



MIKE DAVIS

LATE VICTORIAN  
HOLOCAUSTS

EL NIÑO FAMINES AND THE  
MAKING OF THE THIRD WORLD



# Late Victorian Holocausts

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El Niño Famines and the Making  
of the Third World

MIKE DAVIS

For Alok & Rajul  
With love  
Nannie

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## Offended Lands

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.. It is so much, so many  
tombs, so much martyrdom, so much  
galloping of beasts in the start!  
Nothing, not even victory  
will erase the terrible hollow of the blood:  
nothing, neither the sea, nor the passage  
of sand and time, nor the geraniums flowering  
upon the grave.

- Pablo Neruda (1937)

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# Acknowledgements

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An insistent interest in climate history was rekindled during the week I spent as a fly on the wall at the June 1998 Chapman Conference, 'Mechanisms of Millennial-Scale Global Climate Change,' in Snowbird, Utah. Listening to the folks who make environmental history from the Greenland Ice Sheet and the Beringia Rise discuss state-of-the-art research on climate oscillations was a truly exhilarating experience, and I thank the organizers for allowing a mere historian to knit what was intended to be a family conversation.

The outline for this book was subsequently presented as a paper in September 1998 at the conference "Environmental Violence," organized at UC Berkeley by Nancy Delson and Michael Watts, through the generous efforts of Boba Brass and Gopal Balakrishnan; generously offered expert and financial criticisms of this project in its early stages. Kurt Coffey spruced up some of the physics in Chapter 7. Dan Meek and Sara Lipton, Michelle Huang and Chu Sheung Siu, and Cheryl Murakami provided the essential advice. The truly hard work was done by Steve Ellett, Colin Robinson, Jera Finkle and my entire colleagues at West Books, while Day A Deitz created the excellent maps and graphics and Tom Hansen proofread the galley's with care. A MacArthur Fellowship provided unprecedented opportunities for research and writing.

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## Preface

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The failure of the monsoons through the years from 1878 to 1879 resulted in an unusually severe drought over much of Asia. The impact of the drought on the agricultural society of the region was far more severe. So far as is known, the famine that resulted in the region is the worst ever to affect the human species.

—John Hulbert, *Gabai Betsimoesesti Clangs*

It was the most famous and perhaps largest family vacation in American history. "Under a crescendo of criticism for the corruption of his administration," the newly reelected president of the United States, Ulysses S. Grant, his wife Julia, and son Jesse left Philadelphia in spring 1877 for Europe. The declared purpose of the trip was to spend some time with daughter Nellie in England, who was married (after the fashion that Henry James would describe) to a "distinguished English gentleman." Poor Nellie, in fact, saw little of her publicity-hungry parents: was preferred red carpets, cheering throngs and state banquets. As one of Grant's biographers has put it: "much has been said about how Grant, the simple folk, manfully endured acclamation because it was his duty to do so. This is nonsense." Backs back home were divided by *New York Herald* journalist John Russell Young's accounts of the "stupendous dinners, with food and wine in enormous quantity

and richness, followed by brandy while the general conversed with countless cigars." Even more than her husband, Mrs. Grant – but for Ben Switzer, a drunken man of a wife in Galena, Illinois – "could not get too many princely attentions." As a result, "the trip went on, and on and on" – as did Young's columns in the *Frederic*.<sup>1</sup>

Wherever they stopped, the Grants led a legendary trail of gaucheries. In Venice, the General told the ducal lords of the Doges that "it would be a fine city if they drained it," while at a banquet in Buckingham Palace, when the visibly uncomfortable Queen Victoria identified a "factum" by son Jesse invited her "foreign dudes" as an excuse to escape the G's, he responded: "Yes, I can imagine them; I too have been the wife of a great ruler." In Berlin, the Grants hovered around the fringes of the great Congress of Powers as it grappled with the "Eastern Question" as a prelude to the first European assault on the uncolonized peoples of Africa, Asia and Oceania. Perhaps it was the intoxication of so much imperialist hype (or the threat of even more august host receptions in oriental palaces that prompted the Grants to transform their vacation into a world tour. With James Gordon Bennett Jr. of the *New York Herald* paying the tab and the US Navy providing much of the transportation, the *Grant* Family plotted an itinerary that would have burrowed Alexander the Great up the Nile to Thebes in Upper Egypt, back to Palestine, then on to Italy and Spain, back to the Suez Canal, onward to Aden, India, Burma, Vietnam, China and Japan, and, finally, across the Pacific to California.

#### Vacanting in Sumatra Land

Americans were particularly enthralled by the idea of their Ulysses in the hand of the pharaoh, strapping up the Nile with a well-thumbed copy of Mark Twain's *Letters Abroad* on his lap. Grant was betwixt to be weaned in village after village as the "King of America." He spent quiet afternoons on the river confiding to Young (and thousands of his readers) about the Nubian road from Vicksburg to Appomattox. Once he chastised the younger officer in his party for taking unsporting potshots at stray vultures and pelicans (he sarcastically suggested they might as well go ashore and shoot some "pale, patient God-giving camel, who pulls his heavy load on hump along the bank"). Or, another occasion, when their little steamer had to pull up for the night while the crew fixed the

engine, Grant's son Jesse stood up a conversation with some of the bedouin standing guard around the campfire. They complained that "times are hard," forcing them far from their homes. "The Nile has been bad, and when the Nile is bad, slavery runs out and the people go away to other villages."

Indeed the Grants' idyl was soon broken by the increasingly grim conditions along the river banks. "Our journey," reported Young, "was through a country



Figure 91. The Grants in Upper Egypt

that in a better time must have been a garden, but the Nile not having risen this year all is parched and barren. Although so far the Grants had only basked in the warmth of desert hospitality, there had been widespread rioting in the area south of Suez (capital of Upper Egypt) and some of the *fellahs* had reportedly armed themselves and headed into the sand hills. At the instance of the governor, the Americans were assigned an armed guard for the remainder of their journey to Thebes and the First Cataract. Here the crop failure had been nearly total and thousands were dying from famine. Young tried to point a portion of the "biblical disaster" for *Merata's* readers: "Today the fields are parched and brown, and cracked. The irrigating ditches are dry. You see stumps of the last season's

crop. But with the exception of a few clusters of the castor bean and some weary drooping date palms, the earth gives forth no fruit. A gale of sand blows over the plain and adds to the somberness of the scene."<sup>11</sup>

Young, who had become as enamored with Egypt's tormented people as with its ancient monuments, was appalled by the new British suzerains' concomitant attitude toward birth. "The Englishman," he observed, "looks upon these people as his hewers of wood and drawers of water, whose duty is to work and to flank the Lord when they are not flogged. They only regard these monuments [meanwhile] as reservoirs from which they can supply their own museums and for that purpose they have plundered Egypt just as Lord Elgin plundered Greece." Young noted the crushing burden that the country's ancient monuments, now pilloled by the British, placed upon its poorest and now-finished people. The ex-President, for his part, was annoyed by the insolent attitude of the local bureaucrats well-served with a degree of such magnitude.<sup>12</sup>

A year later in Bombay, Young found more evidence for his thesis that "English influence in the East is only another name for English tyranny." While the Grants were marveling over the seeming infinity of sermons at the disposal of the priests, Young was weighing the costs of empire borne by the Indians. "There is no despotism," he concluded, "more absolute than the government of India. Mighty, irresponsible, cruel." Conscious that more than 5 million Indians by official count had died of famine in the preceding three years, Young emphasized that the "money which England takes out of India every year is a serious drain upon the country and is among the causes of its poverty."<sup>13</sup>

Leaving Bombay, the Grant party passed through a Deccan countryside — "hard, baked and brown" — that still bore the scars of the worst drought in human memory. "The sky was a dusty one, for rain had not fallen since September, and the few occasional showers which occasionally attend the blossoming of the mango, which had not appeared, were now the dread of the people, who feared their coming to ruin the ripening crops." After obligatory sightseeing trips to the Taj Mahal and Benares, the Grants had a brief rendezvous with the viceroy, Lord Lytton, in Calcutta and then left, far ahead of schedule, for Bombay. Lytton would later accuse a drunken Grant of groping English ladies at dinner, while on the American side there was resentment of Lytton's seeming diffidence towards the ex-president. Grant's confidant, the diplomat Adam Badeau, thought that Lytton

had received instructions from home not to pay too much deference to the ex-President. He believed that the British Government was unwilling to admit to the help of the populations of the East that any Western Power was important, or that any authority deserved recognition except their own." Grant, accordingly, refused Badger's request to ask the US ambassador in London to thank the British.

A magnificent reception in China compensated for Layton's inactivity. Li Hongzhang, China's senior statesman and victor over the Nian rebellion (which Young confused with the Taiping), was eager to obtain American help in difficult negotiations with Japan over the Ryukus. Accordingly, 100,000 people were treated out in Shanghai to cheer the Grants while a local band gamely attempted "John Brown's Body" (Chinese enthusiasm, however, was mainly official). This was not Egypt. Young earlier noted the young mandarins who from the windows of their homes in Canton "looked upon the behemoth with a supercilious air, contempt in their expression, very much as our young men in New York would regard Sitting Bull or Red Cloud from a club window as the Indian chieftain in procession along Fifth Avenue."<sup>10</sup>

On route from Tianjin to Beijing, the Americans were weakened by the "famine, unending heat" compounded by depressing scarcity of hunger and death.<sup>11</sup> Three years of drought and famine in northern China – officially the "terrible disaster in twenty one dynasties of Chinese history" – had recently killed somewhere between 8 million and 20 million people.<sup>12</sup> Indeed nervous American consular officials noted in their dispatches that "were it not for the possession of improved weapons mobs of starving people might have caused a severe political disturbance."<sup>13</sup> In his conversations with Li Hongzhang, Grant lectured with some insistence that railroads might have prevented such a catastrophe. In the matter of famine – of which he had heard so many dire-sounding stories since he came to China, it would be a blessing to the people to have railway communications. In America, there could be no famine such as had recently been seen in China, unless, as was hardly possible in so vast a territory, the famine became general. If the crops failed in one State, supplies could be brought from others at a little extra expense in money and time. We could send wheat, for instance, from one end of the country to another in a few days." Li Hongzhang responded that he was personally in favor of railways and telegraphs but unfortunately "his

opinions on this were not shared by some of his colleagues.<sup>114</sup> The great Qing leader, of course, was engaging in heroic understatement.

#### The Secret History of the Nineteenth Century

After Beijing, Grant continued to Yokohama and Edo, then home across the Pacific to a rapturous reception in San Francisco that demonstrated the dramatic revival of his popularity in light of so much romantic and highly publicized globe-trotting. That success eventually precluded another assault on the White House and forced the ex-president into a desperate race to finish his *Excursion Perseus Admiris*. But none of that is pertinent to this preface. What is germane is a coincidence in his travels that Grant himself never acknowledged, but which almost certainly must have puzzled readers of Young's narrative: the successive encounters with epic drought and famine in Egypt, India and China. It was almost as if the Americas were inadvertently following in the footsteps of a monster whose colossal trail of destruction extended from the Nile to the Yellow Sea.

As contemporary readers of *Nature* and other scientific journals were aware, it was a disaster of truly planetary magnitude, with drought and famine reported as well in Java, the Philippines, New Caledonia, Korea, Russia, southern Africa and the Mahgreb. No one had hitherto suspected that synchronous extreme weather was possible on the scale of the entire tropical monsoon belt plus northern China and North Africa. Nor was there any historical record of famine afflicting so many far-flung lands simultaneously. Although only the roughest estimates of mortality could be made, it was horrifyingly clear that the million Irish dead of 1845–47 had been multiplied by tens. The total toll of momentous warfare from Australia to Anatolia and Sedit, according to calculations by one Dutch journalist, was probably less than the mortality in southern India alone.<sup>115</sup> Only China's Taiping Revolution (1851–64), the bloodiest civil war in world history with an estimated 20 million to 40 million dead, could boast as many victims.

But the great drought of 1876–79 was only the first of three global subsistence crises in the second half of Victoria's reign. In 1888–91, dry years again brought famine in India, Korea, Brazil and Russia, although the worst suffering was in Ethiopia and the Sudan, where perhaps one-third of the population died. Then in 1896–1902, the miasmas again repeatedly lashed across the tropics and in northern China. Hugely destructive epidemics of malaria, bubonic plague, dysentery,

Table P1  
Estimated Famine Mortality

India	1876-79	12.0 million	Digby
		5.2 million	Maharaja
	1896-1902	6.1 million	Seelye
		13.0 million	Ta' Langat
		6.5 million	Kirkcaldy/Seelye
		5.1 million	Cambridge
India Total		13.2-28.3 million	
China	1876-79	2.0 million	Kennedy
		9.5-15 million	Bala
	1896-1902	1.0 million	Cohen
China Total		1.0-10 million	
Brazil	1876-79	0.5-1.0 million	Camoff
	1896-1902	n.d.	
Brazil Total		2 million	Smith
Total		31.7-61.3 million	

Source: Cf. William Digby, "Famines" *British India*, London 1901; Anup Kumar, *The Geography of Famines*, Delhi 1993; Richard Seelye, *Famine in Pastoral Societies*, New York 1937; *The Great Famine 1891-1892* Cambridge University Press 1983; Cambridge 1983; P. J. Cohen, *China's Great Famine 1959-1961*, *Open Course Book for Lanchester Poly.*, London 1969; Paul Eche, *Feather's Law*, Cambridge, Mass. 1992; Paul Cohen, *Hungry for Memory*, New York 1997; Roger Gamble, "The Great Drought: Northeast Brazil, 1877-1880," *Hispanic Studies of Texas*, Austin 1999; and T. J. van Smith, *Death, Dying and Mourning*, *Urbana* Spring 1976. Chapters 3 and 4 have detailed discussions of these events.

smallpox and cholera killed millions of victims from the ranks of the famine-weakened. The European empires, together with Japan and the United States, rapaciously exploited the opportunity to wrest new colonies, capogate commercial lands, and tap novel sources of plantation and mine labor. What seemed from a metropolitan perspective the nineteenth century's final phase of imperial glory was, from an Asian or African viewpoint, only the hideous light of a giant funeral pyre.

The total human toll of these three waves of drought, famine and disease could not have been less than 30 million victims. Fifty million dead might not be unrealistic. (Table P1 displays an array of estimates for famine mortality for 1876-79 and 1896-1902 in India, China and Brazil only.) Although the furnished

nations themselves were the chief mourners, there were also contemporary Europeans who understood the moral magnitude of such carnage and loss fundamentally in antithesis to the ideologies of empire. Thus the Radical journalist William Digby, principal chronicler of the 1876 Madras famine, prophesized on the eve of Queen Victoria's death that when "the part played by the British Empire in the nineteenth century is regarded by the historian fifty years hence, the unnecessary deaths of millions of humans would be its principal and most notorious monument."<sup>17</sup> A most eminent Victorian, the famed translator Alfred Russel Wallace, the controversialist with Darwin of the theory of natural selection, passionately agreed. Like Digby, he viewed mass starvation as avoidable political tragedy, not "natural" disaster. In a famous balance-sheet of the Victorian era, published in 1898, he characterized the famines in India and China, together with the slum-poverty of the industrial cities, as "the most terrible failures of the century."<sup>18</sup>

But while the Dickensian slum remains in the world history curriculum, the famine children of 1876 and 1899 have disappeared. Almost, without exception, modern historians writing about nineteenth century world history from a metropolitan vantage point have ignored the late Victorian mega-famines and hunger that engulfed what we now call the "Third World." Eric Hobsbawm, for example, makes no allusion in his famous trilogy on nineteenth century history to the worst famines in perhaps 500 years in India and China, although he does mention the Great Hunger in Ireland as well as the Russian famine of 1891–92. He omits the sole reference to famine in David Landes's *The Wealth and Poverty of Nations*, a magnum opus meant to solve the mystery of inequality between nations: is the erroneous claim that British railroads eased hunger in India.<sup>19</sup> Numerous other examples could be cited of contemporary historians' curious neglect of such portentous events. It is like writing the history of the late twentieth century without mentioning the Great Leap Forward famine or Cambodia's killing fields. The great famines are the missing pages – the absent defining moments, if you prefer – in virtually every overview of the Victorian era. Yet there are compelling, even urgent, reasons for retaining this sober history.

An issue is not simply that tens of millions of poor rural people died appallingly. Not that they died in a vacuum, and for reasons, that contradict much of the conventional understanding of the economic history of the nineteenth century. For example, how do we explain the fact that in the very half-century when



perpetrate famines, permanently displaced from Western Europe, it increased so devastatingly throughout much of the colonial world? Equally how do we weigh strong claims about the life-saving benefits of steam transportation and modern grain markets when so many millions, especially in British India, died alongside railroad tracks or on the steps of grain depots? And how do we account in the case of China for the drastic decline in state capacity and popular welfare, especially famine relief, that seemed to follow in lockstep with the empire's forced "opening" to modernity by Britain and the other Powers?

We are not dealing, in other words, with "lands of famine" (referred to as stagnant backwaters of world history, but with the fate of tropical humanity at the precise moment, 1870–1914) when its labor and products were being dynamically conscripted into a London-centered world economy.<sup>14</sup> Millions died, not outside the "modern world system," but in the very process of being forcibly incorporated into its economic and political structures. They died in the golden age of Liberal Capitalism; indeed, many were murdered, as we shall see, by the ideological application of the sacred principles of Smith, Bentham, and Mill. Yet the only twentieth-century economic historian who seems to have clearly understood that the great Victorian famines (at least, in the Indian case) were integral chapters in the history of capitalist modernity was Karl Polanyi in his 1944 book *The Great Transformation*. "The actual source of famines in the last fifty years," he wrote, "was the free marketing of grain combined with local failure of incomes."<sup>15</sup>

Failure of crops, of course, was not of the nature of despatch of grain that made it possible to send relief to the threatened areas; the trouble was that the people were unable to buy the corn at skyrocketing prices, which on a free and incompletely regulated market would have been a direct result of a shortage. In former times small local markets had been held against harvest failure, but these had been more or less annulled or swept away into the big market. . . . Under the monopolistic situation that has so lately supplanted them, with the help of the artificial regulation of the market, including the distribution of credit, while under free and equal exchange millions perished by the millions.<sup>16</sup>

Polanyi, however, believed that the emphasis that Marxists put on the exploitative aspects of late-nineteenth-century imperialism served "to hide from our view the even greater cause of cultural degeneration."<sup>17</sup>

The catastrophe of the native community is a direct result of the rapid and violent disruption of the basic institutional mechanisms. Just force is used in the process, and does not seem altogether relevant. These institutions are disrupted by the very fact that a market economy is raised upon an entirely differently organized economic base, hence with built-in possibilities, which again, is only a short formula for the liquidation of every and any other institution in an organic society. . . . Indian masses in the second half of the nineteenth century did not die of hunger because they were exploited by landowners; they perished in huge numbers because the Indian village communities had been demolished.<sup>10</sup>

Polanyi's famous essay has the admirable virtue of knocking down one Smithian fetish after another to show that the route to a Victorian "new world order" was paved with bodies of the poor. But he simultaneously reified the "Market" as automata in a way that has made it easier for some epigones to visualize famine as an in-ventent "birth pang" or no-fault "fiction of transition" in the evolution towards the market-based world substance. Can modification of agriculture eliminates village level reciprocities that traditionally provided welfare to the poor during crises, indeed as it to say, "Ooops, system error. Fifty million corpses. Sorry. We'll issue a famine code next time.")

But markets, to play with words, are always "made." Despite the pervasive ideology that markets function spontaneously and, as a result, "if capitalism, there is nobody on whom one can pin guilt or responsibility, things just happened that way, through an agency of fate/Louisiana";<sup>11</sup> they in fact have inescapably political dimensions. And these – contra Polanyi – are together relevant.<sup>12</sup> As Ross Fitzgerald argues in her classic 1981 analysis of the incorporation of Asian and African peasants into the late nineteenth-century world market:

Even new colonial expansion accompanied a transfer of capital, by a relentless battle of capital against the local and economic ties of the natives, who are also forcibly robbed of their means of production and of their power. Any hope to restrict the accumulation of capital exclusively to "free" competition – and to regulate commodity exchange such as takes place between capitalist producer countries, and even the pious belief that capital – namely upon the slow material process of a disintegrating natural economy. Accumulation, with its quantitative expansion, can continue until, and be content with, a minimal number of integrations of local capital formations and their transition to commodity economy; then it can wait

let me be content with the initial firmness of the working population, force a (the only solution open to capital, the accumulation of capital, becomes a historical process, engenders force as a permanent weapon...."<sup>1</sup>

The forces that Polanyi abstractly describes as rooted in commodity cycles and trade circuits were part of this permanent *via nova*. "Millions die" was ultimately a policy choice: to accomplish such detourments required (in Buzuk's semantic phrase, "a brilliant way of organising famine."<sup>2</sup>) The victims had to be comprehensively defeated well in advance of their slow withering into dust. Although equations may be more fast and able, it is necessary to plan names and faces to the human agents of such catastrophes, as well as to understand the configuration of social and natural conditions that constrained their decisions. Equally, it is imperative to consider the resistances, large and small, by which working laborers and poor peasants attempted to foil the death sentences passed by grain speculators and colonial proconsuls.

### 'Prisoners of Starvation'

Parts I and II of this book, accordingly, take up the challenge of traditional narratives history. Synchronic and devastating drought provided an environmental stage for complex social conflicts (not lodged from the intra-village level to "Whitew" and the Congress of Berlin. Although crop failures and water shortages were of epic proportion—often the worst in centuries—there were almost always grain surpluses elsewhere in the nation or empire that could have potentially rescued drought victims. Absolute scarcity, except perhaps in Ethiopia in 1972, was never the issue. Standing between life and death instead were newangled consequences of class and race specification, political risk, and the will of the state (as influenced by popular protest) on the other. As we shall see, the expectations of states to relieve crop failure, and the way in which famine policy was discounted against available resources, differed dramatically. At one extreme, there was British India under viceroys like Lytton, the second Dajin and Curzon, where Smithian dogma and crude imperial self-interest allowed huge grain exports to England in the midst of horrendous starvation. At the other extreme was the tragic example of Ethiopia's Meng'el II, who struggled heroically but with too few resources to rescue his people from a truly biblical conjunction of nature and man-made plagues.

seen from a slightly different perspective, the subjects of this book were ground to bits between the teeth of three massive and implacable cogwheels of modern history. In the first instance, there was the fatal meshing of extreme events between the world climate system and the late Victorian world economy. This was one of the major novelties of the age: Until the 1870s and the creation of a rudimentary international weather reporting network there was little scientific apprehension that drought on a planetary scale was even possible, likewise, until the same decade, rural Asia was not yet sufficiently integrated into the global economy to send or receive economic shock waves from the other side of the world. The 1870s, however, provided numerous examples of a new vicious circle (which Stanley Levens was the first economist to recognize) linking weather and price perturbations through the medium of an international grain market.<sup>15</sup> Suddenly the price of wheat at Liverpool and the rainfall at Madras were variables in the same over equation of human survival.

The first six chapters provide dozens of examples of malign interaction between climatic and economic processes. Most of the Indian, Brazilian and Mexican cultivators, for example, who starved in 1877 and 1878 had already been debilitated and made vulnerable to hunger by the world economic crisis (the metropolitan country's "Great Depression") that began in 1873. The soaring trade deficits of Qing China – artificially engineered in the first place by British war reparations – likewise accelerated the decline of the "centennial" garrisons that were the empire's first line defense against drought and flood. Conversely, drought in Brazil's Nordeste in 1888 and 1891 prostrated the population of the backlands in advance of the economic and political crises of the new republic and accordingly magnified their impact.

But Kondratieff (the theorist of economic "long waves") and Bjerknes (the theorist of El Niño oscillations) need to be supplemented by Hoisington, Freeman Burg and Larin. The New Imperialism was the third gear of this catastrophic history. As Jill Deser has so brilliantly shown in the case of the Portuguese in nineteenth century Angola, colonial expansion ruthlessly syncretized the rhythms of natural disaster and epidemic disease.<sup>16</sup> Each global drought was the green light for an imperialist *kudō* rush. If the southern African drought of 1877, for example, was Carnarvon's opportunity to strike against Zulu independence, then the Ethiopian famine of 1888-91 was Crispien's mandate to build a new Roman Empire

in the Horn of Africa. Likewise, Wilhelmian Germany exploited the famine and drought that devastated Shandong in the late 1890s to aggressively expand its sphere of influence in North China, while the United States was simultaneously using drought-famine and disease as weapons to crush Aguinaldo's Philippine Republic.

But the agricultural populations of Asia, Africa and South America did not go gently into the New Imperial order. Famine was over the right to existence. If resistance to famine in the 1870s (apart from southern Africa) was overwhelmingly local and riotous, with few instances of more ambitious insurrectionary organization, it undoubtedly had much to do with the recent memories of state terror from the suppression of the Indian Mutiny and the Taiping Revolution. The 1850s were an entirely different story, and modern historians have clearly established the contrary role played by drought-famine in the Boxer Rebellion, the Korean Tonghak movement, the rise of Indian Extremism and the Revolution War of Ecuador, as well as innumerable revolts in eastern and southern Africa. The millenarian movements that swept the "hired world" at the end of the nineteenth century derived much of their eschatological fervor from the acuity of these subsistence and environmental crises.

But what of Nature's role in this bloody struggle? What turns the great wheel of drought and does it have an intrinsic periodicity? As we shall see in Part III, synchronous drought – resulting from massive shifts in the seasonal location of the principal tropical weather systems – was one of the great scientific mysteries of the nineteenth century. The key theoretical breakthrough did not come until the late 1930s, when Jacob Bjerknes at MIT showed that the trade winds, like how the equatorial Pacific Ocean, acting as a planetary heat engine coupled to the trade winds, was able to affect rainfall patterns throughout the tropics and even in the temperate latitudes. Rapid warmings of the eastern tropical Pacific (called El Niño events), for example, are associated with weak monsoons and synchronous drought throughout vast parts of Asia, Africa, and northeastern South America. When the eastern Pacific is unusually cool, on the other hand, the pattern reverses (called a La Niña event), and abnormal precipitation and flooding occur in the same "teleconnected" regions. The entire vast seesaw of air mass and ocean temperature, which extends into the Indian Ocean as well, is formally known as "El Niño-Southern Oscillation" (or ENSO, for short).

The first reliable chronologies of El Niño events, painstakingly reconstructed from meteorological data and a variety of anecdotal records (including even the diaries of the conquistadors), were assembled in the 1970s.<sup>47</sup> The extremely pow-



Figure E2. Comparison of the 1877-78 and 1982-83 El Niño Events.

erful 1982 El Niño aroused a new interest in the history of the impacts of earlier events. In 1986 two researchers working out of a national weather research laboratory in Colorado published a detailed comparison of meteorological data from the 1878 and 1982 anomalies that identified the first as a paradigmatic ENSO event, perhaps the most powerful in 500 years (see Figure E2).<sup>48</sup> Similarly, the remarkably successful succession of tropical droughts and 1000-hour floods in 1898-9, 1899-1900, and 1902 were firmly correlated to El Niño weatherings of the eastern Pacific. The 1898 Yellow River flood (in addition, was probably a El Niño event) indeed, the last third of the nineteenth century, like the last third of the twentieth, represents an exceptional intensification of El Niño activity relative to the centuries-long mean.<sup>49</sup>

If, in the eyes of some, ENSO's messy fingerprints are all over the climate diaries of the Victorian period, historians have yet to make much of this discrepancy. In the last generation, however, they have generated a wealth of case studies and monographs that unambiguously deepen our understanding of the impact of

world market forces on non-European agriculturalists in the late nineteenth century. We now have a far better understanding of how these shocks in China, cotton producers in Korea and poor peasants in western Shandong were linked to the world economy and why they made them more vulnerable to drought and flood. We also have magnificent analyses of larger pieces of the puzzle: the decline of the Qing grainary and flood control systems, the lateral structure of India's cotton and wheat export sectors, the role of racism in regional development in nineteenth-century Brazil, and so on.

Part IV is an ambitious attempt to make this vast literature for historians into the background forces that shaped vulnerability to famine and determined who, in the last instance, died. If the early narrative sections of Parts I and II introduced abrupt conjunctural economic factors (like the end of the cotton boom or world trade recession), these penultimate chapters are concerned with slower structural processes: the perverse logic of marketized subsistence, the consequences of colonial revenue settlements, the impact of the new Gold Standard, the decline of indigenous litigation, judicial colonialism in Brazil, and so on. Beginning with a chapter-length overview of the late Victorian economic order as a whole – and the strategic contributions of the Indian and Chinese peasantry, in particular, to maintaining British colonial hegemony – I offer critical summaries of recent work on late nineteenth century India, China and Brazil.

This is a “political ecology of famine” because it takes the viewpoint both of environmental history and Marxist political economy – an approach to the history of subsistence crisis pioneered by Michael Watts in his 1983 book, *Silent Violence: Food, Famine and Peasantry in Southern Nigeria*.<sup>1</sup> Although other useful terms and affixes are possible – the fact that Watts and his co-workers like their ongoing work as “political ecology” persuaded me to do the same – it only to express my indebtedness and solidarity (I share similar with Watts’s book will easily recognize its influence on this work.)

Finally, I have tried to take on board David Arnold’s indispensable emphasis on features as “engines of historical transformation.”<sup>2</sup> The great Victorian latitudes were forcing houses and accelerators of the very socio-economic forces that ensured their occurrence in the first place. A key thesis of this book is that what we today call the “third world” (a Cold War term)<sup>3</sup> is the outgrowth of famine and wealth inequalities – the famous “development gap” – that were shaped most

decisively in the last quarter of the nineteenth century, when the great non-European peasant populations were suddenly integrated into the world economy. As other historians have recently pointed out, when the Bastille was being stormed, the vertical class distinctions inside the world's major societies were not rearticulated as dramatic income differences between societies ("the differences – using standards, say, between a French sans-culotte and Deccan farmer were relatively insignificant compared to the gulf that separated both from their ruling classes." By the end of Victoria's reign, however, the inequality of nations was as profound as the inequality of classes. Humanity had been irrevocably divided. And the famed "parameters of starvation," where the later, ghastly stages to arise – were as much modern inventions of the late Victorian world as electric lights, Maxim guns and "scientific" racism.



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