and Jones, *Atlas of World Population History*.

we will sometimes be looking at the linguistic shadows of European imperialism: several of the works examined here begin or end with explicit references to the future conquest of the lands or peoples described. . . . The specter of the American holocaust will fade into the background of this study. But it haunts the whole.”<sup>22</sup>

Granted that medieval Europeans were ethnocentric and that travel and travel writing sometimes contributed to imperialist projects, it seems clear that long-distance travel and cross-cultural interactions also had less sinister implications. And when the focus broadens from a narcissistic, Eurocentric study of European travelers to the analysis of cross-cultural interactions as historical processes, a range of alternative patterns comes into view. Indeed, the cultural ramifications of cross-cultural interactions were legion. Arnold Pacey has explored cases of technological diffusion, for example, arguing that these processes can often be characterized more accurately as “technological dialogue” and “technological dialectic” than as “technological transfer.” His analysis draws attention effectively to the role of cultural influences in technological exchanges, and it suggests the need to keep cultural considerations in view when examining processes of interaction.<sup>23</sup> Here I shall focus briefly on two kinds of cultural transformation that came about as a result of interactions between peoples of different societies and that illustrate the increasing cultural integration of the eastern hemisphere.

The first has to do with ethnic identities. Cross-cultural interactions provoked cultural changes that ran the gamut from the construction to the transformation to the disintegration of ethnic identities. Fascinating research has focused on nomadic and migratory peoples, such as the Franks and the Tanguts, whose ethnogenesis and ethnic transformations clearly reflect the influence of cross-cultural interactions.<sup>24</sup> The

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<sup>22</sup> John B. Friedman, “Cultural Conflicts in Medieval World Maps,” in *Implicit Understandings: Observing, Reporting, and Reflecting on the Encounters between Europeans and Other Peoples in the Early Modern Era*, ed. Stuart B. Schwartz (Cambridge, 1994), pp. 64–95. See also Friedman, *The Monstrous Races in Medieval Art and Thought* (Cambridge, Mass., 1981), which offers a similar analysis, though without invoking the category of orientalism; and Mary B. Campbell, *The Witness and the Other World: Exotic European Travel Writing, 400–1600* (Ithaca, 1988), especially pp. 4, 7, for the quotations.

<sup>23</sup> Arnold Pacey, *Technology in World Civilization: A Thousand-year History* (Oxford, 1990).

<sup>24</sup> On the Franks see David Harry Miller, “Ethnogenesis and Religious Revitalization beyond the Roman Frontier: The Case of Frankish Origins,” *Journal of World History* 4 (1993): 277–85; and Edward James, *The Franks* (Oxford, 1988). On the Tanguts see the studies of Ruth W. Dunnell: “Who Are the Tanguts? Remarks on Tangut Ethnogenesis and the Ethnonym Tangut,” *Journal of Asian History* 18 (1984): 78–89; “Politics, Religion, and Ethnicity in Eleventh Century Xia: The Construction of Tangut Identity in the 1094 Wuwei Stele Inscription,” *Central and Inner Asian Studies* 7 (1992): 61–114; “The Hsi

remarkable ethnic odysseys of the Alans illustrate especially well some of the possibilities for cultural transformations in a world shaped by mass migration, campaigns of imperial expansion, and long-distance trade. The Alans were an identifiable ethnic group of northern Iranian nomads at least by the first century C.E., when they raided Roman territory from their homeland in the southern Russian steppes. In the fourth century they allied with Huns attacking the eastern empire and played a starring role at the battle of Adrianople (in 378), in which the invaders crushed the Roman army and killed Emperor Valens. In the fifth century some Alans settled in Thrace and converted to Arian Christianity, while others joined forces with the Vandals, invaded Gaul, and settled on estates seized from the Gallo-Roman population. By the late fifth century Alans in the western empire had converted to Roman Catholic Christianity and had largely assimilated into Gallo-Roman and Germanic societies.<sup>25</sup>

Those living beyond the eastern empire, however, underwent different kinds of cultural transformation while maintaining an Alan identity. At least from the time of Justinian, Alans allied with the Byzantine empire and secured the Caucasus region as a buffer zone beyond the Byzantine empire. About the tenth century they converted to Orthodox Christianity. Since they enjoyed a reputation as skilled craftsmen and metalsmiths, they attracted the interest of the Mongols, who showed favor to them because of their talents and perhaps also because they voluntarily submitted to Mongol rule. In any case, the Mongols transported large numbers of Orthodox Christian Alans to China, where they served as bodyguards and military forces. They were unable to receive sacraments during their early years in China, however, since they refused to comply with the demand of the local Nestorian Christian priests that they submit to rebaptism before taking communion. When Roman Catholic missionaries arrived in China in the late thirteenth century, they readily accepted the Alans into their community without rebaptism. John of Montecorvino, archbishop of Khanbaliq, reportedly converted 20,000 Alans to Roman Catholic Christianity, and

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Hsia," in *The Cambridge History of China*, ed. Denis Twitchett et al., 15 vols. (Cambridge, 1978-), 6:154-214; and *The Great State of White and High: Buddhism and State Formation in Eleventh-Century Xia* (Honolulu, 1996). See also Thomas T. Allsen, "Ever Closer Encounters: The Appropriation of Culture and the Apportionment of Peoples in the Mongol Empire," *Journal of Early Modern History* 1 (1997): 2-23, especially p. 17, where Allsen summarizes the work of the Russian scholar E. I. Kychanov.

<sup>25</sup> Bernard S. Bachrach, *A History of the Alans in the West* (Minneapolis, 1973). See also T. Sulimirski, *The Sarmatians* (New York, 1970), pp. 142-203; and C. Scott Littleton and Linda A. Malcor, *From Scythia to Camelot: A Radical Reassessment of the Legends of King Arthur, the Knights of the Round Table, and the Holy Grail* (New York, 1994), pp. 3-57.



they made up a large portion of his flock. When the Mongols departed from China in 1368, their Alan allies left with them for an unrecorded destiny that probably involved absorption into Turko-Mongol society.<sup>26</sup> Meanwhile, the Alan community that remained in the Caucasus retained its Orthodox faith and evolved into the modern Ossetian community that retains its Indo-Iranian language to the present day.

A second cluster of themes has to do with the spread of cultural and religious traditions. In some cases it is possible to appreciate the role of individuals in fostering the spread of these traditions. Merchants, soldiers, diplomats, government officials, missionaries, and pilgrims all were prominent travelers on the roads and sea lanes of the eastern hemisphere. Even though they represented only a fraction of the population, they wielded cultural influence out of proportion to their numbers.<sup>27</sup> The peregrinations and experiences of travelers such as Faxian, Xuanzang, Yijing, Ibn Battuta, and Mansa Musa illuminate the processes by which the universal religions spread throughout the eastern hemisphere. Between them, Faxian, Xuanzang, and Yijing brought hundreds of Buddhist texts from India to China and translated many of them into Chinese. They also introduced relics, statues, and ritual paraphernalia to Buddhist communities in China and laid a foundation for the acceptance of Buddhism throughout east Asia. Ibn Battuta did not always succeed in his efforts to promote Islamic values in the Maldiv Islands and the west African kingdom of Mali, but his experiences illustrate the process by which the Islamic faith gradually transformed societies far from its Arabian birthplace. After his pilgrimage to Mecca, Mansa Musa invited descendants of Muhammad to teach in Mali, financed the construction of new mosques, and sponsored students attending the esteemed Islamic schools in Fez.<sup>28</sup> Long-distance

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<sup>26</sup> Sulimirski, *The Sarmatians*, pp. 194–203; and Frank W. Iklé, “The Conversion of the Alani by the Franciscan Missionaries in China in the Fourteenth Century,” in *Papers in Honor of Professor Woodbridge Bingham*, ed. James B. Parsons (San Francisco, 1976), pp. 29–37.

<sup>27</sup> Important studies include Mary W. Helms, *Ulysses’ Sail: An Ethnographic Odyssey of Power, Knowledge, and Geographical Distance* (Princeton, 1988); and Campbell, *The Witness and the Other World*. Recent analyses of travel in modern and contemporary times suggest some fascinating possibilities for the study of travel in earlier eras: Victor Turner and Edith Turner, *Image and Pilgrimage in Christian Culture: Anthropological Perspectives* (New York, 1978); Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London, 1992); and James Clifford, *Routes: Travel and Translation in the Late Twentieth Century* (Cambridge, Mass., 1997).

<sup>28</sup> On the spread of religious and cultural traditions in general, see Jerry H. Bentley, *Old World Encounters: Cross-Cultural Contacts and Exchanges in Pre-Modern Times* (New York, 1993). On individual travelers see also Sally Hovey Wriggins, *Xuanzang: A Buddhist Pilgrim on the Silk Road* (Boulder, Colo., 1996); and Ross E. Dunn, *The Adventures of Ibn Battuta: A Muslim Traveler of the 14th Century* (Berkeley, 1986).

travel not only facilitated the exchange of trade goods and the diffusion of biological species, but also sharpened the awareness of cultural identities and sometimes promoted the spread of cultural and religious traditions to new lands.

When it becomes a question of going beyond the roles of individuals to explain large-scale conversions to new religious faiths, the analysis of cultural exchanges becomes more difficult. Without reducing cultural choices to decisions made out of purely material interests, I think it is clear that large-scale cultural changes reflect political, social, and economic configurations as well as the appeal of cultural and religious traditions themselves. Jacques Gernet's important study of the economic significance of Buddhism in China makes this point persuasively. The efforts of the Chinese pilgrims show that Buddhism appealed strongly to certain individuals, but a small circle of devout converts does not indicate a large-scale cultural transformation of an entire society. Gernet's work argues convincingly that by stabilizing rural society, Buddhist monasteries helped translate the appeal of their faith into terms meaningful in the countryside and thus facilitated widespread adoption of Buddhism in China.<sup>29</sup>

Although difficult to account for, processes of large-scale cultural change call for historians' careful attention. Alongside cross-cultural trade and biological exchanges, they help to explain the social and cultural environments in which most of the world's peoples have led their lives, as well as the increasing integration of societies throughout the eastern hemisphere.<sup>30</sup> The explanations are elusive, but it is clear that cross-cultural interactions are crucial considerations in the effort to understand processes of large-scale cultural change.

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<sup>29</sup> Jacques Gernet, *Buddhism in Chinese Society: An Economic History from the Fifth to the Tenth Centuries*, trans. F. Verellen (New York, 1995).

<sup>30</sup> Bentley, *Old World Encounters*.