TRANSATLANTIC HISTORY

WILLIAM H. MCNEILL

Transatlantic History in World Perspective

WHEN HUMAN BEINGS first learned how to sail and steer rafts, canoes, and eventually ships, the seas and oceans that had once been barriers to human movement reversed their roles for humankind by becoming especially conducive to long-distance encounters among coastal populations. For a long time, historians remained insensitive to this dimension of the past because they concentrated their attention on politics and state—or nation—building and regarded shorelines as natural boundaries, which in fact they were for rulers whose power rested on rents and taxes collected from an agricultural peasantry. Even when towns and trade attained critical importance for politics and war, connections across open water remained marginal and foreign for most historians. With the rise of social history in the aftermath of World War II, historians began to open their eyes to the reality of complementary and sometimes contrary developments among peoples living apart from one another, yet connected rather than separated by navigable bodies of water.

Fernand Braudel's *The Mediterranean and the Mediterranean World in the Age of Philip II* (1949) is deservedly famous as the pioneering exemplar of how to write sea-centered history, searching out some of the exchanges and rivalries that united North Africa and the Levant with Mediterranean Europe in the sixteenth century. Almost simultaneously, Philip Curtin began investigating "the Atlantic plantation complex" as part of his study of comparative tropical history, and, I believe, it was from his pioneering work that transatlantic history has proliferated in the United States.

What can a "world perspective" bring to that enterprise? An irritating and irrelevant distraction is perhaps the most obvious answer for those who are already struggling to understand how African, European, and American societies intersected and combined to create the transatlantic world we have

inherited. Yet some people think differently, and, when challenged to think about it, I soon persuaded myself that there are useful comparisons to be made and parallel studies that might profitably be undertaken—most of which, I confess, are yet to be successfully carried out.

THE MOST OBVIOUS world perspective that comes to mind is the recognition that transatlantic history is part of a much larger phenomenon, inasmuch as other bodies of navigable water also transmitted powerful and transformative influences to the peoples along their shores and have done so from early prehistoric times.

We know most about the Mediterranean, where sailing across open water apparently dates back to about 5000 B.C.E. Archaeologists have found the first signs of human habitation of islands such as Crete or Cyprus from about that time. Two and a half millennia later, shipping became capable of intensifying long-range encounters and skill transfers in eastern Mediterranean coastlands, as demonstrated by the rise of Minoan civilization in Crete. That civilization was stimulated by seaborne contact with Egypt and other parts of the Levant and was sustained by the exchange of olive oil (and a few other luxuries) from Crete for metals and other raw materials from remoter parts of the Mediterranean shoreline. The subsequent radiation of Cretan influences into the Aegean islands and coastlands and then of Phoenician and Greek influences in the central and western Mediterranean as well as northward into the Black Sea is the stuff and substance of classical history. This was followed by the eventual formation of the Roman empire, uniting all the shores of the Mediterranean into a single state. And as the Roman conquest of Britain attested, even fair-weather shipping of the sort available to ancient Mediterranean mariners sufficed to carry Roman armies across the English Channel.

The central role of waterborne contacts in ancient Greek and Roman history was always obvious but scarcely noticed until recently. Except for a few passages, such as the account of St. Paul's shipwreck in the Book of Acts (chapters 27–28), ancient texts say little about seafaring or the economic exchanges that shipping sustained; historians regarded the cultural transformations that followed in the wake of the critically important seaborne contacts as self-evident, self-propelled processes of Hellenization, Romanization, or the spread of mystery religions and then of Christianity. After World War II, however, new techniques of underwater archaeology enabled divers to investigate ancient shipwrecks. Their findings yielded detailed knowledge of ancient shipbuilding techniques and an analysis of scores of cargoes. Classical historians thus became more conscious of the maritime undergirding of Greek and Roman history, and several authors have drawn

on underwater archaeology to write about trade, shipping, timber supply, and related aspects of the ancient Mediterranean maritime economy. Through an independent path of development, sophisticated studies of the main result of waterborne transport (i.e., two-way cultural—especially religious—encounters and mingling among the diverse peoples of the Mediterranean coastlands) have become the chief area of growth for classical history.

Less is known about Mediterranean seafaring in early medieval centuries, when Byzantine and Arab fleets and traders dominated the scene, but with the revival of Italian shipping after 1000 C.E., written records proliferate, and a rich tradition of scholarship has exploited them, climaxing in Braudel's masterpiece, which shows how Mediterranean seafaring was eventually eclipsed by cheaper and more seaworthy Dutch and English ships beginning abruptly in 1590.

These ships came from the other seaway that is comparatively well known to historians. It abuts upon western Europe and comprises the strip of the North Atlantic lying between Iberia and the Canary Islands, together with the Bay of Biscay, the Irish and English Channels, the North Sea, Norwegian coastal waters, and the Baltic. Seafaring in this area appears in the archaeological record with megalith builders who sailed along these coasts in the third millennium B.C.E. and left behind distinctive stone monuments to their vanished religion all the way from Morocco to southern Sweden. They were followed by a few venturesome Phoenicians, perhaps seeking the tin of Cornwall and who may or may not have circumnavigated Africa about 600 B.C.E., as Herodotus suggests.

Nonetheless, early navigation on the stormy, tide-beset Atlantic shores of Europe and North Africa remained risky and sporadic. Throughout classical times, Greek and Roman sailors found Mediterranean storms too dangerous to risk winter voyages. Even in summer, the North Atlantic and its adjacent seas were too hazardous for them to traverse confidently. Nonetheless, about 350 B.C.E., an explorer name Pythias of Massilia ventured northward along the Atlantic face of Europe, reaching what he called Ultima Thule, somewhere close to the Arctic circle. This remained the northernmost landfall known to ancient classical geographers.

Then, in the Middle Ages, Anglo-Saxon pirates and settlers, Irish saints, Viking raiders, Portuguese, Basque, and Dutch fisherman, and, after 1300, merchants in stoutly constructed vessels continued to brave the storms and tides of the North Atlantic and its adjacent seas and did so with increasing success and frequency. Vikings crossed the Atlantic long before Columbus and established settlements in Iceland (875–900), Greenland (982–985), and Newfoundland (1000). However, Eskimo hunters and climatic hardship brought on by the Little Ice Age (ca. 1320–1550) extinguished the Greenland

settlement in the fifteenth century, and the handful of Viking settlers who set themselves up in Newfoundland remained there only a few decades.

In general, the long, slow conquest of the northern seas is a complicated and imperfectly recorded story, and I am not aware that anyone has yet tried to put it all together. Separate parts are familiar enough, and the overall trend is apparent. What began with the initial human occupancy of Ireland and the Hebrides (ca. 6000 B.C.E.)—thanks, presumably, to sporadic and precarious voyaging in tiny coracles made of animal skins—developed some 7,500 years later (by 1450 C.E.) into a capacious network of all-weather navigation throughout the waters abutting western Europe, despite the fact that they are among the stormiest on earth.

This required a swarm of light fishing smacks to ride atop the waves and a smaller number of stout oaken vessels weighing many tons that cut through the waves instead of riding on top of them, as coracles and fishing boats could do. Gradual technical improvement in naval architecture came about by dint of largely unrecorded accumulation of specialized skills and knowledge. Vessels constructed of overlapping wooden planks, using oars to supplement a single sail and capable of carrying a crew of as many as fifty men, were a start. Viking ships were of this design. Larger ships needed a stronger framework to withstand the waves, and, beginning about 1000 C.E., European shipbuilders hit upon a rib-and-keel design, featuring a skeleton of heavy timbers to which they nailed oaken planks both inside and out. They then caulked the crevices between the planks to make the hull watertight and further strengthened it by constructing one or more waterproof decks across the top. (Interestingly, if one turns such a hull upside down and translates it into stone, a Gothic cathedral arises by replicating the principle of framing a load-bearing structure, this time with a skeleton of piers and ribs. Whether there is any connection between these two architectural triumphs I cannot say.)

Sternpost rudders, multiple masts and sails, not to mention block and tackle, ingeniously constructed wooden barrels (standardized as tuns, which in turn became the measure of a ship's capacity), together with an ample supply of long hempen rope, seagoing missile weapons (first crossbows, then cannon and other firearms), as well as compasses, sextants, astrolabes, portolan charts, and astronomic tables for the calculation of latitude were further essentials for long-distance navigation. They all came onstream very rapidly between 1300 and 1450. However, what made the burst of transoceanic exploration after 1492 so amazingly sudden was the decipherment of the prevailing wind and current patterns of the North Atlantic. Portuguese sailors, stimulated by Prince Henry the Navigator's systematic efforts (1418–1460) to venture southward along the African coast, were the principal decipherers. At first their knowledge remained oral and at least semisecret.

Nevertheless, it is obvious from his actions that Columbus knew ahead of time that, by going south to the latitude of the Canaries, he would find northeast trade winds to carry his ships westward. He also knew that he must sail northward into the zone of prevailing westerlies for the return voyage. Once European sailors understood how to take advantage of this natural windmill, transatlantic navigation became routine. Successful searches for similar patterns on other oceans thus swiftly followed, allowing European sailors to inaugurate a worldwide, transoceanic, rapid-transit system that ultimately affected nearly all of the earth's inhabited coastlines within a single generation (1492–1519).

Our planet still reverberates from the changes inaugurated by this amazingly rapid alteration in the pattern of global encounters. As I said, however, I am unaware that anyone has yet integrated the background story of Atlantic Europe's navigation, shipbuilding, and resulting raid, trade, migration, and cultural exchanges into a single whole. Separate national records still dominate most historians' range of inquiry. There is also an opposite embarrassment, for efforts to understand the background of Columbus, Vasco da Gama, Magellan, and their successors have shown that Atlantic European advances in shipbuilding and navigation were not independent of Mediterranean developments. Mediterranean seamen were, in turn, at least sporadically in touch with what was happening in the Indian Ocean and even the South China Sea, where Chinese shipbuilding and navigation underwent a parallel advance toward stout, seaworthy, and capacious all-weather shipping simultaneously with, or a little in advance of, European achievements.

In other words, a properly balanced and complete account of how transoceanic shipping and navigation came into being in Atlantic Europe between 1000 and 1500 must include Chinese, Japanese, Southeast Asian, and Indian Ocean seafaring and trace transfers and contrasts between separate shipbuilding traditions and navigational methods in each of these areas. Not strictly a world historical perspective but a pan-Eurasian perspective is required, for it was within an interconnected circle of Eurasian seafarers that technical means for all-weather, transoceanic voyaging was worked out. And the fact that stormy and tidal seas prevailed along not only the Atlantic face of Europe but also the coasts of Japan and part of China does much to explain why technical improvements in seafaring between 1000 and 1500 concentrated in these separate and only slenderly connected locations.

Throughout the process, Europeans were mostly borrowers. The compass, lateen sails, sternpost rudders, and gunpowder weaponry, for example, all came from China and/or the Indian Ocean. Because they featured watertight compartments and adjustable centerboard keels, the flat-bottomed Chinese junks were fundamentally different from the European vessels with rib-and-

keel construction. The strength and rigidity of European decked-over hulls were probably superior to anything the Chinese built. At any rate, European ships easily withstood the recoil of the heavier cannon that the Chinese put on board their far larger vessels—an advantage of critical importance for European ships when first they intruded into Asian waters after 1499.

The fact is that seafaring in the Eurasian African world was like a communicable disease. Any improvement that really worked was infectious and tended to spread rapidly regardless of point of origin as sailors met one another in distant ports and warily, but inevitably, exchanged information. Obstacles sometimes inhibited borrowing, as when shipbuilders of the Indian Ocean adhered to their tradition of using vegetable fibers to tie the planks of their dhows together long after Chinese and then European intruders exposed them to ways of making far stronger vessels. But iron nails were expensive, whereas vegetable fiber was cheap, and for most purposes the comparatively calm waters of the Indian Ocean made stronger hulls and heavier construction a wasteful extravagance.

The biggest gap and by far the most significant world-historical parallel to transatlantic history has to do with the transoceanic history of Southeast Asia and adjacent waters in the Indian Ocean and Southwest Pacific. This awkward label covers a vast area of navigable water whose history is still largely unknown. Archaeology is scant, speculation rampant, and facts remain distressingly scarce. Nonetheless, this was almost surely where seafaring started and where sporadic improvements in navigation inaugurated a series of revolutionary long-range contacts extending across many millennia before 1500, when transatlantic history abruptly took precedence. Indeed, transatlantic history may best be conceived of as a climactic postlude to a process that had been going on in Southeast Asian, Southwest Pacific, and Indian Ocean waters since about 40,000 B.C.E., or whenever human beings first conveyed themselves across the open water separating Australia from the Asian mainland.

Human settlement of Australia is, in fact, the earliest certain evidence that humankind had learned how to sail, or perhaps merely to float and paddle, across comparatively long distances. Exactly how much open water the migrants had to cross is unclear because shorelines in Southeast Asia and throughout the world changed radically when sea levels rose as the glaciers melted away from North America and northern Eurasia beginning about 14,000 B.C.E. But the famous "Wallace line" dividing Australian from Asian fauna and flora attests to the impenetrability of a sea barrier between the two continents for most forms of life throughout geologic time. Moreover, the initial human crossing did not result in sustained linkages across the Wallace line, even though from time to time subsequent landings brought novelties

into Australia, most notably dingoes (a distinctive kind of dog) and a new style of microlith, both dating from about 5000 B.C.E.

Most likely sea travel started so very early in Southeast Asia because the monsoon winds that blow across the Indian Ocean and the Southwest Pacific were peculiarly conducive to long-distance sailing. Driven by the seasonal heating and cooling of the atmosphere over Central Asia, the monsoons blow for about half the year from one direction and then reverse themselves in the following six months. Severe seasonal storms—typhoons, the equivalent of Atlantic hurricanes—sometimes occur, but most of the time the monsoon winds blow almost as steadily and gently as do those global conveyor belts for sailors, the trade winds. Sailing with the monsoon downwind for weeks and months at a time and then sailing back when the monsoon reversed itself was comparatively easy. Such long-distance navigation required no more than a mast and sail attached to a raft, dugout canoe, or some other sort of vessel small enough to be steered by the combined effect of sail, keel, and paddles or oars, allowing sailors to proceed in any desired direction within something approaching 90 degrees of directly downwind.

However, such elementary vessels leave little or no archaeological trace, and as long as technological and other cultural differences among the coastal populations of the monsoon seas remained modest, there is little hope of reconstructing the range or cultural significance that small-boat long-distance navigation may have had. Furthermore, the fact that early coastal settlements were inundated by rising sea levels when the glaciers melted also defeats archaeological investigation of early seafaring in and around Southeast Asia. We are therefore left to wonder and can only imagine what may have happened along the monsoon coastlines.

Yet there are some hints—derived from sites often situated on inland lakes or rivers—that a combination of fishing and tropical gardening supported settled communities in Southeast Asia from very early times. The emergence of agricultural settlements of grain farmers in Western Asia, beginning about 8000 B.C.E., has been carefully studied by archaeologists because it was these farmers who eventually provided the rural basis for the emergence of civilization in the land of Sumer (modern Iraq) between 4000 and 3000 B.C.E. Moreover, their style of grain agriculture still undergirds the civilizations of much (though not all) of the modern world. Nonetheless, sessile tropical gardening may well be more ancient and, when combined with fishing, was probably capable of sustaining relatively dense populations. The discovery of surprisingly populous farming communities in upland New Guinea as recently as the 1930s, when aviators first noticed clearings in the island's forests, showed that tropical gardeners could indeed support dense human popula-

tions on favorable soils even without additional resources from the sea, as early Southeast Asian coastal populations surely did.

However, a fundamental feature of tropical gardening inhibits the rise of monumental buildings, extensive states, and other familiar markers of early civilizations, all of which depended on the management of comparatively vast resources by some kind of central authority. In the tropics, plants grow year-round. At almost any season of the year, gardeners can therefore harvest their crops, which vary with local rainfall patterns and depend only on human ability, through vegetative reproduction, to keep a suitable number of edible plants perpetually ready for harvest. All that was needed to ensure an almost steady food supply was to replant the top of a harvested root at the time it was taken from the soil and then make certain of its regrowth with whatever weeding or fertilizing turned out to be worth the effort.

Having no need to store foodstuffs between harvest seasons, tropical gardeners have little or nothing that outsiders—rulers and landowners, who live on taxes and rents—can collect from their gardens and use for their own purposes. In contrast, grain farmers had to store their harvest for months on end. Such stores were a standing invitation for outsiders, first by threat and force and eventually by immemorial custom, to preempt all or part of the harvest. Cities and cultures, priests and temples, armies and states, walled cities and all the other traces that ancient civilizations leave for archaeologists to discover thus became possible wherever grain farmers labored in the fields. In the absence of a seasonal glut requiring large-scale storage of foodstuffs, nothing of the kind was possible where tropical gardening prevailed.

Nonetheless, archaeologists have recently begun to detect faint traces left by ancient villages in Southeast Asia and southern China, and time horizons for root and rice cultivation in that part of the world have suddenly been pushed back to equal, or more probably exceed, the time horizon for grain cultivation in western Asia. They theorize that in those early coastal sites settled gardening almost certainly began as soon as fishermen learned how to sail and steer whatever rafts or boats they may have had and, by returning regularly to a convenient landing place, established permanent settlements. Sessile living, in turn, then allowed fishermen's wives to improve on age-old gathering techniques by concentrating useful plants nearby in what thus became permanent gardens. In all probability, therefore, early seafaring and tropical gardening existed in and around the shores of Southeast Asia for quite some time.

Although the drowning of early coastal sites deprives archaeologists of physical evidence, linguistic evidence suffices to show that human encounters extended across long sea distances in monsoon waters from comparatively early times and persisted for millennia. In particular, what is called the

Austronesian dispersal spread a family of related languages across a multitude of islands in the Southwest Pacific, extending as far from the mainland as the Soloman Islands sometime between 3500 and 2000 B.C.E. This migration was eventually followed by the even more remarkable Polynesian dispersal across the enormous expanses of the rest of the Pacific, reaching as far as Hawaii, Easter Island, and New Zealand. Polynesian oral traditions refer to an ancestral place that has been plausibly identified as the island of Samoa, and experts agree that their migration started about 500 C.E. and was completed about five hundred years later with the occupation of New Zealand.

Parallel migrations westward across the Indian Ocean had similarly far-ranging results, most notably the settlement of Madagascar off the African coast by Malay speakers, who arrived there about 700 C.E. and apparently came from Borneo, where their closest linguistic relatives are still to be found. These settlers probably did not cross the Indian Ocean directly but instead reached Madagascar by coasting along East Africa after skirting the northern shores of the Indian Ocean. They certainly traveled in small vessels and presumably put ashore from time to time for rest and resupply.

Such coastal voyaging was already very old by the time the Malays settled on the previously uninhabited island of Madagascar. From the time when small vessels began to move to and fro along the coasts of the Indian Ocean, they must have provoked sporadic biological and cultural exchanges wherever they put ashore. Local consequences were sometimes important. For example, anthropologists have long realized that yams, native to Southeast Asia, were a staple food for many African communities, even, or especially, in West Africa, but just when this crop reached Africa and how it got to West Africa remain unrecorded. Perhaps rice reached the Ganges basin of India via the same water route, if it is true that this crop originated in flood-prone lake shores of south China, where traces of rice cultivation have recently been discovered and dated as early as 8200 B.C.E.

Even more interesting is the fact that the Sumerians, who constructed the earliest known cities and pioneered the Southwest Asian style of civilization, left written records of an oral tradition to the effect that their ancestors had come to the land of Sumer by sea from the south. If so, one can argue that the breakthrough to urbanity and civilization in ancient Sumer took place where a network of sea communication along the shores of the Indian Ocean intersected with a newer overland network of donkey caravans, arising only subsequently to the initial domestication of that animal, which occurred about 5000 B.C.E. Where shipping and caravans converged at the head of the Persian Gulf, it is easy to suppose that Sumerian-speaking intruders from the sea found themselves in an optimal position to pick and choose among ideas and techniques accessible to them from diverse and far-flung hinterlands. Thus,

they were able for the first time to bring together and then elaborate on all of the specialized skills needed to create and sustain urban life and civilization.

Little or nothing is known about early shipbuilding and navigation in the monsoon seas. We can assume that the dugout canoes of the Southwest Pacific had a long and successful career since Polynesians were still using them when Europeans eventually arrived on the scene. Perhaps the extraordinary feats of navigation that carried Polynesians so far depended on the invention of outriggers to stabilize their sailing canoes against big ocean waves, but in fact no one knows for sure when outriggers were invented. Nearer to the Asian mainland, built-up ships displaced canoes, at least for long-distance navigation, at some unknown time. The horizon for our knowledge of the existence of this sort of shipping stands at about 3000 B.C.E., when rock carvings in Egypt near the Red Sea coast portray Sumerian ships as built-up vessels, carrying a single mast, but that is about all that can be deciphered from the crude and weathered remains. There is no reason to think that such ships were not older—perhaps much older. Again, however, no one can say for certain.

Still, we do know that ships connected Sumer with India since distinctive Sumerian seals used to record ownership of packaged cargo have been discovered at Harappa and Mohenjo-daro, the two capital cities of the Indus civilization. Since it is always easier to borrow and adapt than it is to invent de novo, such contacts presumably helped to provoke the emergence of the Indus civilization itself. The same was true for Egypt, for Sumerian-style ships also visited the shores of the Red Sea in predynastic times, whence caravans reached the Nile valley by traversing the Wadi Hammamat, where rock carvings can still be seen. Resulting encounters with Sumerian skills and knowledge gave the Egyptians models for the construction of their earliest monumental architecture and may have stimulated them to invent hieroglyphic writing, which used the same principles as Sumerian cuneiform writing but relied on entirely different symbols. The skills of civilization, in short, were contagious. The fact that independent centers of urban-based civilized society, complete with organized religion, imperial states, monumental architecture, and writing, arose in the Yellow River valley of China (c. 2200 B.C.E.) and eventually also in the Ganges valley of India (c. 1000 B.C.E.) suggests that monsoon navigation carried an ever-increasing freight of cultural baggage.

Full-blown civilization required grain farming. In south China, Japan, Java, and various river valleys of Southeast Asia, rice took the place of wheat, barley, and millet, which were staples of West Asian and earliest Chinese agriculture. Rice paddy cultivation was fundamentally different from other kinds of grain farming, depending as it did on elaborate water management and on transplanting seedlings from special seedbeds into waterlogged fields by

stoop labor. The burdensome toil such farming required was matched by spectacularly higher yields, with seed-to-harvest ratios of as much as 100 to 1, compared with a mere 6 to 1 for medieval European wheat farmers. Far denser human occupancy of cultivated landscapes was one consequence, as well as fewer domesticated animals. All the same, rice, like other grains, had to be harvested and stored and was therefore eminently suited to maintain rulers, landlords, and all their urban dependents that together sustained and continually elaborated rice-based East Asian styles of civilization.

Two obstacles hindered the spread of rice paddies. One was the back-breaking effort they required. This meant that rice paddies could spread only where populations were already dense and land was short so that hard-pressed farmers had no option but to shift to the intensified labor that rice cultivation required. However, crowded populations also increased infections, making heavy labor all but unsustainable. For many centuries this undoubtedly held back the spread of rice paddies. South China, for example, was notoriously unhealthy in Han times (303 B.C.E. to 221 C.E.) and remained a thinly occupied frontier region and place of exile where death from disease routinely struck down newcomers from the north. Only in T'ang times (608–907 C.E.), as tea drinking became commonplace in China, did the south begin to thrive, perhaps because boiling water to make tea killed off bacteria in the drinking water, thus making other health hazards—malaria above all—tolerable even for the closely-packed human settlements that contiguous rice paddies sustained.

As the case of Sumer already suggests, the dawn of civilization and the enriched archaeological and written evidence it left behind make the role of monsoon seafaring more obvious. As rice paddy farming came slowly onstream (between about 8000 B.C.E. and 1000 C.E.) in south China, eastern India, Japan, Java, and the principal river valleys of Southeast Asia, sea traffic linked the emerging civilizations of each of these regions together. But for a long time rice paddies and the local civilizations that rice-harvesting sustained remained exceptional because they were embedded in a landscape inhabited by diverse "forest peoples," among whom tropical gardening continued to prevail. Indeed, remnants of such peoples still exist in innumerable hilly districts of Southeast Asia, as American soldiers discovered in Vietnam.

Among the emerging temple states of Southeast Asia, Indian styles of religion and government initially proved most attractive, as the spread of Hindu and Buddhist religions attests. After about 700 C.E., Moslem sailors tended to displace Indian merchants and missionaries and eventually established outposts of their faith in Malaya and Indonesia and as far afield as Mindanao in the Philippines. China, however, had its own zone of cultural and commercial influence in Japan, Korea, and Vietnam. Then, after about 1000 C.E., the

expansiveness of Chinese civilization and the attractiveness of Chinese technology attained a new level of primacy within the monsoon seas and indeed throughout the entire Eurasian African world.

The upsurge of Chinese influence depended on the commercial exploitation of a cheap, reliable, internal transport network operating along China's internal waterways. Merchants took advantage of an extensive canal system that was built mostly for irrigation and secondarily for carrying in-kind taxes from south to north via the Grand Canal, which connected the Yangtze with the Yellow River valley after 605 C.E. When a multitude of canal boats and small-scale merchants mastered the art and rules of bazaar trading, they created a vast domestic market that had the effect of rewarding efficient producers of goods of common consumption as well as of the luxury and military commodities that had previously been the staples of most long-distance commerce. Skillfully managed paper currency fueled the emerging Chinese market, agricultural and craft specialization rapidly intensified, and competing specialists made innumerable inventions, thus raising Chinese skills far above those found in the rest of the world.

From many points of view, China's internal commercialization, extending down the social scale to embrace millions of ordinary peasants, and the subsequent radiation of Chinese skills across the southern seas and along the caravan routes of Central Asia, mark the beginning of modern times. The familiar landmark of 1500 might better be viewed as inaugurating a second chapter (i.e., Western) of modernity largely on the strength of the well-known transatlantic interactions.

As far as monsoon seafaring is concerned, China's emerging primacy was demonstrated soon after 1000, when increasingly seaworthy Chinese junks began to sail all the way around the Malay peninsula instead of off-loading and portaging goods across the Kra peninsula as before. Archaeological evidence of China's new presence in the Indian Ocean turns up in the form of thousands of precisely datable porcelain shards that have been discovered on numerous beaches of India and Africa. Readers are probably already familiar with the amazing story of Zheng-he's seven imperial voyages into the Indian Ocean between 1403 and 1433, during which he visited the Indian and African coasts, penetrated the Persian Gulf and Red Sea, and even collected tribute from Mecca. Vast armadas of Chinese ships easily overawed local potentates wherever they showed up and persuaded them to acknowledge Chinese superiority by engaging in the ritualized gift giving, or "tribute" exchanges. Nevertheless, such tribute trade never came close to covering the cost of building and supplying Zheng-he's fleets, which were instead met by the Chinese government at the command of the reigning emperor. Thus, it is not

really surprising that when the emperor who ordered these extraordinary expeditions died, his successor (or rather a circle of mandarins around him) withheld funds, allowed the imperial fleet to rot away, and forbade further construction of large, seaworthy, and costly junks.

This deliberate abdication of overseas empire proved to be a major turning point in world history, for if a Chinese fleet remotely comparable to the one that Zheng-he commanded had been operating in the Indian Ocean when Vasco da Gama showed up at Calicut in 1499, the Portuguese could never have established their always precarious Asian empire. Indeed, it is easy to imagine how roles might have been reversed if a Chinese fleet had rounded Africa and discovered Europe about the same time that another fleet began colonizing California, around 1450. Assuredly Chinese ships and seamen were technically capable of such feats by the midfifteenth century. What inhibited them was their dependence on a distant imperial court whose officials decided (very wisely in the short run) that guarding against ever-present dangers from steppe horsemen was far more important than continued expenditures on overseas ventures.

As things turned out, therefore, the expansion of Chinese skills and knowledge between 1000 and 1500 prefigured and contributed to the subsequent expansion of Europe, just as the expansion of Islam and of West and Central Asian styles of civilization generally between 300 and 1000 C.E. had previously prefigured and contributed to the expansion of China. For China borrowed the practices of bazaar trading from Western and Central Asia along with Buddhism and a multitude of other practical techniques before 1000, just as Western Europe and other civilized peoples of Eurasia borrowed gunpowder weaponry, printing, and the compass from China before 1500.

If one compares the era of transatlantic primacy after 1500 with the era of monsoon Asian primacy before that time, significant contrasts come to mind. First and foremost, the decay of the Amerindian population under the scourge of infectious diseases imported from Europe and Africa was far more drastic than any disease disaster attending navigation across the monsoon seas of which we have evidence. It took millennia for civilized populations of Eurasia to build up resistances to infections, and innumerable local disasters certainly occurred along the way whenever a new malady invaded what epidemiologists refer to as a "virgin population." I have already mentioned the difficulty the Chinese from the north had in making the Yangtze valley habitable for dense populations. Similarly difficult adjustments between humans and disease organisms surely cropped up elsewhere—not least in the Mediterranean, where the spread of new forms of malaria (perhaps out of Africa), assisted perhaps by local violence, turned many fertile plains into deserted

wastes in early medieval times. However, all such disasters, recorded and unrecorded, pale beside the die-off that took place in the Americas after 1500 and the scale of population transfer from Africa and Europe that ensued.

On the other hand, the ecological invasion of America by Eurasian flora and fauna that followed in the wake of European shipping had numerous parallels within the circle of monsoon navigation. Polynesians arriving in New Zealand, like Malays arriving in Madagascar, brought with them a swarm of new organisms that collaborated with human intruders in killing off many indigenous species. Likewise, the diffusion of American food crops across much of Eurasia and Africa, whose impact on human life around the globe rivaled the swifter diffusion of disease, had many analogues in the history of monsoon navigation. I have already mentioned the importance of yams from Southeast Asia for African agriculture. Sugar cane, citrus fruit, rice, and several less important crops also arrived in Western Asia and Mediterranean Europe from across the monsoon seas in medieval times. Of equal significance was the further transfer of sugar to the Atlantic islands and then to the Caribbean and mainland South America that followed.

Finally, there is the issue of slavery. Within the ambit of monsoon navigation, there is nothing comparable to the destruction of indigenous populations in the Americas after 1500 that provoked compulsory migration and slave labor. The transatlantic slave trade, it seems to me, was unique in scale and significance because of the enormity of the decline in population that resulted from the huge disease gap between Europe and Africa, on the one hand, and Amerindian peoples, on the other. The only parallel to Atlantic slavery was nineteenth-century indentured labor, during which millions of Indian and Chinese coolies were delivered to tea gardens in Assam, as well as various Pacific islands, and parts of the Americas wherever native populations were too scant or too difficult to coerce to work on plantations and in mines. It is ironic to realize that it was exactly when African slavery was abolished throughout the British Empire by act of parliament in 1833 that massive resort to Chinese and Indian indentured labor began. In fact, it was legally permissible in India as late as 1920.

Despite basic similarities, therefore, the perturbations to global, ecological, demographic, economic, and cultural balances provoked by transatlantic navigation differed from those arising from the far older navigation of the monsoon seas in being more sudden, drastic, and massive. Indeed the world's ecosystem and humankind at large are still in the process of accommodating the upheavals that European ships and sailors precipitated after 1492. Realizing that present-day transatlantic history is a continuation and climax of a far longer history of overseas contacts and encounters, centered mainly in the monsoon seas, will provide us an appropriate world historical perspective.

SUGGESTED READINGS

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