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"The Origins of the Third World"

from *Late Victorian Holocausts* (2001)

Mike Davis

Editors' Introduction

Mike Davis was born in 1946 in Fontana, California, after his family migrated west following the Great Depression. He grew up in El Cajon, in the back country of Southern California, a region that has remained an abiding focus in his writing and political activism. After his father died, Davis started work at 16 as a meat cutter. He also became involved in the militant non-violent activism of the Congress for Racial Equality (CORE) in the early 1960s. After a short period of study at Reed College, Davis set off to work for Students for a Democratic Society (SDS), the emerging voice of the New Left. By the late 1960s, Davis was a member of the most militant and anti-Stalinist branch of the Communist Party in the United States, the Southern California chapter, but even here he proved to be too much of a freethinker. Davis worked as a truck driver and tour bus driver, and learnt the underside of his native Los Angeles driving around and organising bus workers. A butchers' union scholarship allowed Davis to pursue studies in economics and history at the University of California, Los Angeles, and then, three years later, to study Irish labour history at Edinburgh University, Scotland. Davis's education criss-crossed between Los Angeles, Belfast and London, driven by academic as much as by activist considerations.

In 1981, Davis joined the editorial board of *New Left Review*, an important independent Marxist journal linked to the publishing house Verso in London. He started the Haymarket Series of books for Verso to critique North American society. Part of this series, his own *Prisoners of the American Dream*, was a searing indictment of working-class lives in America under President Ronald Reagan. When he returned to the United States in 1987, Davis was not allowed to submit the draft of his now classic book on Los Angeles, *City of Quartz*, for his PhD, without attending required courses. Instead, he spent the next decade as a peripatetic temporary lecturer, teaching on, and across, the length and breadth of the sprawling city of Los Angeles. Davis's writing from the 1990s reflects a growing knowledge of neighbourhoods, gangs, labour unions, city politics, urban myths and fantasies, and periodic catastrophes. His writings on Los Angeles have become a staple for urban and labour studies alike. In contrast to the article by Sachs *et al.*, Davis has tried to stress the way in which 'bad geography' is a product of race and class struggle. Davis has not just written about LA's urban ills, he has participated in securing peace between gangs, and justice for immigrant workers.

In 1998, Davis received a MacArthur 'genius' Award. He has also been a fellow of the Getty Institute in Los Angeles, a professor at the University of California, Irvine, and an editor at Verso and *New Left Review*. Davis has recently shifted to writing on wider themes. *Planet of Slums* explores the global spread of urban informal settlements. It is a sweeping argument that has been subject to criticism, particularly for its dire portrayal of African cities (see, for instance, the special issue of *Mute* 2/3, online at http://www.metamute.org/en/Naked-Cities-Struggle-in-the-Global-Slums, accessed 4 October 2007).

In *Late Victorian Holocausts*, his book from which the reading here comes, Davis argues that a series of droughts across North Africa, India and China in the late nineteenth century were in fact linked. Today, they

would be called El Niño conditions. In the 1870s and 1890s, response to drought was catastrophic for social and political reasons. 'Bad geography' is a product of power and violence. More than 50 million people starved to death as a consequence of political, economic and environmental processes: processes of development. In this short, rich excerpt, Davis asks how it was that famine and deindustrialisation came to China and Bengal and marked the 'beginning of the Third World'. Davis shows how China and India were crucial to keeping British imperial hegemony afloat in the late nineteenth century. He also shows that the price of this subsidy was paid with the blood of rural populations who died because of the dramatic increase in their vulnerability to food system collapse – or famine. Like Marx in Part 2, Davis argues that markets, particularly in a time of pervasive famine, are made by force. It is important to unravel precise social histories in order to understand who has borne the costs of development, and who profited in 'the making of the Third World' as the British Empire neared its end.

Key references

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Michael J. Watts (1982) *Silent Violence: Food, Famine and Peasantry in Northern Nigeria*, Berkeley: University of California Press.
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> Emaciated people, disease, ribs showing, shriveled bellies, corpses, children with fly-encircled eyes, with swollen stomachs, children dying in the streets, rivers choked with bodies, people; living, sleeping, lying, dying on the streets in misery, beggary, squalor, wretchedness, a mass of aboriginal humanity . . .
>
> Harold Isaacs

What historians, then, have so often dismissed as "climatic accidents" turn out to be not so accidental after all.[1] Although its syncopations are complex and quasi-periodic, ENSO has a coherent spatial and temporal logic. And, contrary to Emmanuel Le Roy Ladurie's famous (Eurocentric?) conclusion in *Times of Feast, Times of Famine* that climate change is a "slight, perhaps negligible" shaper of human affairs, ENSO is an episodically potent force in the history of tropical humanity.[2] If, as Raymond Williams once observed, "Nature contains, though often unnoticed, an extraordinary amount of human history," we are now learning that the inverse is equally true: there is an extraordinary amount of hitherto unnoticed environmental instability in modern history.[3] The power of ENSO events indeed seems so overwhelming in some instances that it is tempting to assert that great famines, like those of the 1870s and 1890s (or, more recently, the Sahelian disaster of the 1970s), were "caused" by El Niño, or by El Niño acting upon traditional agrarian misery. This interpretion, of course, inadvertently echoes the official line of the British in Victorian India as recapitulated in every famine commission report and viceregal allocution: millions were killed by extreme weather, not imperialism.[4] Was this true?

'BAD CLIMATE' VERSUS 'BAD SYSTEM'

At this point it would be immensely useful to have some strategy for sorting out what the Chinese pithily contrast as "bad climate" versus "bad system." Y. Kueh, as we have seen, has attempted to parameterize the respective influences of drought and policy upon agricultural output during the Great Leap Forward famine of 1958–61. The derivation of his "weather index," however, involved fifteen years of arduous research and the resolution of "a series of

complicated methodological and technical problems" including a necessary comparative regression to the 1930s. Although his work is methodologically rich, his crucial indices depend upon comprehensive meteorological and econometric data that are simply not available for the nineteenth century. A direct statistical assault on the tangled causal web of the 1876–77 and 1896–1902 famines thus seems precluded.[5]

An alternative is to construct a "natural experiment." As Jared Diamond has advocated in a recent sermon to historians, such an experiment should compare systems "differing in the presence or absence (or in the strong or weak effect) of some putative causative factor."[6] We ideally need, in other words, an analogue for the late Victorian famines in which the natural parameters are constant but the social variables significantly differ. An excellent candidate for which we possess unusually detailed documentation is the El Niño event of 1743–44 (described as "exceptional" by Whetton and Rutherfurd) in its impact on the north China plain.[7] Although not as geographically far-reaching as the great ENSO droughts of 1876–78 or 1899–1900, it otherwise prefigured their intensities. The spring monsoon failed two years in a row, devastating winter wheat in Hebei (Zhili) and northern Shandong. Scorching winds withered crops and farmers dropped dead in their fields from sunstroke. Provincial grain supplies were utterly inadequate to the scale of need. Yet unlike the late nineteenth century, there was no mass mortality from either starvation or disease. Why not?

Pierre-Etienne Will has carefully reconstructed the fascinating history of the 1743–44 relief campaign from contemporary records. Under the skilled Confucian administration of Fang Guancheng, the agricultural and hydraulic expert who directed relief operations in Zhili, the renowned "ever-normal granaries" in each county immediately began to issue rations (without any labor test) to peasants in the officially designated disaster counties.[8] (Local gentry had already organized soup kitchens to ensure the survival of the poorest residents until state distributions began.) When local supplies proved insufficient, Guancheng shifted millet and rice from the great store of tribute grain at Tongcang at the terminus of the Grand Canal, then used the Canal to move vast quantities of rice from the south. Two million peasants were maintained for eight months, until the return of the monsoon made agriculture again possible. Ultimately 85 percent of the relief grain was borrowed from tribute depots or granaries outside the radius of the drought.[9]

As Will emphasizes, this was famine defense in depth, the "last word in technology at the time." No contemporary European society guaranteed subsistence as a human right to its peasantry (*ming-sheng* is the Chinese term), nor, as the Physiocrats later marveled, could any emulate "the perfect timing of [Guancheng's] operations: the action taken always kept up with developments and even anticipated them."[10] Indeed, while the Qing were honoring their social contract with the peasantry, contemporary Europeans were dying in the millions from famine and hunger-related diseases following arctic winters and summer droughts in 1740–43. "The mortality peak of the early 1740s," emphasizes an authority, "is an outstanding fact of European demographic history."[11] In Europe's Age of Reason, in other words, the "starving masses" were French, Irish and Calabrian, not Chinese.

Moreover "the intervention carried out in Zhili in 1743 and 1744 was not the only one of its kind in the eighteenth century, nor even the most extensive."[12] Indeed, as Table 1 indicates, the Yellow River flooding of the previous year (1742/43) involved much larger expenditures over a much broader region. (In addition to the ENSO-correlated droughts and floods shown in the table, Will has also documented seven other flood disasters that involved massive relief mobilization.) Although comparable figures are unavailable, Beijing also acted aggressively to aid Shandong officials in preventing famine during the series of El Niño droughts that afflicted that province (and much of the tropics) between 1778 and 1787.[13] The contrast with the chaotic late-Qing relief efforts in 1877 and 1899 (or, for that matter, Mao's monstrous mishandling of the 1958–61 drought) could not be more striking. State capacity in eighteenth-century China, as Will and his collaborators emphasize, was deeply impressive: a cadre of skilled administrators and trouble-shooters, a unique national system of grain price stabilization, large crop surpluses, well-managed granaries storing more than a million bushels of grain in each of twelve provinces, and incomparable hydraulic infrastructures.[14]

The capstone of Golden Age food security was the invigilation of grain prices and supply trends by the emperor himself. Although ever-normal granaries

	Quinn Intensity	Provinces	Amount of Relief
1720/21	Very strong	Shaanxi	Unknown
1742/43	(Flooding)	Jiangsu/Anhui	17 million taels; 2.3 million shi
1743/44	Moderate+	Hebei	0.87 million taels; 1 million shi
1778	Strong	Henan	1.6 million taels, 0.3 million shi
1779/80	La Niña	Henan	same
1785	?	Henan	2.8 million taels

Table 1 ENSO disasters relieved by the Qing
Source: Constructed from Table VII, Whetton and Rutherfurd, p. 244; Table 20, Will, *Bureaucracy and Famine*, pp. 298–9.

were an ancient tradition, price monitoring was a chief innovation of the Qing. "Great care was exercised by the eighteenth-century Emperors in looking over the memorials and price lists in search of inconsistencies." On the fifth of every month *hsien* magistrates forwarded detailed price reports to the prefectures, who summarized them for the provincial governors who, in turn, reported their content in memorials to the central government.[15] Carefully studied and annotated by the emperors, these "vermillion rescripts" testify to an extraordinary engagement with the administration of food security and rural well-being. "In the 1720s and 1730s," R. Bin Wong writes, "the Yongzheng emperor personally scrutinized granary operations, as he did all other bureaucratic behavior; his intense interest in official efforts and his readiness to berate officials for what he considered failures partially explain the development of granary operations beyond the levels achieved in the late Kangxi period."[16] Yongzheng also severely sanctioned speculation by the "rich households [who] in their quest for profit habitually remove grain by the full thousand or full myriad bushels."[17]

His successor, Qianlong, ordered the prefects to send the county-level price reports directly to the Bureau of Revenue in Beijing so he could study them firsthand. The emperors' intense personal involvement ensured a high standard of accuracy in price reporting and, as Endymion Wilkinson demonstrates, frequently led to significant reform.[18] This was another *differentia specifica* of Qing absolutism. It is hard to imagine a Louis XVI spending his evenings scrupulously poring over the minutiae of grain prices from Limoges or the Auvergne, although the effort might have ultimately saved his head from the guillotine.

Nor can we easily picture a European monarch intimately involved in the esoteria of public works to the same degree that the Qing routinely immersed themselves in the details of the Grand Canal grain transport system. "The Manchu emperors," Jane Leonard points out, "had since the early reigns involved themselves deeply in Canal management, not just in broad questions of policy, but in the control and supervision of lower-level administrative tasks." When, for example, flooding in 1824 destroyed sections of the Grand Canal at the critical Huai–Yellow River junction, the Tao-kuang emperor personally assumed command of reconstruction efforts.[19]

In contrast, moreover, to later Western stereotypes of a passive Chinese state, government during the high Qing era was proactively involved in famine prevention through a broad program of investment in agricultural improvement, irrigation and waterborne transportation. As in other things, Joseph Needham points out, the eighteenth century was a golden age for theoretical and historical work on flood control and canal construction. Civil engineers were canonized and had temples erected in their honor.[20] Confucian activists like Guancheng, with a deep commitment to agricultural intensification, "tended to give top priority to investments in infrastructure and to consider the organization of food relief merely a makeshift." Guancheng also wrote a famous manual (the source of much of Will's account) that codified historically tested principles of disaster planning and relief management: something else that has little precedent in backward European tradition.[21]

Finally, there is plentiful evidence that the northern China peasantry during the high Qing was more nutritionally self-reliant and less vulnerable to climate stress than their descendants a century later. In the eighteenth century, after the Kangxi emperor

permanently froze land revenue at the 1712 level, China experienced "the mildest agrarian taxation it had ever known in the whole of its history."[22] Dwight Perkins estimates that the formal land tax was a mere 5 to 6 percent of the harvest and that a large portion was expended locally by *hsien* and provincial governments.[23] Likewise, the exchange ratio between silver and copper coinage, which turned so disastrously against the poor peasantry in the nineteenth century, was stabilized by the booming output of the Yunnan copper mines (replacing Japanese imports) and the great inflow of Mexican bullion earned by China's huge trade surplus.[24] Unlike their contemporary French counterparts, the farmers of the Yellow River plain (the vast majority of whom owned their land) were neither crushed by exorbitant taxes nor ground down by feudal rents. North China, in particular, was unprecedentedly prosperous by historical standards, and Will estimates that the percentage of the rural population ordinarily living near the edge of starvation – depending, for example, on husks and wild vegetables for a substantial part of their diet – was less than 2 percent.[25] As a result, epidemic disease, unlike in Europe, was held in check for most of the "Golden Age."[26]

Still, could even Fang Guancheng have coped with drought disasters engulfing the larger part of north China on the scale of 1876 or even 1899? It is important to weigh this question carefully, since drought-famines were more localized in the eighteenth century, and because the 1876 drought, as we have seen, may have been a 200-year or even 500-year frequency event. Moreover, the late Victorian droughts reached particular intensity in the loess highlands of Shanxi and Shaanxi, where transport costs were highest and bottlenecks unavoidable. It is reasonable, therefore, to concede that a drought of 1876 magnitude in 1743 would inevitably have involved tens, perhaps even hundreds, of thousands of deaths in more remote villages.

Such a drought, however, would have been unlikely, as in the late nineteenth century, to grow into a veritable holocaust that consumed the greater part of the populations of whole prefectures and counties. In contrast to the situation in 1876–77, when granaries were depleted or looted and prices soared out of control, eighteenth-century administrators could count on a large imperial budget surplus and well-stocked local granaries backed up by a huge surplus of rice in the south. Large stockpiles of tribute grain at strategic transportation nodes in Henan and along the Shanxi–Shaanxi border were specially designated for the relief of the loess provinces, and an abundance of water sources guaranteed the Grand Canal's navigability year-round.[27] Whereas in 1876 the Chinese state – enfeebled and demoralized after the failure of the Tongzhi Restoration's domestic reforms – was reduced to desultory cash relief augmented by private donations and humiliating foreign charity, in the eighteenth century it had both the technology and political will to shift grain massively between regions and, thus, relieve hunger on a larger scale than any previous polity in world history.[28]

'LAWS OF LEATHER' VERSUS 'LAWS OF IRON'

What about famine in pre-British India? Again, there is little evidence that rural India had ever experienced subsistence crises on the scale of the Bengal catastrophe of 1770 under East India Company rule or the long siege by disease and hunger between 1875 and 1920 that slowed population growth almost to a standstill. The Moguls, to be sure, did not dispose of anything like the resources of the centralized Qing state at its eighteenth-century zenith, nor was their administrative history as well documented. As Sanjay Sharma has pointed out, "The problems of intervening in the complex network of caste-based local markets and transport bottlenecks rendered an effective state intervention quite difficult."[29]

On the other hand, benefiting perhaps from a milder ENSO cycle, Mogul India was generally free of famine until the 1770s. There is considerable evidence, moreover, that in pre-British India before the creation of a railroad-girded national market in grain, village-level food reserves were larger, patrimonial welfare more widespread, and grain prices in surplus areas better insulated against speculation.[30] (As we have seen, the perverse consequence of a unitary market was to export famine, via price inflation, to the rural poor in grain-surplus districts.) The British, of course, had a vested interest in claiming that they had liberated the populace from a dark age of Mogul despotism: "One of the foundations of Crown Rule was the belief that ... India's past was full of depravity."[31] But, as Bose and Jalal point out, "The picture of an emaciated and oppressed peasantry, mercilessly exploited by the

emperor and his nobility, is being seriously altered in the light of new interpretations of the evidence."[32] Recent research by Ashok Desai indicates that "the mean standard of food consumption in Akbar's empire was appreciably higher than in the India of the early 1960s."[33]

The Mogul state, moreover, "regarded the protection of the peasant as an essential obligation," and there are numerous examples of humane if sporadic relief operations.[34] Like their Chinese contemporaries, the Mogul rulers Akbar, Shahjahan and Aurangzeb relied on a quartet of fundamental policies – embargoes on food exports, antispeculative price regulation, tax relief and distribution of free food without a forced-labor counterpart – that were an anathema to later British Utilitarians.[35] They also zealously policed the grain trade in the public interest. As one horrified British writer discovered, these "oriental despots" punished traders who short-changed peasants during famines by amputating an equivalent weight of merchant flesh.[36]

In contrast to the Raj's punitive taxation of irrigation and its neglect of traditional wells and reservoirs, the Moguls used tax subsidies to promote water conservation. As David Hardiman explains in the case of Gujarat: "Local officials had considerable discretion over tax assessment, and it seems to have been their practice to encourage well-construction by granting tax concessions. In the Ahmedabad region, for example, it was common to waive the tax on a 'rabi' crop raised through irrigation from a recently constructed well. The concession continued until the tax exemptions were held to have equalled the cost of construction."[37]

Occasionally, the British paid appropriate tribute to the policies of their "despotic" predecessors. The first Famine Commission Report in 1880, for example, cited Aurangzeb's extraordinary relief campaign during the (El Niño?) drought-famine of 1661: "The Emperor opened his treasury and granted money without stint. He gave every encouragement to the importation of corn and either sold it at reduced prices, or distributed it gratuitously amongst those who were too poor to pay. He also promptly acknowledged the necessity of remitting the rents of the cultivators and relieved them for the time being of other taxes. The vernacular chronicles of the period attribute the salvation of millions of lives and the preservation of many provinces to his strenuous exertions."[38]

Food security was also probably better in the Deccan during the period of Maratha rule. As Mountstuart Elphinstone admitted retrospectively after the British conquest, "The Mahratta country flourished, and the people seem to have been exempt from some of the evils which exist under our more perfect Government."[39] His contemporary, Sir John Malcolm, "claimed that between 1770 and 1820 there had been only three very bad seasons in the Maratha lands and, though some years had been 'indifferent,' none had been as 'bad as to occasion any particular distress.' "[40] D.E.U. Baker cites a later British administrative report from the Central Provinces that contrasted the desultory relief efforts of the East India Company during the droughts of the 1820s and 1830s ("a few thousand rupees") with the earlier and highly effective Maratha policy of forcing local elites to feed the poor ("enforced charity of hundreds of rich men").[41] Indeed the resilient Maratha social order was founded on a militarized free peasantry and "very few landless laborers existed." In contrast to the British-imposed *raiyatwari* system, occupancy rights in the Maratha Deccan were not tied to revenue payment, taxes varied according to the actual harvest, common lands and resources were accessible to the poor, and the rulers subsidized local irrigation improvements with cheap *taqavi* (or *tagai*) loans.[42] In addition, Elphinstone observed, the "sober, frugal, industrious" Maratha farmers lived in generally tolerant coexistence with the Bhils and other tribal peoples. Ecological and economic synergies balanced the diverse claims of plains agriculture, pastoralism and foothill swidden.[43]

In contrast to the rigidity and dogmatism of British land-and-revenue settlements, both the Moguls and Marathas flexibly tailored their rule to take account of the crucial ecological relationships and unpredictable climate fluctuations of the subcontinent's drought-prone regions. The Moguls had "laws of leather," wrote journalist Vaughan Nash during the famine of 1899, in contrast to the British "laws of iron."[44] Moreover, traditional Indian elites, like the great Bengali *zamindars*, seldom shared Utilitarian obsessions with welfare cheating and labor discipline. "Requiring the poor to work for relief, a practice begun in 1866 in Bengal under the influence of the Victorian Poor Law, was in flat contradiction to the Bengali premise that food should be given ungrudgingly, as a father gives food to his children."[45] Although the British insisted that they had rescued

India from "timeless hunger," more than one official was jolted when Indian nationalists quoted from an 1878 study published in the prestigious *Journal of the Statistical Society* that contrasted thirty-one serious famines in 120 years of British rule against only seventeen recorded famines in the entire previous two millennia.[46]

India and China, in other words, did not enter modern history as the helpless "lands of famine" so universally enshrined in the Western imagination. Certainly the intensity of the ENSO cycle in the late nineteenth century, perhaps only equaled on three or four other occasions in the last millennium, must loom large in any explanation of the catastrophes of the 1870s and 1890s. But it is scarcely the only independent variable. Equal causal weight, or more, must be accorded to the growing social vulnerability to climate variability that became so evident in south Asia, north China, northeast Brazil and southern Africa in late Victorian times. As Michael Watts has eloquently argued in his history of the "silent violence" of drought-famine in colonial Nigeria: "Climate risk . . . is not given by nature but . . . by 'negotiated settlement' since each society has institutional, social, and technical means for coping with risk. . . . Famines [thus] are social crises that represent the failures of particular economic and political systems."[47]

PERSPECTIVES ON VULNERABILITY

Over the last generation, scholars have produced a bumper-crop of revealing social and economic histories of the regions teleconnected to ENSO's episodic disturbances. The thrust of this research has been to further demolish orientalist stereotypes of immutable poverty and overpopulation as the natural preconditions of the major nineteenth-century famines. There is persuasive evidence that peasants and farm laborers became dramatically more pregnable to natural disaster after 1850 as their local economies were violently incorporated into the world market. What colonial administrators and missionaries – even sometimes creole elites, as in Brazil – perceived as the persistence of ancient cycles of backwardness were typically modern structures of formal or informal imperialism.

From the perspective of political ecology, the vulnerability of tropical agriculturalists to extreme climate events after 1870 was magnified by simultaneous restructurings of household and village linkages to regional production systems, world commodity markets and the colonial (or dependent) state. "It is, of course, the constellation of these social relations," writes Watts, "which binds households together and project them into the marketplace, that determines the precise form of the household vulnerability. It is also these same social relations that have failed to stimulate or have actually prevented the development of the productive forces that might have lessened this vulnerability." Indeed, new social relations of production, in tandem with the New Imperialism, "not only altered the extent of hunger in a statistical sense but changed its very etiology."[48] Three points of articulation with larger socio-economic structures were especially decisive for rural subsistence in the late Victorian "proto-third world."

First, the forcible incorporation of smallholder production into commodity and financial circuits controlled from overseas tended to undermine traditional food security. Recent scholarship confirms that it was *subsistence adversity* (high taxes, chronic indebtedness, inadequate acreage, loss of subsidiary employment opportunities, enclosure of common resources, dissolution of patrimonial obligations, and so on), not entrepreneurial opportunity, that typically promoted the turn to cash-crop cultivation. Rural capital, in turn, tended to be parasitic rather than productivist as rich landowners redeployed fortunes that they built during export booms into usury, rack-renting and crop brokerage. "Marginal subsistence producers," Hans Medick points out, ". . . did not benefit from the market under these circumstances; they were devoured by it."[49] Medick, writing about the analogous predicament of marginal smallholders in "proto-industrial" Europe, provides an exemplary description of the dilemma of millions of Indian and Chinese poor peasants in the late nineteenth century:

> For them [even] rising agrarian prices did not necessarily mean increasing incomes. Since their marginal productivity was low and production fluctuated, rising agrarian prices tended to be a source of indebtedness rather than affording them the opportunity to accumulate surpluses. The "anomaly of the agrarian markets" forced the marginal subsistence producers into an unequal exchange relationship through the market. . . . Instead of profiting from exchange, they were

forced by the market into the progressive deterioration of their conditions of production, i.e. the loss of their property titles. Especially in years of bad harvests, and high prices, the petty producers were compelled to buy additional grain, and, worse, to go into debt. Then, in good harvest years when cereal prices were low, they found it hard to extricate themselves from the previously accumulated debts; owing to the low productivity of their holdings they could not produce sufficient quantities for sale.[50]

As a result, the position of small rural producers in the international economic hierarchy equated with downward mobility, or, at best, stagnation. There is consistent evidence from north China as well as India and northeast Brazil of falling household wealth and increased fragmentation or alienation of land. Whether farmers were directly engaged by foreign capital, like the Berari *khatedars* and Cearan *parceiros* who fed the mills of Lancashire during the Cotton Famine, or were simply producing for domestic markets subject to international competition like the cotton-spinning peasants of the Boxer hsiens in western Shandong, commercialization went hand in hand with pauperization without any silver lining of technical change or agrarian capitalism.

Second, the integration of millions of tropical cultivators into the world market during the late nineteenth century was accompanied by a dramatic deterioration in their terms of trade. Peasants' lack of market power vis-à-vis crop merchants and creditors was redoubled by their commodities' falling international purchasing power. The famous Kondratief downswing of 1873–1897 made dramatic geographical discriminations. As W. Arthur Lewis suggests, comparative productivity or transport costs alone cannot explain an emergent structure of global unequal exchange that valued the products of tropical agriculture so differently from those of temperate farming. "With the exception of sugar, all the commodities whose price was lower in 1913 than in 1883 were commodities produced almost wholly in the tropics. All the commodities whose prices rose over this thirty-year period were commodities in which the temperate countries produced a substantial part of total supplies. The fall in ocean freight rates affected tropical more than temperate prices, but this should not make a difference of more than five percentage points."[51]

Third, formal and informal Victorian imperialism, backed up by the supernational automatism of the Gold Standard, confiscated local fiscal autonomy and impeded state-level developmental responses – especially investments in water conservancy and irrigation – that might have reduced vulnerability to climate shocks. As Curzon once famously complained to the House of Lords, tariffs "were decided in London, not in India; in England's interests, not in India's."[52] Moreover, as we shall see in the next chapter, any grassroots benefit from British railroad and canal construction was largely canceled by official neglect of local irrigation and the brutal enclosures of forest and pasture resources. Export earnings, in other words, not only failed to return to smallholders as increments in household income, but also as usable social capital or state investment.

In China, the "normalization" of grain prices and the ecological stabilization of agriculture in the Yellow River plain were undermined by an interaction of endogenous crises and the loss of sovereignty over foreign trade in the aftermath of the two Opium Wars. As disconnected from world market perturbations as the starving loess provinces might have seemed in 1877, the catastrophic fate of their populations was indirectly determined by Western intervention and the consequent decline in state capacity to ensure traditional welfare. Similarly the depletion of "ever-normal" granaries may have resulted from a vicious circle of multiple interacting causes over a fifty-year span, but the coup de grace was certainly the structural recession and permanent fiscal crisis engineered by Palmerston's aggressions against China in the 1850s. As foreign pressure intensified in later decades, the embattled Qing, as Kenneth Pomeranz has shown, were forced to abandon both their traditional mandates: abandoning both hydraulic control and grain stockpiling in the Yellow River provinces in order to concentrate on defending their endangered commercial littoral.[53]

British control over Brazil's foreign debt and thus its fiscal capacity likewise helps explain the failure of either the empire or its successor republic to launch any antidrought developmental effort in the sertão. The zero-sum economic conflicts between Brazil's rising and declining regions took place in a structural context where London banks, above all the Rothschilds, ultimately owned the money-supply. In common with India and China, the inability to

politically regulate interaction with the world market at the very time when mass subsistence increasingly depended upon food entitlements acquired in international trade became a sinister syllogism for famine. Moreover in the three cases of the Deccan, the Yellow River basin and the Nordeste, former "core" regions of eighteenth-century subcontinental power systems were successively transformed into famished peripheries of a London-centered world economy.

The elaboration of these theses, as always in geo-historical explanation, invites closer analysis at different magnifications. Before considering case-studies of rural immiseration in key regions devastated by the 1870s and 1890s El Niño events or looking at the relationships among imperialism, state capacity and ecological crisis at the village level, it is necessary to briefly discuss how the structural positions of Indians and Chinese (the big battalions of the future Third World) in the world economy changed over the course of the nineteenth century. Understanding how tropical humanity lost so much economic ground to western Europeans after 1850 goes a long way toward explaining why famine was able to reap such hecatombs in El Niño years. As a baseline for understanding the origins of modern global inequality (and that is the key question), the herculean statistical labors of Paul Bairoch and Angus Maddison over the last thirty years have been complemented by recent comparative case-studies of European and Asian standards of living.

THE DEFEAT OF ASIA

Bairoch's famous claim, corroborated by Maddison, is that differences in income and wealth between the great civilizations of the eighteenth century were relatively slight: "It is very likely that, in the middle of the eighteenth century, the average standard of living in Europe was a little bit lower than that of the rest of the world."[54] When the *sans culottes* stormed the Bastille, the largest manufacturing districts in the world were still the Yangzi Delta and Bengal, with Lingan (modern Guangdong and Guangxi) and coastal Madras not far behind.[55] India alone produced one-quarter of world manufactures, and while its "pre-capitalist agrarian labour productivity was probably less than the Japanese-Chinese level, its commercial capital surpassed that of the Chinese."[56]

	1700	1820	1890	1952
China	23.1	32.4	13.2	5.2
India	22.6	15.7	11.0	3.8
Europe	23.3	26.6	40.3	29.7

Table 2 Shares of world GDP (percent)
Source: Angus Maddison, *Chinese Economic Performance in the Long Run*, Paris 1998, p. 40.

As Prasannan Parthasarathi has recently shown, the stereotype of the Indian laborer as a half-starved wretch in a loincloth collapses in the face of new data about comparative standards of living. "Indeed, there is compelling evidence that South Indian labourers had higher earnings than their British counterparts in the eighteenth century and lived lives of greater financial security." Because the productivity of land was higher in South India, weavers and other artisans enjoyed better diets than average Europeans. More importantly, their unemployment rates tended to be lower because they possessed superior rights of contract and exercised more economic power. But even outcaste agricultural labourers in Madras earned more in real terms than English farm laborers.[57] (By 1900, in contrast, Romesh Chunder Dutt estimated that the average British household income was 21 times higher.)[58]

New research by Chinese historians also challenges traditional conceptions of comparative economic growth. Referring to the pathbreaking work of Li Bozhong, Philip Huang notes that "the outstanding representative of this new academic tendency has even argued the overall economic development of the Yangzi Delta in the Qing exceeded that of 'early modern' England."[59] Similarly, Bin Wong has recently emphasized that the "specific conditions associated with European proto-industrialization – expansion of seasonal crafts, shrinking farm size, and good marketing systems – may have been even more widespread in China [and India] than in Europe."[60] "Basic functional literacy," adds F. Mote, "was more widespread than in Western countries at that time, including among women at all social levels."[61]

Moreover, in the recent forum "Re-thinking 18th Century China," Kenneth Pomeranz points to evidence that ordinary Chinese enjoyed a higher standard of consumption than eighteenth-century Europeans:

Chinese life expectancy (and thus nutrition) was at roughly English levels (and so above Continental ones) even in the late 1700s. (Chinese fertility was actually lower than Europe's between 1550 and 1850, while its population grew faster; thus mortality must have been low.) Moreover, my estimates of "non-essential" consumption come out surprisingly high. Sugar consumption works out to between 4.3 and 5.0 pounds per capita ca. 1750 – and much higher in some regions – compared with barely 2 pounds per capita for Europe. China circa 1750 seems to have produced 6–8 lbs. of cotton cloth per capita; its richest area, the Yangzi Delta (population roughly 31 million), probably produced between 12 and 15 lbs. per capita. The UK, even in 1800, produced roughly 13 lbs. of cotton, linen and wool cloth combined per resident, and Continental output was probably below China's.[62]

Pomeranz has also calculated that "the Lower Yangzi appears to have produced roughly as much cotton cloth per capita in 1750 as the UK did cotton, wool, linen and silk cloth combined in 1800 – plus an enormous quantity of silk."[63] In addition, as Maddison demonstrates, the Chinese GDP in absolute terms grew faster than that of Europe throughout the eighteenth century, dramatically enlarging its share of world income by 1820.

The usual stereotype of nineteenth-century economic history is that Asia stood still while the Industrial Revolution propelled Britain, followed by the United States and eventually the rest of Western Europe, down the path of high-speed GNP growth. In a superficial sense, of course, this is true, although the data gathered by Bairoch and Maddison show that Asia lost its preeminence in the world economy later than most of us perhaps imagine. The future Third World, dominated by the highly developed commercial and handicraft economies of India and China, surrendered ground very grudgingly until 1850 (when it still generated 65 percent of global GNP), but then declined with increasing rapidity through the rest of the nineteenth century (only 38 percent of world GNP in 1900 and 22 percent in 1960).[64]

The deindustrialization of Asia via the substitution of Lancashire cotton imports for locally manufactured textiles reached its climax only in the decades after the construction of the Crystal Palace. "Until 1831," Albert Feuerwerker points out, "Britain purchased more 'nankeens' (cloth manufactured in Nanking and other places in the lower Yangzi region) each year than she sold British-manufactured cloth to China."[65] Britain exported 51 million yards of cloth to Asia in 1831; 995 million in 1871; 1413 million in 1879; and 2000 million in 1887.[66]

But why did Asia stand in place? The rote answer is because it was weighted down with the chains of tradition and Malthusian demography, although this did not prevent Qing China, whose rate of population increase was about the same as Europe's, from experiencing extraordinary economic growth throughout the eighteenth century. As Jack Goldstone recently argued, China's "stasis" is an "anachronistic illusion that come[s] from reading history backwards."[67] The relevant question is not so much why the Industrial Revolution occurred first in England, Scotland and Belgium, but why other advanced regions of the eighteenth-century world economy failed to adapt their handicraft manufactures to the new conditions of production and competition in the nineteenth century.

As Marx liked to point out, the Whig view of history deletes a great deal of very bloody business. The looms of India and China were defeated not so much by market competition as they were forcibly

	1750	1800	1830	1860	1880	1900
Europe	23.1	28.0	34.1	53.6	62.0	63.0
UK	1.9	4.3	9.5	19.9	22.9	18.5
Tropics	76.8	71.2	63.3	39.2	23.3	13.4
China	32.8	33.3	29.8	19.7	12.5	6.2
India	24.5	19.7	17.6	8.6	2.8	1.7

Table 3 Shares of world manufacturing output, 1750–1900 (percent)
Source: Derived from B. R. Tomlinson, "Economics: The Periphery," in Andrew Porter (ed.), *The Oxford History of the British Empire: The Nineteenth Century*, Oxford 1990, p. 69 (Table 3.8).

	Western Europe		China	
1400	430	(43)	500	(74)
1820	1034	(122)	500	(342)
1950	4902	(412)	454	(547)

Table 4 Standing in place: China vs. Europe (dollars per capita GDP/(population in millions))
Source: Lu Aiguo, *China and the Global Economy Since 1840*, Helsinki 2000, p. 56 (Table 4.1 as derived from Maddison).

dismantled by war, invasion, opium and a Lancashire-imposed system of one-way tariffs. (Already by 1850, imposed Indian opium imports had siphoned 11 percent of China's money-supply and 13 percent of its silver stock out of the country.)[68] Whatever the internal brakes on rapid economic growth in Asia, Latin America or Africa, it is indisputable that from about 1780 or 1800 onward, every serious attempt by a non-Western society to move over into a fast lane of development or to regulate its terms of trade was met by a military as well as an economic response from London or a competing imperial capital. Japan, prodded by Perry's black ships, is the exception that proves the rule.

The use of force to configure a "liberal" world economy (as Marx and later Rosa Luxemburg argued) is what Pax Britannica was really about. Palmerston paved the way for Cobden. The Victorians, according to Brian Bond's calculations, resorted to gunboats on at least seventy-five different occasions.[69] The simultaneous British triumphs in the Mutiny and the "Arrow" War in 1858, along with Japan's yielding to Perry in the same year, were the epochal victories over Asian economic autonomy that made a Cobdenite world of free trade possible in the second half of the nineteenth century (Thailand had already conceded a 3 percent tariff in 1855).[70] The Taiping Revolution – "more revolutionary in its aims than the Meiji Restoration, insisting on gender equality and democratizing literacy" – was a gigantic attempt to revise that verdict, and was, of course, defeated only thanks to the resources and mercenaries that Britain supplied to the embattled Qing.[71]

This is not to claim that the Industrial Revolution necessarily depended upon the colonial conquest or economic subjugation of Asia; on the contrary, the slave trade and the plantations of the New World were much more strategic streams of liquid capital and natural resources in boosting the industrial take-off in Britain, France and the United States. Although Ralph Davis has argued that the spoils of Plessy contributed decisively to the stability of the Georgian order in an age of revolution, the East India Company's turnover was small change compared to the great trans-Atlantic flow of goods and capital.[72] Only the Netherlands, it would appear, depended crucially upon Asian tribute – the profits of its brutal *culturrstelsel* – in financing its economic recovery and incipient industrialization between 1830 and 1850.

Paradoxically, monsoon Asia's most important "moment" in the Victorian world economy was not at the beginning of the epoch, but towards its end. "The full value of British rule, the return on political investments first made in the eighteenth century," write Cain and Hopkins in their influential history of British imperialism, "was not realised until the second half of the nineteenth century, when India became a vital market for Lancashire's cotton goods and when other specialised interests, such as jute manufacturers in Dundee and steel producers in Sheffield, also greatly increased their stake in the sub-continent."[73] The coerced levies of wealth from India and China were not essential to the rise of British hegemony, but they were absolutely crucial in postponing its decline.

THE LATE VICTORIAN WORLD ECONOMY

During the protracted period of stop-and-go growth from 1873 to 1896 (what economic historians misleadingly used to call the "Great Depression"), the rate of capital formation and the growth of productivity of both labor and capital in Britain began a dramatic slowdown.[74] She remained tied to old products and technologies while behind their tariff barriers Germany and the United States forged leadership in cutting-edge oil, chemical and electrical industries. Since British imports and overseas investment still dynamized local growth from Australia to Denmark, the potential "scissors" between UK productivity and consumption threatened the entire structure of world trade. It was in this conjuncture that the starving Indian and Chinese peasantries were wheeled in as unlikely saviors. For a generation they braced the entire system of international settlements, allowing England's continued financial supremacy to temporarily coexist with its relative industrial decline. As Giovanni Arrighi emphasizes, "The large surplus in

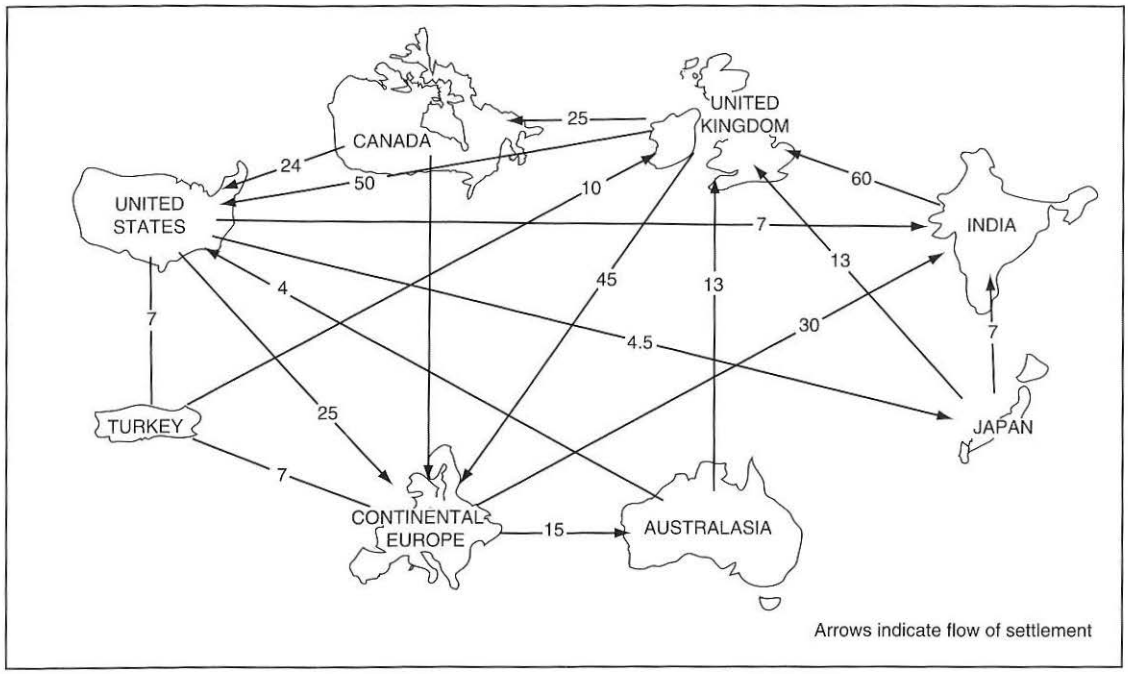

Figure 1 World system of settlements, 1910 (£ millions)
Source: S. Saul, *Studies in British Overseas Trade, 1870–1914*, Liverpool 1960, p. 58.

the Indian balance of payments became the pivot of the enlarged reproduction of Britain's world-scale processes of capital accumulation and of the City's mastery of world finance."[75]

The operation of this crucial circuit was simple and ingenious. Britain earned huge annual surpluses in her transactions with India and China that allowed her to sustain equally large deficits with the United States, Germany and the white Dominions. True, Britain also enjoyed invisible earnings from shipping, insurance, banking and foreign investment, but without Asia, which generated 73 percent of British trade credit in 1910, Anthony Latham argues, Britain "presumably would have been forced to abandon free trade," while her trading partners would have been forced to slow their own rates of industrialization. The liberal world economy might otherwise have fragmented into autarkic trading blocs, as it did later during the 1930s:

> The United States and industrial Europe, in particular Germany, were able to continue their policy of tariff protection only because of Britain's surplus with Asia. Without that Asian surplus, Britain would no longer have been able to subsidise their growth. So what emerges is that Asia in general, but India and China in particular, far from being peripheral to the evolution of the international economy at this time, were in fact crucial. Without the surpluses which Britain was able to earn there, the whole pattern of international economic development would have been severely constrained.[76]

India, of course, was the greatest captive market in world history, rising from third to first place among consumers of British exports in the quarter century after 1870.[77] "British rules," writes Marcello de Cecco in his study of the Victorian gold standard system, "deliberately prevented Indians from becoming skilled mechanics, refused contracts to Indian firms which produced materials that could be got from England, and generally hindered the formation of an autonomous industrial structure in India."[78] Thanks to a "government stores policy that reserved most government purchases to British products and by the monopoly of British agency houses in organizing the import-export trade," India was forced to absorb Britain's surplus of increasingly obsolescent and noncompetitive industrial exports.[79] By 1910 this included two-fifths of the UK's finished cotton goods and three-fifths of its exports of electrical products,

railway equipment, books and pharmaceuticals. As a result, observes de Cecco, Britain avoided "having to restructure her industry and was able to invest her capital in the countries where it gave the highest return." Thanks to India, "British financiers were not compelled to 'tie' their loans to British exports because the Imperial outlet was always available for British products."[80]

The subcontinent was equally important to the rentier strata. The climate-detonated crisis of English agriculture in the late 1870s and the subsequent decline of farm output produced a sharp fall in agricultural rents in England and Wales from £53 million in 1876 to only £37 million in 1910.[81] Indian army and civil service sinecures were accordingly famous for rescuing the fortunes of Britain's landed aristocracy. But, as Cain and Hopkins have argued in making their case for a hegemonic "gentlemanly capitalism," even bigger spoils were returned to the middle classes of London and the Home Counties as government-guaranteed interest on railroad debentures and Indian bonds. "This constituency of southern investors, and its institutional representatives in banking and shipping, fell in readily behind the flag of empire and gave full support to policies of free trade and sound money. If British rule in India was helpful to British industry, it was vital to British investment."[82] As Hobsbawm points out, "not even the free-traders wished to see this goldmine escape from British control."[83]

But how, in an age of famine, could the subcontinent afford to subsidize its conquerer's suddenly precarious commercial supremacy?[84] In a word, it couldn't, and India was forced-marched into the world market, as we shall see, by revenue and irrigation policies that compelled farmers to produce for foreign consumption at the price of their own food security. This export drive was the hallmark of the new public finance strategy introduced by James Wilson – founder of *The Economist* and finance member of the Council of India – in the first years of direct rule. The opening of the Suez Canal and the growth of steam shipping drastically reduced the transport costs of bulk commodity export from the subcontinent. As a result India's seaborne foreign trade increased more than eightfold between 1840 and 1886.[85] In addition to opium cultivation in Bengal, new export monocultures of indigo, cotton, wheat and rice supplanted millions of acres of subsistence crops. Part of this production, of course, was designed to assure low grain prices in the metropolis after the debacle of English agriculture in the 1870s. Between 1875 and 1900, years that included the worst famines in Indian history, annual grain exports increased from 3 million to 10 million tons: a quantity that, as Romesh Dutt pointed out, was equivalent to the annual nutrition of 25 million people. By the turn of the century, India was supplying nearly a fifth of Britain's wheat consumption as well as allowing London grain merchants to speculate during shortages on the Continent.[86]

But Indian agriculture's even more decisive contribution to the imperial system, from the East India Company's first illegal shipment of opium to Canton, was the income it earned in the rest of the Eastern Hemisphere. Especially in the 1880s and 1890s, the subcontinent's permanent trade and current account imbalances with Britain were financed by its trade surpluses of opium, rice and cotton thread vis-à-vis the rest of Asia. Indeed England's systematic exploitation of India depended in large part upon India's commercial exploitation of China. This triangular trade between India, China and Britain had a strategic economic importance in the Victorian world system that transcended other far larger flows of commerce. If China generated only a tiny 1.3 percent of the total volume of world trade in the late nineteenth century, it was nonetheless immensely valuable to the British Empire, which monopolized fully 80 percent of China's foreign trade in the 1860s and 60 percent as late as 1899. (British firms, which controlled two-thirds of coastal shipping, also took an important slice of China's domestic commerce.)[87]

From the beginning of the nineteenth century, the East India Company had relied on opium exports from Bengal to Canton (which in 1832 earned a net profit "at least fourteen times the prime cost") to finance the growing deficits generated by its expensive military operations on the subcontinent. By forcibly enlarging the Chinese demand for the narcotic and, thus, the taxes collected on its export, the two Opium Wars (1839–42 and 1856–58) and the punitive Treaty of Tianjin (1858) revolutionized the revenue base of British India. "Opium," says John Wong, "serviced the cost of imperial expansion in India."[88] Opium shipments from India reached a peak of 87,000 chests in 1879, the biggest drug transaction in world history.[89]

This extraordinarily one-sided trade – in 1868 India supplied over 35 percent of China's imports but

bought less than 1 percent of its exports – also subsidized the imports of US cotton that fueled the industrial revolution in Lancashire.[90] "The sale of Bengal opium to China," Latham explains, "was a great link in the chain of commerce with which Britain had surrounded the world. The chain worked like this: The United Kingdom paid the United States for cotton by bills upon the Bank of England. The Americans took some of those bills to Canton and swapped them for tea. The Chinese exchanged the bills for Indian opium. Some of the bills were remitted to England as profit; others were taken to India to buy additional commodities, as well as to furnish the money remittance of private fortunes in India and the funds for carrying on the Indian government at home."[91]

When, after 1880, the Chinese unofficially resorted to domestic cultivation of opium (an early example of "import-substitution") to reduce their trade deficit, British India found a lucrative new advantage in the export of factory-spun cotton yarn, which, as we shall see, had a devastating impact on Chinese folk textiles. Moreover, in the later nineteenth century Britain herself started earning a substantial surplus in the China trade for the first time. The Second Opium War – or "Arrow" War – which increased British exports to China tenfold in a single decade was the turning point.[92] Britain's dominant role in Chinese foreign trade, built by Victorian *narcotraficantes* with gunboats, thus leveraged the whole free-trade imperium. "China," summarizes Latham, "directly through Britain and indirectly through India, enabled Britain to sustain her deficits with the United States and Europe on which those countries depended for export stimulus and, in the case of the United States, capital inflow to some degree."[93]

Moreover, China was forced at bayonet point to cede control over tariffs to the British inspector-general of the Imperial Maritime Customs Administration, a de facto imperial proconsul who "came to enjoy more influence with the Foreign Office than did the British Minister in Peking."[94] China's growing trade deficit became intractable by 1884. "Not a single year [in the rest of the nineteenth century] showed a surplus; the average annual deficit rose to 26.6 million taels – roughly about 10 percent of the yearly total trade, but over 20 percent of the annual imports or just under 30 percent of the annual exports."[95] Among its traditional monopolies, tea was undercut in the world market by Indian production while Japanese silk competed with the famous brands of southern China. Unlike India, China was unable to finance any of its "consistent and growing overall deficit" via trade surpluses with a third party, nor could it siphon compensatory incomes, like Britain, from its overseas colonies. As a result, the Qing became increasingly dependent upon foreign exchange remittances from 5 million Chinese emigrants in southeast Asia, Oceania, Peru, the Caribbean and the United States.[96] Although the government publicly expressed its disgust with the coolie trade, it had little alternative but to collaborate in its expansion. The so-called "yellow peril" that English writers would help to popularize was thus a direct consequence of Asia's increasing subsidization of faltering British hegemony. Emigrant Chinese plantation workers and railroad laborers, like Indian ryots, balanced England's accounts on their bent backs.

[. . .]

NOTES

The epigraph is from Isaacs, *Scratches on Our Minds: American Images of China and India*, New York 1958, p. 273.

1 For a typically cavalier view, see Roland Lardinois, "Famine, Epidemics and Mortality in South India: A Reappraisal of the Demographic Crisis of 1876–1878," *Economic and Political Weekly* 20:111 (16 March 1985), p. 454.
2 Emmanuel Le Roy Ladurie, *Tmes of Feast, Times of Famine: A History of Climate Since the Year 1000*, Garden City, N.Y. 1971, p. 119.
3 Raymond Williams, *Problems in Materialism and Culture*, London 1980, p. 67.
4 When it served their interests, of course, the British could switch epistemologies. In the case of late-nineteenth-century China, for example, the British and their allies primarily blamed Qing corruption, not drought, for the millions of famine deaths.
5 Kueh, pp. 4–5.
6 Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Societies*, New York 1997, pp. 424–5.
7 Re 1743–44: "another exceptional period in the eastern hemisphere, which corresponds with QN El Niño of 1744, although conditions were more markedly dry in the east in 1743" (Whetton and Rutherfurd, pp. 243–6).
8 "The first Qing emperor envisioned ever-normal granaries in county seats, charity granaries in major towns, and community granaries in the countryside.

Ever-normal granaries were to be managed by members of the magistrate's staff, who were directed to sell, lend, or give away grain in the spring and to make purchases, collect loans, and solicit contributions in the autumn" (Pierre-Etienne Will and R. Bin Wong [with James Lee, Jean Oi and Peter Perdue], *Nourish the People: The State Civilian Granary System in China, 1650–1850*, Ann Arbor, Mich. 1981, p. 19).

9 Will, *Bureaucracy and Famine*, Chapters 7 and 8.
10 Ibid., pp. 86 and 189.
11 John Post, *Food Shortage, Climatic Variability, and Epidemic Disease in Preindustrial Europe: The Mortality Peak in the Early 1740s*, Ithaca, N.Y. 1985, p. 30.
12 Will, p. 270.
13 Jean Oi and Pierre-Etienne Will, "North China: Shandong During the Qianlong Period," in Will and Wong, pp. 369–70. ENSO correlations based on Quinn chronology.
14 "Introduction," in Will and Wong, p. 21. China's roads, on the other hand, remained miserable, and were a major obstacle to market integration as well as famine relief.
15 Wilkinson, pp. 122–9.
16 R. Bin Wong, "Decline and Its Opposition, 1781–1850," in Will and Wong, p. 76.
17 Helen Dunstan, *Conflicting Counsels to Confuse the Age: A Documentary Study of Political Economy in Qing China, 1644–1840*, Ann Arbor, Mich. 1996, p. 251.
18 Wilkinson, pp. 122–9. See also Will, "The Control Structure," in Will and Wong, pp. 220–21.
19 Jane Leonard, " 'Controlling from Afar': Open Communications and the Tao-Kuang Emperor's Control of Grand Canal–Grain Transport Management, 1824–26," *Modern Asian Studies* 22:4 (1988), p. 666.
20 Joseph Needham, *Science and Civilization in China*, vol. 4, Cambridge 1971, p. 326.
21 Will, p. 257.
22 Jacques Gernet, *A History of Chinese Civilization*, 2nd edn., Cambridge 1996, p. 468.
23 Dwight Perkins, *Agricultural Development in China, 1368–1968*, Chicago 1969, p. 176.
24 Endymion Wilkinson, "Studies in Chinese Price History," Ph.D. diss., Princeton University 1970, p. 31.
25 Will, p. 32.
26 J. A. G. Roberts, *A Concise History of China*, Cambridge, Mass. 1990, p. 173.
27 On the special tribute granaries at Luoyang and Shanzhou organized during the Kangxi reign, see Will and Wong, pp. 32 and 301.
28 Food security in the mid-eighteenth century may have consumed 10 percent of annual Qing revenue. As Wong emphasizes, "For a state to spend such sums for this purpose on a regular basis for well over a century is likely unique in the early modern world" ("Qing Granaries and Late Imperial History," in Will and Wong, p. 477).
29 Sanjay Sharma, "The 1837–38 Famine in U.P.: Some Dimensions of Popular Action," *IESHR* 30:3 (1993), p. 359.
30 Bhatia, p. 9.
31 Darren Zook, "Developing India: The History of an Idea in the Southern Countryside, 1860–1990," Ph.D. diss., University of California, Berkeley 1998, p. 158. The Raj was built upon mythology and hallucination. As Zook points out, the British universally attributed the ruins scattered through the Indian countryside to the decadence of native civilizations, when, in fact, many were direct memorials to the violence of British conquest (p. 157).
32 Sugata Bose and Ayesha Jalal, *Modern South Asia*, Delhi 1999, p. 43.
33 Ashok Desai, "Population and Standards of Living in Akbar's Time," *IESHR* 9:1 (1972), p. 61.
34 Chetan Singh, "Forests, Pastoralists and Agrarian Society in Mughal India," in David Arnold and Raachandra Guha (eds.), *Nature, Culture, Imperialism: Essay on the Environmental History of South Asia*, Delhi 1996, p. 22.
35 Habibul Kondker, "Famine Policies in Pre-British India and the Question of Moral Economy," *South Asia* 9:1 (June 1986), pp. 25–40; and Kuldeep Mahtur and Niraja Jayal, *Drought, Policy and Politics*, New Delhi 1993, p. 27. Unfortunately, contemporary discussion of famine history before 1763 has been contaminated by Hindu-versus-Muslim bicketing. See, for example, the apparent anti-Muslim bias in Mushtag Kaw, "Famines in Kashmir, 1586–1819: The Policy of the Mughal and Afghan Rulers," *IESHR* 33:1 (1996), pp. 59–70.
36 C. Blair, *Indian Famines*, London 1874, pp. 8–10.
37 David Hardiman, "Well Irrigation in Gujarat: Systems of Use, Hierarchies of Control," *Economic and Political Weekly*, 20 June 1998, p. 1537.
38 Commission quoted in W. R. Aykroyd, *The Conquest of Famine*, London 1974, p. 51. See also John Richards, *The Mughal Empire* (*The New Cambridge History of India, 1:5*), Cambridge 1993, p. 163.
39 Bagchi, pp. 11–12 and 27.
40 J. Malcolm, *A Memoir of Central India*, vol. 1, London 1931, p. 7, quoted in D. E. U. Baker, *Colonialism in an Indian Hinterland: The Central Provinces, 1820–1920*, Delhi 1993, p. 28.
41 Baker, p. 52.
42 J. Richards and Michelle McAlpin, "Cotton Cultivating and Land Clearing in the Bombay Deccan and Karnatak: 1818–1920," in Richard Tucker and J. Richards (eds.), *Global Deforestation and the Nineteenth-Century World Economy*, Durham 1983, pp. 71 and 74.
43 Ibid.
44 Nash, p. 92.

45 Greenough, *Prosperity and Misery*, p. 59.
46 C. Walford, "The Famines of the World: Past and Present," *Journal of the Statistical Society* 41:13 (1878), pp. 434–42. I cite Walford elsewhere from the expanded 1879 book version of this article.
47 Michael Watts, *Silent Violence: Food, Famine and Peasantry in Northern Nigeria*, Berkeley 1983, pp. 462–3. This "negotiation," of course, is two-sided and must include climate shock as an independent variable.
48 Watts, pp. 267 and 464.
49 Hans Medick, "The Proto-Industrial Family Economy and the Structures and Functions of Population Development under the Proto-Industrial System," in P. Kriedte et al. (eds.), *Industrialization Before Industrialization*, Cambridge 1981, p. 45.
50 Ibid., pp. 44–5.
51 Lewis, *Growth and Fluctuations*, p. 189.
52 Cited in Clive Dewey, "The End of the Imperialism of Free Trade," p. 35.
53 Kenneth Pomeranz, *The Making of a Hinterland: State, Society, and Economy in Inland North China, 1853–1937*, Berkeley 1993.
54 Paul Bairoch, "The Main Trends in National Economic Disparities Since the Industrial Revolution," in Paul Bairoch and Maurice Levy-Leboyer (eds.), *Disparities in Economic Development Since the Industrial Revolution*, London 1981, p. 7.
55 Paul Bairoch, "International Industrialization Levels from 1750–1980," *Journal of European Economic History* 11 (1982), p. 107.
56 Fritjof Tichelman, *The Social Evolution of Indonesia*, The Hague 1980, p. 30.
57 Prasannan Parthasarathi, "Rethinking Wages and Competitiveness in Eighteenth Century Britain and South India," *Past and Present*, 158 (Feb. 1998), pp. 82–7 and 105–6.
58 Dutt, cited in Eddy, p. 21.
59 Philip Huang, *The Peasant Family and Rural Development in the Yangzi Delta, 1350–1988*, Stanford, Calif. 1990.
60 Wong, p. 38.
61 F. W. Mote, *Imperial China, 900–1800*, Cambridge, Mass. 1999, p. 941.
62 Kenneth Pomeranz, "A High Standard of Living and Its Implications," contribution to "E.H.R. Forum: Rethinking 18th Century China," Internet, 19 Nov. 1997.
63 Pomeranz, "Two Worlds of Trade, Two Worlds of Empire: European State-Making and Industrialization in a Chinese Mirror," in David Smith et al., *States and Sovereignty in the Global Economy*, London 1999, p. 78 (my emphasis).
64 See S. Patel, "The Economic Distance Between Nations: Its Origin, Measurement and Outlook, *Economic Journal*, March 1964. (There is some discrepancy between his figures for the aggregate non-European world and the later estimates of Bairoch and Maddison.)
65 Albert Feuerwerker, *The Chinese Economy, 1870–1949*, Ann Arbor, Mich. 1995, pp. 32–3.
66 Paul Bairoch, "Geographical Structure and Trade Balance of European Foreign Trade, from 1800–1970," *Journal of European Economic History* 3:3 (Winter 1978), p. 565. Ch'en cites 1866 as the beginning of the serious penetration of imported textiles into China (p. 64).
67 Jack Goldstone, "Review of David Landes, *The Wealth and Poverty of Nations*," *Journal of World History* 2:1 (Spring 2000), p. 109.
68 Carl Trocki, *Opium, Empire and the Global Political Economy*, London 1999, p. 98.
69 Brian Bond, *Victorian Military Campaigns*, London 1967, pp. 309–11.
70 See O'Rourke and Williamson, pp. 53–4.
71 Historians traditionally contrast the Meiji and Tonzhang restorations, but as Goldstone suggests, the more significant comparison is between the Taipings and Japan. "What if China's old imperial regime, like Japan's, had collapsed in the mid nineteenth century, and not fifty years later, what then? What if the equivalent of Chiang Kai-shek's new model army had begun formation in the 1860s and not the 1920s? Would Japan still have been able to colonize Korea and Taiwan? What would have been the Asian superpower?" (Goldstone, ibid.).
72 "India wealth supplied the funds that bought the national debt back from the Dutch and others, first temporarily in the interval of peace between 1763 and 1774, and finally after 1783, leaving Britain nearly free from overseas indebtedness when it came to face the great French wars from 1793" (Ralph Davis, *The Industrial Revolution and British Overseas Trade*, Leicester 1979, pp. 55–6).
73 P. Cain and A. Hopkins, *British Imperialism: Innovation and Expansion, 1688–1914*, London 1993, p. 334.
74 For a recent review, see Young Goo-Park, "Depression and Capital Formation: The UK and Germany, 1873–96," *Journal of European Economic History* 26:3 (Winter 1997), especially pp. 511 and 516.
75 Giovanni Arrighi, *The Long Twentieth Century: Money, Power and the Origins of Our Times*, London 1994, p. 263.
76 A. Latham, *The International Economy and the Undeveloped World, 1865–1914*, London 1978, p. 70. Latham, it should be noted, is notoriously apologistic for British colonialism in India, arguing that the subcontinent's "relatively low growth overall is due largely to climatic factors, not to any deleterious effect of British colonial policy" (see A. Latham, "Asian Stagnation: Real or Relative?", in Derek Aldcroft and Ross Catterall (eds.), *Rich Nations – Poor Nations: The Long-Run Perspective*, Cheltenham 1996, p. 109).
77 Robin Moore, "Imperial India, 1858–1914," in Andrew Porter (ed.), *The Oxford History of the British Empire: The Nineteenth Century*, Oxford 1999, p.441.

78 Marcello de Cecco, *The International Gold Standard: Money and Empire*, New York 1984, p. 30.

79 Ravi Palat, et al., "Incorporation of South Asia," p. 185. According to these authors, the apparent exceptions to Indian deindustrialization in fact proved the rule: cotton spinning was integral to the production of an export surplus from the China trade while jute manufacture was an "island of British capital . . . initiated, organized, and controlled by British civil servants and merchants" (p. 186).

80 Ibid., pp. 37–8.

81. J. Stamp, *British Incomes and Property*, London 1916, p. 36.

82 Cain and Hopkins, pp. 338–9.

83 Eric Hobsbawm, *Industry and Empire: An Economic History of Britain Since 1750*, London 1968, p. 123.

84 The same question, of course, could be asked of Indonesia, which in the late nineteenth century generated almost 9 percent of the Dutch national domestic product. See Angus Maddison, "Dutch Income in and from Indonesia, 1700–1938," *Modern Asian Studies* 23:4 (1989), p. 647.

85 Eric Stokes, "The First Century of British Colonial Rule in India: Social Revolution or Social Stagnation?" *Past and Present* 58 (Feb. 1873), p. 151.

86 Dietmar Rothermund, *An Economic History of India*, New York 1988, p. 36; Dutt, *Open Letters*, p. 48.

87 Lu Aiguo, *China and the Global Economy Since 1840*, Helsinki 2000, pp. 34, 37 and 39 (Table 2.4).

88 J.W. Wong, *Deadly Dreams: Opium and the Arrow War (1856–1860) in China*, Cambridge 1998, pp. 390 and 396. The British tea imports from China, which opium also financed, were the source of the lucrative tea duty that by mid-century almost compensated for the cost of the Royal Navy (pp. 350–55).

89 Lu Aiguo, p. 36.

90 Latham, *The International Economy*, p. 90. India (including Burma) also earned important income from rice exports to the Dutch East Indies.

91 Ibid., pp. 409–10. See also M. Greenberg, *British Trade and the Opening of China*, Cambridge 1951, p. 15.

92 Latham, pp. 453–4.

93 Ibid., pp. 81–90. After Japan's victory in 1895, however, its textile exports began to crowd India and Britain out of the Chinese market (p. 90).

94 Cain and Hopkins, p. 425.

95 Jerome Ch'en, *State Economic Polices of the Ch'ing Government, 1840–1895*, New York 1980, p. 116.

96 Latham, ibid.