

EXTERNALITIES

The Brown Peril: Atmospheric Brown Clouds and Asian Neoliberalism

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Molecular epidemiologists who focus on environmental links to illness increasingly do much of their work in the developing world, where pollution is so ubiquitous that its complex connections to health can be calibrated even in small study populations.

—*Scientific American*¹

The ancient Chinese were a scientifically advanced people. The standard reference work describes them as “the most persistent and accurate observers of celestial phenomena anywhere in the world before the Arabs.”² So respected were astronomers in Han China that they were accommodated within the Imperial Palace. And yet for the typical Chinese of today, a different situation obtains: On many nights in town and country in the People’s Republic, the stars are not visible at all.

This owes to atmospheric brown clouds, or ABCs, huge plumes of air pollution that are visible on the ground as a brownish haze, and from space as thousand-mile-long brown stains on the globe. The clouds are composed of huge quantities of tiny pollutant particles, jointly referred to as “aerosols,” that include soot, smog, and fly ash. They develop every year from December to April and can reach over a mile thick and stretch from the Arabian to the Yellow Sea. They blot out the sun and stars, shroud the horizon, and can be tasted on the tongue.

Atmospheric brown clouds received some publicity after a recent UN Environment Programme (UNEP) report on their composition, environmental impacts, and health ramifications.³ The UNEP report points out that these pollutants are emitted from “anthropogenic sources, such as fossil fuel combustion, biofuel cooking and biomass burning.”⁴ However, just naming the specific sources of the pollutants obscures their real origin. In many of their basic aspects, toxic ABCs are the products of neoliberal economic forms, including fiscal reductions in social supports, liberalized trade policies, and foreign direct investment. Thus, those who merely say neoliberal capitalism fails to protect the environment are downplaying its full impact—i.e., that the full destruction of livelihoods and ecology in neoliberal Asia now has a physical manifestation dire enough to be visible from space.

The ABCs of ABCs

¹ Dan Fagin, “China’s Children of Smoke,” *Scientific American*, Vol. 299, No. 2, July 14, 2008.

² Joseph Needham and Wang Ling, *Science and Civilization in China*, Vol. 3 (Cambridge: Cambridge University Press 1959), p.171.

³ V. Ramanathan, et al., “Atmospheric Brown Clouds: Regional Assessment Report With Focus on Asia,” UN Environment Programme, 2008.

⁴ *Ibid.*, p. 10.

The UNEP report notes early on that ABCs are observed over many large metropolitan regions, including several in Europe and eastern North America. However, these northern hemispheric regions have wet winters, when precipitation washes out the suspended aerosols that make up these clouds. The report's main focus is on the region framed by three "ABC hotspots": East Asia, Southeast Asia, and the Indo-Gangetic Plain in South Asia. This suggests that a third of the world's population is seasonally blanketed by toxic, sooty clouds, under which the human impacts are growing very quickly.

While greenhouse gases emitted by fossil-fuel burning trap energy in the earth's atmosphere and thus warm it, ABCs have mixed climate effects. Many elements of these clouds scatter light back into space, reducing the rise in global temperature; other elements, such as soot, absorb light and warm the atmosphere. But ABCs also cool and dim the earth's surface beneath them. China's Guangzhou province, for example, now receives 20 percent less light than in the 1970s.⁵ In fact, the most recent report of the Intergovernmental Panel on Climate Change concludes that as much as half of the global warming effect of CO₂ has been cancelled out by the cooling effect of the tiny particles in these clouds,⁶ a phenomenon scientists describe as "masking" climate effects from greenhouse gases. Therefore, the overall climate effect of ABCs is estimated to be negative.⁷ In the macabre context of global warming, the ability of ABC pollution to reduce warming creates a serious obstacle to eliminating it, since removing the brown clouds without reducing greenhouse gas emissions could lead to a further increase in global temperatures of up to 2 degrees Celsius beyond what is already projected. Ironically, this variety of industrial pollution may be the only thing protecting us from other types of industrial pollution.

These massive clouds also have enormous effects on Asia's already strained water systems, on which millions depend. The soot in the clouds is being deposited on Asia's many glaciers, which makes them darker and warms them.⁸ The ABCs also heat the upper atmosphere at the glacier's high altitudes. On top of the already existing greenhouse gas warming, these factors have accelerated melting of the Hindu Kush-Himalayan glacier system.⁹

For example, the mammoth Gangotri Glacier feeds 70 percent of the flow of the Ganges River, from which more than 400 million people draw their water.¹⁰ The Earth Policy Institute notes that if the glacier continues its well-documented retreat, "the Ganges could become a seasonal river, flowing during the rainy season but not during the summer dry season when irrigation water needs are greatest."¹¹ Likewise, the Yangtze River fertilizes

⁵ *Ibid.*, pp. 13, 16.

⁶ S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.), Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis* (Cambridge and New York: Cambridge University Press, 2007).

⁷ Veerabhadran Ramanathan, "Warming Trends in Asia Amplified by Brown Cloud Solar Absorption," *Nature*, Vol. 448, August 2, 2007, pp. 575-578.

⁸ V. Ramanathan, et al., "Atmospheric Brown Clouds," pp. 24-25.

⁹ *Ibid.*

¹⁰ Lester Brown, "Melting Mountain Glaciers Will Shrink Grain Harvests in China and India," Earth Policy Institute, published online at <http://www.worldhunger.org/articles/08/asia/brown.htm>.

¹¹ *Ibid.*

about half of China's rice harvest and is fed by the Tibet-Qinghai Plateau glaciers. These are retreating tens of meters annually and could be two-thirds gone by 2060.¹² Both of these endangered river basins support a population larger than the entire U.S.

The question of when the Himalayan glaciers will ultimately vanish was at the heart of one of the few clear errors to be found in the IPCC's voluminous 2007 report. A claim of glacial extinction by 2035 was found not to be based on peer-reviewed research, and the IPCC released a statement to that effect. The statement, in turn, was immediately leapt upon and spun to cast doubt on global warming by the Fox News-talk radio matrix.

Besides posing risks to agriculture from shrinking glaciers, the tiny particles in the clouds tend to "suppress" the summer monsoon storms. This has resulted in shorter monsoon seasons with more severe storms. While the rainfall science is at an early stage, in light of the clear impact ABCs have on glacial melting, tampering with the other main water cycle vector in the world's most populated regions is dangerous. According to the Earth Policy Institute, this is especially true in the context of Asia's falling water tables, which combined with receding glaciers and perturbed monsoons "could lead to politically unmanageable food shortages."¹³

The direct health effects of this long-term haze are another story. The UNEP report is highly conservative in predicting particular health impacts and limits itself to calling for study and noting the individual health effects of the particular elements that make up the ABCs: cardiovascular disease from fossil fuel emissions, vascular lesions from concentrated aerosol particles, immune system responses, and cancer from fine smoke.¹⁴

Disease researchers are making their way to the developing world to collect data on the effects of the pervasive mixed pollutants. *Scientific American*, for example, describes Dr. Frederica Perera investigating the effects of pollutants on children in the womb. The scientists visit a Chinese town that recently closed a coal-burning power plant, once choked with exhaust but where "passing cars no longer kick up clouds of black soot from the street and families can hang their wash outside to dry for more than a few minutes without their white shirts turning gray." The results were that "children born in 2002, when the power plant was still operating, have smaller heads and score worse on developmental tests than those born in 2005, a year after the plant closed."¹⁵ In this way ABCs tilt the playing field against the poor even before birth.

Of course, standard economic theory would designate all these environmental and health effects as inconsequential "externalities," near-negligible side-effects of economic transactions that affect uninvolved third parties. Mainstream theory holds that if these effects are present, they will reduce the optimum efficiency expected from market transactions. However, the conventional wisdom is that their effects are rare and diffuse. The presence of massive ABCs are a clear refutation of that lazy (if convenient) assumption.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ V. Ramanathan, et al., "Atmospheric Brown Clouds," pp. 34-35.

¹⁵ Dan Fagin, "China's Children Of Smoke," July 14, 2008.

Made in Asia—At Gunpoint

In light of these ominous developments, the crucial question is exactly how these clouds are created. U.S. National Aeronautics and Space Administration (NASA) photos reviewed in *Science* suggest the clouds come not only from industrial air pollution from fossil fuel combustion, but also from significant emissions from biomass burning, such as forest fires, the burning of agricultural waste, and vegetable fuels.¹⁶ The pivotal study was the “Indian Ocean Experiment,” where scientists found “[a]nthropogenic sources contributed as much as 80 percent (± 10 percent) to the aerosol loading” in the region.¹⁷

But the physical composition of the clouds has become clear only lately. An international team recently determined that the clouds are approximately two-thirds products of biomass combustion and one-third fossil fuel combustion.¹⁸ This indicates that the Asian haze owes even more to wood- and dung-burning home stoves and agricultural forest burning than to Asia’s millions of coal power plants and motorists. However, deeper analysis of the social origin of each of these elements pins responsibility for the haze on neoliberal economic policy and modern capitalist investment patterns.

Of the three ABC hotspots the UNEP report describes in Asia, the Southeast Asian region’s cloud is most driven by “biomass clearing,” like slash-and-burn agriculture, which is most commonly undertaken for palm oil exports.¹⁹ *The Economist* notes that besides the burnt biomass, the smog “serves as a kind of atmospheric lid to contain all the lead, carbon monoxide, sulphur dioxide and particulates that the industrializing and motorizing countries of the region pump relentlessly into the air.” The conservative journal went so far as to suggest that these clouds may be “the most pernicious man-made smog in history.” The journal describes the health fallout: “Dry throats, running noses, sore eyes, asthma seizures...Malaysia’s government has advised people to stay indoors.”

Beside the medical care costs from the smoke, the fundamental economic losses have been significant and build every year, from closed schools to missed flights to ship collisions. High ozone levels from the enormous fires compounded the health and economic damage to crops, since the IPCC has assembled research documenting decreases in crop yields with increases in ozone concentration.²⁰ In one memorable episode, as the annual smog forced the ASEAN (Association of Southeast Asian Nations) countries to meet in Indonesia to discuss the problem, the ministers had to hastily move their meeting place to

¹⁶ Hajime Akimoto, “Global Air Quality and Pollution,” *Science*, Vol. 302, No. 5651, December 5, 2003, pp. 1716-1719.

¹⁷ Veerabhadran Ramanathan, et al, “Indian Ocean Experiment: An Integrated Analysis of the Climate Forcing and Effects of the Great Indo-Asian Haze,” *Journal of Geophysical Research*, Vol. 106, No. 2001, pp. 28,371-28,398.

¹⁸ Örjan Gustafsson, et al., “Brown Clouds Over South Asia: Biomass or Fossil Fuel Combustion?” *Science*, Vol. 323, No. 5913, January 23, 2009, pp. 495-498; T.V. Padma, “Biomass-burning ‘Behind Asian Brown Clouds,’” *The Guardian*, January 27, 2009, published online at: <http://www.guardian.co.uk/environment/2009/jan/26/network-biomass-burning>.

¹⁹ “The Smoke in Asia’s Eyes,” *The Economist*, October 4, 1997.

²⁰ L.Y. Chan, et al., “A Case Study on the Biomass Burning in Southeast Asia and Enhancement of Tropospheric Ozone over Hong Kong,” *Geophysical Research Letters*, Vol. 27, No. 10, 2000; Solomon, et al. (eds.), *Climate Change 2007: The Physical Science Basis*, 2007.

escape the smoke.²¹ *The Wall Street Journal* reported that this led dictator Suharto to make an address wherein he “stunned the region by publicly apologizing for the smoke.”²²

Much of this pollution is a result of the “structural adjustments” to Indonesia’s economy made by the International Monetary Fund (IMF) in the wake of Asia’s 1998-99 financial crisis. Desperate for loans, a cornered Indonesia was forced to accept fiscal conservatism, particularly the reduction or elimination of subsidies to its citizens for many basic products, including food, fuel, and electricity. The price of kerosene, which is essential to the poor for cooking fuel, shot up by 25 percent in the blink of an eye. This led to riots across the country, and then what *The Economist* prosaically called “[t]he familiar armory of riot police” being put to use against those out of work.²³ Following months of student agitation on campuses, the U.S.-backed Suharto regime clamped down. “The authorities’ unstated fear was that disaffected students might find natural allies in poor districts nearby, many of whose inhabitants, especially the unemployed, have been hit just as hard as the students by the economic disaster.” A real nightmare, for readers of *The Economist*. In the end, much of the violence was directed against the entrepreneurial Chinese minority, and the impoverished masses of Indonesia were forced to fall back on biofuels for cooking, contributing to regional soot emissions

Elsewhere, the IMF also demanded trade policy changes in exchange for the \$43 billion in loans. Notably, Indonesia ended its ban on the export of palm oil on April 1, 1998—leading first to a sharp price spike in this crucial cooking oil, and second to the possibility of profitably exporting palm oil from large plantations. The IMF also insisted that Indonesia liberalize its investment rules, and in response multinational corporations moved fast to buy land and clear space for palm oil plantations. As the *Financial Times* describes it, “the appetite of foreign investors” escalated Indonesia’s tradition of clearing land; combined with population pressure, “the arrival of logging and plantation firms have made the situation much worse in recent years.”²⁴ Thus the years of annihilating Indonesian Borneo’s dense rainforest is very much based on neoliberal economic modes. The corresponding suffering of Indonesia’s squeezed population, the imminent extinction of the orangutan and thousands of other species, as well as the foul ABCs, are all externalities.

Another ABC “hot spot” is the Indo-Gangetic plain, a vast area hosting river basins that support a large part of the hundreds of millions of souls in India, Pakistan, and Bangladesh. Research reveals that region’s haze comes primarily from biofuel burning—household use of dung or agricultural waste for cooking and heating. A recent analysis published in *Science* found that while “[s]oot or black carbon emissions in the south Asian region arise from fuel combustion for transportation, industrial, and residential uses...the

²¹ “Pollution: An Asian Pea-souper,” *The Economist*, September 27, 1997.

²² Peter Waldman, “Southeast Asian Smog is Tied to Politics—Jakarta’s Business Concession Fueled Rash of Fires,” *Wall Street Journal*, September 30, 1997.

²³ “Indonesia Shudders,” *The Economist*, May 9, 1998.

²⁴ Sander Theones, “Optimistic Targets Market Expectations for a Surprisingly Quick Economic Turnaround,” *Financial Times*, May 14, 1999; “Stuck in a Haze,” *The Economist*, October 14, 2006.

combustion of solid biofuels—such as wood, agricultural waste, and dried animal manure in cooking stoves—is the largest source of [soot] emissions in India.”²⁵

As *The New York Times* has noted,²⁶ affordability is a principal reason for biofuel use, since incomes in the region can’t support electricity or gas service. Another UN agency refers to similar conditions in rural China “where most of the farmers do not earn enough to pay for fuel or electricity” and must rely on farm waste like hay.²⁷

While India has never entered full IMF receivership, its fiscal crises of the 1990s led to IMF pressure to cut state outlays and privatize public enterprise. Reductions in public spending have been pursued more aggressively, and from 1992, India has repeatedly cut energy subsidies for its impoverished multitudes.²⁸ While the *Far Eastern Economic Review* considered that “India’s IMF-supervised economic restructuring” caused “relatively little pain,” the resulting price jumps for energy have surely been a factor moving rural India toward far cheaper, but dirtier, biofuel alternatives.²⁹ This trend has escalated as India continued to reduce its public subsidies raising prices twice in 2008 alone.³⁰ The IMF and neoliberal economists point to a reduced fiscal shortfall and improved Gross Domestic Product (GDP) growth since the “reforms” as evidence for their success. However, this equation does not include the falling fortunes of India’s majority, the sooty cloud that covers their land over the winter, or the 700,000 annual excess deaths found by UNEP in India and China from indoor air pollution exposure.

Fossil fuel combustion looms particularly large in the last Asian ABC hotspot, East Asia. Burning organic fuels produces carbon dioxide, the most prominent greenhouse gas, as well as many of the tiny particles that make up the ABCs, including soot, sulfates, and ozone. Asia’s carbon emissions skyrocketed in the nineties and have now surpassed Europe and North America.³¹ This owes to many economic developments in the region, including the rapid growth of automobile use and the use of coal in the home for winter heat. But a crucial and revealing driver of Asia’s emissions has been China’s export growth explosion.

While China is no neoliberal playground, its recent export-led growth boom has required rapid expansion in its electrical capacity. China presently burns more than 2 billion tons of coal annually; for many years China has opened an average of one new coal-fired

²⁵ C. Venkataraman, G. Habib, A. Eiguren-Fernandez, A. H. Miguel, and S. K. Friedlander, “Residential Biofuels in South Asia: Carbonaceous Aerosol Emissions and Climate Impacts,” *Science*, Vol. 307, No. 5714, March 4, 2005, pp. 1454-1456.

²⁶ Elizabeth Rosenthal, “Third-World Stove Soot is Target in Climate Fight,” *The New York Times*, April 16, 2009.

²⁷ Togar Napitupulu, “Biogas: Helping Poor Farmers Help the Planet and Themselves,” *CAPSA Flash*, Vol. 6, No. 3, 2008.

²⁸ World Wire, “India Raises Fuel Prices,” *Wall Street Journal*, September 17, 1992; World Wire, “India Raises Fuel Prices,” *Wall Street Journal*, February 2, 1994.

²⁹ Hamish McDonald, “India: Healthy Recovery,” *Far Eastern Economic Review*, Vol. 155, No. 44, November 5, 1992.

³⁰ Jackie Range and Elffie Chew, “India, Malaysia Trim Fuel Subsidies,” *Wall Street Journal*, June 5, 2008.

³¹ Hajime Akimoto, “Global Air Quality and Pollution,” December 5, 2003.

power plant per week.³² The great pall of China owes to its “electricity companies...building power stations with gay abandon,” as *The Economist* puts it.³³

Several studies have attempted to estimate the proportion of China’s carbon emissions that derive from the export sector. A study by the Tyndall Centre suggests about 23 percent of China’s emissions are the result of net exports, although this figure “excludes important indirect emissions that originate from inputs used in production of exports.”³⁴

Another review of the subject applies an input-output model and finds that fully one-third of Chinese emissions result from export production, up from 12 percent in 1987.³⁵ The authors note that “exports are on average no more or less carbon-intensive than domestic consumption and investment,” suggesting multinational corporations that outsource to the People’s Republic of China are not leading China toward greater efficiency, but rather taking advantage of the country’s cheap wages and low-cost power. The authors further note that carbon emissions from export production are growing faster than China’s emissions as a whole.”

Neoliberalism is clearly implicated in this aspect of China’s ABC aerosols, since China’s export sector is overwhelmingly owned by foreign multinational corporations. The Tyndall Centre notes that fully 60 percent of China’s exports in 2006 were produced by multinational ventures “accounting for the majority of high-tech and high value-added exports from China,” and thus also for the majority of its carbon output.³⁶

Capital mobility, a key neoliberal feature, is thus significantly responsible for the greenhouse emissions element of the ABCs. “A good portion of China’s air pollution is simply outsourced smog: industry that has migrated from the U.S. and E.U. to China to help maintain low prices or clean Western skies,”³⁷ is how *Scientific American* put it.

China’s new position as leading greenhouse gas emitter owes much to its unique development process, which is almost a parody of Victorian England. Destitute urban construction workers and rural peasants burn coal to keep warm, automobile use has shot up among the urban affluent, and antiquated coal plants are used to keep the export boom on its feet. The *Far Eastern Economic Review* surveys the circumstance: “As the Western countries (and Japan) got richer, they relegated coal combustion to generation of electricity in large power plants with highly efficient electrostatic precipitators that remove up to 99.99 percent

³² David Biello, “Can Coal and Clean Air Coexist in China?” *Scientific American*, August 4, 2008, online at: <http://www.scientificamerican.com/article.cfm?id=can-coal-and-clean-air-coexist-china>.

³³ “A Large Black Cloud,” *The Economist*, March 13, 2008.

³⁴ Tao Wang and Jim Watson, “Who Owns China’s Carbon Emissions?” Tyndall Centre Briefing Note No. 23, 2007, published online at: <http://www.tyndall.ac.uk/content/who-owns-chinas-carbon-emissions>.

³⁵ Christopher Weber, et al., “The Contribution of Chinese Exports to Climate Change,” IOMME paper, July 2008, published online at: http://www.iioa.org/pdf/Intermediate-2008/Papers/3b2_Weber.pdf.

³⁶ Tao Wang and Jim Watson, “China’s Energy Transition: Pathways for Low Carbon Development,” Sussex Energy Group, SPRU, University of Sussex, and Tyndall Centre, for Climate Change Research, n.d., published online at: http://www.sussex.ac.uk/sussexenergygroup/documents/china_report_forweb.pdf.

³⁷ David Biello, “Can Coal and Clean Air Coexist in China?,” August 4, 2008.

of all particulates.”³⁸ As citizens become more affluent, they can also afford to switch to cleaner-burning gas and electric heating, as in the West, but this day is far off in China. Also, while traffic smog is no stranger to the developed nations, it requires sunny conditions for car exhaust to experience photochemical transformation into smog. As the *Review* notes, “This means that the phenomenon is seasonal in Toronto and Paris, but it persists for most of the year in subtropical and many tropical cities with high concentrations of vehicular traffic.” Thus the classical, soot-based smog from industry and the more modern, traffic-derived smog mingles and accumulates in Asia’s ABCs.

Blowback in Paradise

The effects of these corporate policies have ironically boomeranged on a few of the exporters’ tony Asian headquarters. Consider Disney Hong Kong. This Magic Kingdom is crammed onto reclaimed land, which had 80 percent of its building costs covered by the city government.³⁹ Yet according to a report commissioned by investment bankers, even upon opening in 2005, the theme park was doomed to “suffer from constant haze.” In spite of Disney’s best efforts, the park has fallen far short of its projected 10 million visitors per year. This is probably due to what the report politely describes as “a serious visibility problem”⁴⁰ (and perhaps also what the *Times* of London calls its “utterly homogenized” feel).

Of course, besides Hong Kong’s own dense auto exhaust and the ozone-heavy haze from burning rainforests to the south, Hong Kong is adjacent to Guangdong Province on the Chinese mainland, a sprawling industrial crucible. The *Christian Science Monitor* reports that “While the government tends to disregard public sentiment if it might hinder economic growth, Hong Kong officials are more likely to listen when big business talks. A chorus of criticism is now coming from business organizations,” noting that the falling air quality has “obscured the jaw-dropping harbor view from executive suites.”⁴¹ However, the *Financial Times* points out that “Although Hong Kong is the victim of pollution from China, Hong Kong businesses are partly to blame, since many of the factories in China are owned and run by Hong Kong companies.”⁴² The *Times* of London notes that “Most manufacturing industries have migrated to the Chinese mainland in search of lower costs,” since on the mainland “there are no real environmental laws.” The folly of the Hong Kong business elites, it turns out, is living downwind of their own export platform. Never put your money where your home is.

Another global-city celebration to fall casualty to the giant brown externalities was the Beijing Games. In a development not seen since the Summer Games in Mexico City in 1968, Olympic athletes chose to commute. Dozens of teams, especially from wealthier

³⁸ Vaclav Smil, “Poor Visibility on China’s Air Pollution,” *Far Eastern Economic Review*, Vol. 170, No. 10, December 2007. Of course, this does not give coal plants in the developed world a free pass on their acidic emissions. The point is the far-worse emissions profiles of PRC plants.

³⁹ Chris Haslam, “Disney in Hong Kong,” *Times* of London, September 18, 2005.

⁴⁰ Victor Mallet, “Pollution Haze Clouds Disney’s Hong Kong Hopes,” *Financial Times*, April 20, 2005; Erika Kinetz, “Briefcase: Where’s Mickey? Hidden in the Smog,” *International Herald Tribune*, May 7, 2005.

⁴¹ Steve Knipp, “Hong Kong Fades Under China’s Smog,” *Christian Science Monitor*, December 13, 2004.

⁴² Victor Mallet, “Pollution Haze Clouds Disney’s Hong Kong Hopes,” *Financial Times*, April 20, 2005.

countries, sent their teams to Japan or South Korea in order to avoid Beijing's foul air and questionable water.⁴³

On the very night of the opening ceremony, the air had been hazy with low visibility for almost a week.⁴⁴ In spite of China's best efforts for the Games—including removing millions of cars from the streets and even shutting down nearby industry—the air quality was poor by U.S. standards, although still a “Blue Sky Day” for the Chinese government. China's main problem was described in *BusinessWeek*: “Despite the measures the government has taken in the capital, southern winds threaten Beijing's efforts to clean up by bringing pollutants from hundreds of miles away. . . . much of the problem comes from the densely populated, industrial regions southeast of Beijing.”⁴⁵ No matter how effective the power of the state, one city alone can't stay clean in the middle of a regional atmospheric brown cloud, and Beijing's air soon deteriorated after the Games.⁴⁶

In the end, if the Beijing Games were meant to be China's coming-out party to the developed countries, the clouds were the accompanying embarrassing rumors. Athletes canceled competition in Beijing over health concerns like asthma, and some cyclists on the U.S. team were scolded by the U.S. Olympic Committee for wearing face masks. They issued an apology as directed—apparently, embarrassing the People's Republic of China is a prerogative of state.⁴⁷

The Brown Peril

Whole regions, home to millions of people, face futures of serious water scarcity and degraded health, a reality that is far from the “optimum efficiency” predicted by the dominant schools of economic theory. But in addition to grinding down society and destroying nature, neoliberal capitalism has brought about deep irony. Consider Disney characters singing “it's a small world after all” to cramped Hong Kong tourists while wrapped in American corporate smog from China. In another ironic twist, Asian neoliberalism has also fulfilled a long-running American paranoia.

Probably ever since their industrious labor was first harnessed to American capital in the 19th century, prejudice against and fear of Asian peoples has been lodged in the American consciousness. Of course, this “Yellow Peril” is in the long American tradition of (conveniently) fearing a group that is being exploited and/or destroyed, as with the native Americans, African Americans, and the poor generally. In this case, the bigotry climaxed with the internment of a hundred thousand individuals of Asian descent during the Second World War.

This enduring xenophobia has also been promoted in media coverage of the atmospheric brown clouds. What coverage there is reliably takes poor families to task for their role in originating components of the clouds, especially the burning of dung and wood

⁴³ Kenji Hall, “China's Commuter Olympics,” *BusinessWeek*, February 12, 2008.

⁴⁴ Tatyana Gershkovich and Catherine Arnst, “Beijing's Olympic Smog: How Bad Will It Be?” *BusinessWeek*, August 1, 2008.

⁴⁵ *Ibid.*

⁴⁶ Andrew Jacobs, “UN Reports Pollution Threat in Asia,” *The New York Times*, November 14, 2008.

⁴⁷ Juliet Macur, “Reviews of Air Quality Are Mixed, and So Is Attendance,” *The New York Times*, August 9, 2008.

biofuel in the home and in slash-and-burn subsistence agriculture.⁴⁸ Foreign multinationals are rarely singled out for their own crucial role in exporting polluting industries to Asian export platforms, except in the odd business press article. Similarly, the rising consumption levels of the growing Asian middle classes are almost without exception blamed for rising energy and food prices, inspiring fearful visions of shortages caused by the clamoring Asian professionals.⁴⁹ This well-evidenced double standard reflects the class interests of Western opinion.

The hidden irony is that there is now a very real threat to America's West Coast from Asia. But it's not Japanese kamikazes or hordes of Chinese Maoists storming the waterfront—it's the drift of the brown clouds produced by our own outsourced industry. Scientists have noted that aerosol lifetimes are about one to two weeks, whereas Pacific air currents can travel from East Asia to western North America in about one week.⁵⁰ Thus we arrive at the situation where a staggering three-quarters of the soot over the West Coast in springtime is emitted in Asia.⁵¹ Scientists are now investigating whether deposition of soot in California's mountain ranges will accelerate snowpack melt—the Sierra Nevada may suffer the same consequences as the Hindu Kush.

After years of paranoia, America's long-feared Asian threat has arrived as a Brown Peril, brought to our shores by good old American capital mobility and neoliberal policy. Irony loves company.

⁴⁸ Elizabeth Rosenthal, "Reviews of Air Quality Are Mixed, and So Is Attendance," *The New York Times*, April 16, 2009; Nicholas Kristof, "Asian Pollution is Widening its Deadly Reach," *The New York Times*, November 29, 1997.

⁴⁹ Sonia Kolesnikov-Jessop, "Asian Catalyst Spurs Oil's Renewed Advance," *The New York Times*, October 10 2009; David Streitfeld, "Fields of Grain and Losses," *The New York Times*, November 21, 2008.

⁵⁰ Hajime Akimoto, "Global Air Quality and Pollution," December 5, 2003; Dan Biello, "Can Coal and Clean Air Coexist in China?," August 4, 2008.

⁵¹ O.L. Hadley, et al., "Trans-Pacific Transport of Black Carbon and Fine Aerosols ($D < 2.5 \mu\text{m}$) into North America," *Journal of Geophysical Research*, Vol. 112, March 14, 2007.