

Also by DAVID S. LANDES

BANKERS AND PASHAS

THE UNBOUND PROMETHEUS

REVOLUTION IN TIME

The  
Wealth and Poverty  
of Nations

*Why Some Are So Rich  
and Some So Poor*

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less accurate, because they could not work with a pendulum. The invention of the balance spring, however, made it possible to get much closer to a regular rate, steady from hour to hour and day to day. A good pocketwatch, jeweled and with a decent balance, could keep time in the early eighteenth century to a minute or two a day. For the first time it paid to add a minute hand, and even a second hand.

These advances substantially enhanced the advantage that horological technology gave to Europe. What had long been an absolute monopoly of knowledge remained an effective monopoly of performance. No one else could make these instruments or do the kinds of work that depended on precision timekeeping. The most important of these, politically as well as economically: finding the longitude at sea.

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### Britain and the Others

And in Europe, why Britain? Why not some other country? On one level, the question is not hard to answer. By the early eighteenth century, Britain was well ahead—in cottage manufacture (putting-out), seedbed of growth; in recourse to fossil fuel; in the technology of those crucial branches that would make the core of the Industrial Revolution: textiles, iron, energy and power. To these should be added the efficiency of British commercial agriculture and transport.

The advantages of increasing efficiency in agriculture are obvious. For one thing, rising productivity in food production releases labor for other activities—industrial manufacture, services, and the like. For another, this burgeoning workforce needs ever more food. If this cannot be obtained at home, income and wealth must be diverted to the purpose. (To be sure, the need to import nourishment may promote the development of exports that can be exchanged for food, may encourage industry; but necessity does not assure performance. Some of the poorest countries in the world once fed themselves. Today they rely heavily on food imports that drain resources and leave them indebted, while the merest change in rainfall or impediment to trade spells disaster. At worst, they stagger from one famine to the next, each one leaving a legacy of enfeeblement, disease, and increased dependency.)

So one can hardly exaggerate the contribution of agricultural improvement to Britain's industrialization.<sup>1</sup> The process began in the Middle Ages, with the precocious emancipation of serfs and the commercialization of both cultivation and distribution. The spread of market gardening (fruits and vegetables) around London in the sixteenth century and the pursuit of mixed farming (grain and livestock and grain-fed livestock) testify to the responsiveness of both landowners and tenants. This development made for richer and more varied diets, with an exceptionally high proportion of animal protein.<sup>2</sup> Further contributing was the adoption of new techniques of watering, fertilizing, and crop rotation—many of them brought by immigrants from the Low Countries. The Netherlands were then the seat of European agricultural improvement, a land that man had created (won from the sea) by effort and ingenuity and had cherished accordingly. Dutchmen were already teaching farming in the Middle Ages—to the Slavic frontier. In the sixteenth and seventeenth centuries, the English were among the principal beneficiaries. Initiative followed initiative. In eighteenth-century England, it was enclosures that held center stage—the shift from the collective constraints of open fields to the freedom of concentrated, fenced or hedged holdings. Historians have debated the contribution of the enclosure movement; but logic suggests that, given the costs, it must have paid.

Unlike most other countries, then, British agriculture was not conservatism's power base. It was a force for economic change—as much as any other sector. Agriculture paid, and because it paid well, it became something of a passion, not only for farmers but for wealthy, aristocratic landowners who were not above getting their boots muddy and mingling with anyone and everyone at cattle shows and sales. Inevitably, in this money- and market-conscious society, agricultural societies made their appearance, where "improving" farmers could meet and learn from one another, and agronomic literature proliferated, the better to propagate best practice. This commercialism promoted an integrated approach to estate management: all resources counted, below as well as above ground; and in Britain, unlike the Continental countries, mineral resources belonged to the owner of the land, not to the crown. More opportunity for enterprise.

At the same time, the British were making major gains in land and water transport. New turnpike roads and canals, intended primarily to serve industry and mining, opened the way to valuable resources, linked production to markets, facilitated the division of labor. Other

European countries were trying to do the same, but nowhere were these improvements so widespread and effective as in Britain. For a simple reason: nowhere else were roads and canals typically the work of private enterprise, hence responsive to need (rather than to prestige and military concerns) and profitable to users. This was why Arthur Young, agronomist and traveler, could marvel at some of the broad, well-drawn French roads but deplore the lodging and eating facilities. The French crown had built a few admirable king's highways, as much to facilitate control as to promote trade, and Young found them empty. British investors had built many more, for the best business reasons, and inns to feed and sleep the users.

These roads (and canals) hastened growth and specialization. This was perhaps what most impressed Daniel Defoe in his masterly *Tour Through the Whole Island of Great Britain* (1724–26): the local crops (hops for beer, sheep for wool, livestock for breeding) and the regional specialties (metal goods in Sheffield, Birmingham, and the Black Country; woolens in East Anglia and the West Country; worsteds around Bradford, woolens around Leeds; cottons around Manchester; potteries in Cheshire; and on and on). No wonder that Adam Smith emphasized size of market and division of labor: his own country gave him the best example.

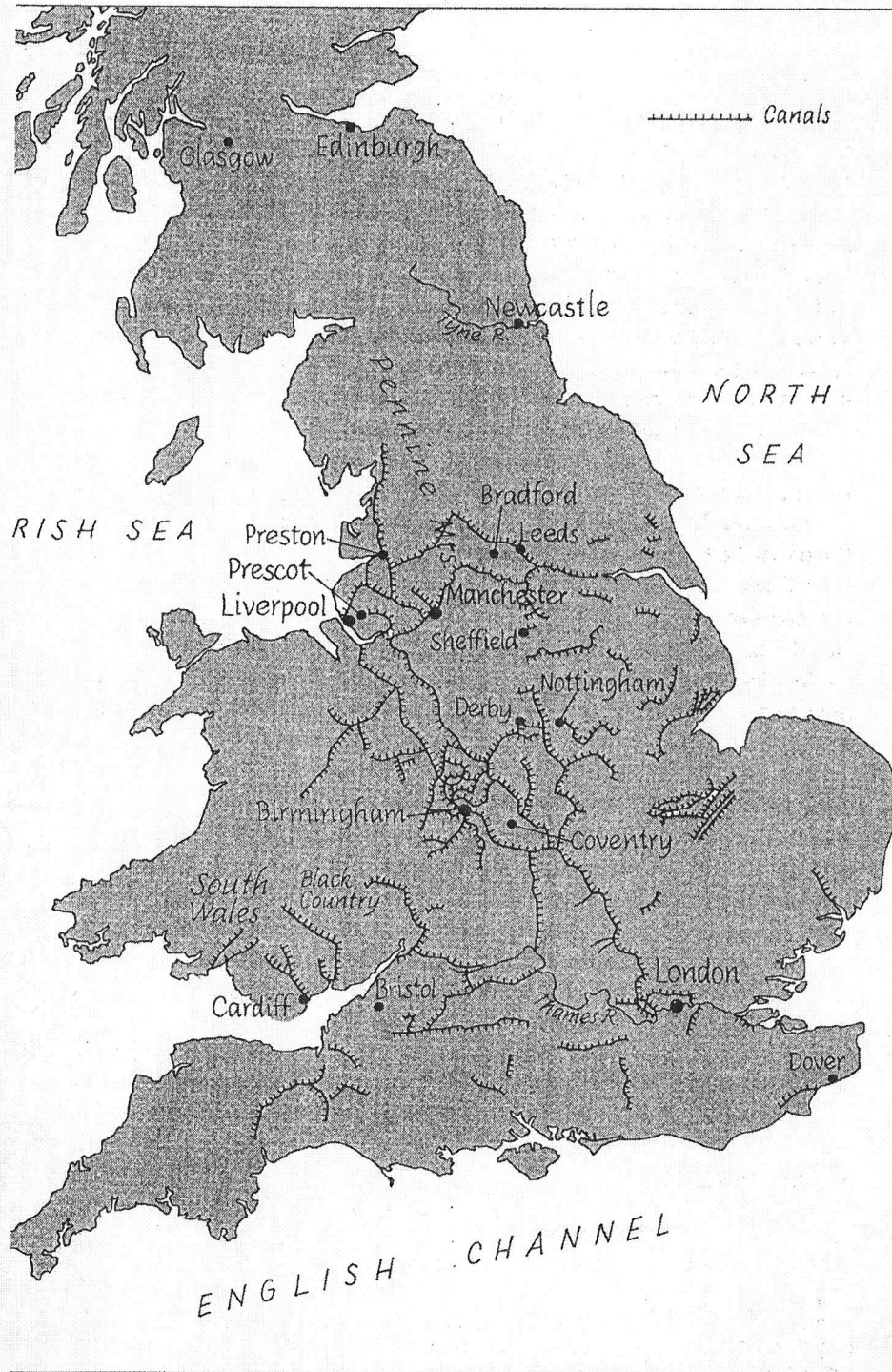
Yet to say that is just to tell *what* and *how*, not *why*; to describe rather than to explain.<sup>3</sup> This advance *cum* transformation, this revolution, was not a matter of chance, of "things simply coming together." One can find reasons, and reasons behind the reasons. (In big things, history abhors accident.)<sup>4</sup> The early technological superiority of Britain in these key branches was itself an achievement—not God-given, not happenstance, but the result of work, ingenuity, imagination, and enterprise.

The point is that Britain had the makings; but then Britain made itself. To understand this, consider not only material advantages (other societies were also favorably endowed for industry but took ages to follow the British initiative), but also the nonmaterial values (culture) and institutions.\*

These values and institutions are so familiar to us (that is why we call

\* Such terms as "values" and "culture" are not popular with economists, who prefer to deal with quantifiable (more precisely definable) factors. Still, life being what it is, one must talk about these things, so we have Walt Rostow's "propensities" and Moses Abramowitz's "social capability." A rose by any other name.

Private  
vs  
Public  
Enterprise



BRITAIN ON THE WAY TO INDUSTRIAL REVOLUTION

them modern) that we take them for granted. They represent, however, a big departure from older norms and have been accepted and adopted, over time and in different places, only in the face of tenacious resistance. Even now, the older order has by no means vanished.

Let us begin by delineating the ideal case, the society theoretically best suited to pursue material progress and general enrichment. Keep in mind that this is not necessarily a “better” or a “superior” society (words to be avoided), simply one fitter to produce goods and services. This ideal growth-and-development society would be one that

1. Knew how to operate, manage, and build the instruments of production and to create, adapt, and master new techniques on the technological frontier.
2. Was able to impart this knowledge and know-how to the young, whether by formal education or apprenticeship training.
3. Chose people for jobs by competence and relative merit; promoted and demoted on the basis of performance.
4. Afforded opportunity to individual or collective enterprise; encouraged initiative, competition, and emulation.<sup>5</sup>
5. Allowed people to enjoy and employ the fruits of their labor and enterprise.

These standards imply corollaries: gender equality (thereby doubling the pool of talent); no discrimination on the basis of irrelevant criteria (race, sex, religion, etc.); also a preference for scientific (means-end) rationality over magic and superstition (irrationality).\*

Such a society would also possess the kind of political and social institutions that favor the achievement of these larger goals; that would, for example,

1. Secure rights of private property, the better to encourage saving and investment.

\* The tenacity of superstition in an age of science and rationalism may surprise at first, but insofar as it aims at controlling fate, it beats fatalism. It is a resort of the hapless and incapable in the pursuit of good fortune and the avoidance of bad; also a psychological support for the insecure. Hence persistent recourse to horoscopic readings and fortunetelling, even in our own day. Still, one does not expect to find magic used as a tool of business, to learn for example that exploration of coal deposits along the French northern border (the Hainaut) and in the center of the country (Rive-de-Gier) in the eighteenth century was misguided and delayed by reliance on dowzers (*tourneurs de baguettes*)—Gillet, *Les charbonnages*, p. 29.

2. Secure rights of personal liberty—secure them against both the abuses of tyranny and private disorder (crime and corruption).
3. Enforce rights of contract, explicit and implicit.
4. Provide stable government, not necessarily democratic, but itself governed by publicly known rules (a government of laws rather than men). If democratic, that is, based on periodic elections, the majority wins but does not violate the rights of the losers; while the losers accept their loss and look forward to another turn at the polls.
5. Provide responsive government, one that will hear complaint and make redress.
6. Provide honest government, such that economic actors are not moved to seek advantage and privilege inside or outside the marketplace. In economic jargon, there should be no rents to favor and position.
7. Provide moderate, efficient, ungreedy government. The effect should be to hold taxes down, reduce the government's claim on the social surplus, and avoid privilege.

This ideal society would also be honest. Such honesty would be enforced by law, but ideally, the law would not be needed. People would believe that honesty is right (also that it pays) and would live and act accordingly.

More corollaries: this society would be marked by geographical and social mobility. People would move about as they sought opportunity, and would rise and fall as they made something or nothing of themselves. This society would value new as against old, youth as against experience, change and risk as against safety. It would not be a society of equal shares, because talents are not equal; but it would tend to a more even distribution of income than is found with privilege and favor. It would have a relatively large middle class. This greater equality would show in more homogeneous dress and easier manners across class lines.

No society on earth has ever matched this ideal. Leaving ignorance aside (how does one know who is better or more meritorious?), this is the machine at 100 percent efficiency, designed without regard to the vagaries of history and fate and the passions of human nature. The most efficient, development-oriented societies of today, say those of East Asia and the industrial nations of the West, are marred by all manner of corruption, failures of government, private rent-seeking. This paradigm nevertheless highlights the direction of history. These are

the virtues that have promoted economic and material progress. They represent a marked deviation from earlier social and political arrangements; and it is not a coincidence that the first industrial nation came closest earliest to this new kind of social order.

To begin with, Britain had the early advantage of being a *nation*. By that I mean not simply the realm of a ruler, not simply a state or political entity, but a self-conscious, self-aware unit characterized by common identity and loyalty and by equality of civil status.<sup>6</sup> Nations can reconcile social purpose with individual aspirations and initiatives and enhance performance by their collective synergy. The whole is more than the sum of the parts. Citizens of a nation will respond better to state encouragement and initiatives; conversely, the state will know better what to do and how, in accord with active social forces.<sup>7</sup> Nations can compete.

Britain, moreover, was not just any nation. This was a precociously modern, industrial nation. Remember that the salient characteristic of such a society is the ability to transform itself and adapt to new things and ways, so that the content of “modern” and “industrial” is always changing. One key area of change: the increasing freedom and security of the people. To this day, ironically, the British term themselves *subjects* of the crown, although they have long—longer than anywhere—been *citizens*. Nothing did more for enterprise. Here is Adam Smith:

The natural effort of every individual to better his own condition, when suffered to exert itself with freedom and security, is so powerful a principle, that it is alone, and without any assistance, not only capable of carrying on the society to wealth and prosperity, but of surmounting a hundred impertinent obstructions with which the folly of human laws too often incumbers its operations; though the effect of these obstructions is always more or less either to encroach upon its freedom, or to diminish its security. In Great Britain industry is perfectly secure; and though it is far from being perfectly free, it is as free or freer than in any other part of Europe.<sup>8</sup>

How far to push back the origins of English social precocity is a matter of historical dispute. One scholar would go back to the Middle Ages (pre-1500) and what he calls the rise of individualism. This was a society that shed the burdens of serfdom, developed a population of cultivators rather than peasants, imported industry and trade into the countryside, sacrificed custom to profit and tradition to com-

parative advantage. With mixed effect. Some found themselves impoverished, but on balance, incomes went up. Many found themselves landless, but mobility was enhanced and consciousness enlarged.<sup>9</sup>

England gave people elbow room. Political and civil freedoms won first for the nobles (Magna Carta, 1215) were extended by war, usage, and law to the common folk. To all of these gains one can oppose exceptions: England was far from perfect. It had its poor (always with us)—many more of them than of the rich. It knew abuses of privilege as well as enjoyment of freedom, distinctions of class and status, concentrations of wealth and power, marks of preference and favor. But everything is relative, and by comparison with populations across the Channel, Englishmen were free and fortunate.

They knew who they were. Their first mass experience of life in other lands came with the Hundred Years War (fourteenth and fifteenth centuries) in France, where English yeomen more than held their own against the flower of French chivalry. Among those who campaigned there: John Fortescue, later Sir John and chief justice of the Court of King's Bench. In the 1470s Sir John wrote a book on *The Governance of England*, where he spoke of French misgovernment and misery. The French king, he wrote, does as he pleases and has so impoverished his people that they can scarcely live. They drink water (rather than beer and ale); they eat apples with brown (as against white) bread; they get no meat but maybe some lard or tripe—what's left over from the animals slaughtered for the nobles and merchants. They wear no wool, but rather a canvas frock; their hose, of canvas too and do not go past the knee, so that they go about with bare thighs. Their wives and children go barefoot. They have to watch, labor, and grub in the ground. They "go crooked and be feeble, not able to fight nor to defend the realm." They have no arms, or money to buy arms. "But verily they live in the most extreme poverty and miserie, and yet dwell they in the most fertile realm of the world."<sup>10</sup>

To be sure, this is an Englishmen talking (but oh, how early!), and he may be forgiven if he rhapsodizes about the superiority of his country. That is the nature of nationalism, a feeling of identity and superiority, and England was one of the first countries to nurse this new sentiment (read Shakespeare), which differed sharply from the local identification of the medieval serf in his narrow *pays*, or for that matter, the dumb submission of the Asian *ryot*.<sup>11</sup>

But the English were not the only ones to praise England. Foreign visitors to the island chorused respect and admiration. For some Asians,

all westerners may have looked alike, but Europeans saw the differences. Visitors exclaimed about the high standard of living of the English countryman: brick cottages, tile roofs, woolen clothing, leather shoes, white bread (one can follow the rising incomes of industrializing Europe by the white bread frontier). They saw women in cotton prints and wearing hats; servant girls who so resembled their mistresses that the foreign caller wondered how to address the person answering the door. They saw poor people, they tell us, but no *miserables*; no starved, pinched faces; beggars, but no beggar "without both a shirt, and shoes and stockings." (The English seem to have been proud of their beggars, whom they saw as plying a trade.)<sup>12</sup>

To the purchasing power of the lower classes, to their ability to buy beyond the necessities, must be added the wealth—remarkable for its time—of the great English middle class: the merchants and shopkeepers, manufacturers and bankers, men of law and other professions. Daniel Defoe, best known as a writer of imaginative fiction, also wrote delicious travel accounts and economic tracts of remarkable perspicuity. He saw what was happening around him, and when he wrote of the English consumer, he told us more than any dusty functionary could:

It is upon these two classes of People, the Manufacturers [not the employers but rather those who labor in industry] and the Shopkeepers, that I build the hypothesis which I have taken upon me to offer to the Public, 'tis upon the Gain they make either by their Labour, or their Industry in Trade, and upon their inconceivable Numbers, that the Home Consumption of our own Produce, and of the Produce of foreign Nations imported here is so exceeding great, that our Trade is raised up to such a Prodigy of Magnitude, as I shall shew it is. . . .

. . . These are the People that carry off the Gross of your Consumption; 'tis for these your Markets are kept open late on *Saturday* Nights; because they usually receive their Week's Wages late. . . . Their Numbers are not Hundreds or Thousands, or Hundreds of Thousands, but Millions; 'tis by their Multitude, I say, that all the Wheels of Trade are set on Foot; the Manufacture and the Produce of the Land and Sea, finished, cur'd, and fitted for the Markets Abroad; 'tis by the Largeness of their Gettings, that they are supported, and by the Largeness of their Number the whole Country is supported; by their Wages they are able to live plentifully, and it is by their expensive, generous, free way of living, that the Home Consumption is rais'd to such a Bulk, as well of our own, as of foreign Production. . . .<sup>13</sup>

The contribution of high consumption to technological progress struck contemporaries, and more of them as the British advance grew. Without taking a course in Keynesian economics, French merchants understood that mechanization made for high wages, that high wages made for increased demand for manufactures, and that effective demand made for increased prosperity. "Thus, by the working of a system that seems paradoxical, the English have grown rich by consuming."<sup>14</sup> Paradoxical indeed: such dispendious habits ran against the folk wisdom that counseled thrift and abstemiousness, habits congenial to French peasants compelled to avarice. One result was a manufacture that aimed at a large national and international market and focused on standardized goods of moderate price—just the kind that lent themselves to machine production. "The English," wrote Charles marquis de Biencourt, "have the wit to make things for the people, rather than for the rich," which gave them a large and steady custom.<sup>15</sup>

This custom has recently attracted much attention, not only for its own sake but as a window on technological change and on larger social changes, in particular the growing importance of women as consumers.<sup>16</sup> What these studies show is a lively market for all manner of fabrics, clothing, clocks and watches, hardware, pins and needles, and above all notions—a catchall term for those personal accessories (combs, buckles, buttons, adornments) that go beyond the necessities and cater to appearance and vanity. Many of these were semidurables and were passed on in wills and as gifts. Their increased volume reflected not just rising incomes, but quicker distribution and new techniques of manufacture (division of labor, repetitious machines, superior files) that yielded lower costs and prices.

This production, needless to say, though largely directed to home demand, also sold to plantations and colonies and kingdoms abroad. (Small objects of high value in proportion to weight and volume are ideally suited to smuggling. The best example is watches.) Small-town, relatively isolated markets on the European Continent, once reserved for local craftsmen, were now visited by tireless peddlers, bringing with them the outside world. Conservatives resented these intruders, not only for their competition and their foreignness (many peddlers were Jews) but for their threat to order and virtue. The German moralist Justus Möser, writing in the latter eighteenth century of the Osnabrück area in northern Westphalia, denounced the brass of these itinerants. They came to the cottage door while the husband was away (alas for patriarchal authority), tempting the wife with kerchiefs, combs, and mirrors, the instruments of vanity and waste. A Snow White story: the

wicked stepmother is now a cunning peddler (as she becomes in the tale), and the princess is an adult, but as susceptible as a child.<sup>17</sup>

### Some Good Deeds Go Rewarded

Britain was largely free of the irrational constraints on entry that dogged most Continental societies. The stupidest of these were religious: the persecution and expulsion of Protestants from France (revocation in 1685 of the Edict of Toleration of Henri IV); and the widespread exclusion of Jews from all manner of trades, partly (psychologically) out of fear and hatred, partly (institutionally) by virtue of the Christian character of craft guilds and the lingering effects of earlier expulsions. Religion, moreover, was not the sole criterion of admission to craft and trade guilds. In parts of Germany, for example, only men "conceived by honorable parents under pure circumstances" (the German is better—*von ehrliche Eltern aus reinem Bett erzeuget*) were eligible.<sup>18</sup> (Some scholars have tried to trivialize the economic consequences of these discriminations, as though for every person excluded, someone just as good or smart or experienced was waiting to step in; or as though these victims of prejudice and hatred were not precious carriers of knowledge and skills to eager competitors.<sup>19</sup> We need not take these clevernesses seriously; they fail in logic and in fact.)

England profited here from other nations' self-inflicted wounds. In the sixteenth century, weavers from the southern Netherlands sought refuge and brought with them the secrets of the "new draperies," and Dutch peasants imported arts of drainage and a more intensive agriculture. In the seventeenth century, Jews and crypto-Jews, many of them third- and fourth-stage Marrano victims of Spanish and other persecutions, brought to England an experience of public and private finance;<sup>20</sup> and Huguenots, merchants and craftsmen, old hands of trade and finance, came with their network of religious and family connections.<sup>21</sup>

\* The British also had their constraints on participation of religious outsiders in political life and admission to the universities; but these paradoxically steered these "minorities" into business and saved them from the seductions of genteel status.