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Foreign Trade Was Not an Engine of Growth

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Part 7 of 13:
“Foreign Trade Was Not an
Engine of Growth”

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*Bourgeois Dignity and Liberty:
Why Economics
Can't Explain
the Modern World*

[Vol. 2 of The Bourgeois Era]

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To Readers: The argument is, I fancy, complete, but some details in
footnotes and references, and occasionally matters of routine
calculation in the main body, need to be cleaned up.

Abstract: Trade reshuffles. No wonder, then, that it doesn't work as an engine of growth
— not for explaining the scale of growth that overcame the West and then the Rest 1800 to
the present. Yet many historians, such as Walt Rostow or Robert Allen or Joseph Inikori,

have put foreign trade at the center of their accounts. Yet the Rest had been vigorously trading in the Indian Ocean long before the Europeans got there – indeed, that’s why the West wanted to get there. Trade certainly set the prices that British industrialists faced, such as the price of wheat or the interest rate. But new trade does not put people to work, unless they start unemployed. If they are, then any source of demand, such as the demand for domestic service, would be as important as the India trade. Foreign trade is not a net gain, but a way of producing importables at the sacrifice of exportables. The Harberger point implies that static gains from trade are small beside the 1500% of growth to be explained, or even the 100% in the first century in Britain. Trade is anyway too old and too widespread to explain a uniquely European – even British – event. One can appeal to “dynamic” effects, but these too can be shown to be small, even in the case of the gigantic British cotton textile industry. And if small causes lead to large consequences, the model is instable, and any old thing can cause it to tip. Ronald Findlay and Kevin O’Rourke favor foreign trade on the argument that power led to plenty. But domination is not the same thing as innovation. In short, the production possibility curve did not move out just a little, as could be explained by trade or investment or reshuffling. It exploded, and requires an economics of discovery, not an economics of routine exchanges of cotton textiles for tea.

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Chapter 17:

Foreign Trade Was Not the Cause, Though World Prices were a Context

For example, trade, whether foreign or domestic, reshuffles. It doesn't discover, except in the wide (and wise) sense that assigning goods to their highest valued user does. After all, trade is merely the moving of stuff from one place to another. Trade is good to do, and even at moderate markups it is profitable, too. Therefore it happens. But shuffling stuff about for a modest productivity gain (even if a large gain in the margin of profit) is not the same thing as revolutionizing the means of production. Shuffling resources around is not the way to get the (cautiously estimated) factor of sixteen.

Anyway, as the historian John Chartres argues, Britain had "well before 1750 . . . an unusual flexibility in the employment of its factor endowments."¹ It had none of the internal tariffs that harried French businesspeople into the nineteenth century, and few of the obstacles to the employment of women in industry that stifled enterprise in China or the Arab world, and none of the class barriers to mobility among industries that shackled India (and especially did so after European theories of stages of development took hold under the British Raj). So in

¹

Chartres 2003, p. 209.

Britain there were few enough £100 notes lying on the ground ready to be picked up. Expanding the woolen industry and contracting the growing of wheat might achieve for the nation, if the reshufflers were lucky or skilled, a national gain of 10 percent. But not 1500 percent. To put the findings another way, we have learned since 1970 many notes: that industrialization in Britain was not been mainly a matter of foreign trade, not a matter of internal reallocation of the labor force, not of transport innovation, not investment in factories – all of which are matters of reshuffling the employment of factor endowments.

Consider, then, foreign trade. An old tradition beginning with Arnold Toynbee in 1884 and carried into the 1960s by the American historian Walt Whitman Rostow and by the British historians Phyllis Deane and W. A. Cole, and still popular among most general historians and some economic historians, puts emphasis on Britain's foreign and colonial trade as an "engine of growth."² What the research since 1970 has discovered, though, is that the existence of the rest of the world mattered for the British economy, but not in the way suggested by the metaphor of an engine of growth.³ True, there is a correlation, which was what inspired the metaphor in the first place. The correlation was expressed most baldly in 2006 by Allen, who declared briskly that "econometric analysis shows that the greater volume of trade [per capita in the Netherlands and Britain] explains why their wages were maintained (or increased) even as their populations grew."⁴

² ***cite Deane and Cole by chapter.

³ O'Brien and Engerman 1991 demur.

⁴ Allen 2006, p. 7.

“Econometric analysis” sounds impressive. But let me tell you that it commonly depends, as here, on an thoughtless misuse of something called a *t* test. And anyway it means merely *post hoc ergo propter hoc* – trade was high, and wages were, too. *Post hoc* is a suggestive form of reasoning, but by itself is often misleading. *Ante hoc ergo non propter hoc*, “before this therefore *not* because of this,” works every time. But *post hoc*, which is the only insight the proud econometrician can offer, does not. The economist Allyn Young wrote in 1928 that “it is dangerous to assign to any single factor the leading role in that continuing economic revolution which has taken the modern world so far away from the world of a few hundred years ago. But is there any other factor which has a better claim to that role than the persisting search for markets? No other hypothesis so well unites economic history and economic theory. The Industrial Revolution of the eighteenth century has come to be generally regarded, not as a cataclysm brought about by certain inspired improvements in industrial technique, but as a series of changes related in an orderly way to prior changes in industrial organization and to the enlargement of markets.” The conclusion was premature.

The great historian of the slave trade Joseph Inikori believes that “technological change was trade driven,” but his arguments are correlations on the basis of an elderly model of import-substitution industrialization (the same, by the way, that inspired Latin America in the 1960s and 1970s to economically disastrous policies of protectionism).⁵ He claims that technological change happened chiefly

⁵ Inikori 2002, p. 478; he discusses his trade model on pp. 10-14, which use Hirschman 1958, Chenery 1960, and especially Balassa 1981.

in the “socially and agriculturally backward northern counties,” which would surprise James Watt of Birmingham, not to speak of the instrument makers of London. And if trade causes technological change, why not in the great trading empires of the past? Something was peculiar about northwestern Europe. It was not trade. Inikori believes that his study of 2002 “provides sufficient proof that the Industrial Revolution in England was a product of overseas trade – the first case of export-led industrialization in history.”⁶ But *why* the first? Exports grew, sometimes explosively, in many other times and places – the Silk Road, for example, when political unity was established in Central Asia. Why not trade-powered industrialization, from Sumer on? Inikori and many others have emphasized the thrusting Atlantic trade of the eighteenth century. But they have not explained why other trades did not have similar effects, or why in the eighteenth century foreign trade would suddenly provoke innovation that it did not provoke in Europe in the sixteenth. Foreign trade is not the unique episode that could explain the Industrial Revolution.

Consider France. French foreign trade in the eighteenth century grew *faster* than British. If foreign trade were the engine, then one would expect the Industrial Revolution to have been mainly French. It was not. John Nye argues that the real constraint on French progress was not its foreign trade but its domestic trade. Britain in such a view was from early times a nation of free trade *internally*. Nye argues persuasively that Britain in fact was internationally less a free-trade country

⁶ Inikori 2002, p. 479.

than France – but more free-trade internally. France, and Spain (and of course those geographical expressions “Italy” and “Germany”) had high internal tariffs until the nineteenth century. France was and is famously centralized, but for many centuries England had been effectively centralized in fiscal and contract law. France, in other words, was centralized in the wrong way, with *intendants* from Paris and officials in the provinces interfering with the dignity and liberty of innovators at every turn. The French state imposed quality standards on textiles, and gave subsidies to enterprises it approved of, licensed some companies and refused licenses to others.

Even so, France had a pretty big domestic market. Guillaume Daudin concluded that in the eighteenth century that “for all types of high value-to-weight goods, some French supply centers reached 25 million people or more. For all types of textile groups, some French supply centers reached 20 million people or more. Even taking into account differences in real, nominal and disposable income per capita, these supply centers had access to domestic markets that were at least as large as the whole of Britain. Differences in the size of foreign markets were too small to reverse that result.”⁷ That is, the size of the internal British market does not seem to explain Britain’s lead. In short, eighteenth-century foreign and domestic trade and their alleged economies of scale in Britain do not seem to be special.

* * * *

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Daudin 2008, abstract.

Many historians have noted that the very reason that Columbus sailed the ocean blue was to get access to what was already a great playground of foreign trade by Arabs, Chinese, Japanese, Indians, Indonesians, Africans, namely, the Indian Ocean. The Zhizo people, on what is now the border of South Africa with Zimbabwe, along the Limpopo River 300 miles from the eastern coast of Africa, acquired in the tenth century C.E. *Indonesian* products, exchanging their gold for glass beads brought directly 5000 miles across the Indian Ocean on the equatorial trade winds. The successor culture there of “K2,” with its capital in the thirteenth century at Mapungubwe, traded their gold for *Chinese* porcelain.⁸ By 1500, Goldstone notes in summarizing recent work (some of it the pioneering work by that same Atlantic-trade-favoring Robert Allen), “Asia generally had greater agricultural productivity and more refined craftsmanship than Europe [because even the clever Italians looked feeble beside the Indians and Chinese] and offered a wide variety of products, such as silk and cotton fabrics [because European linens and woolens were not for everyday in the Gangetic plain in summer; by contrast every well-to-do European lusted after the gauzy and colored fabrics of the East, and the Italian and then other European borrowers of Chinese technology could not make enough until well into the Industrial Revolution], porcelain, coffee, tea, and spices that Europeans desired.”⁹ The navigational miss in 1492 by the Admiral of the Ocean Seas in his search for the East Indies nonetheless in time got the miserably poor Europeans something useful for getting into the Indian Ocean

⁸ Gilomee and Mbenga 2007, pp. 3, 25, 32.

⁹ Goldstone 2009, p. 4.

trade: Incan gold, and Mexican and Peruvian silver. As the Marxist historian Andre Gunter Frank put it, Europe “used its American money to buy itself a ticket on the Asian train.”¹⁰ And in the meantime the Portuguese had rounded the Cape of Good Hope.

Yet attributing the Industrial Revolution to the European trade with the Indian Ocean is a dubious project. The question arises, for example, why the lag in causation was 250 years, from 1500 to 1750. And if trade is such a very enriching and then industrializing activity, why did not the Indian-Ocean traders and manufacturers themselves have their own industrial revolution, centuries before the backward Europeans – or at the worst with the same mysterious 250-year lag as required by the hypothesis that European trade with the East as an engine of growth? After all, the Orientals were closer to the action that the Europeans so craved to get into. It cannot be an advantage (the economist would observe) to be *further* from the storied East and its Industrial-Revolution-making trade, can it? Amsterdam and Glasgow and Boston were about as far away as one could get. Europe’s small share of the vast inside-Asia trade was strictly limited by how much gold and silver the Europeans could offer, because until well after the Industrial Revolution was under way the Asians had little use for the notably crude European manufactures.¹¹ Goldstone explains the ending in 1433 of very long, government-sponsored voyages of discovery by the Chinese not in terms of a “turn inward” (which is false: Chinese ships and merchants continued long *commercial* voyages)

¹⁰ Frank 1998, p. xxv, quoted in Goldstone 2002a.

¹¹ Goldstone 2009, p. 58.

but “for the same reason the United States stopped sending men to the Moon – there was nothing there to justify the costs of voyages [in the Chinese case with hundreds of ships and tens of thousands of men]. The further China sailed, the poorer and more barren the lands that they found. Goods of value came mainly from India and the Middle East, and they had already been pouring into China by established land and sea routes for hundreds of years.”¹² Why then did not the Asian vastness of trade act as an engine of growth, quite independent of the Europeans? And if marginality to the trade but a tenuous connection is somehow an advantage, why not industrialization at Mapungubwe or at Edo?

* * * *

What is true is that the British economy cannot be understood in isolation, certainly not in the eighteenth century, and in many ways not before. It has become increasingly clear from the work of Jeffrey Williamson and Larry Neal among others, for example, that Britain functioned in an international market for investment funds.¹³ More exactly the fact has been rediscovered – it was a commonplace of economic discussion by observers like the proto-economist David Ricardo in the 1810s, though it became obscured in economics by the barriers to trade erected during the Great European Civil War of the twentieth century, especially during the 1930s and 1940s. That is, the trade in bonds was of Europe,

¹² Goldstone 2002a.

¹³ Williamson 1985, 1987; Neal 1990.

not of each country in Europe. By 1780 the capital market of Europe, centering in Amsterdam and London and Paris, was sophisticated and integrated. Savings flowed with ease from French pockets to Scottish projects.

True, the biggest sums were governmental debt to pay for Europe's incessant wars. The amounts raised for the projects of peace, such as canals in England in the 1780s, were often last in line, not least because governments enforced usury limits that cut funds off abruptly in an inflation, and the inflation's resulting rise in money interest rates. The old finding of Pollard and others survives: industrial growth was financed locally, out of retained earnings, out of commercial credit for inventories, and out of investors marshaled by the local solicitor.¹⁴ The interest rate still mattered (even though the international capital market was not used to fund industrialization), as is plain for example in the sharp rises and falls of enclosure in the countryside with each fall and rise in the rate of interest, or the booms and busts in canal building, like housing construction nowadays. And the rate was relevant to local projects such as an enclosure or even a fully self-financed factory because people were sharply aware that the opportunity cost of investing in straightening and surfacing local roads or in a steam mill for forging nails was always a less troublesome investment in "the funds." And the interest rate on consolidated British government stock, in turn, was determined by what was happening in wider capital markets than the local solicitor's office, and as much by Amsterdammers as by Londoners.

¹⁴ Pollard 1964; Richardson 1989.

The same had also long been true of the market in grain and many other goods. The financier and economist Ricardo assumed so in his models of trade around 1817, as though it were given, simple, obvious, trivial, not worthy of comment. The disruptions of war and blockade from time to time masked the convergence. Regulations, such as the Corn Laws, or imperial schemes to subsidize West Indian landowners with powerful friends in government, could sometimes stop it from working. But Europe by the eighteenth century had a unified market in, say, wheat. Fernand Braudel and Frank Spooner showed long ago in their astonishing charts of prices that the percentage by which the European minimum was exceeded by the maximum price fell from 570 percent in 1440 to a mere 88 percent in 1760.¹⁵ Centuries earlier the price of gold and silver had become international, though the continued hunger of the East for precious metals kept the divergence in value from disappearing completely.¹⁶ Kevin O'Rourke and Jeffrey Williamson have shown that in the fancier items of east-west trade the divergence was not pronounced enough to explain the rise in their trade.¹⁷ And by 1800 and certainly by 1850 the prices of wheat, iron, cloth, wood, coal, skins, and many other of the less fancy materials useful to life were beginning to cost roughly the same in St Petersburg as in London, and to a lesser extent in New York and even in Bombay, by an economically relevant standard of "roughly." The only relevant

¹⁵ Braudel and Spooner 1967, p. 470.

¹⁶ De Vries 2003; the deepest student of such matters is Dennis Flynn, as in Flynn 1996 and Flynn and Giráldez 1995a, 1995b, 2002, 2004, and Flynn, Giráldez, and Glahn, eds., 2003.

¹⁷ O'Rourke and Williamson 2002, esp. Fig. 1.

standard for “one market” is similarity of prices. The standard of what is “similar” must be relevant and economic, not an arbitrary standard of a *t* test of “significance” in correlation.¹⁸ (Braudel and Spooner grasped this, as do O’Rourke and Williamson.¹⁹ Unhappily a good deal of the recent historical work on price convergence has substituted arbitrary standards of “cointegration” for economic thought.²⁰) European and then world prices continued to converge in the nineteenth century, a benefit of the rapid growth of productivity in shipping and railways and in other costs of transaction, such as port costs and insurance and information.

The convergence is important because it says that an economic history imagining the British economy in isolation is the wrong way to look at it. If the economy of the whole of Europe from Poland to Venice is determining the price of food, for example, it is not a wise principle in writing the history to treat the British food market as though it could set its own prices by its own supplies and demands (except, of course, behind completely protective tariffs – which until the 1840s, admittedly, it imposed on quite a few goods; but a general equilibrium would tie British prices to the world’s prices indirectly even with a good deal of protection). The assumption of a closed economy, such as those around which the little controversy over agriculture’s role in industrialization raged in the 1960s, will stop

¹⁸ McCloskey and Zecher 1976, 1984; Ziliak and McCloskey 2008.

¹⁹ And see too Hynes, Jacks, and O’Rourke 2009, which has only one use of statistical significance (pp. 9, 17), well below the average for such studies, and does not mention “cointegration” in the text, which is practically unheard of.

²⁰ For example, among dozens of such studies making the same mistake, Özmucur and Pamuk 2007.

making sense.²¹ The supply and demand for grain in Europe, or indeed with less force the supply and demand in the wider world, was setting the prices faced by British farmers in 1780. The supply and demand merely in the British portion of Europe could set merely the *amounts* of wheat and wood brought into Britain, net. The intrusion of the world's market became so strong that the domestic, closed-economy story no longer makes any sense, though it has been told and retold by historians and economists fascinated by the availability in the eighteenth century of British trade figures. The domestic story is like blaming the current administration in Washington for the price of oil – which is determined by the world's supply and demand, not by the White House.

In the seventeenth and eighteenth centuries one can tell a domestic story of agricultural improvement in England – the application, say, of Belgian and Dutch farming methods (though recent work has shown that they were not applied enough to constitute then an “Agricultural Revolution”).²² But you can't reasonably tell a domestic story of the price of the wheat or cattle or much else except hay, because the markets of Europe set the prices of wheat and cattle. (Hay down to the present is a local product, because it is of course heavy relative to its per volume price, and therefore was cheaper in, say, 1914 in the United States than in England, with consequences for local transportation²³). Likewise one can tell an English story

²¹ Ippolito 1975 *** from China book

²² Compare Mark Overton 1996, who stresses that 1750 to 1850 was still the classic period of the agricultural revolution – though he does reject the previous orthodoxy that saw the seventeenth century as crucial – and Michael Turner and others 2001, arguing on the contrary that the break was in what Michael Thompson called the “second” agricultural revolution in the first half of the nineteenth century.

²³ Van Vleck 1997, 1999.

in the eighteenth century of how much was saved. But you can't reasonably tell an English story of what interest rate it was saved at, nor how much was available for English investment, in view of foreign savers and investors expressing their opinions in the capital markets of Amsterdam and Paris.

Joseph Inikori has argued that high transport costs before the Railway Age made regions such as Britain's industrial North, or the less progressive South (which as he points out began in 1600 as much more "developed" than the North), into export enclaves. "Research by historical geographers," he claims, "shows . . . industrialization that was highly regional."²⁴ So much is true. By the early nineteenth century the southerners in England were casting envious eyes north at bustling Liverpool and Manchester and Halifax. But the historical geographers claim that inside the "regional economies . . . there was keen competition but between them there was very little . . . because of the structure of internal transportation costs. . . . Hence, over time regional concentration of the leading industries was determined by success or failure in the promotion of overseas sales." Inikori is again correct to stress that the foreign context for European economies was important—though the goods traded in the eighteenth century were minor elements of the economy, if not of little girls, such as sugar and spice. By the time that cotton goods and especially such heavy items as iron became important in foreign trade the Railway Age had arrived, and talk of enclaves stopped making sense. Considering the mobility of capital and labor it probably had stopped

²⁴ Inikori 2002, p. 475.

making sense by 1750 or 1800 anyway. Inikori believes that “inter-regional migration was a minor source” of new labor for the mills, which again is correct if he means that southern agricultural workers did not turn up for work in Wigan (but literally wrong: Irish-born were one out of every 4.5 people in Liverpool in 1851, and one out of every 6 in Manchester.)²⁵ But the weakness in Inikori’s argument that is relevant here lies in the little phrase “very little” [competition between enclaves]. Inikori and the historical geographers offer no relevant comparative standard of “very little.” They commit in a qualitative way the same error as do the more mathematically muscular *t*-testers. They have no standard to judge “little,” and so miss the gigantic secular improvement in European (and regional) economic integration, 1500-1840.

Pollard, again, argued persuasively that for many questions what is needed is a European approach, or at least a north-western European regional approach.²⁶ For economic purposes the “region,” Pollard argued, should be *larger* than the nation, not smaller. He wrote in 1973 that “the study of industrialization in any given European country will remain incomplete unless it incorporates a European dimension: any model of a closed economy would lack some of its basic and essential characteristics.”²⁷ The political analogue is that it would be strange to write a history of political developments in Britain or Italy or Ireland 1789 to 1815 without mentioning the French Revolution. Politics became international – not

²⁵ Inikori 2002, p. 476; Pooley 1989, p. 66.

²⁶ Pollard 1973, 1981; within Britain compare Hudson, ed. 1989 and Crafts 1989a.

²⁷ Mokyr 1985b, p. 175.

merely because French armies conquered most of Europe but because French political ideas became part of political thinking, whether in sympathy or in reaction. Likewise in economic matters. The world economy from the eighteenth century (and to a large degree before) provided Britain with its framework of relative values, wheat against iron, interest rates against wages.

The point is crucial for understanding why the classical economists were so far off in their predictions. Landlords, they said, would engorge the national product, because land was the limiting factor of production. But the limits on land seen by the classical economists proved unimportant, because north-west Europe gained in the nineteenth century an immense hinterland, from Chicago and Melbourne to Cape Town and Odessa.²⁸ The remarkable improvement of ocean shipping (iron and then steel hulls; steam and then superheated steam-ship engines, two thirds of them built on the Clyde; wide quays and then steam and then diesel gantries for offloading cargo) tied Britain to the world like Gulliver to the ground, by a hundred tiny threads. Grain production in Ukraine and in the American Midwest could by the 1850s begin to feed the cities of an industrial Britain. But the price of wheat in Britain was constrained even earlier. One cannot calculate elasticities of demand and supply on the assumption that the price was set at home.

²⁸ ***cite Knick

Chapter 18:

And the Logic of Trade-as-an-Engine is Dubious

Trade, then, was important as a context for British growth. But it was not an engine of growth. For the period in question Mokyr makes the clearest case.²⁹ The underlying argument is that domestic demand could have taken the place of foreign demand (Mokyr earlier [1977] had shown likewise that the shuffling of domestic demand was no more promising). To be sure, Britons could not have worn the amount of cotton textiles produced by Lancashire at its most productive: cotton dhotis designed for the working people of Calcutta would not have become fashionable at Marks and Sparks on the High Street of Salisbury or Aberdeen. But in that case the Lancastrians would have done something else with the labor and capital and resources and ingenuity employed in cotton textiles. As Hume put it in the 1740s, “if strangers will not take any particular commodity of ours, we must cease to labor in it.” Of course. But, he continued, in another of his astonishing anticipations of modern economics, “the same hands will turn themselves towards some refinement in other commodities, which may be wanted at home.”³⁰ Or rather, *will* be wanted at home, since that is how the alternative employment will be guided, as though by an invisible hand. The exporting of cotton cloth is not sheer

²⁹ Mokyr 1985b, pp. 22-23 and works cited there.

³⁰ Hume, “Of Commerce,” in *Essays*, p. 284.***check volume.

gain. It comes at the cost of something else that its makers could have done, such as building more houses in Cheshire or making more wool cloth in Yorkshire.

That is, nothing like all the income received from exports is a net gain. Think of the opportunity costs of producing American medical equipment for exports. Pittsburg doesn't produce such things out of the air. To make the magnetic resonance machine sold to, say, Finland the Pittsburgians divert labor, capital, natural resources from other potential employments, local or elsewhere, such as making more education at the University of Pittsburg, or moving to Philadelphia and making more candy. Exports are not the same thing as new income. They are new markets – which is to say new ways of getting importable things – not new income. They are a way of acquiring Nokia cell phones by showering the Finns with American machinery, telecommunications equipment and parts, aircraft and aircraft parts, computers, peripherals and software, electronic components, chemicals, medical equipment, agricultural products, bonds, and engraved pieces of paper (costing 4 cents to make) marked “dollars.”

The alternative of making the cell phones in America for Americans (“Buy American”) is a rather worse deal for Americans. But it is no catastrophe. American national income would not deflate to zero like a balloon if we did not trade for Nokia cell phones. (Motorola will be glad to explain that point to you.) Given innovation (a big, big given), the source of wealth is specialization and trade within a country, regardless of whether the country then sells snowmobiles to the Eskimo or TV sets to Nebraskans. Domestic efficiency is what gets us out to the

production possibility curve, as economists put it (as innovation pushes it out). Your nation, or town, or even in the extreme your own household, does not *have* to trade with outsiders to live. Each can be an innovative and alert Crusoe on his island and survive without exporting or importing. The point is obvious for big, innovative countries like France or the United States, which can do much better than “survive” without foreign trade. They can achieve very high incomes by attending to innovation, trading merely with other Americans or Frenchmen within their borders, if persuaded by protectionists to do so (as both were to a greater or lesser degree in earlier eras).

In other words, the primitive conviction most non-economists have that foreign trade is the only source of wealth, that money must somehow come from outside to puff up the economy and make us rich, is wrong. You see it in the claim that subsidizing a new sports stadium will “bring dollars into the community.” The dollars are good only for a local owner of land. They have no effect on the rewards to mobile labor or capital. But public opinion gets fooled into voting for the stadium, because of “multiplier effects” (it sounds like technical economics, but only a bad economist thinks that multiplier effects work in anything but conditions of mass, nationwide unemployment). You can see the power of the conviction that a foreign, outside trade is the only source of wealth in the role of fish exports in the political economy of Iceland or of exports generally in that of Japan. The conviction is imprudent and unjust, good for a few exporters and bad for everyone else. “Export or die” is a foolish economic policy, which has undermined domestic

policies for growth in poor countries. Imports and the exports to get them are a shift of attention, not consciousness itself. Trade as an essential engine: it seems not.

Yet the trade, of course, benefits the traders on both sides, some, or else it wouldn't have happened. But again – here's the nub of the issue – the benefit can be shown in static terms to be small. One of the chief findings of the “new” economic history, with its conspicuous use of economic rhetoric, is that static gains, as I have said, are very often small. Robert Fogel's startling calculation in 1964 of the social savings from American railways in 1890 is the leading case.³¹ Replicated by Hawke in 1970 for Britain with broadly similar results (though higher on account of denser passenger traffic), in countries unlike Britain or the United States without easily navigable rivers, such as Mexico (Coatsworth 1979) and Italy (Fenoaltea 1971-72), the impact of railways turned out to be greater. But it was never enough to account for any but a small portion of modern economic growth. Fogel's finding, with Harberger's, were part of the gradual realization by economists in the 1960s that their beloved supply-and-demand framework did not explain The Great Fact. However essential one may be inclined to think railways were, or how crucial foreign trade to British prosperity, or how necessary the cotton mill to industrial change, the calculations lead to small figures, far below the factor of sixteen, or even a doubling.

For trade, how so? Think of British foreign trade around 1841, like railroads or whatever, as an industry for making consumable imports of wheat and lumber

³¹ Fogel 1964.

by selling exports of iron and cotton textiles made with Britain's inputs of labor, land, and capital. From an economist's point of view that is all it is, a machine for making imported sausage for consumption out of domestic ingredients. In 1841 the mighty United Kingdom exported some 13 percent of its national product. The terms of trade is the "productivity" of the industry that "makes" wheat out of cotton textiles sacrificed (that is, exported for the use of foreigners). The terms of trade tells how many bushels of wheat the British got for each yard of textiles. From 1698 to 1803 the range up and down of the three-year moving averages of the gross barter terms of trade was a ratio of 1.96, highest divided by lowest; Imlah's net barter terms range over a ratio of 2.32, highest divided by lowest.³² So the variation of the terms on which Britain traded was about 100 percent over century-long spans like these. Only 13 percent of any change in income, then, can be explained by foreign trade, statically speaking, under full employment: $100 \times 0.13 = 13$. Apparently we have another popular cause that doesn't work very well, quantitatively speaking.

One might be tempted to see growth of sheer output sent abroad as an engine of growth. As has long been realized, however, to do so assumes that massive portions of the economy were idle (in contrast to the full-employment assumption that I just made tacitly). And no historical evidence has been marshaled to make plausible an assumption of massive unemployment – no evidence, for example, that real wages were unresponsive to changes in the relative

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Deane and Cole 1962; Mitchell and Deane 1962, p. 330. Imlah 1958.

scarcity of labor. The economist Theodore Schultz decades ago confronted the assumption of idle hands in India (“underemployment, surplus labor”) by noting that in the 1919 influenza epidemic there, which killed an appalling 5 percent of the population, agricultural output did not stay constant – as it should have if the marginal productivity of additional labor in the countryside were in fact zero.³³ If surplus labor does not apply to India in 1919, then surely not in Britain in 1719.

The so-called “vent-for-surplus” model boldly supposes that any sales abroad puts formerly idle, zero-product people to work. (But why don’t sales at home have the same “job-creating” effect? In which case, why would *foreign* trade matter?) Exports to French colonies in the eighteenth century, for example, are said to have put to work previous idle French workers. (I repeat: why did not domestic demand for carriages and servants have the same effect?) But in the 1780s the share of colonial exports in French manufacturing was only 2.5 percent.³⁴ And as Prados de la Escosura argued for the parallel case of the Spanish Empire, the loss of even that enormous empire resulted in little if any loss to the metropolis.³⁵ Again: trade doesn’t seem to work.

Trade, then, cannot be an engine of growth – not in the simple way envisioned by non-economists, at any rate, and anyway not on the scale necessary to explain much of the 1500 percent growth per capita in Britain from 1700 to 2000. The deepest economic reasoning is that the borders of countries cannot be

³³ Schultz 1964, p. 70; though see Sen’s (not wholly persuasive) strictures in Sen 1967, and Dandekar 1966.

³⁴ O’Rourke, Prados de la Escosura, and Daudin 2008, p. 11.

³⁵ Prados de la Escosura 1993.

important, or at any rate not important enough to make flows of exchange over one of them into an engine producing results on the scale of modern economic growth. Trade, after all, is trade, and it shouldn't much matter whether you trade with someone down the street or with someone on the other side of the world. There's nothing magic about goods crossing borders, as the Swedish economist Bertil Ohlin noted long ago. (Swedish and Canadian economists, used to living beside the great bears of the German Empire and the United States, tend to get this economic point right.) Your trade with the rest of the world is much of your consumption, but that is so merely because you are little relative to the wide world. Big countries like India or the United States tend to have lower shares of exports in national product than do little countries like Taiwan or the Netherlands. Thus among 20 major economies in 1992 a population 1 percent larger was associated with a ratio of exports to national product 1 percent lower.³⁶ Unsurprisingly.

If a border was closed and is now opened there is a gain, the modest Harbergerian one of increased specialization. The most extreme cases in modern times are the substantial gains of income arising from the opening of Japan in the 1860s or the opening of Eastern Europe in the 1990s.³⁷ But the sheer tearing down of borders does not have the power to enrich us gigantically, and for example did not do so even for Japan and Eastern Europe – as by contrast Mokyr's "macro inventions" in the making of cloth and surgeries and computers certainly do. Even

³⁶ Inferred from Foreman-Peck 2003, p. 375, who gives Maddison's figures. The scatter is a rectangular hyperbola, that is, a (negative) unit-elasticity curve.

³⁷ On the opening of Japan see Bernhofen and Brown 2009 and works cited there.

the violent separation of East and West Germany left “only” a factor of, say, two or three on unification. Not sixteen.

If borders were such an engine, the economist points out, then one could draw an international border in England from Dover to Wroxeter, calling “foreign” all trade across the Watling Street border thus created, into and out of the ancient Danelaw, and thereby make trade *within* England into an engine of growth. Or you could call left-handed English people “foreigners,” and achieve the same result. The accounting *reductio* shows that there cannot be something special about *foreign* trade. If a demand by consumers that relocates production from one side of the English Channel to the other, or from one side of Watling Street to the other, or from left-handed people to right-handed, is enriching on anything but a modest Harbergerian scale, then one has an economic perpetual motion machine, by the mere words of the accounting. Words aren’t *that* powerful.

And historically, yet again, the problem is that if such a machine worked for Britain in the eighteenth century, why didn’t it work elsewhere and in earlier times? That is the central *historical* reason that something peculiar to the eighteenth century must explain the peculiarity of the eighteenth century and its denouement. Trade is ancient, as old at least as language. When people start talking in the full way we now call language, around it seems 50,000 B.C.E., they start trading, and we find evidence of the trade in their graves and trash dumps. Even stone for tools, as I have noted, came to be traded over hundreds of miles. Much later in the Bronze Age great trading empires with enriched metropolises were commonplace,

and the tin to alloy with copper was shipped by Phoenicians to the Mediterranean from far-away Cornwall. “The light-hearted [Greek] master of the waves/ [sailed] to where the Atlantic raves/ outside the Western Straits,/ . . . and on the beach undid his corded bales.” Big cities and big trade have characterized many places from Mexico City to Hangchow. The Indian Ocean was a trading lake for a millennium before the Europeans got to it. The Northern Italian cities were traders, certainly, and they had even the European cultural traits that some historians believe made European success so inevitable from the Middle Ages on. But why didn’t the Florentines create an industrial revolution? “They did,” one might reply. No they didn’t, not on the scale of *the* Industrial Revolution. The same objection can be raised to modern growth theory among economists, which in parlor-trick fashion inserts economies of scale into the story just when it is needed to reproduce in the mathematics the rumblings of productivity in the eighteenth century and the innovation gone mad of the late nineteenth.

Chapter 19:

And Even the Dynamic Effects of Trade Were Small

The theorist of foreign trade Ronald Findlay and the economic historian Kevin O’Rourke collaborated in 2007 in a magnificent history of world trade since

1000 C.E.³⁸ There is much to admire in the book, in particular its cosmopolitan sweep. Findlay and O'Rourke are nothing like Eurocentric, and think big.

When they come to the Industrial Revolution, however, their arguments don't work too well. For example, they criticize static models about the matter because static models "cannot, by definition, say anything about the impact of trade on growth."³⁹ That's a trifle overstated. Static models have been *shown* to be inadequate to explain the greater part of modern economic growth, so large is the thing-to-be-explained. The showing has not been achieved by "definition." It has been achieved by finding that static gains are not of the right order of magnitude to do the scientific job. It is an empirical, scientific finding of the past fifty years of work on the subject, not a mere definition. (Definitions, though, are not to be scorned as historical tools, of course – as for example in the definitions of national income or the share of foreign trade that permits the showing of the smallness of the static gain.) Findlay and O'Rourke themselves use static models of demand and supply a few pages earlier to make the correct point that Britain shared its gains from trade with its trading partners 1796 to 1860 by increasing supply of its exports much more rapidly than demand grew, turning the terms of trade against itself. It is an old and good point (I made it myself a long time ago), and it is definitely "static" and definitely says a great deal about the impact of trade on growth.⁴⁰

³⁸ Findlay and O'Rourke 2007.

³⁹ Findlay and O'Rourke 2007, p. 337; compare O'Rourke, Prados de la Escosura, and Daudin 2008, p. 11.

⁴⁰ McCloskey 1980.

Considering that the static effects alleged so widely for trade as an engine of growth are small, the non-economists, and some of the economists, are likely to claim that “dynamic” effects will rescue the engine. Possibly. The word “dynamic” has a magical quality – the economist Fritz Machlup once placed it on a list of “weaselwords.”⁴¹ Waving “dynamic” about, though, does not in itself suffice to prove one’s economic and historical wisdom. One has to show that the proffered “dynamic” effect is quantitatively strong. An existence theorem in a model without magnitudes – which is the usual and unscientific routine in high-brow economics – will not do any scientific job.

For example, one might claim that the industries like cotton textiles encouraged by British trade were able to exploit economies of scale, in perhaps the making of textile machinery or the training of master designers. There: a dynamic effect that makes trade have a larger effect than the mere static gain of efficiency. But the assertion is without quantitative oomph. The rejection of trade as the engine of growth is reinstated. Or the profits from overseas trade were invested (I say again: were not the profits from house-building and retail trade reinvested, too?), and so capital accumulation was increased. But is the dynamic effect of reinvestment large? It seems not, as Guillaume Daudin has concluded for mercantilist France before the Revolution.⁴²

⁴¹ Machlup 1963 (1975).

⁴² Daudin 2004; compare my criticism ages ago of Jeffrey Williamson’s calculation of the gain from re-investment of the gain from the railways in the United States, in McCloskey 1975b.

Or again a smaller cotton textile industry would have been less able to take advantage of such technological change nationally. After all, cotton was unusually progressive. One can answer the question posed by a thought experiment. The experiment requires that one know productivity change in various industries other than cotton textiles. Remember that the pattern of productivity in British industries can be calculated by looking at what G. T. Jones in 1933 called “real cost,” that is, the price of, say, iron bars relative to, say, coal and wages. The pattern was something like this, using Harley’s revision in 1993 of my table in 1981 (I am accepting for the sake of argument the view of the Two Nicks that total growth was small in the 1700s, and therefore their implication from my calculation of residuals that productivity change outside the named sectors was vanishingly small):

Crude Approximations of Productivity Change by Sector, U.K., 1780-1860

Crude Approximations of Productivity Change by Sector, U.K., 1780-1860			
Sector	Yearly productivity growth % per year	Value of output divided by national income	Contribution to the national annual growth of productivity
Cotton	1.9	.07	0.133
Worsteds	1.3	.035	0.0455
Woolens	0.6	.035	0.021
Iron	0.9	.02	0.018
Canals & railways	1.3	.07	0.091
Agriculture	0.7	.27	0.12
All others implied as residual	[0.02]	.85	0.02

Source: Harley 1993, Table 3.6, p. 200, based on McCloskey 1981, p. 114, where the details of the original calculation and accounting are given. A little oddly, Harley leaves my estimates of income shares unimproved. That the shares add up to more than 1.00, by the way, is not an error. It is implied by the taking of productivity measures from *gross* costs (as against merely value added, which would not give a correct measure of savings on material inputs from other sectors).

Suppose the cotton textile industry were cut in half by an exclusion from foreign markets. (It is a dubious counterfactual because in the eighteenth century Manchester was anyway the best place in Europe to produce cotton cloth. It earned, to put it the way economists do, “rent,” which is just another way of saying it was the low-cost location for the task. And so you have to assume that mercantilism would take the form not merely of taxing Manchester with French or Dutch tariffs but partially shutting down its activities, for no gain to anyone—

though admittedly it would not be the first or last time that such an irrational policy had been implemented.) During 1780-1860 therefore the share of cotton in national income would have been 3.5 percent of national income instead of its actual 7 percent. The 3.5 percent of resources would have had to find other employment. Suppose that the released resources now put to use in road-mending and silk manufacturing and so forth would have experienced productivity change of 0.5 percent per year (on the low end of the available possibilities) instead of the princely 1.9 percent they in fact experienced in cotton. The cotton industry in the *actual*, 1.9-percent world contributed a large amount – namely, $(0.07) \cdot (1.9 \text{ percent}) = 0.133 \text{ percent per year}$ – to the growth of national income. This one giant contributed some 24 percent of the conservatively measured total of about 0.55-percent-per-year growth of income per person nationally 1780-1860.

Now we calculate the counterfact. With the hypothetical cut-off of trade you can make so to speak a mechanical “static-dynamic” argument as follow. The Harley revision of my table implies that non-cotton productivity change can be calculated from $(1.41 - .07) \cdot (\text{the implied residual productivity change outside cotton}) = (0.55 - 0.13)$. That is, the implied residual of productivity change outside cotton is $0.42/1.34$, or 0.313 percent per year (I retain more than significant digits to avoid rounding errors). The resources in the hypothetical case would therefore contribute $(0.035) \cdot (1.9 \text{ percent}) + (0.035) \cdot (0.313 \text{ percent}) = 0.086 \text{ percentage points a year}$. The fall in national productivity change can be inferred from the difference between the actual 0.133 percent per year attributable nationally to cotton and the

hypothetical 0.086 percent per year attributable to a half-sized cotton industry and the industries its resources would go to. The difference is about a .047 percentage point per year fall in the national rate of productivity change, that is, a fall from 0.55 percent a year to 0.503 percent a year. In the eighty years 1780-1860 such a lag would cumulate at monthly interest, however, to merely 4.5 percent of national productivity change. Remember that we are speaking here of doublings 1780 to 1860.

You could cut the productivity change in cotton to allow for alleged economies of scale in cotton and come to roughly the same result. No one has shown that such economies of scale were important in fact (as important as they are in the models of growth imagined by economists), or that economies or diseconomies of scale in other industries would not cancel the net gain. We are giving the “dynamic” argument all the advantages. Suppose the scale-effect productivity change were half of the princely 1.9 percent in cotton, or 0.945 percent per year. So now the calculation is $(0.035) \cdot (0.945 \text{ percent}) + (.035) \cdot (0.313 \text{ percent})$, or 0.0440 percentage points a year (as against 0.086 without the lost “economies of scale” inserted). National productivity change attributable to cotton falls from 0.133 percent per year all the way down to 0.0440 per year, a drop of 0.089 each year. So national productivity declines on this account in the hypothetical world from 0.55 actual to 0.461 percent per year. The difference in final attainment in 1860 is again small, merely 8 percent of productivity change, and a smaller percentage of national income.

Note that the result is forced by widespread character of productivity change (even under the implausible Crafts-Harley calculation of zero productivity change outside the industries I chose in 1981 as leading). Resources driven out of cotton do not simply disappear, resulting in a fall of national income equal to what they earned in cotton, as implied by non-economists (and even by Findlay and O'Rourke in careless moments). The resources of labor and capital shift, going into industries with lower productivity change. But since cotton was *not* the only industry experiencing productivity change even in the classic period of the early Industrial Revolution—a point that the economic historians Peter Temin and John Clapham and I insist upon, and historians of technology such as Margaret Jacob and Joel Mokyr have affirmed in detail—the imagined shift is not deadly to progress.⁴³ The dynamic effect sounds promising. But in quantitative terms a cotton textiles industry counterfactually smaller if foreign trade was not vigorous does not kill off growth. It's another popular explanation that doesn't work very well.

A “dynamic” argument, further, has a serious problem as an all purpose intellectual strategy. If someone claims that foreign trade made possible, say, economies of scale in cotton textiles or shipping services, she owes it to her readers, as I have already noted, to say why the gains on the swings were not lost on the roundabouts. Why do not the industries made *smaller* by the large extension of British foreign trade end up on the damaging side of the account? The domestic roads in Shropshire not constructed and the brass foundries unbuilt in Greater

⁴³ McCloskey 1981 on widespread innovation; also Temin 1997, p. 80; Berg and Hudson 1994.

London because of Britain's increasing specialization in Lancashire cotton textiles may themselves have had economies of scale, untapped. (The argument applies later in British history to the worries over "excessive" British specialization in foreign investment, insurance, and shipping).

Other industries than cotton, note, experienced productivity change, though usually at a smaller rate. Add that Britain was not a cotton mill and foreign trade was not all of national income and you have the conclusion that foreign trade was not an engine of growth able to explain even a doubling of national income, much less a factor of five or fifteen. And European trade with the rest of the world, as Patrick O'Brien showed long ago, was less than 4 percent of domestic product — another reason for doubting its importance.⁴⁴ Surprisingly, and somewhat against their training as economists, Findlay and O'Rourke attack the relevance of the low share of things in national income. They quote with approval a remark by the non-economist Paul Mantoux (1877-1956), in his history of the Industrial Revolution — published in French in 1907.⁴⁵ Mantoux wrote thus: "if we may borrow an analogy from natural science, only a negligible quantity of ferment is need to affect a radical change in a considerable volume of matter. The action of foreign trade upon the mechanism of production may be difficult to show, but it is not impossible to

⁴⁴ O'Brien 1972.

⁴⁵ Findlay and O'Rourke always cite this very elderly book by a friend of Lloyd George, and the English translator for Clemenceau in the Versailles Conference, as "1962," fully 55 years after its last (and French) version. The impression unintentionally conveyed is that Mantoux was up-to-date in the scholarship of 1962. It is an outcome of the author-date system and the scholarly habits of careless whole-book citation encouraged by it. You can catch me doing it, too.

trace.”⁴⁶ The notion that *natura facit salta*, nature makes jumps, has become popular after the realization that a butterfly in China can cause a hurricane in Cuba. It is sometimes true. But if it is true in explaining the Industrial Revolution, so could *any* little part of the British economy have been the engine of growth. Domestic service was larger than the importation of tea and raw cotton and the like combined, and so under such an instable model the hiring of more scullery maids could have set off the innovations. And if you really want “small,” pick say the Birmingham brass industry with its continuous product innovation (as Maxine Berg has pointed out), or for that matter the vigorous silk industry in London around 1700. If the slave trade or the cotton industry or even foreign trade as a whole gives a satisfactory explanation of doublings and trebling of income, then we can turn also to a brass-and-silk industry explanation of why we are rich. And yet again we are led to wonder why similarly small industries in earlier times and other places did not tip the world into modernity.

After a good deal of complaining about the historical economics that they themselves are busy practicing, Findlay and O’Rourke come to the nub of their argument. “International trade,” they claim, “was a key reason why the British Industrial Revolution was different,” in not petering out as had previous efflorescences (Goldstone’s very appropriate word for the numerous lurches forward in technology that the world had previously seen, without permanent effect on the welfare of humans).⁴⁷ “For a small European country like Britain” —

⁴⁶ Findlay and O’Rourke 2007, p. 336 (p. 103 in Mantoux).

⁴⁷ Findlay and O’Rourke 2007, p. 339.

note that “small” is a somewhat strange characterization of one of the largest countries in Europe – “overseas markets were vital if its Industrial Revolution was to be sustained.”⁴⁸ And then Findlay and O’Rourke make a crucial connection to Britain’s military adventures: “in a mercantilist world in which nations systematically excluded their enemies from protected markets [a claim which makes it hard to understand the large volume of British-Continental trade, which took place in a mercantilist world] British military success over the French and other European rivals was an important ingredient in explaining her subsequent rise of economic prominence.”⁴⁹ Trade was important, they claim, and imperialism supported trade.

Thus the title of their book, *Power and Plenty*, and its theme: aggression is good for you. In correspondence with me O’Rourke has amiably disputed such a bald formulation of the theme. Yet in a more recent piece with Leandro Prados de la Escosura and Guillaume Daudin he writes: “trade profited merchants, but also yielded revenues to the state; while the state needed revenues to secure trading opportunities for its merchants, by force if necessary.”⁵⁰ “Force” means “aggression,” and in the piece it is cashed in this way repeatedly, which uses throughout a football-and-war vocabulary of “pre-eminence,” “dominant position,” “struggle for power and plenty.” In all of O’Rourke’s work the gains from trade are said to be dependent on violence against “competitors,” as in a zero-sum footrace.

⁴⁸ Findlay and O’Rourke 2007, p. 351.

⁴⁹ Findlay and O’Rourke 2007, p. 345.

⁵⁰ O’Rourke, Prados de la Escosura, and Daudin 2008, p. 2.

One would not learn from such passages in Findlay and O'Rourke that trade is mutually beneficial, a matter mainly of cooperation, not competition.

True, people *thought* that mercantilist aggression was good for them. "Trade and empire," O'Rourke and his 2008 co-authors continue, "were thus inextricably linked in the minds of European statesmen [because it is true in the world? because they were misled?], . . . which explains the incessant mercantilist warfare of the time."⁵¹ It is the rhetoric of business-school deans such as Lester Thurow and big-thinking journalists such as James Fallows. It is not sound, whatever people at the time believed.

* * * *

In establishing the growth-trade link, Findlay and O'Rourke use the static models to imagine a Britain without any trade at all ("if Britain had been closed to trade"; "absent trade").⁵² An entire cut-off of trade, though, is not the relevant alternative. The question is whether the mercantilist policies that Britain employed, and above all its mercantile empire, helped or hindered industrialization, much. It's a matter of more or less trade, not yes or no.

People innocent of economics, to repeat, believe that trade just *is* growth. Export or die. That's not right, as Findlay and O'Rourke note when dismissing Keynesian models of trade as an engine of growth. So they need a better model.

⁵¹ O'Rourke, Prados de la Escosura, and Daudin 2008, pp. 2-3.

⁵² Findlay and O'Rourke 2007, p. 344.

The model they develop to answer the relevant question, based on Darity (1982), puts a surprising emphasis on the slave trade. Findlay and O'Rourke argue that the New World and its cotton exports would have been impossible without slavery (note the similarity to Inikori's arguments). But on the contrary *cotton* is easily grown without slaves, and has been early and late—early in India, late in post-bellum Alabama. (Sugar is quite another matter. Sugar brought slavery with it from India to Syria to North Africa, right down to the Jamaican and Mexican contract harvesters on H-2 visas working the cane sugar fields of north Florida. But Findlay and O'Rourke are making the argument that an international taste for cotton dresses and bed-sheets and underwear made the modern world, not that the international sweet tooth did.)

Cotton, they say, “depended” on slaves from Africa.⁵³ Likewise Marx: “With slavery, no cotton; without cotton, no modern industry. Slavery has given the value to the colonies, the colonies have created world trade; world trade is the necessary condition of large-scale machine industry.”⁵⁴ It does not seem so. Cotton seems to have been no more a necessarily slave crop than coffee was. Freedmen in the United States after 1865 picked cotton, just as freedmen in Brazil after 1887 picked coffee beans. Findlay and O'Rourke ask with a certain vexation in their tone whether “free white labor in the Americas . . . [would] have been able to fill the

⁵³ Findlay and O'Rourke 2007, p. 336.

⁵⁴ Marx 1846: Karl Marx (in French) to Pavel Yasilyevich Annenkov, December 28, 1846, quoted in Pomeranz and Topik 2006, p. 226, trans. Peter and Betty Ross, *Marx Engels Collected Works* Vol 38, p. 95, reproduced at http://www.marxists.org/archive/marx/works/1846/letters/46_12_28.htm

gap” in producing cotton.⁵⁵ Yet it did precisely so in the formerly-slaveholding American South.

Their argument is that British imperialism helped British trade so much that the Industrial Revolution happened. The argument assumes that a counterfactually pacific and free trade Britain would not have benefited from *European* engagement with the rest of the world. It is an odd assumption, since European places like Denmark benefited, with trivial overseas colonies. Sweden and Germany and Austria benefited. Findlay and O’Rourke want to make a nationalist, militaristic, imperialist argument that British prosperity depended on British guns aimed abroad. It is an argument that David Landes has frequently made. The historian Paul Kennedy stated flatly in 1976 that “Britain’s wealth would obviously have been lost had she herself surrendered command of the sea.”⁵⁶ The assertion, though conventional in British strategic thinking for centuries, runs against the logic of “this sceptred isle. . . this fortress. . . set in the silver sea/ Which serves it in the office . . . of a moat defensive to a house/ Against the envy of less happier lands.” A Britain with a little Tudor-style navy devoted to coastal defense would have remained independent. Wooden walls mattered up to the middle of the nineteenth century. Later it was British ingenuity in breaking the German naval code and inventing radar, not the Fleet sitting in miserable inaction at Scapa Flow, that chiefly prevented invasion. The surplus violence of ships of the line and then dreadnoughts and then aircraft carriers in aid of dominion over palm and pine and

⁵⁵ Findlay and O’Rourke 2007, p. 339.

⁵⁶ Kennedy 1976 (2006), p. 87.

the Falkland Islands was always dubious as an economic proposition. Pride, certainly, and Margaret Thatcher's re-election, was provided by command of the seas. The national income was not.

The economic models Findlay and O'Rourke use, whether formally or informally, are about *European* trade with itself and with the rest of the world. A Quaker Britain – unlikely counterfactual in 1800, with 20,000 Quakers in an aggressively nationalistic population of 15 ½ million – would have gotten the same prices and opportunities as the actual Britain, allowing for transshipment costs through Amsterdam or Le Havre. The scale of Manchester cotton manufacturing would have been little affected, at any rate if in God's eyes Manchester had a comparative advantage in spinning cotton. Only the profits (those "rents" I mentioned) in their British addressees would have been lower, because French trans-shippers of cotton would take a cut. If Manchester was the right place to spin cotton before the invention of air-conditioning, then European events would have put it there, regardless of whether Britain won at Plassey or Quebec or Trafalgar or Waterloo. After all, France lost all those battles, and yet the making of cotton textiles flourished in Mulhouse and Lille.

Europe as a whole opened itself to the world after Henry the Navigator. Nutmeg became cheaper, even when it was a Dutch monopoly. The European gains from trade were felt indirectly by everyone who bought tropical products. As an economist would put it, that's general equilibrium trade theory. Empires were not necessary. Thus Belgium, without an empire on its formation in 1830,

industrialized smartly, as at the same time did the Rhineland, which was a part of a non-nautical and non-(overseas) imperial Prussia. Both of them saw the price of tobacco, spices, bananas, cotton, and other tropical and semi-tropical products fall greatly as imperialist and non-imperialist Europeans traded with the world.

Overseas trade was not about Britain but about Europe. Britain's overseas trade, in short, can't explain Britain's peculiarity. Lining up national conquest with national trade is an old claim, though Adam Smith and many economists since him have wisely contradicted it, without persuading many politicians. But national conquest doesn't explain British industrialization, and certainly not the continuation on the way to the factor of sixteen.

All such denying of trade as the crucial engine of growth, though, is not to say that the expansion foreign trade was literally a nullity. Some goods – the banana for the Englishman's breakfast table was the popular instance late in the nineteenth century, raw cotton the most important instance throughout – simply cannot be had in England's clime, short of hot houses. The regional economist Gerald Silverberg has made the case to me for cotton as special because the technological unemployment caused by its expansion was felt not by political connected guildsmen at home but by the bleached bones of Indians starving when their hand industry was replaced by Manchester.⁵⁷ The truth in Silverberg's argument is that trades like porcelain and cotton textiles in Britain could expand in country locations out of reach of the nay-sayers in established guild towns like

⁵⁷ Personal conversation, Dahlem Seminar, Berlin, December 14, 2008.

Norwich or London. The trouble with the argument is that cotton did in fact have European substitutes, in wool and linen, as is shown by the fierce prohibitions on imported Indian calicoes into France and the rules in England that the dead must be buried in woolen shrouds. And the same trick could have been played in China or India, both having ample domestic sources of raw cotton, had the bourgeois rhetoric triumphed there – as it spectacularly did in the expansion of Japanese and especially Indian mechanized cotton textile manufacturing before and during World War I. In those days the detritus was the bleached bones, or at any rate the dole cheques, of Mancunians and Glaswegians in Britain.

More important, trade insures against famine, as the British Raj knew in building the railways of India – though Amartya Sen has pointed out that trade has this good effect only under a government sensitive to its subjects. The Bengal famine of 1943 was caused exactly by an colonial and arrogant insensitivity to non-voting subjects. The last widely and literally killing famine in England was in Shakespeare's hierarchical times.

And trade is surely a conduit of ideas and competitive pressures. In India recently the License Raj has been broken down by ideological change, and in particular the opening of the economy for trade. After 1994 you could for the first time buy Kellogg's corn flakes in New Delhi, praise be to Vishnu.⁵⁸ But such effects have nothing to do with imperial conquest – as is again best shown by the opening

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Jordan 1998. Her lead is "The Indian cornflakes maker Mohan Meakin says it has something to thank Kellogg Co. for: a wake-up call that has helped it win more business."

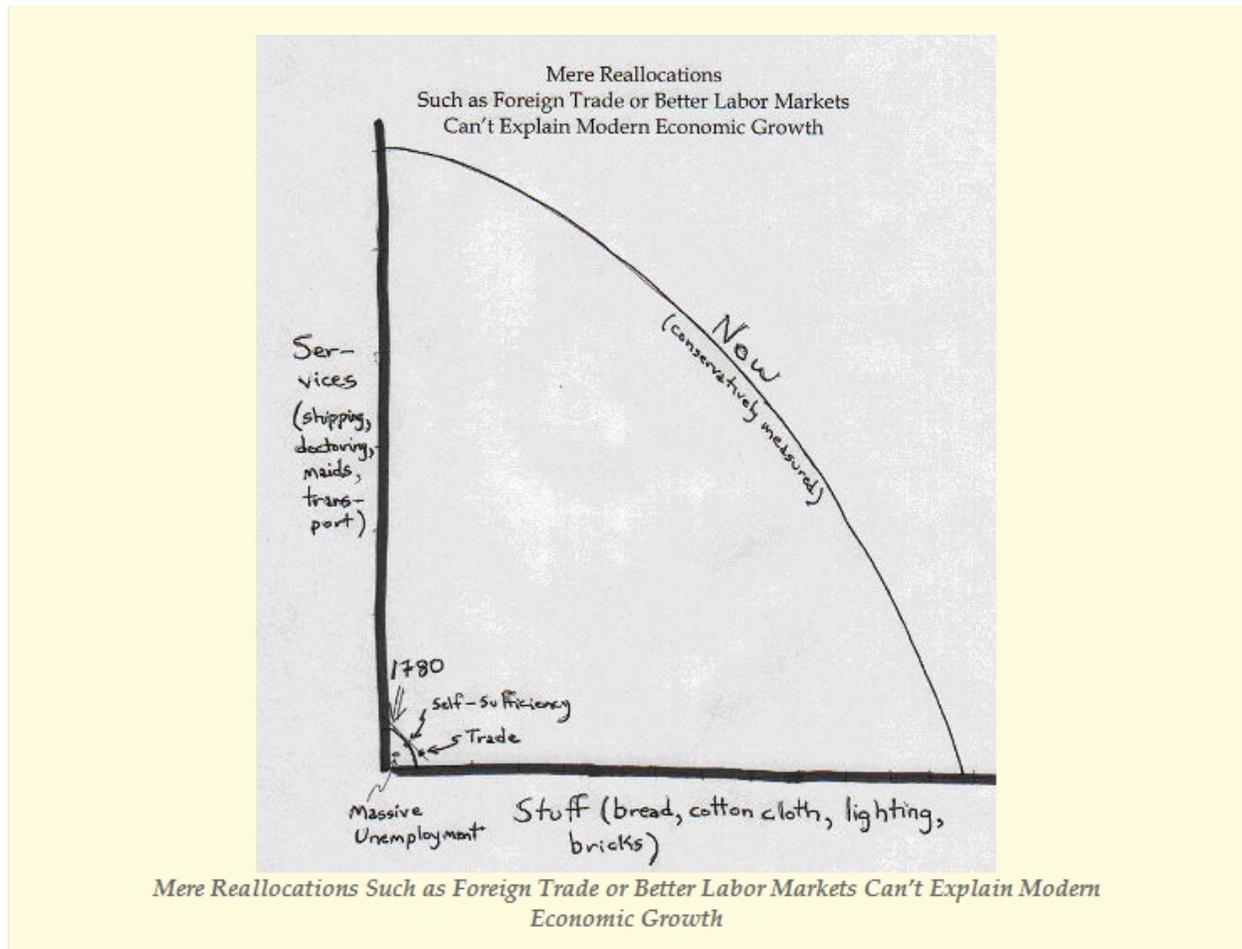
of Japan after 1868. Japan opened to trade, *then*, many decades later, under the influence of trade-follows-the-flag thinking at the height of Western imperialism, became itself a conqueror of Korea and then Germany's colonies in China and then Manchuria and then China itself and finally much of east and southeast Asia. With most unsatisfactory economic consequences.

But a literal closing of British trade, entirely foregoing bananas at breakfast, using vastly more cotton for underwear at home, not getting any wheat at all in a famine, is not what is contemplated. The question is: was trade a stimulus to growth in the simple, mercantilist way usually contemplated in the literature? Apparently not. Is it plausibly a secondary cause as a desirable context for invention? Perhaps, though India (for example) was the center of the largest trading network before the eighteenth century yet did not innovate. But a Scots verdict seems wiser: not proven.

* * * *

Here is the economist's way of stating the problem with trade, reallocations, enclosure, investment, fuller employment, and all manner of shufflings. Think of the output of Stuff (clothing, food, houses) and Services (financing, shipping, doctoring, teaching, soldiering) in 1780 in Britain as being measured along two axes (bring back that high-school algebra and geometry). The *possibilities* in 1780 are a

curve along which the actual Britain of 1780 could have taken a non-trading point, which we'll call Self-Sufficiency:



Inefficiency, misallocation, opportunities missed, distortions introduced of the usual static sort are about being inside or on that curve. Note the point Massive Unemployment. It would be a foolish place to be, since you could get out to the curve and have more of both Stuff and Services. And you can get a little outside the curve by trading with foreigners. But only a little outside, to a point like Trade.

Good. But why have I drawn the so-called “production possibility curve” for 1780 as a miserable little scrunched up little curve in the very corner of the axes?

Answer: it has to be a miserable little scrunched up curve in order also to represent Now on the same diagram. The amounts of Stuff and Services now (averaged) have to be *sixteen times further out*. Of course: that's what the factor of sixteen means. And remember that in truth it's more like a factor of 100.

Look at the diagram. None of the static arguments, and few of the dynamic, have any chance of explaining what happened in modern economic growth. *No merely static improvement of conventional economic factors in 1780 or 1700 can come remotely close to the curve of Now*. That's why this greatest of historical events cannot be explained by static reallocation. And if it is to be explained by "dynamic" accumulation one has to explain, too, why earlier accumulation did not get the same explosive result. A dynamic explanation – for example, a foreign traded able to induce innovation on the scale of 1780 to Now – is *so dynamic* that it makes no sense as history. To put it differently, such an explanation is no explanation: it requires an answer to the question why just then, why the dynamism overtook the British economy in the eighteenth and nineteenth centuries. And that requires attending to bourgeois dignity and liberty.

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