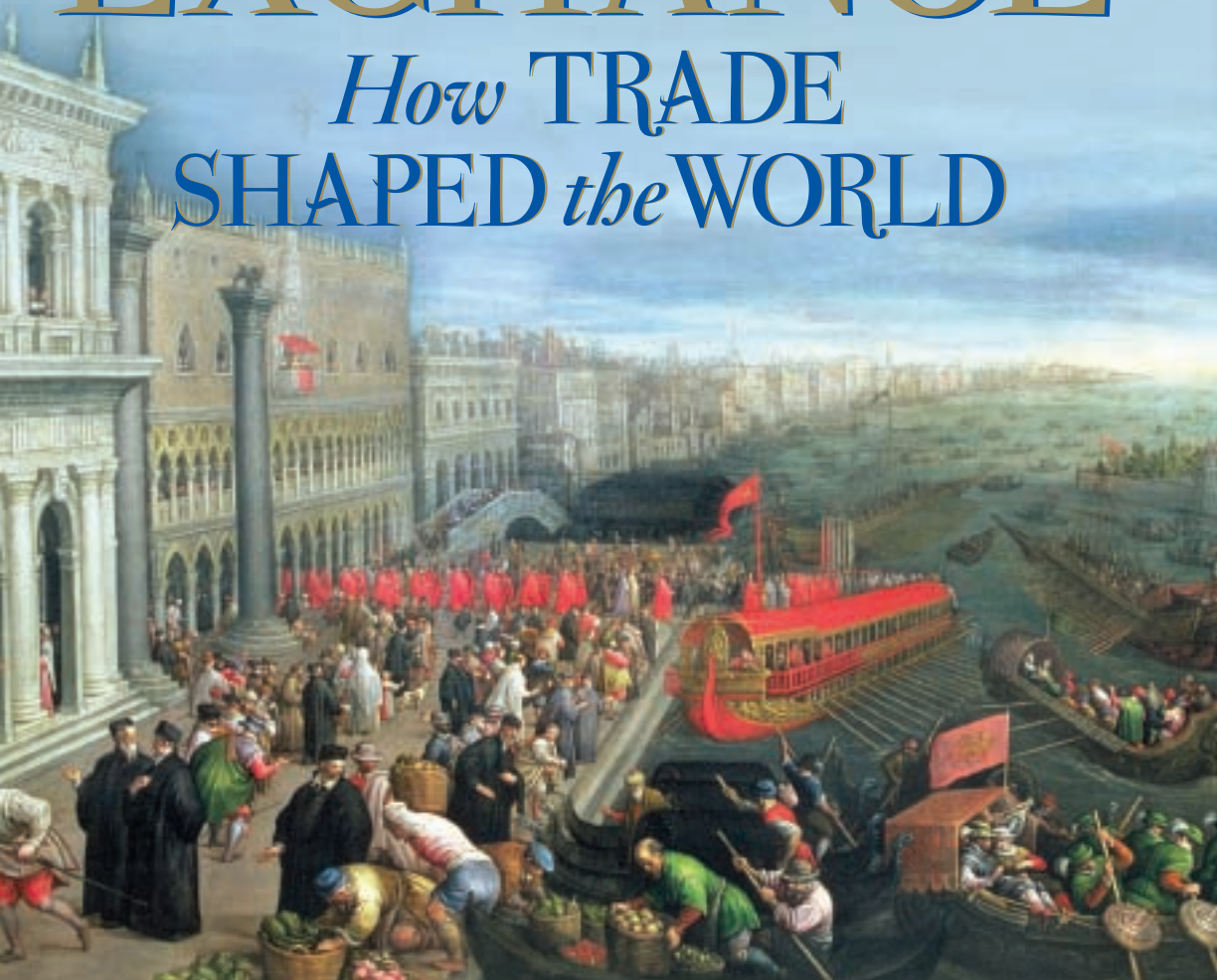


*“An eye-opening and exciting history of global trade.”*

—JOHN C. BOGLE, FOUNDER, THE VANGUARD GROUP

# A SPLENDID EXCHANGE

*How* TRADE  
SHAPED *the* WORLD



WILLIAM J. BERNSTEIN

## INTRODUCTION

The circumstances could not have been more ordinary: a September morning in a hotel lobby in central Berlin. While the desk clerk and I politely exchanged greetings in each other's fractured English and German, I casually plucked an apple from the bowl on the counter and slipped it into my backpack. When hunger overtook me a few hours later, I decided on a quick snack in the Tiergarten. The sights and sounds of this great urban park nearly made me miss the tiny label that proclaimed my complimentary lunch a "Product of New Zealand."

Televisions from Taiwan, lettuce from Mexico, shirts from China, and tools from India are so ubiquitous that it is easy to forget how recent such miracles of commerce are. What better symbolizes the epic of global trade than my apple from the other side of the world, consumed at the exact moment that its ripe European cousins were being picked from their trees?

Millennia ago, only the most prized merchandise—silk, gold and silver, spices, jewels, porcelains, and medicines—traveled between continents. The mere fact that a commodity came from a distant land imbued it with mystery, romance, and status. If the time were the third century after Christ and the place were Rome, the luxury import par excellence would have been Chinese silk. History celebrates the greatest of Roman emperors for their vast conquests, civic architecture, engineering, and legal institutions, but Elagabalus, who ruled from AD 218 to 222, is remembered, to the extent that he is remembered at all, for his outrageous behavior and his fondness for young boys and silk. During his reign he managed to shock the jaded populace of the ancient world's capital with a parade of scandalous acts, ranging from harmless pranks to the capricious murder of children. Nothing, however, commanded Rome's attention (and fired its envy) as much as his wardrobe and the lengths he went to flaunt it, such as removing all his body hair and powdering his face

with red and white makeup. Although his favorite fabric was occasionally mixed with linen—the so-called *sericum*—Elagabalus was the first Western leader to wear clothes made entirely of silk.<sup>1</sup>

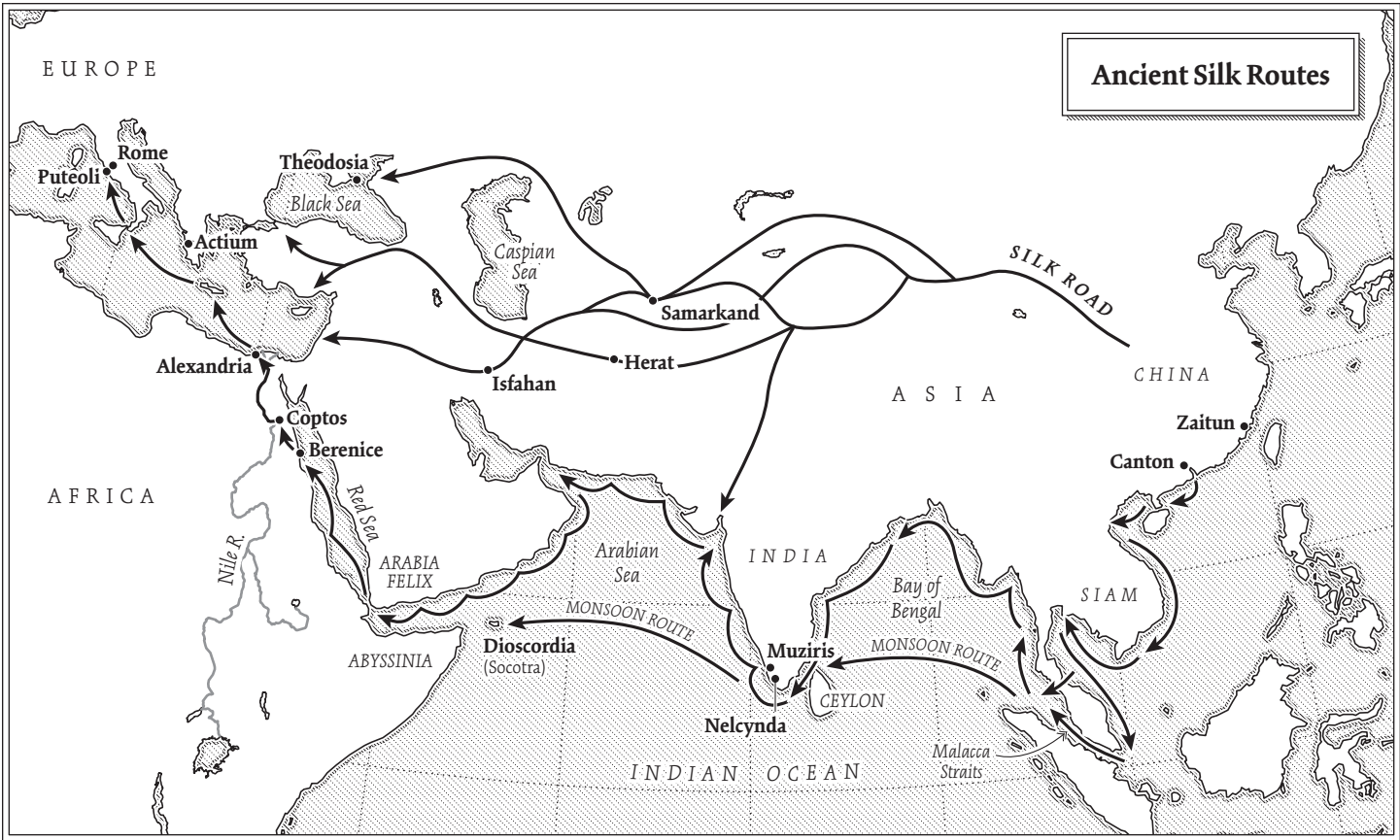
From its birthplace in East Asia to its last port of call in ancient Rome, only the ruling classes could afford the excretion of the tiny invertebrate *Bombyx mori*—the silkworm. The modern reader, spoiled by inexpensive, smooth, comfortable synthetic fabrics, should imagine clothing made predominantly from three materials: cheap, but hot, heavy animal skins; scratchy wool; or wrinkled, white linen. (Cotton, though available from India and Egypt, was more difficult to produce, and thus likely more expensive, than even silk.) In a world with such a limited sartorial palette, the gentle, almost weightless caress of silk on bare skin would have seduced all who felt it. It is not difficult to imagine the first silk merchants, at each port and caravanserai along the way, pulling a colorful swatch of it from a pouch and turning to the lady of the house with a sly, “Madam, you must feel this to believe it.”

The poet Juvenal, writing around AD 110, complained of luxury-loving women “who find the thinnest of thin robes too hot for them; whose delicate flesh is chafed by the finest of silk tissue.”<sup>2</sup> The gods themselves could not resist: Isis was said to have draped herself in “fine silk yielding diverse colors, sometime yellow, sometime rose, sometime flamy, and sometime (which troubled my spirit sore) dark and obscure.”<sup>3</sup>

Although the Romans knew Chinese silk, they knew not China. They believed that silk grew directly on the mulberry tree, not realizing that the leaves were merely the worm’s home and its food.

How did goods get from China to Rome? Very slowly and very perilously, one laborious stage at a time.<sup>4</sup> Chinese traders from southern ports loaded their ships with silk for the long coastwise journey down Indochina and around the Malay Peninsula and Bay of Bengal to the ports of Sri Lanka. There, they would be met by Indian merchants who would then transport the fabric to the Tamil ports on the southwest coast of the subcontinent—Muziris, Nelcynda, and Comara. Here, large numbers of Greek and Arab intermediaries handled the onward leg to the island of Dioscordia (modern Socotra), a bubbling masala of Arab, Greek, Indian, Persian, and Ethiopian entrepreneurs. From Dioscordia, the cargo floated on Greek vessels through the entrance of the Red Sea at the Bab el Mandeb (Arabic for “Gate of Sorrows”) to the sea’s main port of Berenice in Egypt;

**Ancient Silk Routes**



then across the desert by camel to the Nile; and next by ship downstream to Alexandria, where Greek Roman and Italian Roman ships moved it across the Mediterranean to the huge Roman termini of Puteoli (modern Pozzuoli) and Ostia. As a general rule, the Chinese seldom ventured west of Sri Lanka, the Indians north of the Red Sea mouth, and the Italians south of Alexandria. It was left to the Greeks, who ranged freely from India to Italy, to carry the greatest share of the traffic.

With each long and dangerous stage of the journey, silk would change hands at dramatically higher prices. It was costly enough in China; in Rome, it was yet a hundred times costlier—worth its weight in gold, so expensive that even a few ounces might consume a year of an average man’s wages.<sup>5</sup> Only the wealthiest, such as Emperor Elagabalus, could afford an entire toga made from it.

The other way to Rome, the famous Silk Road, first opened up by Han emissaries in the second century of the Christian era, bumped slowly overland through central Asia. This route was far more complex, and its precise track varied widely with shifting political and military conditions, from well south of the Khyber Pass to as far north as the southern border of Siberia. Just as the sea route was dominated by Greek, Ethiopian, and Indian traders, so would be the overland “ports,” the great cities of Samarkand (in present-day Uzbekistan), Isfahan (in Iran), and Herat (in Afghanistan), richly served by Jewish, Armenian, and Syrian middlemen. Who, then, could blame the Romans for thinking that silk was manufactured in two different nations—a northern one, Seres, reached by the dry route; and a southern one, Sinae, reached by water?

The sea route was cheaper, safer, and faster than overland transport, and in the premodern world had the added advantage of bypassing unstable areas. Silk originally reached Europe via the land route, but the stability of the early Roman Empire increasingly made the Indian Ocean the preferred conduit between East and West for most commodities, silk included. Although Roman commerce with the East tapered off during the second century, the maritime route would remain open until Islam severed it in the seventh century.

The seasonal metronome of the monsoon winds drove the silk trade. The monsoons also dictated that at least eighteen months separated the embarkation of the fabric from south China and its arrival at Ostia or Puteoli. Mortal peril awaited the merchant at every point, es-

pecially in the hazardous stretches of the Arabian Sea and the Bay of Bengal. The loss of lives, bottoms, and cargoes was so routine that such tragedies were usually recorded, if at all, with the short notation: “Lost with all hands.”

Today, the most ordinary cargoes span such distances with only a modest increase in price. That the efficient intercontinental transport of even bulk goods today seems so unremarkable is in itself remarkable.

Our high-value items fly around the globe at nearly the speed of sound, conveyed by crews manning air-conditioned cockpits and greeted at journey’s end with taxis and four-star hotels. Even those tending bulk cargoes serve on vessels stocked with videos and bulging pantries that provide a degree of safety and comfort unimaginable to the premodern sailor. Today’s aircraft and freighter crews are highly skilled professionals, but few would recognize them as “traders.” Neither would most of us apply that term to the multinational corporate sellers and buyers of the world’s cornucopia of commerce.

Not so long ago, the trader was simple to identify. He bought and sold goods in small amounts for his own account, and he accompanied them every step of the way. On board ship, he usually slept on his cargo. Although most of these traders left us with no written records, a vivid window into premodern long-distance commerce can be found in the Geniza papers, a collection of medieval records stumbled on in a storage room adjacent to Cairo’s ancient main synagogue. Jewish law required that no document containing the name of God be destroyed, including routine family and business correspondence. Since this rule applied to most medieval written material, great quantities of records were stored in such repositories at local synagogues—the *geniza*. Cairo’s Jewish population thrived in the relatively prosperous and tolerant atmosphere of the Muslim Fatimid Empire of the tenth to twelfth centuries, and that city’s arid climate preserved the papers (typically written in the Arabic language but with Hebrew script) well enough that they survived into the present. This routine correspondence among relatives and business partners, strung from Gibraltar to Alexandria to India, provides a rare glimpse into the slow, perilous, grim, gritty world of the peddlers who bought and sold merchandise.

Preparation was onerous even before the journey began. Traders did not venture abroad without letters of introduction to expected business



contacts, or without letters of safe conduct from the local rulers along their route. Otherwise, they were certain to be robbed, molested, or murdered. Further, all travelers in the medieval Muslim world required a *rafiq*, or companion, usually another trader. The trader and the *rafiq* entrusted their personal security to each other. Few catastrophes en route were worse than the death of one's *rafiq*, since the local authorities would assume that the traveler was now in possession of the *rafiq*'s money and belongings, a virtual guarantee of confiscation and torture. To send a relative or guest on a journey without a *rafiq* was considered a disgrace.<sup>6</sup>

In this world, travel was faster, cheaper, safer, and more comfortable by ship than by land. "Faster," "cheaper," "safer," and "more comfortable," however, are all relative terms. Before the advent of the European caravel and the carrack in the Iberian peninsula in the fifteenth century, vessels that moved primarily under sail were reserved for bulky, low-value cargoes; passengers and precious freight moved on oared craft, which provided the most rapid and reliable method of maritime transport. A galley 150 feet in length might carry up to five hundred oarsmen, not counting other crew, officers, and passengers. Cramming so much humanity into a small space utterly lacking in sanitation turned such craft into floating sewers. "I suffered terribly because of the diseases of my fellow travelers and their disgusting odors," reported an anonymous merchant on a Nile River boat. "Things went so far that three of them died, and the last of them remained on the boat for a day and a half until he became putrid."<sup>7</sup> The captain's reluctance to land and bury the corpse on the day of death, a severe violation of Muslim custom, hints at the danger awaiting passengers and crew on shore.

Basic hygiene aside, the captain and crew were often themselves sources of danger. Shipboard robbery and murder were not uncommon, and merchant ships provided corrupt government officials with easy targets. After paying an official the despised "head tax" before leaving port, our Nile River merchant was still suspicious that the same official would return to shake him down a second time:

I left the boat and went ahead, overtaking it at al-Rumayla, where I boarded it again after its arrival. I learned indeed that my apprehensions had been justified. After I had left, the policeman had appeared again to arrest me.<sup>8</sup>

Such hardships and peril were not unique to Muslim boats. Egyptian merchants often had the option of traveling on Italian or Byzantine vessels; these offered no additional safety or comfort. Any boat might fall casualty to murder, piracy, or disease and then drift without aim for lack of control. These “ghost ships” bore horrifying witness to the human cost paid by crews and passengers, particularly on the remote Indian Ocean spice routes.

Yet however expensive, unpleasant, and perilous medieval sailing was, traders preferred it to the overland route. Even along main roads in the heart of the Egyptian Fatimid Empire, a letter of safe conduct did not protect against bedouin raids. Weeks on a heaving, rancid deck were still preferable to months on the lookout for brigands from the back of a donkey or camel.

The Geniza papers also describe the high expense of land transport. For most of recorded history, the primary manufactured trade commodity was cloth. The total transport costs from Cairo to Tunisia for a bale of “purple” (a camel’s load of textiles, weighing roughly five hundred pounds) was eight gold dinars. This sum was equivalent to about four months’ living expenses for a medieval Egyptian lower-middle-class family. Half of this cost covered the relatively short 120-mile ground segment from Cairo to Alexandria, and the other half the twelve hundred-mile sea route from Alexandria to Tunisia. Thus, mile for mile, ground transport was ten times more expensive than maritime transport.<sup>9</sup> Given the enormous costs, risks, and discomfort of the dry route, merchants chose it only when they could not go by sea: for example, when the Mediterranean was “closed” for the winter season.

Were the trader lucky enough to complete the journey with his cargo and person intact, ruin could still come at the hands of a fickle marketplace. Prices were wildly unpredictable, often brokered with caveats that “Prices follow no principle,” and “The prices are in the hand of God.”<sup>10</sup> Why would anyone risk life, limb, and property on journeys that might carry him from hearth and home for years on end, yielding only meager profits? Simple: the grim trading life was preferable to the even grimmer existence of the more than 90 percent of the population who engaged in subsistence-level farming. An annual profit of one hundred dinars—enough to support an upper-middle-class existence—made a trader a rich man.<sup>11</sup>

\* \* \*



Adam Smith wrote that man has an intrinsic “propensity to truck, barter, and exchange one thing for another,” and that this happy tendency was nothing more than human nature “of which no further account can be given.”<sup>12</sup> Yet few other historical inquiries tell us as much about the world we live in today as does the search for the origins of world trade—if we ask the right questions. For instance, from the dawn of recorded history there was a vigorous long-distance commerce in grain and metals between Mesopotamia and southern Arabia. And going back even further, archaeologists have found strong evidence of the prehistoric conveyance over long distances of strategic materials such as obsidian and stone tools. While other animals, particularly primates, groom and share food with each other, systematic exchanges of goods and services, particularly over great distances, have not been observed in any species besides *Homo sapiens*. What drove early man to trade?

Evolutionary anthropologists date the origins of modern human behavior in eastern and southern Africa to around 100,000 years ago.<sup>13</sup> One of these behaviors, the innate tendency to “truck and barter,” has yielded an ever-increasing volume and variety of goods. Although world trade grew in tandem with the technological innovations of land and sea transport, political stability was even more important. For example, soon after Octavian’s forces defeated those of Anthony and Cleopatra at the battle of Actium in western Greece in 30 BC and greatly expanded the ambit of the Roman Empire, Rome was flooded with pepper, exotic animals, ivory, and precious jewels from the Orient. Chinese silk was the most famous and coveted of these new commodities, yet no native of the Italian peninsula had ever met a Chinese person, and, as we’ve already seen, even Roman cartographers were unaware of China’s precise location. Then, just as rapidly as the trade between Rome and the East had swelled during the early empire, it abruptly decreased to a trickle as Rome began a long decline after the death of Marcus Aurelius in the late second century. The silk of Elagabalus was in fact one of the rare luxuries to arrive from India after that period.

The dramatic increase in long-distance trade following the battle of Actium and its waning two hundred years later had nothing to do with changes in maritime technology. Certainly, the Roman, Greek, Arab, and Indian traders who plied the Indian Ocean trade routes did not suddenly lose their maritime abilities after the reign of Marcus Aurelius.

Now consider the contribution of trade to our planet's agricultural bounty. Try to imagine Italian cuisine without the tomato, the highlands around Darjeeling without tea plants, an American table without wheat bread or beef, a café anywhere in the world beyond coffee's birthplace in Yemen, or German cooking without the potato. Such was the world's limited range of farm produce before the "Columbian exchange," the invasion of billions of acres of cropland by species from remote continents in the decades following 1492. How and why did this occur, and what does it tell us about the nature of trade?

During the seven centuries between the death of the Prophet Muhammad and the Renaissance, the Muslim states of Europe, Asia, and Africa outshone and towered over western Christendom. Muhammad's followers dominated the great conduit of long-range world commerce, the Indian Ocean, and in the process spread his powerful message from west Africa to the South China Sea. Then, with breathtaking speed, a newly resurgent West took control of global trade routes in the decades following the first roundings of the Cape of Good Hope by Bartholomew Diaz and Vasco da Gama. Can we understand these events under the larger banner of the history of trade?

The great national trading organizations, particularly the English and Dutch East India companies, spearheaded Europe's commercial dominance and made world trade the nearly exclusive province of large corporate entities and, in the twentieth century, of the multinational corporation. Today, these organizations—fountainheads of Western, and particularly American, cultural and economic dominance—are often objects of virulent resentment and animosity. What are the roots of the modern international corporate giant, and is today's trade-related cultural conflict, with its rampant anti-Americanism, a new phenomenon?

The world's increasing dependency on the continuous flow of trade has made us both prosperous and vulnerable. A major disruption of the Internet would wreak havoc in the international economy—an amazing circumstance, considering that its widespread use is merely a decade old. The developed world has become addicted to fossil fuels from the world's most unstable nations, the greatest share of which flows through a single narrow strait guarding the entrance to the Persian Gulf. Does the history of trade offer us any landmarks that can guide us through these dangerous waters?

Today's conventional wisdom has it that the communications and transportation revolutions of the late twentieth century have for the first time brought nations around the world into direct economic competition with each other. We shall see, however, that this is nothing new. In previous centuries, this leveling—the “flattening” of the world—produced both winners and losers, who, not unsurprisingly, tended, respectively, to favor or oppose this process. What does the history of previous trade revolutions tell us about today's titanic political struggle over globalization?<sup>14</sup>

How, then, did we get from the world of the ancient silk trade and the Geniza papers, in which the trader's job was so solitary, expensive, and heroic that only the most precious of cargoes paid their way, to the modern corporate world of wines from Chile, cars from Korea, and apples from New Zealand?

Stable countries are trading countries. Commerce between Rome and East Asia took off after Octavian's victory at Actium and ushered in nearly two centuries of relative peace throughout the Mediterranean and Red Sea trade routes. While the Romans controlled, at most, the western third of the route between Alexandria and India, their influence was felt as far east as the Ganges.

Although individual merchants rarely carried goods all the way from India to Rome, there were frequent face-to-face diplomatic contacts between various Indian states and Rome. Within a few years of Octavian's ascension as Augustus, Indian rulers honored him with elaborate embassies and wondrous gifts—snakes, elephants, precious gems, and gymnasts, all of which the emperor exhibited at home—and in India itself, temples were built to honor him. Most significantly, Roman citizens were granted free passage through much of the subcontinent; an archaeological site excavated near Pondicherry between 1945 and 1948 revealed evidence of a Roman trade colony that had functioned until about AD 200.<sup>15</sup>

Local goods in India were purchased with durable gold and silver coins, each dated by the image of the emperor. Caches of these coins are still being discovered in south India, offering us a glimpse of trade patterns two thousand years ago. They include gold and silver coins from the reigns of Augustus and Tiberius (27 BC to AD 37), suggesting a vigorous trade in a large volume of goods. After the death of Tiberius, the

composition of the Indian coin caches changes. Significant numbers of only gold, but not silver, coins bearing the heads of Caligula, Claudius, and Nero (AD 37–68) are found. According to the historian E. H. Warmington, this absence of silver coins suggests a trade mainly in luxury goods during that period. Few Roman coins of any type are found after the death of Marcus Aurelius in AD 180.<sup>16</sup> When Roman and Han authority finally collapsed around AD 200, trade with the East came to an almost complete standstill.

The other great advance in commerce during this period came from Greek sailors who exploited the summer southwest monsoon of the western Indian Ocean. Initially, the Greeks used the monsoons, which drove them out into the open sea, merely to avoid pirates off the Persian coast. By about 110 BC, however, they were making the treacherous summer blue-water passage directly east across the Arabian Gulf from the Red Sea entrance at Bab el Mandeb to India's southern tip and beyond in just under six weeks, one thousand years before the Chinese invented the magnetic compass. Legend has it that a navigator by the name of Hippalus "discovered" the Arabian Gulf trade winds (hence the origin of the term), although they were undoubtedly also well known to Indian and Arab sailors. The willingness of the Greeks to drive themselves directly across vast open stretches of the Indian Ocean before the terrifying seasonal monsoons, rather than creep along thousands of miles of endless coasts, was a major factor in the expansion of long-range maritime trade.

After clearing Bab el Mandeb in late spring or late summer, the mariner headed west on the following wind. If his goal was the Indus basin (in present-day Pakistan), he might steer north, and if he was heading to the Malabar Coast in southwestern India, he might steer south. Midsummer, when storms were the fiercest, was generally avoided, and the Malabar route held the additional risk of passing south of the subcontinent, usually a fatal mistake. The return journey on the cool and relatively calm northeast monsoon was safer; missing the Bab el Mandeb by even a wide margin to the north or south could be more easily tolerated, since that took the sailor to shelter and supplies in either Arabia or east Africa.

The Greek traders of Ptolemaic Egypt had the additional advantage of metallurgical expertise, enabling them to bind their ships with iron nails. (The timbers of early Arab and Indian vessels were stitched together with coconut fiber, which fell apart in rough seas.) Nailed hulls proved critical

during the southwest summer monsoon, whose ferocious storms would occasionally tear apart even the most solidly bound vessels. Until the nineteenth century brought the clipper ship and steam, the seasonal dance of the monsoons—southwest in summer, northeast in winter—would dictate the annual rhythm of trade in the Indian Ocean.

If man's innate desire to challenge nature at sea paid handsome dividends, his decision to do so on land, by rescuing the slow, large, and defenseless camel from the brink of oblivion, reaped similar rewards. Already extinct in North America, and quickly headed for extinction in Eurasia, the camel was first valued, about six thousand years ago, solely for its milk. Not until twenty-five hundred years later, around 1500 BC, would humans begin to exploit the camel's ability to carry hundreds of pounds of cargo across otherwise impenetrable territory. Without the domestication of the camel, the trans-Asian silk and trans-Arabian incense routes would have been impossible.

It is a little-known fact that the progenitors of the modern camel (along with the horse) originated in North America and migrated east across the Bering Strait land bridge to Asia. Although swift herds of camels or horses might manage the perilous journey from the heartland of North America to that of Eurasia in a matter of decades, it was a much tougher trek for fragile plant species from a temperate area. Such plants had little chance of surviving an accidental intercontinental journey via ocean currents or thousands of years of haphazard migration across the frigid land bridge from their North American habitat to a similar one in Eurasia. Thus, whereas animal species might migrate across the Bering Strait during the ice ages, crop species could not.

That all changed in 1493 with Christopher Columbus's second voyage, which would turn the agriculture and the economies of both the Old World and the New World upside down. Columbus's seventeen vessels were Iberian Noah's arks, carrying to the New World around 1,300 colonists and nearly the entire Western inventory of crops and domesticated animals. They spread like wildfire. Even exchanges of "minor" crops—squashes, pumpkins, papaya, guava, avocado, pineapple, and cocoa from the western hemisphere; and grapes, coffee, and a battery of fruit and nut trees from Europe—assumed major economic importance.

Of all the plant and animal passengers on the second expedition, none had more immediate impact than the pig. Far closer in appearance and

temperament to the mean, lean, fast wild boar than to the modern farm hog and capable of transforming 20 percent of feed weight into protein (versus only 6 percent for cattle), these prolific herbivores fed voraciously on the New World's plentiful tropical grasses, fruits, and roots. Further, large predators had nearly disappeared from both North and South America following the arrival of the first native Americans, and no serious diseases threatened the animals. In such a paradise, the pigs soon became independent of the expedition's swineherds and multiplied swiftly, not only on Hispaniola (the object of the 1493 expedition, the island containing modern-day Haiti and the Dominican Republic) but also on Cuba and Puerto Rico, and on many smaller Caribbean islands. The Spaniards soon found that tossing a breeding pair of the animals onto a promising uninhabited island guaranteed an abundance of pork there within a few years. In such an agreeable habitat, not only pigs but also horses and cattle thrived without human intervention. From their increasingly well-stocked bases in Hispaniola and Cuba, the Spanish now had the wherewithal to attack the mainlands of the Americas. Their columns of Caribbean-bred horses and war dogs were followed by enormous herds of swine, a veritable "commissariat on the hoof."<sup>17</sup> Armed with guns and swords of steel, this fearsome mounted war machine would destroy far larger native formations with near impunity.

Within a few decades after the conquests of Cortés and Pizarro, the cattle population of Spanish America doubled as rapidly as every fifteen months. From Mexico to the pampas of Argentina, the vast open spaces of the New World swarmed black with livestock. One French observer in Mexico wrote in wonderment at the "great, level plains, stretching endlessly and everywhere covered with an infinite number of cattle."<sup>18</sup>

The tiny local populations could consume but a minuscule fraction of the burgeoning mountain of beef, almost all of which was left to rot after the skin and hooves, the only salable parts of the animal, had been secured. By 1800, a million hides per year were being exported from Argentina alone.

The advent of the refrigerated ship late in the nineteenth century changed all that and gave the Continent access to cheap steak. This damaged European butchers in the same way that the twentieth-century flood of cheap textiles and electronics from Asia hurt American manufacturers. If the *New York Times*'s columnist Thomas Friedman had been writing in 1800, he would have had little trouble explaining the flattening of



world commerce to European tanners; neither would European cattlemen have had any problem with the concept in 1900.

With plenty often comes tragedy. For thousands of years, Europeans dwelled in close proximity to their highly specialized domesticated animals and became immune to many virulent pathogens, to which America's indigenous peoples were highly susceptible. The sword and the musket worked side by side with smallpox and measles, which in many cases arrived hundreds of miles in advance of the white man's physical presence. One Spaniard remarked that the Indians "died like fish in a bucket."<sup>19</sup> Worse, substantial damage was also done to the local ecosystems, as livestock eroded the landscape by overgrazing and monotonous stretches of European crops and weeds displaced diverse local species.

Native American seed stock, particularly potato and corn, changed the diet of Europe. Both crops produce far more calories per acre than wheat; the potato will grow in poor soils and in a wide variety of environments, from sea level to ten thousand feet. Corn is more fastidious, requiring rich soil and long stretches of hot weather, but it can grow in "in-between" climates too dry for rice but too wet for wheat. An impoverished swath of southern Europe stretching from Portugal to the Ukraine filled this bill precisely. By 1800 it had become one of the world's largest corn growing regions.

Corn and potatoes not only allowed Europe to escape from the deadly jaws of the Malthusian trap but directly stimulated trade. At the dawn of the Industrial Revolution, these crops provided Europeans with excess food to exchange for manufactured goods and freed agricultural laborers for more productive manufacturing. The increased crop yields, in turn, created a vast demand for fertilizer, which was initially met by stripping Latin American and Pacific islands of guano. Similarly, the introduction of yams, corn, tobacco, and peanuts into China allowed the newly ascendant Qing (or Ching) dynasty to expand its influence in the seventeenth and eighteenth centuries.<sup>20</sup>

"Globalization," it turns out, was not one event or even a sequence of events; it is a process that has been slowly evolving for a very, very long time. The world did not abruptly become "flat" with the invention of the Internet, and commerce did not suddenly, at the end of the twentieth century, become dominated by large corporations with worldwide reach. Beginning at the dawn of recorded history with high-value cargoes, then slowly

expanding into less precious and more bulky and perishable goods, the markets of the Old World have gradually become more integrated. With the first European voyages to the New World, this process of global integration accelerated. Today's massive container ships, jet planes, the Internet, and an increasingly globalized supply and manufacturing network are just further evolutionary steps in a process that has been going on for the past five thousand years. If we wish to understand today's rapidly shifting patterns of global trade, it serves us very well indeed to examine what came before.

For the past decade or so, I've been involved in the world of finance and economics; during this period, I've written three books. The first was a treatise on theoretical and practical finance through which ran a strong historical theme. With each successive title, I've moved further into historical territory. My third book, *The Birth of Plenty*, dealt with the institutional origins of the global prosperity that occurred after 1820. Few readers found the book's basic premise—that the recent wealth of the modern world was underpinned by the development of property rights, rule of law, capital market mechanisms, and scientific rationalism—at all controversial. The failure of the communist experiment and the current wealth and poverty of individual nations testify to the power of these critical institutions.

This book enjoys no such ideological shelter. The pain and dislocations in the lives of individuals, industries, and nations caused by the globalization of the planet's economy are real, and the debate is rancorous. In the language of economics, human well-being is affected not only by the mean (the prosperity of the average citizen) but also by the variance (the increasing dispersion between rich and poor). In plainer English, the incentives and equal opportunity afforded by free trade simultaneously improve the overall welfare of mankind *and* increase socially corrosive disparities of wealth. Even if trade slightly improves the real income of those at the bottom, they will feel the pain of economic deprivation when they fix their gaze at the growing wealth of those above them.

And as long as we're throwing statistical terms around, the synonymous terms "mean" and "average" have of late begun to carry their own ideological freight. The political right embraces the mean, but rarely uses a different bit of jargon, the median—that is, the income or wealth at the fiftieth percentile, the "person in the middle." When Bill Gates walks into

a roomful of people, their mean income skyrockets while their median income changes hardly at all—a concept usually ignored by pro-market conservatives.

But this is not a book about numbers; if you want detailed data on trade volume and commodity prices through the ages, they can be found in the book's reference sources. The history of world trade is best told through carefully selected stories and ideas. My fondest hope is that the narratives and concepts contained herein will inform participants and challenge assumptions on both sides of the great ideological divide over free trade.

This book is organized as follows: Chapters 1 and 2 deal with the origins of world trade, beginning with the first fragmentary evidence of long-range commerce during the Stone Age. The unmistakable footprints of trade in the earliest Mesopotamian records tell of the exportation of surplus grain and cloth from the rich land between the Tigris and Euphrates rivers, as well as the importation of strategic metals, particularly copper, utterly lacking in its alluvial soil. This earliest axis of trade ran three thousand miles from the hills of Anatolia, through Mesopotamia, out the Persian Gulf, across the shores of the Indian Ocean, and up the Indus River. The hubs of this trade were the successive great centers at Ur, Akkad, Babylon, and Nineveh (all located in modern Iraq). The volume and sophistication of trade through these cities slowly expanded over time, first in the Middle East, then spread westward through the Mediterranean and out into Europe's Atlantic coast, and eastward all the way to China. By the time Rome fell, goods moved through scores of hands, all the way between London and the Han Chinese capital at Chang-an. The end of the Roman Empire in the West provides a natural caesura between the world of vigorous ancient trade and the era that followed.

Chapters 3 through 6 trace the rise of trade in the Indian Ocean. This story properly begins in remote western Arabia in late antiquity and recounts the explosive spread of the religion of trade, Islam, whose influence ranged from Andalusia to the Philippines, and whose chosen conduit of divine revelation, the Prophet Muhammad, was himself a trader. Islam provided the glue that held together an advanced system of great commercial ports, where tangles of local and mercantile families and castes from far and wide mingled together with one purpose: profit. This sys-

tem, we might add, was almost completely devoid of Europeans, who had been excluded from the Indian Ocean for nearly a millennium by Muslim conquests in Arabia, Asia, and Africa. Each one of the nations in this system faced the basic “trilemma” of trade—to trade, to raid, or to protect. Then, as now, how each government, from that of the humblest city-state to that of the grandest empire, approached these three choices dictated the shape of the trading environment and, indeed, the fates of nations.

Chapters 7 through 10 recount how this vast multicultural trade system was shattered when Vasco da Gama outflanked the Muslim “blockade,” which had previously stopped European merchants at the western gates of the Indian Ocean. The Portuguese rounding of the Cape of Good Hope ushered in the current era of Western commercial dominance. Within a few decades after that momentous event, Portugal took the commanding heights of the Indian Ocean at Goa and sealed its eastern and western choke points at Malacca and Hormuz. (It would, however, fail to take the Red Sea entrance at Aden.) A century later, the Portuguese were shoved aside by the Dutch, who in their turn were eclipsed by the English East India Company.

Whereas the ambitions of kings and merchants and the religion of the Prophet drove premodern history, secular ideologies have largely propelled the modern era. Chapters 11 through 14 examine today’s global trade in light of its underlying modern economic doctrines. As so famously put by Keynes:

Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back.<sup>21</sup>

Trade’s modern scribblers—David Ricardo, Richard Cobden, Eli Heckscher, Bertil Ohlin, Wolfgang Stolper, and Paul Samuelson—will help us to understand the massive upheavals seen in our ever more integrated global system.

Although the structure of this book is chronological, its many interwoven narratives will supersede the flow of mere dates and events. For example, two closely related stories, the south Arabian incense trade and the domestication of the camel, both span thousands of years. At the other extreme, the memoirs of medieval travelers who left us extensive and intact records of their journeys—Marco Polo, the Moroccan

legal scholar Ibn Battuta, and the Portuguese apothecary Tomé Pires—will provide isolated but detailed snapshots of world trade spanning only a few decades.

Ultimately, two deceptively simple notions anchor this book. First, trade is an irreducible and intrinsic human impulse, as primal as the needs for food, shelter, sexual intimacy, and companionship. Second, our urge to trade has profoundly affected the trajectory of the human species. Simply by allowing nations to concentrate on producing those things that their geographic, climatic, and intellectual endowments best enable them to do, and to exchange those goods for what is best produced elsewhere, trade has directly propelled our global prosperity. Ricardo's law of comparative advantage tells us it is far better for the Argentinians to grow beef, the Japanese to make cars, and the Italians to turn out high-fashion shoes than for each nation to attempt to become self-sufficient in all three areas. Moreover, over the centuries camels and ships have conveyed in their packs and holds history's fabulous stowaways, the intellectual capital of mankind: "Arabic" (actually, Indian) numerals, algebra, and double-entry bookkeeping. Without the need for long-range navigation, accurate watches and clocks would surely not have become available until much later; without the desire to transport large amounts of perishable foodstuffs long distances, it is unlikely that the unsung but essential household refrigerator would grace virtually every home in today's developed world.

Modern life flows on an ever-rising river of trade; if we wish to understand its currents and course, we must travel up its headwaters to commercial centers with names like Dilmun and Cambay, where its origins can be sought, and its future imagined.

### **A Note to the Reader**

Uncertainty shrouds more than a few of the topics covered here. Further, I have found it difficult to completely ignore the myriad of fascinating minutiae surrounding many of the tales. In order to maintain narrative flow, I have consigned areas of controversy and engaging trivia to the endnotes; interested readers are encouraged to consult these. They can otherwise be safely ignored.

The events described herein took place in many places around the world. Rendering the names of them into Latin script was often problematic; in each case, I have employed the most commonly used spelling in the English-language academic literature as determined by the online database Journal Storage (JSTOR).

There is also the issue of money over the millennia. The basic unit of currency of the premodern world was remarkably constant: a small gold coin weighing approximately four grams—one-eighth of an ounce—and about the size of a present-day American dime, appearing in various times and places as the French livre, Florentine florin, Spanish or Venetian ducat, Portuguese cruzado, dinar of the Muslim world, Byzantine bezant, or late-Roman solidus. At the current price of gold, this corresponds to a modern value of roughly eighty American dollars. The three major exceptions to this rule were the Dutch guilder, which weighed about one-fifth as much, and the English one-pound sovereign and the early Roman aureus, each of which weighed twice as much. The Muslim dirham, Greek drachma, and Roman denarius were silver coins of roughly the same size and weight, each equivalent to the daily wage of a semiskilled worker, with a value ratio of about twelve to one between the gold and silver coins.