

**THE LONG TWENTIETH CENTURY  
AND BARRIERS TO CHINA'S HEGEMONIC ACCESSION**

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**ABSTRACT**

*Giovanni Arrighi's The Long Twentieth Century is an almost unfathomably ambitious and complex work. Its monumentality derives from Arrighi's conviction that the best way to handicap the possible futures of the world capitalist geo-economy is to analyze the structural evolution of this global system, an evolution spanning more than five centuries; the genius of the work rests in the distinctive approach that Arrighi takes. At the core of his approach is the identification of those long-term trends and accreted characteristics – one might call them “systemic contradictions” – that promise to send the world capitalist geo-economy in a radically different developmental direction as US hegemony wanes. Arrighi's assessment of these contradictions compel him to make a provocative suggestion: in all likelihood, no singular concentration of state and economic power possesses the territorial scale or the organizational capacities required to lead the global system through another round of restructuring and expansion. Properly framed, this illuminating insight could serve as the starting point for a theoretical exploration of the socio-ecological constraints to global capitalist reproduction, but such is a journey (mostly) not taken by Arrighi in The Long Twentieth Century. In fact, to the degree that he subsequently contemplates the prospect of a China-centered reconstitution of the world geo-economy, Arrighi marginalizes the question of global systemic contradictions altogether.*

**INTRODUCTION**

At its best, historical social science unlocks the subterranean meaning of the present by relating the present retrospectively, to established trends, and prospectively, to possible futures. For what it promises and what it delivers, Giovanni Arrighi's *The Long Twentieth Century* embodies this most delectable vocation of historical social science. As he completed the book more than 15 years ago, Arrighi was far from shy in assuming the unenviable job of soothsayer, a job required by the task of unveiling the significance of the geo-historical horizon surrounding him. On the very first page of *The Long Twentieth Century*, Arrighi plainly declares that his primary aim is to inspect previous bouts of modern world-system restructuring in order to better understand the conditions under which the “reconstitution of the capitalist world-economy on new and enlarged foundations... may occur, and, if it does occur, what it may look like” (Arrighi 1994:1, emphasis added).

Under the best of circumstances, it is risky to forecast the probable trajectories of the capitalist world-economy (including its possible dissolution). Given the sheer vastness of the

system, as well as the complex interactivity of its manifold parts, such an endeavor is fraught with many occupational hazards. This is so even when the forecasting is rooted in wide-ranging research, deft conceptualization, and educated imagination – and Arrighi’s peers in these areas were few and far between. One of the mundane dangers of prognosticating on the magisterial scale of *The Long Twentieth Century* is that the object of investigation contains so many relevant data points that lurking “unknown unknowns” are bound to throw off predictions. Another is the inexact role of historical contingency. A more substantial danger involves basing forecasts on the “discovery” of heretofore unseen or unappreciated tendencies governing the modern world-system’s evolution.<sup>1</sup> In *The Long Twentieth Century* Arrighi does indeed make some very instructive discoveries – for example, his finding that there is a deep correspondence between the hegemonic cycle and financial expansions – but the hazard remains that there may be equally unseen or unappreciated tendencies that go undetected.

My purpose here is not to register a methodological critique of *The Long Twentieth Century*. Rather, my referencing these dangers serves as a touchstone for my main lines of argument. I argue that the most stimulating formulations in *The Long Twentieth Century* relate to the aggregating structural contradictions to world-systemic reproduction, rooted in the widening chasm between military power and economic dynamism in an increasingly polycentric world-system. These formulations yield Arrighi’s breakthrough conclusion that the next systemic cycle of accumulation – if there is to be one at all – will be led by an agent that bursts asunder the traditional form of the militarily potent sovereign state. But I also contend that the revolutionary potential of these formulations can only be fully realized if they are divested of their irredeemably “social determinist” perspective and retooled with socio-ecological theoretical substance; a germane test of the analytic worth of these retooled concepts is their ability to advance our understanding of the institutional *and* biospheric limits to the very continuation of the world-system itself.

In writings of more recent vintage – most of them collated in *Adam Smith in Beijing* (Arrighi 2007) – Arrighi analyzes the intertwining dialectic of US decline and China’s ascent with aplomb. But in so doing, he downplays his earlier belief that unprecedented ruptures in hegemonic succession might imperil the reproduction of the modern world-system, careening it into irreversible flux.<sup>2</sup> While Arrighi continued to maintain before his death that there is a chance the system will morph into something drastically different than what came before (Arrighi 2010; Arrighi 2007:7), there is little doubt that the occasion of a Chinese succession became the motif garnering the brunt of his attention.<sup>3</sup> In taking his focus off the mounting barriers to hegemonic succession, Arrighi also effectively marginalizes the theoretical concepts in *The Long Twentieth Century* that at least possess the potential for strengthening our comprehension of emerging geo-

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<sup>1</sup> I set the word “discovering” in scare quotes only to underscore what should be already be clear to seasoned world-systems scholars: Arrighi’s pathbreaking claims in *The Long Twentieth Century* stem in large part from his creative syntheses of theoretical and empirical work performed by others, including scholars unaffiliated with world-systems analysis – as Arrighi himself would be the first to admit.

<sup>2</sup> These thematic accents are still evident in *Chaos and Governance in the Modern World System* (Arrighi and Silver et al. 1999).

<sup>3</sup> For example, in the postscript to the second edition of *The Long Twentieth Century* published in 2010, Arrighi writes, “... an East Asian-centered world market society appears today a far more likely outcome of present transformations of the global political economy than it did fifteen years ago... China has emerged as an increasingly credible alternative to US leadership in the US region and beyond” (Arrighi 2010).

economic and socio-ecological constraints to capitalist expansion on a world scale. Arrighi sidelines these concepts while exploring a subject, the putative transfer of systemic leadership from the US to China, which strenuously warrants their rehabilitation and extension. My exegesis and critical reconstruction of *The Long Twentieth Century*, then, will be highlighted by an unhappy inconvenience: in part, I will be foregrounding the most promising theoretical strides made in *The Long Twentieth Century* by way of exclaiming their virtual absence in Arrighi's more recent work.

## EAST ASIAN GEO-ECONOMICS IN THE LATE “LONG TWENTIETH CENTURY”

### Japanese Production Networks and the Ascendant Chinese Mainland

No matter how solid their models of social systemic development or perspicacious their powers of historical interpretation, all historical social scientists can fall prey to assigning more importance to particular actors than later turns out to be warranted. Arrighi erred in *The Long Twentieth Century* when presuming that manufacturing and sourcing networks anchored by Japan-based transnational corporations would, for the foreseeable future, remain the straws stirring the drink in the recentering of global capital accumulation processes in East Asia. In the wake of Japan's prolonged stagnation precipitated by the collapse of the Tokyo real estate market and the crash of the Nikkei index nearly 20 years ago, it now seems quaint to think of the keiretsu as unsurpassed colossi bestriding East Asia. The keiretsu's fading preeminence is all the more evident when they are lined up next to the largest of China's companies, from state-owned behemoths such as the oil majors (Sinopec, China National Petroleum Company, and China National Offshore Oil Company), the steelmakers (Baosteel), and the telecommunications giants (China Mobile, China Netcom, and China Telecom), to partially or completely private concerns such as Legend Holdings, Huawei Technologies, and TCL. These firms have become major foreign investors, and in some cases high-ranking Global Fortune 500 members, in their own right (Harris 2005:12-13; Tabb 2008:23).<sup>4</sup> The impression that Japanese TNC's and their far-flung production and procurement networks no longer constitute the vanguard of East Asian accumulation processes is only reinforced by the fact that the Japanese developmental state, which once served as the launching pad for the outward thrusts of the Japanese TNC's, has been

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<sup>4</sup> In *Chaos and Governance in the Modern World-System*, Arrighi, Beverly Silver, and their collaborators adapt their analysis of which economic actors are reconfiguring the East Asian production and sourcing system and thus the East Asian and global political economies, augmenting their prior focus on Japanese *keiretsu* with a focus on diasporic Chinese business networks (Arrighi and Silver et al.1999:280). By the time *Adam Smith in Beijing* is written and published, Arrighi's spotlight on both “state-like business networks” has diminished and Chinese government-owned and/or sponsored corporations play a more prominent role in the narrative.

considerably deconstructed and remade in the image of “Anglo-Saxon” shareholder capitalism (Dore 2006).<sup>5</sup>

True, by the early-to-mid 2000’s Japan’s economy had finally shaken off its sustained deflationary hangover, and more to the point, Japanese TNC’s continued to make integral contributions to East Asian economic expansion through direct investment in China and their servicing of China’s voracious demand for high-tech components and equipment (Bello 2009; Harris 2005:11). Yet it was precisely China’s demand for such capital and imports that renewed the profitability of Japanese TNC’s and drove Japan’s long overdue recovery (Bello 2009; Harris 2005:11; Tucker 2009).<sup>6</sup> The engine of this locomotive was China’s robust growth and its emergence as East Asia’s primary export platform to the world market, not product flows orchestrated through and by Japanese manufacturing and sourcing networks (Hung 2009:16). The proof in the pudding showed itself during East Asia’s “sharp V-shaped” slump of 2008-2009, triggered by the crash of structured debt products issued on Wall Street and in the City of London. As the global economic crisis slowed Chinese growth, Japanese capital goods exports to China plunged, laying waste to the Japanese accumulation process and threatening to thrust Japan’s banking system once again into turmoil (Bello 2009; Hung 2009:16; Tabuchi 2009).

For his failure to foresee just how quickly and how fully Japanese production and sourcing networks would become absorbed into the input and output markets of the Chinese mainland and hence subject to the rhythms of the Chinese economy, one might extend Arrighi the benefit of the doubt, graciously allowing that an error of this sort will invariably happen in a work of such impressive ambition.<sup>7</sup> More rigorously, one might note that *The Long Twentieth Century* was published just a scant few years after the post-Tiananmen embargo was relaxed, Deng Xiaoping signaled the acceleration of capitalist reform with his famous “southern tour,” and foreign direct investment from the Triad powers really began pouring into China. But Arrighi’s lack of foresight as to China’s prominence – ironic, given his eventual admiration for how China navigated its sequenced reforms towards rapid ascent – may also have more profound methodological roots. Arrighi’s theory of historical capitalism, with its Braudelian emphasis on the commanding heights of concentrated money and military power and the dynamic synergy between the two, might have obscured his vision. More precisely, Arrighi’s Braudelian bias may have led him to disproportionately ponder the paradoxical relationships between Japan’s masses of money capital and the US’ aggressive rearmament during the “second Cold War,” while relatively ignoring how a country with the locational, size, and sovereignty attributes of China might be able to parlay the ultimate contradictions of the US-Japan relationship to its own

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<sup>5</sup> A case in point is the ruthless way in which large Japanese employers (NEC, Nissan, Panasonic, etc.) responded to the world economic squeeze of 2008-2009, shedding workers by the tens of thousands in a manner similar to their US counterparts (Tabuchi 2009).

<sup>6</sup> In an ironic twist of sorts, China’s vigorous expansion also helped make possible the partial neo-liberal streamlining of Japan’s political economy. The restoration to health of Japan’s banks was aided by the return to profitability of Japan’s China-oriented TNC’s; no longer paralyzed by bad balance sheets, Japanese banks finally enjoyed the financial leverage to write off big chunks of their substantial load of non-performing loans, ridding Japan’s productive sector of much of its inefficient excess capacity (*The Economist* 2005:24).

<sup>7</sup> In the postscript to the second edition of *The Long Twentieth Century*, Arrighi owns up to his earlier oversights: “When I wrote *The Long Twentieth Century* I was not fully aware of the extent and implications of the resurgence of China at the center of the East Asian political economy” (Arrighi 2010).

advantage. As R. Taggart Murphy (2006) and Kees van der Pijl (2006) have demonstrated, the way in which the strange alignment between Japanese money and US might was temporarily resolved was the 1985 Plaza Accord. By adjusting upward the value of the yen relative to the dollar, the Accord made it politically feasible for Japan to continue exporting manufactures to the US and underwriting US spending (including Reagan's outsized Pentagon budgets) without provoking a protectionist reaction harsh enough to unsettle the entire US-Japan relationship (van der Pijl 2006:309-310). But the value of the yen soared to heights unforeseen by all parties. One consequence of this was an acceleration in the pace at which Japanese (and other Northeast Asian) transnational corporations shifted the lower end of their supply chains to the dollar-linked Southeast Asian economies (Bello 2009; Tabb 1996:257; van der Pijl 2006:309-310). An unintended knock-on effect was a bidding up of the prices of Southeast Asian factors of production, with a concomitant hastening in the movement of cheap labor-seeking foreign investment to the export platforms of the urban coastal Chinese mainland (Lo 1999:17; van der Pijl 2006:309).

### Sino-Japanese Tensions and the Limits to Regional Cooperation

To be fair, in *The Long Twentieth Century* Arrighi did stress how a centripetal intra-regional process – namely the spinning off of metropolitan productive capital to less expensive land and labor in the hinterland – was a leading animator of East Asia's becoming a locus of world accumulation (Arrighi 1994:344-349). He notes that the latest stage of this “flying geese” pattern was the quest by Japanese, South Korean, and Taiwanese transnational companies and middleman contractors to access cheaper land and lower cost workers in post-Maoist China (and *doi moi* Vietnam as well) (Arrighi 1994:347). But herein lies another flaw with Arrighi's outlook, one bedeviling not only *The Long Twentieth Century* but also his subsequent efforts. Like other surveyors of the trans-Pacific scene (Balakrishnan 2009:16; Beeson 2009; Hung 2009:6-7; Palat 2004), Arrighi keenly understands that the post-1945 surge of East Asian economic potency is inexplicable outside the context of US Cold War geo-strategy and the various ways in which that geo-strategy boosted the dynamic growth of the region's “capitalist archipelago” (Arrighi 1994:338-342). But when he considers the trajectory of East Asian development, Arrighi oddly discards this conceptual framework and the apposite geopolitical questions melt away. When it comes to looking toward the future, Arrighi holds fast to the view that despite the surficial incursions of the US hegemonic order since World War II, an underlying East Asian civilizational continuity persists.<sup>8</sup> Considering that until recently Japan's elected leaders spent the better part of a decade spurning an Asian identity – and minimizing the seamier sides of its Asian history – in favor of a “special relationship” with the US (Kingston 2007; Selden 2009b), Arrighi's view is quite cheeky indeed.

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<sup>8</sup> A view propounded at some length in Arrighi 2002a, and one which he continued to uphold until the final year of his life. To quote from an interview published in 2009 (Arrighi 2009:89-90): “What is most interesting about East Asia is how, in the end, the economy is determinant of states' dispositions and policies towards one another, in spite of their nationalisms... It was striking that the nationalist resurgence in Japan, under the Koizumi government, was suddenly checked when it became clear that Japanese business was interested in doing business with China. In China, too, there was a big wave of anti-Japanese demonstrations, but then they stopped. The general picture in East Asia is that there are deep nationalist dispositions, but at the same time they tend to be superseded by economic interests.”

In essence, Arrighi suggests that whatever many-sided interstate frictions currently plague the region, in the medium- to long-run the resurgent forces of de facto regional economic integration will by necessity triumph over these frictions, thus rendering their analysis relatively trivial. Consequently he gives short shrift to the multiple potential pathways through which closer and deeper economic links in East Asia will not translate into the region's emergence as an autonomous power center. Arrighi seriously entertains neither the possibility that even a weakened US will enjoy continued success playing its "offshore balancing" games in the region, nor the more ominous possibility that a lower or non-existent US security profile in the region will actually aggravate long-standing tensions that (despite the illusions of some) have a deep-seated existence independent of US imperial intriguing (Calder 2006; Selden 2009b).<sup>9</sup> These possibilities are not mutually exclusive and they rest upon a reality that Arrighi plays down: the ongoing geopolitical schism between Japan and China is a fact of world-historic consequence equal to any synchronic tendency toward Sino-Japanese economic integration (Gulick 2004a:511-512).

The practice of Japanese transnationals relocating production operations to China, importing capital goods and high-tech parts and components from Japan, and exporting intermediate materials and completed manufactures back to Japan (as well as to the world market) is indeed well-ensconced (van der Pijl 2006:318). This is so much the case that by 2004 Japan and China were one another's top trading partners for the first time since the US initially darkened East Asia with its Cold War shadow (Shorrocks 2005). Some scholars suggest that successively greater levels of Sino-Japanese commercial exchange will spur Japanese and Chinese ruling elites not only to repair their bilateral relationship, but also to jointly build pan-East Asian institutions with a mandate to address regional issues (air pollution, financial instability, maladjusted currencies, nuclear proliferation, renewable energy, *etc.*) free of US mediation (e.g. Beeson 2009).<sup>10</sup> But on the question of Sino-Japanese bilateral amity, the necessary anchor of independent regional cooperation, the echoes of the unresolved past, and the political inertia of the present, may prove more compelling than the mere thickening of economic links (Pei and Swaine 2005; van der Pijl 2006:326, 328; Selden 2009b).

The decade-long ascendancy of the neo-nationalist right in Japan's ruling Liberal Democratic Party (LDP), and the serial affronts Japanese heads of state and top LDP officials have displayed toward sensitive Chinese memories of Japanese war crimes, are well-known

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<sup>9</sup> In *Adam Smith in Beijing*, Arrighi acknowledges that through the extension of its security partnership with the US, Japan has been re-harnessed to US strategic goals in East Asia, and in a way specifically arrayed against China's ascent (Arrighi 2007:281-282, 288, 294, 299-300). But he seems to associate Japan's willingness to serve as the US' "Britain in Asia" more with the policy disposition of the Koizumi Prime Ministership rather than with the deep structure of the contemporary Japanese polity (see my argument later in this article). Moreover, in his discussion of the possibility that the US might draw down its imperial legions stationed in East Asia (Arrighi 2007:301), it becomes clear that Arrighi significantly overestimates the extent to which Sino-Japanese enmity is a byproduct of Japan's vassalage to the US. Survey research shows that popular Chinese attitudes about the US are considerably more favorable than those about Japan (Committee of 100:2008).

<sup>10</sup> Palat (2005) limns a nuanced version of this argument, maintaining that China's rise as an East Asian economic power attenuates regional fears of recrudescing Japanese imperialism; thus overlapping and complementary Japanese and Chinese trade and investment networks in East Asia as a whole boost the possibilities of autochthonous regional monetary and even security cooperation.

thorns in the side of the bilateral relationship (Feffer 2009; McCormack 2007). The more notable of these symbolically upsetting acts include Junichiro Koizumi's infamous "private" visits to Yasukuni Shrine (where fourteen "Class A" criminals of Japan's Asian wars receive honorary burial) and Taro Aso's abortive appointment of a Nanjing Massacre denier to his cabinet (*Economist.com* 2008; Hughes 2009:842). These sorts of gestures represent danger to the Sino-Japanese relationship not so much because they betray revanchist intentions that the Japanese power elite wants to act upon, much less is capable of acting upon (Overholt 2007:137-138). Rather, they represent danger because they push the top echelons of the Chinese Communist Party (CCP) to up the ante with strident rhetoric, lest the regime lose credibility with a populace that has been fed a steady diet of legitimating nationalist ideology in the post-socialist era (van der Pijl 2006:328; So 2009:58). When it comes to satiating nationalist passions, the CCP is most concerned with members of the new middle class who associate China's upward mobility with their own prosperity and insist that China be treated with respect in international discourse – especially by the Japanese (Shorrock 2005; Shirk 2007:11). In fact, in tandem with its growing more comfortable and confident, China's new middle class is growing more aggrieved about the depredations China suffered under Japanese occupation, evidenced by the stunning popularity of the 2009 film *City of Life and Death*, which spectacularly depicts the brutalities of the Nanjing Massacre (Tsai 2009). Be they expressed by ordinary people or by party-state spokespeople, vehement Chinese responses to Japanese government provocations exacerbate the downward spiral of distrust and fear, as large numbers of the poorly informed Japanese population mistake such vehemence for surefire evidence of China's malevolent intentions (Overholt 2007:37). In a reversal of the situation prevailing during the 1970's and 1980's "peace and friendship paradigm" (Hughes 2009:839-840; Pei and Swaine 2005:2), around 70 percent of Japanese respondents to a 2006 survey declared that their feelings toward China were "not positive" (Hughes 2009:842-843). These lukewarm or hostile feelings translate into foreign policy preferences: the majority of respondents in a 2008 survey professed their support for a harder line toward China (Chan 2008). Most ominously for the future of Sino-Japanese relations, the belief that Japan must take aggressive measures to guard against China's rise is most salient among the young. 63 percent of 20-to-30 year-olds surveyed in 2004 favored casting off Japan's post-war "peace constitution" (van der Pijl 2006:326).<sup>11</sup> Under such politically delicate and potentially explosive tit-for-tat conditions, serious and lasting Sino-Japanese cooperation is a fraught affair.

To contend that these types of insults and reciprocal recriminations are at the core of Sino-Japanese tensions is to make a serious mistake, however. After all, the vast majority of prominent Japanese politicians refrain from gestures that force the CCP to manage potentially explosive anti-Japanese outrage. The neo-nationalist "revisionists" in the LDP represent only one geopolitical tendency in Japan, one without the solid backing of Japanese big business or its exponents in the state bureaucracy – or even a unanimous following in its own party (Calder

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<sup>11</sup> In addition, the peculiar recipe of economic policies favored by the Japanese political establishment during the last decade or so ensures that a wide section of the Japanese populace will continue to be susceptible to reactionary ideologies, easily purposed into anti-Chinese sentiment. Declassed single males and stressed out salarymen, exposed to a poisonous mixture of increasing doses of historical revisionism in public school curricula and other venues (McCormack 2007:140-154; York 2007), decreasing amounts of employment security (Kunitomi 2007), and blasé tolerance of disturbingly violent ultra-nationalist extremism, seem especially fertile ground for such ideological appeals (McCormack 2007:20-28; York 2007).

2006; Hughes 2009:843; Sevastopulo 2006). And what is more, in August 2009 the Japanese electorate effectively rejected the rightward lurch in their country's China policy by putting into office a new Prime Minister (Yukio Hatoyama) from the opposition Democratic Party of Japan (DPJ). Hatoyama vowed to dedicate Japanese diplomatic efforts toward the building of regional institutions, signaling a repudiation of the LDP hawks' program to confront China's rise by means of domestic re-militarization and ringing China with security alliances (Hatoyama 2009; Kambayashi 2009).

But the impediments to East Asian institution formation, with Sino-Japanese cooperation at the very heart, are in fact deeply structural. The nationalist recrudescence of the LDP's "revisionist" faction may not be the face which many in the Japanese ruling elite wish to present to the world, or to Japan's Asian neighbors more specifically. Abrasive though it may be, however, it issues from a widespread concern in Japanese geostrategic circles, one adhered to by policy planners in both wings of the LDP and the DPJ alike. While Japanese moderates recognize that "Japan's deepening bilateral economic integration with China has been an important force for cooperation" (Hughes 2009:841), all sections of the Japanese ruling elite are gravely worried that China's rapid geo-economic ascent is beginning to generate serious power differentials between China and Japan, and that the coming of a relationship of "asymmetric interdependence" (Hughes 2009:841) spells the eventual eclipse of Japan's regional influence (Hughes 2009:840). Many in the elite embrace multilateral methods of East Asian problem-solving. But to the extent they advocate regional multilateralism, it is principally because they have witnessed Chinese-directed regional initiatives outflank Japanese-directed ones, and regard multilateralism as the best tool for keeping China from running further ahead of Japan and increasingly pulling the rest of East Asia into its orbit (Hughes 2009:847,855). For example, after China successfully negotiated a trade liberalization deal with the ASEAN grouping in 2002, formalizing the increasing gravitational pull of Chinese markets on Southeast Asian exporters, Japan countered in 2008 with an ASEAN economic integration agreement of its own, encompassing measures on trade, investment, and services (Hughes 2009:847).

And no section of the elite proposes that Japan rely exclusively, or even chiefly, on regional political integration as the instrument by which it will cope with China's rising power. All endorse continuing the security agreement with the US as a necessary means of guarding against China's growing regional footprint and force projection capabilities (Hughes 2009:855). As no less a figure than Hatoyama himself said on the campaign trail: "Of course, the Japan-US security pact will continue to be the cornerstone of Japanese diplomatic policy" (Hatoyama 2009). It is worth pointing out that the latest renewal of the pact in 2006 (the Defence Policy Review Initiative, or DPRI) reaffirms the doctrine that Japan's Self-Defense Forces (SDF) are allowed and encouraged to participate in so-called "peace-keeping missions" far from Japanese shores. The ostensible rationale is the geographical liberation of the SDF so that they can contribute logistical support to international campaigns against terrorist networks and their state sponsors (McCormack 2007:61-64). But another facet is the enlistment of SDF aerial and naval assets, under US guidance, in the co-policing of China's Pacific perimeter (Feffer 2009; Hughes 2009:845; Klare 2006). This opens the way for the SDF, once Japan's politico-military leadership is consulted, to assist US military units in responding to a Northeast Asian "crisis" – such as a putative Chinese strike against Taiwan (de la Castro 2000:214; Deng 2002:126-127; Klare 2006).

The Hatoyama Administration garnered a lot of international attention for its protest of the way in which the Pentagon is handling the planned closure of Futenma air base on Okinawa

island. Some observers suggested that this might be a watershed moment, when Japan finally refuses to set its geopolitical compass with US bearings (Feffer 2010). But nothing of the sort occurred; the Hatoyama Administration was merely wrangling with the Pentagon over the implementation of the DPRI, in which the US promised to reposition bases and reallocate assets away from politically sensitive locations (*The Economist* 2006; McCormack 2007:79). And in the end, on this singular difference the Japanese government bowed to Obama Administration pressure and agreed to a mutually acceptable compromise (Chan 2010a). Certainly a Japan more inclined toward regional multilateralism may on occasion spurn specific US initiatives and tactics. For example, the DPJ has long criticized the US for sidelining the UN when it cannot get the UN to fall in line with its predetermined geostrategic goals (McCormack 2007:132). But Japan still will not contest the US' overarching geopolitical prerogatives (Calder 2006; Kambayashi 2009; McCormack 2007:4-5; Selden 2009b; Yamaguchi 2007). Japan's ruling elite has consciously chosen to ape the US' dominant approach toward China – "(commercially) engage, but (militarily) hedge" (Barma, Ratner, and Weber 2007; Bhadrakumar 2007a, 2007b) – and to prosecute a secondary role in the military aspects of this joint approach, based on a cool calculus of Japan's security interests (van der Pijl 2006: 326). There has been no fundamental tack away from this approach, entrained by the Clinton-Hashimoto Joint Declaration of 1996, when Japan's policy planners concluded that China's intimidating military maneuvers in the Taiwan Straits betrayed the possibility that Chinese "expansionism" (sic) might go hand-in-hand with its hothouse economic ascent (Hughes 2009:841).

Japan's continued tying of its own East Asian geo-strategy to that of the US, and in a manner predisposed to instigating Chinese backlash, is wedded to the very process that is supposed to produce the opposite result. That is, rather than reducing Japan's subordination to the US imperium, evolving Sino-Japanese economic interdependence may accentuate such subordination. Murphy (2006:58) succinctly explains:

Japan's long postwar acquiescence to the status of an American protectorate is in part... due to the belief, held by much of Tokyo's political elite, that the alternative to American protection is incorporation into a new Chinese Empire as a tributary state. As Japan's economic dependence on China deepens, the rationale for an American counterweight becomes all the more obvious...

For Japan to play a commensurate role in a truly independent framework for coordinating East Asian affairs, it would have to decisively assert its autonomy from US superintendence. Such an assertion of autonomy would be an epochal rupture, not just for US global dominance but also for what Murphy dubs the "domestic power alignment" that has reigned over Japan ever since the American occupiers instituted the "reverse course" in the latter 1940's (Murphy 2006:44). 60 years of being a pliant vassal of US imperialism has thoroughly encoded the genetic structure of Japanese politics and society (McCormack 2007); the constellation of political forces willing and able to press for a radical break with the US is marginal to the point of virtual non-existence.<sup>12</sup>

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<sup>12</sup> Moreover, to the extent a coalition of political forces ready to break with the US is present at all within Japan, it includes a far right fringe eagerly prepared to shake Japan loose of US imperial stewardship precisely so it may reclaim its special destiny as the selfless benefactor of inferior Asians (Feffer 2009; van

And to the inconsequential degree that the DPJ presents any such break, its own grip on the reins of the Japanese government is tenuous. Despite the Hatoyama campaign's harsh indictment of how neo-liberal globalism has destroyed the fabric of Japanese society (Hatoyama 2009), the economic crisis has forced the DPJ regime to renege on its promises to increase social spending and reduce regressive taxation (Chan 2010b). Meanwhile, the DPJ has held fast to its established policy of defunding rural public works projects, one of the key planks in the LDP old guard's patronage system (Chan 2010b; Hirai 2004); the Hatoyama Administration's approval rating plummeted to well less than 50 percent a mere four months after its inauguration (Chan 2010b).

### Theoretical Implications of the Asymmetry Between (Asian) Wealth and (US) Force

In *The Long Twentieth Century* Arrighi may have misfired by reserving a special role for the Japanese keiretsu in the medium-run destiny of East Asian (and hence global) accumulation, failing to foresee just how soon China would become the driving force behind regional growth (and hence the pivot of the next systemic cycle), and breezing past the very real and very obdurate geopolitical chasm between China and Japan. But the theoretical concerns motivating him to train his sights on the phenomenon of Japanese transnational production and sourcing networks hit the mark squarely, then and now. In the wake of the collapse of the Soviet bloc, Arrighi could not help but notice a paradoxical situation that appeared to be truly novel in the long historical life of the capitalist world-economy. Arrighi captured the most salient characteristic of this situation, a twin set of mutually complementary asymmetries, thusly: "superiority of force and the capitalist accumulation of capital seemed to diverge geopolitically as never before" (Arrighi 1994:22).<sup>13</sup> Given its status as a hegemonic power that should have been entering its twilight decades as such, the US enjoyed an unparalleled quotient of nearly absolute politico-military predominance over hypothetical contenders for world-systemic primacy. But at the same time, the US was not prolonging its heyday by putting capital into the private sector shares and public sector debt of the fast rising core power destined for economic dominance, and then collecting rentier income from these investments. Rather, to an unprecedented degree the US ran year-on-year current account deficits with this power (Arrighi 1994:15). On the flip side of the coin, Japan's status as the spatial and organizational hub of highly productive accumulation circuits should have qualified it as a top candidate for ascent to world-systemic primacy. But Japan's near vassalage as a virtual military protectorate of the existing hegemonic power made it anomalously supine in the sphere of inter-state politics. Nor was Japan being graced with financial flows from an aging metropolitan center prepared to ease its decline by underwriting government and business entities in the world-system's foremost theater of capital accumulation. Instead, Japan quixotically paid tribute to that center by consistently purchasing far more of that center's (low-yielding) liquid assets than was the case in reverse (Arrighi 1994:15).

Arrighi made sense of this paradox by constructing theoretically informed comparisons of each and every hegemonic transition (Ibero-Genoese, Dutch, British, American) that has

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der Pijl 2006: 326). In other words, there is zero assurance that the hypothetical ascent of such a coalition would dampen rather than heighten Sino-Japanese differences.

<sup>13</sup> In the second edition of *The Long Twentieth Century*, Arrighi informs readers several times that his discerning this "unprecedented bifurcation of financial and military power" is one of the key propositions of the original work (Arrighi 2010).

periodically punctuated the evolution of the world-system. This enterprise in turn yielded a bundle of big conceptual breakthroughs in historical social science.<sup>14</sup> Regardless of the fact that they originally emanated in part from a misapprehension of the eventual significance of Japanese transnational corporations in the development of the world-system, these breakthroughs remain equally if not more valid today, a decade into the Twenty-first Century. The crux of these innovations rests in the contradictory structural trends that accompany the maturation of the global capitalist order, as it goes through consecutive systemic cycles of accumulation (or hegemonies). As these contradictory trends mount, they increasingly threaten to explode the order's essential scaffolding and hence the order itself. Each successive systemic cycle harbors gathering tensions between 1) the increasing politico-military preponderance of the hegemonic leader relative to its lesser peers in the capitalist core (Arrighi 1994:32-33), 2) the increasing dispersal of the most dynamic nodes of capitalist production and exchange (Arrighi 1994:32-33), and 3) the increasing inability of an authoritative hegemonic center (or alliance of centers) to orchestrate the institutional infrastructure facilitating the expanded reproduction of capital on a world scale. This increasing inability stems not only from the increasing challenge of reconciling the burgeoning contradictions between 1) and 2) (Arrighi 1994:18,32-33). It also eventuates from the increasing deficit of territorial scale and organizational resources any center (or alliance of centers) enjoys relative to a global system that accretes new layers of complexity and interdependence with each passing cycle (Arrighi 1994:14,32-33). This last point may be Arrighi's most distinctive amendment to world-historical scholarship, since it is the pillar of his controversial claim that the decline of the US may be followed not by the ascent of another hegemon, but rather by heightening and perhaps irreparable systemic chaos (Arrighi 1994:6,79).<sup>15</sup>

## A SINO-CENTERED RECONSTITUTION OF THE GLOBAL SYSTEM?

### Arrighi's Revised Take on China and the Next Systemic Cycle

Arrighi's formulations about these increasingly insuperable structural contradictions and their implications for the temporal durability of the world-system are among *The Long Twentieth Century's* most overlooked theoretical innovations. Given many world-system theorists' predilection for identifying cumulative trends in the punctuated evolution of the capitalist world-economy (*e.g.*, Boswell and Chase-Dunn 2000; Chase-Dunn and Lawrence 2009), this oversight is surprising. It is also surprising because it has become ever more commonplace for world-system theorists and fellow travelers to claim that the global order has entered an epoch of watershed crisis of unknown proportions and unknowable outcomes (*e.g.*, Amin 2004:17; Wallerstein 1996; Went 2001-2002:490). The claims of these analysts reflect the impasse which Arrighi himself starkly acknowledged well more than a decade ago. In its present instantiation, the world-system remains saddled with a possibly fatal mismatch between the seat of politico-

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<sup>14</sup> A project carried forward in *Chaos and Governance in the Modern World System* (Arrighi and Silver et al. 1999).

<sup>15</sup> A claim elaborated in greater depth in *Chaos and Governance in the Modern World System* (Arrighi and Silver et al. 1999:275-278).

military predominance (the US)<sup>16</sup> and the most robust basin of capitalist growth – the East Asian littoral, of which the factory zones, financial hubs, and research centers of urban coastal China are now an integral part (McNally 2009).<sup>17</sup> Moreover, this mismatch prevails in a context where no single aspirant to hegemony – not even China, as I will argue below – possesses the scale and capability endowments sufficient to engineer new conditions of global rule and accumulation in a yet more deeply interpenetrating world-system. On the surface, then, it is surprising that in recent years, Arrighi entertains the notion that the Bush Administration’s futile effort at prolonging US primacy only quickened the pace at which China is ascending to the hegemonic throne (Arrighi 2005a, 2005b, 2007). To the extent that he waxes about the ripening prospects of a Sinocentric systemic cycle of accumulation, Arrighi has backed away from his insightful hypotheses about the aforementioned cumulative forces driving the world-system toward possible disintegration. But it is fair to surmise that changing facts on the ground since the publication of *The Long Twentieth Century* persuaded Arrighi to deemphasize his earlier position that because no viable hegemonic successor to the US waited in the wings, the world-system was headed toward possible break-up; that is, new empirical realities compelled him to reassess a hypothesis others might have mistakenly construed as an inflexible theoretical commitment.

Moreover, this reassessment might be fundamentally consistent with the spirit and even the letter of *The Long Twentieth Century*. In the opening chapter of *The Long Twentieth Century*, Arrighi furnishes the basis for supposing why of late he seriously considers that China may be up to the task of anchoring a new systemic cycle of accumulation, and therefore why he has toned down his pessimistic musings about the world-system soon degenerating into unpredictable chaos. Discussing the almost accidental qualities of previous hegemonic transitions, Arrighi comments: “acquiring these organizational capabilities [to spearhead a new phase of capitalist expansion – *J.G.*] was far more the result of positional advantages in the changing spatial configuration of the capitalist world-economy than of innovation as such” (Arrighi 1994:14). In lockstep with these remarks, from the 1990’s forward, the economic restructuring and the spatial reconfiguring of the East Asian accumulation process have gone hand in hand. The resulting reterritorialization of the intra-regional accumulation dynamic has shifted the motor of this dynamic to China, a state that plausibly features the scale and capability endowments required to reconstitute the global political economy on “new and enlarged foundations.” The CCP has long aimed its gradualist “market reform and opening up” policies toward the deliberate end of bolstering China’s techno-scientific and economic modernization and national strength *vis-à-vis* other states in East Asia and the world as a whole (Hart-Landsberg and Burkett 2004:30; Harvey 2005:122-123; So 2003:11-12,15-16; So and Chiu 1995:150-152). But without the active collaboration of core-based transnational corporations (and diasporic Chinese capitalists) seeking low-cost export platforms and a toehold in the colossal Chinese market, the strategy that has resituated the heart of the regional accumulation dynamic in urban coastal China would not be the

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<sup>16</sup> In September 2008 the US Congress authorized \$612 billion for the 2009 military budget; accounting for inflation, US defense spending is now higher than at any time since the end of World War II (C Johnson 2008).

<sup>17</sup> In his studies of global income inequality, Arrighi rarely ceases to note that over the course of the last two-and-a-half decades, China’s rapid economic growth (and hence its rapidly growing GDP per capita figure) is the only countervailing force to what would otherwise be a drastically worsening global income inequality picture (Arrighi 2002b:81-83).

smashing success it has been.<sup>18</sup> Herein lies a parallel with Arrighi's analysis in *The Long Twentieth Century* of the non-purposive character of hegemonic transitions past. Despite the US state's explicit mission to prolong its primacy beyond its "sell by" date, its own productive enterprises have aided China's gaining of the very factors it needs to style itself as a potential hegemonic successor.<sup>19</sup>

Elsewhere we can find other instances in *The Long Twentieth Century* where Arrighi unwittingly prepares the groundwork for a seeming about-face in *Adam Smith in Beijing*. In the former, Arrighi (1994:62) comments on the happy circumstances under which the US assumed the baton of world-systemic leadership during the last hegemonic transition of the inter-war period:

...the hegemonic role fell on a state ... that had come to enjoy... exclusive cost advantages associated with absolute or relative geostrategic insularity from the main seat(s) of inter-state conflict on the one side, and with absolute or relative proximity to the main intersection(s) of world trade on the other... But that state in both instances was also the bearer of sufficient weight in the capitalist world-economy to be able to shift the balance of power among the competing states in whatever direction it saw fit.

Reflecting Arrighi's remarks, in maintaining an equidistant geopolitical independence from all of the major capitalist centers – each of which eagerly angles on behalf of "their" transnational capitals for privileged access to China's inestimable labor, product, and consumer markets – China has been able to pit them against one another, parlaying favors from one and then another camp into an aggregation of its hegemonic capacities. In *Adam Smith in Beijing* Arrighi marvels at China's leveraging of European Union equipment and technology imports in the name of their joint fight against dangerous US unilateralism (Arrighi 2007:208); that he relies on this species of argument to make his case about the prospects of a China-centered hegemonic succession shows his essential faithfulness to the explanatory framework set up in *The Long*

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<sup>18</sup> Reputable research conducted by global business consultants (e.g., Gu 2005) shows why China is the optimal site for transnational firms to relocate or subcontract their consumer goods manufacturing operations. When possible TNC's choose to situate their industrial subsidiaries and establish sourcing networks in countries where they can dispose of output both locally and globally. This reduces the risk of relying exclusively on demand outside the host country. Perhaps more critically, it presents the possibility of committing fixed investments and setting up supply chains in a few pivotal places, rather than many marginal places, peeling back the per-unit expense of regulatory compliance (not to mention bribes and kickbacks) and other transaction costs. Giant core-based makers and retailers of wage goods in particular thus prefer to concentrate offshore assembly plants and subcontracting ties in countries with sizable internal demand for those wage goods. Even though at the end of the day its development model remains export-led, because China's overall population is so massive the purchasing power of its "new middle class" is absolutely huge and hence so is internal demand for consumer goods (Harvey 2005:137). For a similar analysis, see Lynn (2003).

<sup>19</sup> Gowan (2004) beautifully distills the intrinsic curiosity of a US political formation that constantly defers to the prerogatives of its own "business internationalists" but also must habitually resort to an "America (*sic*) first" stance as the default mode of managing popular grievances with the domestic costs of a "business internationalism" that nonetheless in the final instance always calls the shots.

*Twentieth Century*. But if any world-historical phenomenon were to reveal the prescience of Arrighi's theoretical formulations about contradictions inclining the world-system toward irremediable chaos, it is the "peaceful rise" of China during the last decade.

### **The Contradiction-Riddled Interdependency of the Chinese and US Political Economies**

If we take the Arrighi of *The Long Twentieth Century* at his word, and concur that another round of successful world-system expansion will require leadership by state and capitalist actors harboring endowments exponentially greater than those harbored by hegemonic political and business agencies during the "long" Twentieth Century (c. 1873-??), then it is hard to envision how a Sinocentric systemic cycle of accumulation will be up to the task (Harvey 2009). Despite China's sheer geographical breadth and its robust political-military autonomy, it is a stretch to say that these territorial and capability factors add up to the exponentially greater endowments necessary (if not sufficient) to lead the world-system through another cycle of expansion. In comparison to Japan, a large island nation-state famously deficient in strategic mineral deposits and still dependent for its security upon the force posture of the US military in the western Pacific, China does enjoy an impressive portfolio of resources. Its economy has doubled in size every seven years for the last 25 years (Tabb 2008:23), its GDP quadrupling between 1989 and 2004 alone (Anderson 2010:91). Despite its sporting of an infamously high Gini coefficient, China's GDP per person figure is 12 times higher today than 30 years ago, helping to cement the stability of CCP rule (Yao 2010). China boasts a precipitously growing base of global manufacturing capacity and share of global economic output (Glyn 2005; Harris 2005:10), now makes two-thirds of the world's copy machines, DVD players, and microwave ovens (Tabb 2008:23), and recently passed Germany to become the world economy's number one exporter (Wolf 2010). It famously possesses well above two trillion dollars of currency reserves (Anstey 2010), not to mention an increasingly potent arsenal of conventional and nuclear military forces (Righter 2008). All of these resources are commanded by an unfailingly durable party-state that jealously defends its hard-won national sovereignty (Anderson 2010:94; Harris 2005:9; So 2009:56).

But many of the attributes that make China appear to be a viable hegemonic successor merit qualification. China's reputation as the world-economy's industrial workshop obscures a few crucial facts. China's reputation may be well deserved, but the World Bank's long overdue recalibration of comparative GDP measures shows that China is not the economic colossus that many have perceived and alternately feared or celebrated (Mead 2007). Most of China's exports to core capitalist markets are "manufactured as foreign brands by foreign-owned companies . . . as part of cross-national production chains. . . . China pockets only a small part of the gain" (Shirk 2007:26; see also Hart-Landsberg and Burkett 2004:13; Harvey 2005:124; Panitch 2010:82; Tabb 2008:5; Walker and Buck 2007:52).<sup>20</sup> Along the same lines, more than a decade of conscious government policy has netted China only a few entrants to the Global Fortune 500, contrary to the ambitious aims of China's National Reform and Development Commission (Nolan 2004:18-24). China also remains technologically dependent in most high value-added sectors

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<sup>20</sup> Tabb gives one telling example of this: "iPods... are 'Made in China' but are really only assembled and tested there. \$3.70 of the value of the iPod remains in China. Apple takes \$80 per unit in gross profit" (Tabb 2008:5).

(Engardio et al. 2007; Hart-Landsberg 2008). Well more than half the value of its high-technology exports is produced by fully foreign-owned enterprises (Harris 2005:12), and China's landmark ventures in the automobile, passenger aircraft, computer chip, and solar energy sectors rely heavily on imported innovations or feature designs obsolete by global standards (Roberts and Engardio 2009:40-42). And despite the overheated rhetoric of Pentagon intelligence sources about China developing offensive naval and airborne capabilities that contest US military dominance in the western Pacific as a whole, China's military modernization campaign has focused on the mere development (and purchase) of assets that would enable it to neutralize US intervention on behalf of Taiwan (Negroponte 2007; Klare 2005).

To cast doubt on China's hegemonic prospects in this manner alone, of course, is to abrogate a bedrock methodological principle to which Arrighi steadfastly holds in *The Long Twentieth Century* and since. To assess a state's future trajectory through the tiered global system solely by auditing its internal strengths and weaknesses and then comparing the balance of these factors to the balance of strengths and weaknesses possessed by actual or would-be rivals is to fundamentally miss one of the integral insights of *The Long Twentieth Century*. The hegemonic potential of a state lies not merely in its sum total of measurable territorial, politico-military, Gross Domestic Product, and other such endowments matched against the composite assets of its rivals (Arrighi 1994:15). More critically, this potential rests in the degree to which that state successfully leverages its internal endowments in the transnational contest to attract mobile money capital (Arrighi 1994:16), and in the heightened interstate competition that always accompanies the dissipation of the incumbent hegemon's ability to sustain an international order delivering collective benefits to the capitalist core's many bourgeoisies. Its potential thus also rests in how advantageously to its own ascent that state reshapes the external geopolitical and world market environment within which it and all other states act.<sup>21</sup>

To be sure, Arrighi's methodological claim that a state's hegemonic potential cannot be properly ascertained without taking into account how that state's endowments dialectically interdigitate with global networks of capital accumulation and state power is perceptive. Still, Arrighi miscalculates the likelihood of Chinese hegemonic succession. This is so partly because he does not heed his own recommendation in *The Long Twentieth Century*: his advisory to carefully diagnose the contradiction-ridden interdependencies between the decline of the declining hegemonic bloc of business and government agencies and the putative rise of the putatively rising hegemonic bloc of business and government agencies (Arrighi 1994:9). In *Adam Smith in Beijing*, Arrighi maintains that through the waging of an unwinnable occupation in Iraq and a broader "war on terror" that further damages US credibility in the eyes of its junior partners, the Bush Administration sped along the already inevitable process of US hegemonic decline (Arrighi 2007). Given the impact of the Bush Administration's imperial policies on the US' twin deficits and the reputation of its might, and hence on the dual pillars of the US' fading dominance, the stature of the dollar as "world money" and the threat of its using military force, it

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<sup>21</sup> However, it bears comment that in *The Long Twentieth Century* Arrighi himself argues that after the apex of British hegemony, the succession prospects of the two primary hegemonic contenders (Germany and the US) were more strongly shaped by their internal size and capability attributes than in previous transitions, because "the world power of the leading capitalist state had grown so much in comparison to its forerunners and to its contemporary challengers..." (Arrighi 1994:60-61). Does this assessment of the relative importance of domestic scale and capability endowments for successful hegemonic ascent not carry across to the period of *Pax Americana*'s twilight?

is hard to disagree (Selden 2009b). Arrighi also marshals evidence that seems to indicate a causal interaction between US losses and Chinese gains. Among the cases he cites in *Adam Smith in Beijing* are the increasing orientation of Japanese and South Korean growth patterns toward China (Arrighi 2007:205), the daringness of China's economic diplomacy initiatives in raw material-rich Latin American republics (Arrighi 2007:207), and *via* its prominent role in the G20 group, China's championing of genuinely reciprocal multilateral trade liberalization (Arrighi 2007:208).<sup>22</sup> There is little doubt that such trends bring closer the day of reckoning for US primacy. Yet Arrighi incautiously presumes that the diminution of US dominance spells the hegemonic rise of China, at the expense of exploring the hypothesis that the US and China "are in a tight embrace, performing a minuet which is part dance of death" (Jones 2005:108). That is, he virtually ignores the possibility that the US and Chinese regimes of accumulation are so wedded to one another that rather than creating the vacuum that will enable a Sinocentric systemic cycle to begin, the ebbing of US dominance will throw Chinese ascent off course.

Arrighi tends to downplay just how much China's prosperity and stability have been deeply ensconced in the "China produces and lends, the US borrows and spends" framework binding together the two political economies. From 1997 onwards, the percentage of China's GDP devoted to fixed capital formation reached staggering levels, as the wage share of national income fell below 40% (Cheng 2007; Righter 2008). Much of this investment entailed the installation of export-oriented plant and equipment production complexes and human habitats up and down urban coastal China (Hart-Landsberg and Burkett 2004:13,48; Harvey 2005:124; Nolan 2004:15). While China matured into a giant exporter to all three macro-regions of the advanced capitalist world (the US, the EU, and the rest of East Asia), the US alone was responsible for soaking up China's sizable current account surplus (Brenner and Jeong 2009; M Li 2008c:28-29). The proper functioning of China's export-led development model – and the "structured coherence" (Harvey 1989) of its layers and layers of new, export-oriented built environments – thus became hostage to the willingness of liquid capital holders the world over to prop up asset bubbles (especially the housing bubble) and debt-financed (especially housing equity-financed) consumption in the US (Hart-Landsberg and Burkett 2004:49,66; Jones 2005:110; M Li 2008c:23-25; Panitch 2009). The resulting precariousness of China's position was reflected by the vigilance with which the CCP prosecuted exchange rate mercantilism as a *de facto* industrial policy. Although it did permit a strictly controlled "floating peg" for a little more than three years between 2005 and 2008, the CCP's refusal to significantly revalue the *yuan* relative to the dollar, in order to relieve excess capacity pressures upon its hundreds of export-oriented complexes and habitats, attests to this policy (Brenner and Jeong 2009; Petras 2005; X Li 2003).<sup>23</sup>

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<sup>22</sup> After the publication of *Adam Smith in Beijing*, Arrighi and his colleagues continued to explore the theme of the interactive relationship between US power deflation and China's geo-economic rise, focusing on how the ebbing of the Washington Consensus and the emergence of a new order of PRC-led South-South cooperation entail one another (Arrighi and Zhang 2010).

<sup>23</sup> Of course, exchange rate mercantilism was also a *de facto* social policy, because China's urban coastal landscapes are clotted with rural migrants who would be transformed overnight into dangerous classes were China's industrial overaccumulation problem not cushioned by the "undervalued" *yuan* (Harvey 2005:141; Petras 2005; X. Li 2003). Although it did not induce a fierce *yuan* devaluation, the degeneration of the global economic crisis in Fall 2008 offered a snapshot preview of the social unrest such a devaluation might engender in China's coastal provinces. Already pushed to dangerous levels by thousands of yearly protests (mostly in the countryside) over illegal land grabs and illicit industrial pollution, social unrest was

The crisis of 2008-2009 has already shown just how tightly coupled were the respective post-Cold War economic expansions of the US and China. The former was driven by cheap credit, low interest rates, and asset bubbles, the latter by external demand for low-cost manufactures and the recycling of export earnings into dollar securities (Altvater 2009; Bello 2009; Hung 2009:14; M Li 2008c:21-30; Selden 2009b; Yang 2010). Now that the crisis has disrupted this coupling, China's development model is being thrust into a showdown with its various distortions. The world slump of 2008-2009 was not merely about the collapse of the securitized debt bubble originated on Wall Street (and in the City of London) and distributed globally. It is nothing less than the beginning of the end of a particular global capitalist configuration. This configuration prominently featured rising power countries experiencing (real or illusory) development booms based on (directly or indirectly) tapping into US demand artificially stretched by its seignorage privilege, and salting away currency reserves in dollarized instruments and speculative funds that further supercharged US demand and discriminated against internally-oriented domestic investment. Now that this configuration is transforming, China is suddenly stuck with a mismatch between massive amounts of export capacity and feeble foreign demand for its exports (Bello 2009; Brenner and Jeong 2009). For China's rise to have a decent chance of continued success, the CCP will need to retool its development model – not only financial and fiscal priorities, but the very social and physical landscapes of China's class and inter-regional arrangements (Petras 2005). However, China's ruling regime does not appear able, or even ready, to undertake the necessary serious adjustments. The Arrighi of *Adam Smith in Beijing* would not appreciate just how radical the overhaul has to be, nor the grave implications for China's upward path. And this is because this particular version of Arrighi does not have a satisfactory understanding of just how much China's economic boom of the last 20 years was embedded in the previously described global capitalist configuration – a configuration the 2008-2009 crisis has destroyed.

Were it not for Beijing's \$586 billion stimulus package of November 2008, sharp economic contraction in the advanced capitalist North would have translated into a severe, rather than moderate, slowdown in China's rate of GDP growth (Ariff 2009; Callinicos 2010; Hiro 2009; Hung 2009:22). But the flooding of China's state-owned banks with easy credit, and ramped-up government investment in numerous major infrastructure projects, has not solved the problem of excessive export dependence in China's mode of accumulation. The monetary loosening has fueled speculation; share prices have been pushed up to unjustifiable levels, and the Beijing and Shanghai real estate markets have reached dizzying heights (Ariff 2009; Barboza 2010; Callinicos 2010; Ito 2010; Ito and Rial 2010). Cheap loans and infrastructure contracts have bloated industries already weighed down with overcapacity (Hung 2009:22). Meanwhile, little has been done to boost household mass consumption (Balakrishnan 2009:17; Hung 2009:22; Kwong 2009; Yang 2010). Ever since the Hu-Wen leadership began to propagate the "harmonious society" and "scientific development" concepts in 2004, the CCP has been attuned to dampening the ill effects of China's accumulation model, including the specter of terrible socio-political turbulence, with tax relief and income supplements extended to the poor,

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pushed further to various urban, southeastern Chinese locations by a new round of large and violent demonstrations. Most of these protests were staged by export sector workers angered by summary dismissals from work, as well as unpaid back wages (Bello 2009; Bezlova 2008; Harvey 2009; Schwartz 2009).

especially the rural poor (Hung 2009:20; Selden 2009a; So 2009:55-56). To a limited degree, this approach was carried forward in the CCP's allotment of stimulus expenditures: pension supplements for idled state-owned enterprise workers, pay hikes for pre-secondary school teachers, and the like (Barber et al. 2009; Jacobs 2009). But these expenditures were relatively minor, compared to the huge sums used for rail and road construction and to prime the banks (Hung 2009:22). And a portion of 2009's "social" spending went toward worker retraining programs in the coastal factory zones, a government subsidy of the suddenly struggling export sector (Selden 2009a). China's very considerable income inequality – long a symptom of the CCP's policy to undernourish the countryside and fatten the coastal export sector – actually widened in 2008 and 2009 (Hung 2009), and in 2009 per capita income differentials between urban and rural areas hit their post-1978 apex (Fu 2010).

When the stock and property bubbles burst, as they inevitably must, China will look again to external markets to keep domestic growth ticking, and to keep social stability in place (Ariff 2009; Ito and Rial 2010). Yet, with the world economy still mired in a recessionary hangover, those markets will have largely vanished (Balakrishnan 2009:17; Bello 2009). They will have largely vanished not only because the asset bubbles which levitated consumer spending in the US and other outposts of the metropolitan North have vanished, nor only because the underlying bugaboo of capital overaccumulation still lingers in the global system (Balakrishnan 2009:18). These foreign markets will also have shriveled because China now faces multiplying protectionist measures taken against its purported exchange rate mercantilism, most notably the specter of the US listing China as a "currency manipulator" and then imposing an across-the-board 27.5% tariff against all Chinese imports (Anstey 2010; Beattie and Dyer 2010; Bradsher 2010; Callinicos 2010; Pettis 2010). Hypothetically, if increasingly nasty accusations of beggary-neighborism and burgeoning trade wars compel a *yuan* revaluation, the Chinese leadership could seize the opportunity to launch a more equitable and inwardly-focused regime of growth. But redirecting China's political economy toward household mass consumption promises to be an arduous affair. Especially given the resurgent strength of China's urban coastal elites in the CCP's highest echelons, it will take a long time to fundamentally restructure China's development model in a manner that would effectively empower the Chinese working class (Hung 2009:24). The more likely outcome of China being forced to bear the burden of "adjustments to global imbalances" is a sudden winnowing of its export sector, with harsh layoffs and social unrest in train (Pettis 2010).

When dissecting in *Adam Smith in Beijing* the possible approaches the US might take toward coping with China's ongoing rise, Arrighi illustrates cognizance of how the Chinese and US political economies are mutually constituted. He insightfully frames the chief dilemma hobbling US attempts to respond to China's ascent (Arrighi 2007:305). On the one hand, rampant imports of Chinese-made consumer goods and Chinese financing of the Pentagon's spendthrift ways have become fulcrums of US growth and power projection. On the other, these commodity and capital inflows are rotting away the US manufacturing base, boosting China's leverage over US imperial adventurism, and preparing the ground for nationalist-protectionist anti-China populism with volatile domestic political consequences (Petras 2005; Shirk 2007:5-6; Wallerstein 2005). But Arrighi reveals less awareness of how resulting political volatility in the US translates into calamitous instability in the entire edifice of US-China geo-economic interdependence – and dims the prospects of a smooth Chinese ascent. Whenever the US brings anti-dumping charges against China in the WTO, or raises hackles about China's allegedly "undervalued" *yuan*, this

inflames possibilities of a tit-for-tat trade war and revenue losses for Chinese exporters. China could parry escalating US protectionism with its perennial threat to reposition its dollar reserves, a threat its officials have openly enunciated since the crisis broke (Batson 2009; Pettis 2010). But for now, this threat is weak tea. If China were to sell off a significant chunk of its dollar reserves, it would take a powder on its remaining reserves (Bezlova 2008; Sender 2009). Or the act of selling off some of its reserves would find willing buyers, supporting the dollar and negating its threat. A combination of the two would be a most unpalatable scenario for China (Pettis 2010). For the threat to be credible, what needs to occur is proof of a viable long-term strategy to undermine and replace the dollar's status as "world money." But this would involve China teaming up with Japan, the other most important state prop of US dollar hegemony. And as explained earlier, even under the unsteady hand of DPJ guidance, Japan is far from comfortable directly challenging US political dominance – for one part of its two-pronged foreign policy continues to lean on that dominance.

### SOCIO-ECOLOGICAL CONSTRAINTS TO GLOBAL CAPITALIST REPRODUCTION

As Arrighi insightfully theorizes in *The Long Twentieth Century*, the net result of several rounds of world-systemic expansion and restructuring is a complex global division of labor that is at one and the same time highly economically integrated and unusually geopolitically lopsided. The increasing disproportionality between political-military power and economic dynamism in the world-system is further complicated by the imperative that the next hegemonic leader be endowed with historically unprecedented scale and organizational capabilities, per the pattern established in the past. This all adds up to "steering problems" for the present transitional conjuncture – problems so grave as to imperil the very continuation of the world-system. Arrighi's perceptive formulations are enduringly relevant for another reason as well. They assist in the probing of urgent questions about the historically produced relations between global capitalist expansion and biophysical constraints to further expansion. By joining concepts such as hegemonic scale and world-systemic depth to the project of world-systems analysis, in *The Long Twentieth Century* Arrighi opens up intellectual vistas for a more thorough grasp of why world-systemic reproduction decades into the future is a dubious proposition. But because Arrighi's viewpoint is myopically "social determinist" – *i.e.*, nearly blind to the ways in which accumulation and territorial pursuits in the world-system are always already embedded in metabolic exchanges between human society and nature (Moore 2009:3-6, 8) – he fails to marry his lucid remarks about the scale and capability barriers to "normal" hegemonic succession with a crucial acknowledgment of the imminent socio-ecological limits to continued systemic expansion.

An occupational hazard of basing long-range prognostications on observed regularities (be these regularities cyclical or aggregative) is that these regularities may be undergirded by conditions that lurk beneath the surface, unappreciated and hence untheorized. These conditions and the extent to which they have discreetly governed world-systemic development may become manifest and theorizable only at the time their prior obscurity can no longer be taken for granted – that is, precisely when they begin to evaporate. In other words, these conditions and their formerly unacknowledged enabling powers only become evident at the very moment their disappearance possibly undermines the continuation of the world-system itself. When putting the

finishing touches on *The Long Twentieth Century* 15 years ago, Arrighi failed to detect the degree to which world-systemic reproduction in the past, present, and future is contingent on a specific package of *geophysical* conditions. To be more precise, since the widespread adoption of the coal-powered steam engine in capitalist raw material extraction, transport, and industry two centuries ago, world-systemic expansion has been grounded in labor productivity increases inextricably linked to the exploitation of non-renewable fossil fuels (Altwater 1998:23-25; Christie 1980:16). This oft-noted relationship has been grounded in a heretofore oblique configuration of the carbon cycle. A distinctive geophysical ensemble of ample supplies of commercially recoverable fossil energy resources (Altwater 2006:42) combined with global and regional climates sufficiently stable and benign to encourage and reward the mobilization of wage labor-saving investment (Clark and York 2005:403-409; Simms 2005) has enabled a long sequence of socio-technical revolutions in value production. But a cast of historical social scientists now recognizes that this configuration is fast eroding (Foster 2009; Grimes 1999; M Li 2007:2-3).

Their acknowledgement of this emergent reality is built upon the latest and best findings of energy economists and climatologists (Foster 2009:11). Even the customarily cautious International Energy Agency (IEA) has joined the chorus of energy economists who argue that within the next decade or so – and very possibly sooner – the total global output of conventional crude oil will plateau and then irreversibly decline (Connor 2009; Foster 2009:92-99; Klare 2008:35-43). Dissenting voices inside and outside the industry claim that deep-sea drilling and enhanced field recovery techniques will considerably prolong the day when this plateau is reached (Mouawad 2009). But the same voices wittingly or unwittingly confound the issue. In theory, advances in oil discovery and extraction technologies enlarge the world's petroleum reserves. As the planet's stock of "easy oil" – that is, oil reservoirs in places that are geographically convenient to access and proximate to sites of processing and consumption – is progressively exhausted, the tapping of "tough oil" will prospectively meet future demand. However, as "tough oil" incrementally replaces "easy oil," and as an increasingly greater proportion of world petroleum throughput is sourced from technically challenging and physically remote locations, the capital expenditure cost and the energy input cost of producing each new barrel of oil goes up (everything else being equal) (Klare 2009). As the per barrel price of this utterly essential input moves inexorably upward, the accumulation process slows to a crawl, which in turn short-circuits investment in the developing, pumping, and delivering of "tough oil". In sum, implementing new technologies to hypothetically bring on line new supplies of "tough oil" will not fundamentally solve an epic problem the capitalist world-economy is now experiencing: its flagging ability to offset the tendential rise in the organic composition of capital through the organizing and generating of an "ecological surplus" (Moore 2009:5).

Meanwhile, credible studies conducted since the release of the Intergovernmental Panel on Climate Change (IPCC)'s Fourth Assessment Report of 2007 indicate that anthropogenic climate forcing is unfolding more quickly and with graver consequences for ecosystemic destruction than previously maintained by the scientific consensus (Hansen et al. 2008; UNEP 2009). Many in the climatological community now believe that if present trends in the emission of greenhouse gases into the atmosphere persist for merely another decade, a radically non-linear and certainly catastrophic process of "runaway" global warming will probably ensue (Leahy 2009; M M Li 2008b:51-53). Scholars are also catching on to a phenomenon that at first seems counterintuitive. The depletion of low-cost petroleum reserves may exacerbate rather than reverse

climate change, and intensifying climate change may in turn hasten the moment when conventional oil output reaches its ultimate apex. At the very least, the two-way connection between conventional oil depletion and global warming will be governed by both negative and positive feedback loops. For example, the rising costs of conventional oil extraction and the related search for substitute transport fuels is already leading to the increased tapping of energy resources that are considerably more greenhouse gas emissions-intensive than regular petroleum. The extraction and refining processes involved in the production of alternative hydrocarbon fuels derived from sources such as bitumen, oil shale, and tar sands are extraordinarily carbon positive (Klare 2008:40-41; Shah 2004:149). And most agrofuels do not fare much better in this regard. Not only are the fertilizer application, crop cultivation, and distilling practices associated with the industrial production of (most) agrofuels highly carbon-intensive, but the direct or indirect conversion of grasslands, tropical forests, and peat bogs to make room for expanded fuel crop cultivation is enormously destructive of carbon sinks (Fargione et al. 2008; Leahy 2008; Searchinger et al. 2008). On the other side of the coin, worsening climate destabilization is already yielding more extreme weather events and unpredictable environmental conditions in precisely those remote and physically challenging places where the petroleum industry is developing new fields in response to the depletion of old ones. That is, global warming may severely compromise the feasibility of exploring and exploiting oil reserves in deep-sea and arctic locations, thus bringing ever closer the day when conventional oil output reaches its final peak and accelerating the pace at which absolute shortages of conventional oil translate into permanently high energy resource costs (Klare 2008:60).

Historical social scientists who fully reckon with the alarming socio-ecological tendencies and patterns outlined above are converging upon a consensus that expansionary world capitalism will probably not thread the needle of conventional oil depletion and incipient climate chaos (Clark and York 2008:22; Moore 2008:59-62). They base this tentative conclusion on many factors and insights, the following two being especially elemental. One, the non-substitutable qualities of oil as a cheap, dense, and portable fuel source (as well as a fungible input into industrial agriculture) means that absolute declines in global petroleum output will throttle the expanded reproduction of capital in severe and unseen ways (Goff 2003:195-204; M Li 2007). Two, under circumstances of dramatic climatic shift and its wildly unpredictable consequences, repairing and safeguarding capitalistically productive natural and built environments would require such a massive diversion of realized surplus value to so-called “geo-engineering” projects as to paralyze the accumulation process (Jones 2005; O’Connor 1998:170,246-247).

While Arrighi was composing *The Long Twentieth Century*, these facets of the multifaceted global environmental crisis had yet to cross thresholds leaving historical social scientists no choice but to acknowledge previously ignored connections between the expanded reproduction of capital and the presence of favorable geophysical conditions. In the 15 years that have passed since the publication of *The Long Twentieth Century*, critical social science has made great theoretical strides toward comprehending the mutual constitution and co-evolution of society and the natural environment (Clark and York 2008:13; Goldman and Schurman 2000) – and, at the more innovative and radical end of the spectrum, in combining thermodynamic with political economy concepts to account for the perpetuation of uneven development on the world and other scales (Biel 2006; Bunker 1984; Hornborg 2001: 35-64; Takeda 2003). In addition, refracted through the various media of global structural inequality, the social manifestations of hydrocarbon energy depletion and anthropogenic climate change have begun to take on

noticeable forms just as scientific understanding of these trends and their impacts have measurably improved (McKibben 2006). But Arrighi's effacement of the socio-ecological constitution of the capitalist world-economy, and the successive geophysical barriers it creates and tries to supervene, also betrays a theoretical imprint. His Braudelien conceptualization of world capitalism – the rarefied zone of high finance and military power, suspended above the quotidian plane of production and exchange – inclines toward neglect of the environmental contradictions of material life. Whatever the sources of Arrighi's inattention, it is now inadmissible to breezily speculate on China's hegemonic trajectory down the road, as if fossil energy strains and intensifying global warming will not decisively condition the future of the capitalist world-economy – including its possible extinction. By impinging on the very process of world-systemic reproduction itself, the mutually interpenetrating character of energy resource bottlenecks and extreme climate perturbations<sup>24</sup> should make an already unlikely transition in world-systemic leadership between a declining US and a rising China even more inconceivable (Li 2008:10) – especially considering these bottlenecks and perturbations will both compound China's well-documented explosion of peasant and worker protests and hamstringing the capacity of the Chinese state to respond to these myriad crises (French 2005a; Gulick 2004b; Li forthcoming; Silver 2003:167; Solinger 2005; Yang 2005).

### **China Stuck in World Capitalism's Closing Geo-Historical Window**

China's hothouse accumulation of the last 15 years, of course, has more than a little to do with the gathering stress between the expansionary logic of world capitalism and the supply of energy resources world capitalism extracts, transforms, and depletes through the valorization process. Between 2000 and 2004, China accounted for 40 percent of the world's total increase in energy consumption (Wen and Li 2006:140) and between 2002 and 2007, 35 percent of the increase in oil consumption (Klare 2009). China's rapidly increasing demand for foreign oil and gas supplies has become a major force driving world market prices for hydrocarbon fuels (Hatemi and Wedeman 2007:104; Li 2008:2), and the continuation of its impetuous industrial growth is potentially held hostage by its fast rising bill for imported fossil fuels (Auerback 2005; Li forthcoming). Possible energy resource bottlenecks facing China might lead not only to a slowing in its rate of GDP growth, but also to further increases in Chinese popular unrest (Li 2010:11); China's party-state still abides by the formula that GDP expansion of at least eight percent per annum is the first rampart against worsening unrest (Kahn and Yardley 2007; Li and Lang 2010:46; Thompson 2009).

The CCP has in place a multi-pronged scheme to decouple its accumulation performance and hence its social cohesion from over-reliance on oil and gas imports. Formalized in the Five-Year Plan of 2006, this scheme includes features such as upgrading China's industrial structure into sectors that require less material inputs and yield less waste per unit of value produced (Bezlova 2007; McKay 2007) and improving its low energy conversion rate in manufacturing processes (Bezlova 2007; Economy 2007b; McKay 2007). But on both the sectoral upgrading and energy efficiency fronts, China has fallen well short of meeting targets and benchmarks mapped

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<sup>24</sup> Another line of inquiry yet to be systematically explored involves the ways in which the coming peak in conventional oil output will choke off investments needed to cope with the deleterious effects of global warming.

out in 2006's Five-Year Plan, not in the least because ministries and bureaucracies in Beijing have lost much of their capacity to get national economic blueprints properly implemented at the local level (Economy 2007a; Economy 2007b; Kahn and Yardley 2007). Hence the burden of the CCP's designs to soften China's reliance on imported hydrocarbon fuels must rest on raising the contribution of domestic energy resources (renewable and otherwise) to China's consumption mix. By 2020 Chinese authorities intend to quintuple electricity output generated by nuclear power plants, double hydroelectric power capacity, and to radically ramp up wind power capacity, a trend already well underway (M Li 2008b; M Li 2008a:6-7; Parenti 2009); by 2030, China's solar photovoltaic electricity generating capacity is projected to increase appreciably as well (M Li 2008b; M Li 2008a:7). But what is often overlooked in conventional analyses of the party-state's plan to tap more and better domestic energy resources is that the enactment of said plan promises to ignite mass revolts in manifold unintended ways – and, moreover, that this is just as true for the “green and lean” facets of the plan as it is for its “dirty and bulky” components. Such is the squeeze that inevitably confronts a country containing 21% of the world's population and boasting a GDP that for 25 years has expanded at an annual average of nearly 10%, but is also endowed with a mere 11% of the world's primary energy supply, and an even more meager seven percent of its arable land and freshwater reserves (McKay 2007).

In one of the last countries on the planet whose public officials remain enamored with big dam projects that even the World Bank is no longer willing to underwrite, such projects have already proven their potential to incite popular upheaval. The showpiece of China's hydroelectric arsenal, of course, is the Three Gorges Dam. While its construction has inspired legions of protests by displaced Yangtze River valley dwellers, the true explosiveness of this situation was not fully revealed until October 2004. In a small city in Sichuan Province, nearly 100,000 evicted migrants denied adequate compensation and condemned to unemployment battled paramilitary police in a night-long rebellion (Chan 2004; Mooney 2004). More ominously, Chinese and American geophysicists have recently discovered that the sheer weight of the reservoir created and contained by the Three Gorges Dam may have helped to trigger the deadly Wenchuan earthquake of May 2008 (LaFraniere 2009). If the link between the dam's construction and the seismic calamity is conclusively proven, and if such findings trickle down to the Chinese public, popular anger and loss of CCP legitimacy may spiral out of control (LaFraniere 2009). But even seemingly benign small-scale renewable projects can spawn collective violence. When a local government in crowded Guangdong Province obeyed an order from Beijing to pursue clean energy production by building a space-intensive windpower farm, peasant victims of eminent domain rose up, with at least 20 of them meeting their end from gunfire issued by a riot squad (French 2006; Kahn 2005).

But on an earth where several centuries of “fossil capitalism” have pushed carbon sinks past their absorptive capacities, the part of the CCP's domestic energy sourcing strategy that most endangers China's putative hegemonic ascent is its intention to mine and oxidize coal in volumes greater than the present. China is by far and away the world's top extractor and user of coal and famously relies on coal as its preponderant energy source (Heinberg 2008; Kahn and Yardley 2007; M Li 2008b; M Li 2008a:5; Parenti 2009). At the beginning of this century, CCP energy planners aimed to reduce China's relative dependence on coal, if not its absolute consumption of coal, optimistically projecting that China could temper the annual increase in its coal consumption and still foster economic expansion robust enough to contain social instability (Becker 2003; Economy 2007a). However, the raw amount of China's coal consumption doubled

between 2000 and 2007, constituting the major driver of China recently joining the US as the world's foremost emitter of atmospheric greenhouse gases (Bello 2008; Economy 2007a; Heinberg 2008; Li 2008:2,5).<sup>25</sup> By 2004, permits to add 562 new coal-fired power plants to China's energy production complex before 2012 were already approved or queued up (Clayton 2004). As of 2009, China was keeping up its notorious pace of bringing on line between one and two new plants per week, on average (Heinberg 2008; Parenti 2009); few, if any, of these plants are outfitted with combined-cycle turbines or other cutting-edge clean technology (Economy 2007b; Kahn and Yardley 2007). The anticipated gross amount of carbon dioxide to be released from these plants alone by 2012 will easily eclipse the anticipated net reduction in greenhouse gas emissions attained by Kyoto Protocol signatories during the initial implementation of the accord between 2005 and 2012 (Clayton 2004). Given extant North-South inequalities in both per capita energy resource consumption and per capita greenhouse gas emission, it would be ethically fraudulent to single out China's crash program to augment its coal-fired power plant capacity as an extraordinary environmental crime against humanity (McKibben 2005). But a simple and unpleasant fact will not go away: this program could very well unleash into the atmosphere the extra increment of carbon dioxide that catalyzes runaway global warming, a catastrophe that would not only put paid to the chimera of Chinese hegemony, but would also devastate China's hundreds of millions of rural poor as severely as any other human collectivity in the world-system (Gulick 2007; Parenti 2009).

In tandem with the overgrazing of livestock, climate change is already wreaking havoc on the arid landscapes of northwestern China, and the resulting desertification negatively impacts not only the relatively scant human population of the region, but also hundreds of millions of Chinese downwind. Partly because of shrinking runoff from mountains capped with less glaciers and snow than formerly (T Johnson 2007; *Xinhuanet* 2009), northern China now loses roughly 3000 square kilometers to advancing desert every year (X Li 2003; Nolan 2004:27). The rate of desertification in northwestern China specifically has doubled in the epoch of Dengist market reform and accelerating global warming (Economy 2004:66) and the bleaker assessments of this crisis assert that one-quarter of China's land area can now be labeled as desert (Economy 2007a). Moreover, China's State Environmental Protection Agency (SEPA) recently classified about half of the extant grassland as "moderately to severely degraded" (Economy 2004:65), which effectively means it is not suitable for pasturage. In addition to turning tens of millions of herdspeople and hardscrabble farmers into environmental refugees (Economy 2007a), the creeping deserts and retreating grasslands are the proximate cause of the macabre sandstorms that now smother Beijing and other large northern Chinese conurbations in toxic grit every spring (Economy 2007a). During the 1990's, the number of sandstorms hitting northern China increased from an annual average of 20 to an annual average of 35 (Economy 2004:66), and in March 2010 Beijing and surrounding environs choked on the worst sandstorm since the mid-2000's (Bodeen 2010). A less celebrated effect of northwestern China's emerging permanent drought is how it exacerbates the increasingly erratic and increasingly diminished flow of northern China's waterways, including the tributaries of the Huang He (Yellow River) and hence the Huang He itself. While it is well known that the Hwang He's flow volume has dropped by about 22.3 percent since the

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<sup>25</sup> Astonishingly enough, China's underground coal fires alone may now account for up to 3 percent of all atmospheric carbon dioxide releases, an amount more or less equal to that emitted by the US' car and light truck fleet (Heinberg 2008; T Johnson 2008).

early 1960's (X Li 2003) and that the last stretch of this conduit of ancient Chinese civilization now runs dry for at least four months every year (R Smith 1997; Watts 2004), the grave condition of northern China's waterways is often mistakenly pinned solely on unsustainable withdrawal rates (X Li 2003; McKibben 2005:50). Yet climate change is also culpable for northern China's increasingly ominous water shortages: in 2001 Chinese hydrologists reported that more than 2000 lakes in Qinghai Province feeding the Huang He were vanishing into empty basins partly because of global warming (Economy 2004:69). More recently, in China's official climate change assay of 2007, scientists predicted that global warming-induced drought would result in a 30% precipitation drop in the catchment zones of the Hai, Huai, and Liao Rivers, northern China's three other most significant waterways (Economy 2007a).

Just as the connection between climate change and northern China's water scarcity tends to be underemphasized, so too does the connection between said water scarcity and the increasing lethality of the carcinogenic agricultural pesticides and toxic industrial effluents discharged into northern China's parched waterways. SEPA (China's national environmental bureaucracy) deems over 70 percent of the water to be found in the Hai, Huai, Huang He, and Liao as "not appropriate for human contact" (Economy 2004:69; Smith 1997). An increasingly common cause of death in the Chinese countryside is cancer of the esophagus, intestines, liver, and stomach, linked in epidemiological studies to exposure to high concentrations of waterborne synthetic chemicals (Yardley 2004); in 2007 China's Ministry of Public Health reported that rural cancer rates had leapt by 23 percent since 2005 and that this disturbing increase was in part caused by worsening water pollution (Economy 2007a). To some uncalculated extent, the outbreak of cancer-related mortality assaulting China's rural poor can be traced back to China's rivers no longer carrying enough flow to dilute the hazardous compounds that are routinely dumped into them (Nolan 2004:27) – and hence, ultimately back to the reality of global warming.

Indigent peasants in the Chinese countryside are not standing by idly while waterborne toxins take the lives of their family members and village mates. A growing proportion of China's voluminous protest "incidents" involve the popular classes mobilizing against local party-state officials held accountable for the deadly concentrations of carcinogenic substances contaminating the ecosystems in which ordinary people live, work, and play (Economy 2004:19; French 2005b; Magnier 2006). In 2006 China's preeminent environmental official announced that during 2005 an average of nearly one thousand pollution-related protests were staged every week (Economy 2007a; Magnier 2006). In some key ways China's homegrown "environmental justice" movement does not resemble those found in the advanced capitalist democracies of the Global North in one significant way. Aggrieved peasants often learn that the deck is stacked against them in local courtrooms where magistrates customarily serve the very officials against whom petitions are brought (Economy 2007a). Consequently, environmental justice campaigners sometimes resort to direct action – including direct action that occasionally turns violent (Economy 2007a; French 2005b). For example, in 2005 Zhejiang Province played host to a ripple of belligerent demonstrations, in which 30,000-40,000 angry farmers surrounded polluting chemical and pharmaceutical plants that local officials refused to shut down, and destroyed government property and killed security police in the ensuing melees (Economy 2007a; French 2005b; Magnier 2006). When calculating the risks and costs of climate change, the environmental economists of the CCP and green INGO's alike fixate on how many inches of rising oceanic levels will submerge how many value-producing industrial parks and acres of fertile farmland near the coast, and so on; what their auditor's mindset precludes them from seeing is that, through

their collective action, China's rural poor will be the final arbiters of how the geophysical phenomenon of global warming shapes the socio-ecological phenomenon of China's parlous development path.

## CONCLUSION

The indestructible contributions of *The Long Twentieth Century* to our understanding of the cyclical and aggregative development of the global capitalist system are many. I maintain that one of Arrighi's most pathbreaking accomplishments is his observing that each successive hegemonic regime has been grounded in state-capital alliances of exponentially greater spatial reach and functional capability. Equally important is his corollary that because the world geo-economic order has simultaneously become so densely networked and so imbalanced – most clearly manifest in the structural and spatial schism between military power and masses of accumulated capital – it is entirely reasonable to consider that no new, post-US hegemonic regime will emerge to muster resources on the scale necessary to lead the global system through another long wave of expansion. In other words, one of the most generous gifts of *The Long Twentieth Century* is its theorization of the (mounting) impediments to global capitalist reproduction. However, this theorization is incomplete, because it is insufficiently based on a sophisticated analysis of the ways in which long-term global capitalist expansion has depended upon successive low-cost – and from the perspective of capitalist rationality's own logic, “low-consequence” – mobilizations of various ecological inputs, a process which now appears increasingly untenable. Moreover, this theorization has subsequently been tempered by Arrighi's enthusiasm<sup>26</sup> that an ascendant China has the real potential to guide the global system through its present impasse by establishing itself as the East Asian pivot of a putatively sustainable “world market society.” Arrighi's speculations about China's possible hegemonic destiny raise a host of extremely thorny conceptual questions that could not be addressed here.<sup>27</sup> Suffice it to say that the correspondence in Arrighi's *oeuvre* between the downplaying of contradictions to global capitalist reproduction and the hopeful assessment of China's ascent is a supreme irony. As other world-systems scholars have demonstrated meticulously, it is precisely China's meteoric rise, including the biospheric implications of its rise at this precarious moment in world geo-history, that poses numerous challenges to the longevity of the modern world-system like never before (Li 2008).<sup>28</sup> Nonetheless, as the quest continues for a “unified field theory” of the capitalist geo-economy's own undoing, *The Long Twentieth Century* will prove to be an indispensable tool.

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<sup>26</sup> A guarded enthusiasm, admittedly (Arrighi 2010, 2009:85).

<sup>27</sup> Among them: what are the similarities and differences between a hypothetical “world market society” and the global capitalist system? Is there truly sound intellectual justification for suggesting that a reformed international order led by a state resembling today's China would somehow be *non-capitalist* (Panitch 2010)? And if the discontinuities between a China-anchored “world market society” and the current geo-economic order do indeed outweigh the continuities, does it not make more sense to conceive of a hegemonic China as the negation of the capitalist world-economy, rather than the inheritor of its mantle?

<sup>28</sup> Extrapolating from his astute discovery that the state-capital nexus of each successive hegemonic regime internalized a previously external facet of security provision and commodity production, in the posthumously published latest edition of *The Long Twentieth Century*, Arrighi asserts that the task before

## REFERENCES

- Altwater, Elmar. 2009. "The Plagues of Capitalism." Speech delivered to 2009 World Social Forum, available at *Europe Solidaire Sans Frontieres*. January 30. <http://www.europe-solidaire.org/spip.php?article12913>
- \_\_\_\_\_. 2006. "The Social and Natural Environment of Fossil Capitalism." In *Socialist Register 2007: Coming to Terms with Nature*, in Panitch, Leo and Colin Leys, editors. London: Merlin, 37-59.
- \_\_\_\_\_. 1998. "Global Order and Nature," in Keil, Roger et al., eds. *Political Ecology: Global and Local*. London: Routledge.
- Amin, Samir. 2004. *Obsolescent Capitalism*. London: Zed Press.
- Anderson, Perry. 2010. "Two Revolutions." *New Left Review* 61:59-96.
- Anstey, Chris. 2010. "Roach Rebuffs Krugman Call to Pressure China on Yuan." *Bloomberg.com*. March 19. <http://www.bloomberg.com/apps/news?pid=20670001&sid=adVYIGeWMUJI>
- Ariff, Mohamed. 2009. "China's economic clout may be an illusion." *New Straits Times*. August 19.
- Arrighi, Giovanni. 2010. *The Long Twentieth Century*. New and Updated Edition edition. London and New York: Verso.
- \_\_\_\_\_. 2009. "The Winding Paths of Capital." *New Left Review* 56:61-94.
- \_\_\_\_\_. 2007. *Adam Smith in Beijing: Lineages of the Twenty-First Century*. London and New York: Verso.
- \_\_\_\_\_. 2005a. "Hegemony Unravelling – I." *New Left Review* 32:23-80.
- \_\_\_\_\_. 2005b. "Hegemony Unravelling – II." *New Left Review* 33:1-34.
- \_\_\_\_\_. 2002a. "The African Crisis: World Systemic and Regional Aspects." *New Left Review* 15:5-36.
- \_\_\_\_\_. 2002b. "Global Inequalities and the Legacy of Dependency Theory." *Radical Philosophy Review* 5(1/2):75-85.
- \_\_\_\_\_. 1994. *The Long Twentieth Century*. London and New York: Verso.
- Arrighi, Giovanni and Beverly Silver et al.. 1999. *Chaos and Governance in the Modern World System*. Minneapolis: University of Minnesota.
- Arrighi, Giovanni and Lu Zhang. 2010. "Beyond the Washington Consensus: A new Bandung?" Forthcoming in Shefner, Jon and Patricia Fernandez-Kelly, eds. *Globalization and Beyond: New Examinations of Global Power and its Alternatives*. University Park: Penn State University Press.
- Auerback, Marshall. 2005. "What Could Go Wrong in 2005?" *TomDispatch.com*. January 21. [http://www.tomdispatch.com/post/2141/auerback\\_a\\_tour\\_of\\_economic\\_disaster\\_2005\\_style](http://www.tomdispatch.com/post/2141/auerback_a_tour_of_economic_disaster_2005_style)

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the global system's next hegemon is to fully account for the degradation that industrial accumulation wreaks upon the natural environment and human beings, and thus to ensure that nature and labor are sustainably reproduced. Leaving aside the tricky matter of whether such "full-cost accounting" is at all compatible with a socio-economic order that prioritizes accumulation, there is this empirical inconvenience: for a short time the CCP launched a "green GDP accounting" pilot program, which quickly fell out of favor and was summarily terminated (Li and Lang 2010).

- Balakrishnan, Gopal. 2009. "Speculations on the Stationary State." *New Left Review* 59:5-26.
- Barber, Lionel, Geoff Dyer, James Kynge, and Lifan Zhang. 2009. "Wen Jiabao: does not see it as China's role to save capitalism from itself." *Financial Times*. February 1. <http://www.ft.com/cms/s/0/ae6805b4-f08c-11dd-972c-0000779fd2ac.html>
- Barboza, David. 2010. "Contrarian Investor Sees Economic Crash in China." *New York Times*. January 8. <http://www.nytimes.com/2010/01/08/business/global/08chanos.html>
- Barma, Naazneen, Ely Ratner, and Steven Weber. 2007. "A World without the West." *National Interest online*. July 1. [www.nationalinterest.org/General.aspx?id=92&id2=14798](http://www.nationalinterest.org/General.aspx?id=92&id2=14798)
- Batson, Andrew. 2009. "China Takes Aim at Dollar." *Wall Street Journal*. March 24.
- Beattie, Alan and Geoff Dyer. 2010. "China export surge stirs US anger." *Financial Times*. June 10.
- Becker, Jasper. 2003. "China in an energy quandary." *Asia Times Online*. August 28. <http://www.atimes.com/atimes/China/EH28Ad01.html>
- Beeson, Mark. 2009. "East Asian Regionalism and the End of the Asia-Pacific: After American Hegemony." *The Asia-Pacific Journal Vol.2-2-09*. January 10. [http://www.japanfocus.org/Mark\\_Beeson-East\\_Asian\\_Regionalism\\_and\\_the\\_End\\_of\\_the\\_Asia\\_Pacific\\_After\\_American\\_Hegemony](http://www.japanfocus.org/Mark_Beeson-East_Asian_Regionalism_and_the_End_of_the_Asia_Pacific_After_American_Hegemony)
- Bello, Walden. 2009. "Asia: The Coming Fury." *Foreign Policy in Focus*. February 9. <http://fpif.org/fpiftxt/5855>
- \_\_\_\_\_. 2008. "Will Capitalism Survive Climate Change?" *Focus on the Global South*. April 1. <http://focusweb.org/will-capitalism-survive-climate-change-3.html?Itemid=153>
- Bezlova, Antoaneta. 2008. "Balking at Changing Dollar-Centric Economic Order." *InterPress Service*. November 21. <http://ipsnews.net/news.asp?idnews=44800>
- \_\_\_\_\_. 2007. "China: Sustainable Development Gets Priority." *InterPress Service*. March 6. <http://ipsnews.net/news.asp?idnews=36822>
- Bhadrakumar, M. K. 2007a. "US Shadow over China-Russia Ties." *The Asia-Pacific Journal*. April 2. <http://www.japanfocus.org/products/details/2395>
- \_\_\_\_\_. 2007b. "China begins to define the rules." *Asia Times Online*, January 20. <http://www.atimes.com/atimes/China/IA20Ad03.html>
- Biel, Robert. 2006. "The Interplay between Social and Ecological Degradation in the Development of the International Political Economy." *Journal of World-Systems Research* 12(1):109-147.
- Bradsher, Keith. 2010. "China Uses Rules on Global Trade to Its Advantage." *New York Times*. March 14. <http://www.nytimes.com/2010/03/15/business/global/15yuan.html>
- Brenner, Robert and Seonjin Jeong. 2009. "On the Current World Crisis." *The Hankyoreh*. January 29. [http://www.hani.co.kr/arti/society/society\\_general/335869.html](http://www.hani.co.kr/arti/society/society_general/335869.html)
- Bodeen, Christopher. 2010. "China's sandstorms blast Beijing with dust, sand." *Washington Post*. March 22.
- Boswell, Terry, and Christopher Chase-Dunn. 2000. *The Spiral of Capitalism and Socialism: Toward Global Democracy*. Boulder: Lynne Rienner.
- Bunker, Stephen. 1984. "Modes of Extraction, Unequal Exchange, and the Progressive Underdevelopment of an Extreme Periphery: The Brazilian Amazon, 1600-1980." *The American Journal of Sociology* 89(5):1017-1064.
- Calder, Kent E. 2006. "China and Japan's Simmering Rivalry." *Foreign Affairs*. 85(2):129-139.

- Callinicos, Alex. 2010. "Don't overstate China's power." *Socialist Worker* 2188. February 13. [www.socialistworker.co.uk/art.php?id=20210](http://www.socialistworker.co.uk/art.php?id=20210)
- Cruz de la Castro, Renato. 2000. "Whither Geoeconomics?" *Asian Affairs, An American Review*. 24(4):201-221.
- Chan, John. 2010a. "Mass protest against US base on Okinawa." *World Socialist Website*. April 29. <http://www.wsws.org/articles/2010/apr2010/japa-a29.shtml>
- \_\_\_\_\_. 2010b. "Japanese finance minister quits." *World Socialist Website*. January 19. <http://www.wsws.org/articles/2010/jan2010/japa-j19.shtml>
- \_\_\_\_\_. 2008. "Chinese president visits Japan: Tensions remain beneath talk of warmer ties." *World Socialist Website*. May 16. <http://www.wsws.org/articles/2008/may2008/japa-m16.shtml>
- \_\_\_\_\_. 2004. "Mass protests in China point to sharp social tensions." *World Socialist Website*. November 1. <http://www.wsws.org/articles/2004/nov2004/chin-n01.shtml>
- Chase-Dunn, Chris and Kirk Lawrence. 2009. "The Next Three Futures: Another US Hegemony, Global Collapse, or Global Democracy?" Paper presented at the annual conference of the International Studies Association, "Exploring the Past, Anticipating the Future" Session, New York City. February 17. <http://irows.ucr.edu/papers/irows47/irows47.htm>
- Cheng, Eva. 2007. "China: Wage share plunges." *Green Left Weekly*. October 19. <http://www.greenleft.org.au/2007/728/37739>.
- Christie, Renfrew. 1980. "Why Does Capital Need Energy?" in Nore, Petter and Terisa Turner. *Oil and Class Struggle*. London: Zed.
- Clark, Brett, and Richard York. 2008. "Rifts and Shifts: Getting to the Root of Environmental Crises." *Monthly Review*. 60(6):13-24.
- \_\_\_\_\_. 2005. "Carbon metabolism: Global capitalism, climate change, and the biospheric rift." *Theory and Society*. 34:391-438.
- Clayton, Mark. 2004. "New coal plants bury 'Kyoto.'" *Christian Science Monitor*. December 27.
- Committee of 100. 2008. *Hope and Fear: Full Report of C-100's Survey on American and Chinese Attitudes Toward Each Another*. New York: Committee of 100.
- Connor, Steve. 2009. "Warning: Oil supplies are running out fast." *The Independent*. August 3. <http://www.independent.co.uk/news/science/warning-oil-supplies-are-running-out-fast-1766585.html>
- Deng, Peng. 2002. "Embracing the Polar Bear? – Sino-Russian Relations in the 1990s." *Journal of Third World Studies* 19(2):113-139.
- Dore, Ronald. 2006. "Japan's New Miracle Economy: Neoliberalism and the Poverty of Wealth." *The Asia-Pacific Journal*. November 9. <http://japanfocus.org/products/topdf/2267>
- The Economist*. 2006. "A giant stirs, a region bridle." May 13.
- \_\_\_\_\_. 2005. "Koizumi Gets His Way." 376(8444):22-24.
- Economist.com*. 2008. "Japan's New Government." September 26. [http://www.economist.com/agenda/displaystory.cfm?story\\_id=12322328](http://www.economist.com/agenda/displaystory.cfm?story_id=12322328)
- Economy, Elizabeth. 2007a. "The Great Leap Backward?" *Foreign Affairs*. September/October 2007. <http://www.foreignaffairs.org/20070901faessay86503/elizabeth-c-economy/the-great-leap-backward.html>
- \_\_\_\_\_. 2007b. "China vs. Earth." *The Nation*. May 7. <http://www.thenation.com/doc/20070507/economy>

- \_\_\_\_\_. 2004. *The River Runs Black: The Environmental Challenge to China's Future*. Ithaca, NY and London: Cornell University Press.
- Engardio, Pete, Dexter Roberts, Frederik Balfour, and Bruce Einhorn. 2007. "Broken China." *Business Week*, July 23. [www.businessweek.com/magazine/content/07\\_30/b4043001.htm](http://www.businessweek.com/magazine/content/07_30/b4043001.htm)
- Fargione, Joe et al.. 2008. "Land Clearing and the Biofuel Carbon Debt." *Science* 319:1235–38.
- Feffer, John. 2010. "Pacific Pushback: Has the U.S. Empire of Bases Reached Its High-Water Mark?" *TomDispatch.com*. March 4. [http://www.tomdispatch.com/blog/175214/tomgram:john\\_feffer,\\_can\\_japan\\_say\\_no\\_to\\_washington/](http://www.tomdispatch.com/blog/175214/tomgram:john_feffer,_can_japan_say_no_to_washington/)
- \_\_\_\_\_. 2009. "Japan: The Price of Normalcy." *The Asia-Pacific Journal Vol. 2-3-09*. January 10. [http://japanfocus.org/John\\_Feffer-Japan\\_The\\_Price\\_of\\_Normalcy](http://japanfocus.org/John_Feffer-Japan_The_Price_of_Normalcy)
- Foster, John Bellamy. 2005. *The Ecological Revolution*. New York: Monthly Review Press.
- French, Howard. 2006. "Police in China Battle Villagers in Land Protest." *New York Times*. January 17. <http://www.nytimes.com/2006/01/17/international/asia/17china.html>
- \_\_\_\_\_. 2005a. "Land of 74,000 Protests (But Little Is Ever Fixed)." *New York Times*. August 24. A(3):4.
- \_\_\_\_\_. 2005b. "Riots in Village in China as Chinese Pollution Protest Heats Up." *New York Times*. July 19.
- Fu, Jing. 2010. "Urban-rural income gap widest since reform." *China Daily*. March 2. [http://www.chinadaily.com.cn/china/2010-03/02/content\\_9521611.htm](http://www.chinadaily.com.cn/china/2010-03/02/content_9521611.htm)
- Glyn, Andrew. 2005. "Imbalances of the Global Economy." *New Left Review*. (34):5-37.
- Goldman, Michael, and Rachel Schurman. 2000. "Closing the 'Great Divide': New Social Theory on Society and Nature." *Annual Review of Sociology*. (26):563-584.
- Gowan, Peter. 2004. "Triumphing Toward International Disaster: The Impasse in American Grand Strategy." *Critical Asian Studies*. 36(1):3-36.
- Grimes, Peter. 1999. "The Horsemen and the Killing Fields: The Final Contradiction of Capitalism," in Goldfrank, Walter, David Goodman and Andrew Szasz, editors. *Ecology and the World-System*. Westport, CT: Greenwood.
- Gu, George Zhibin. 2005. "China's competitiveness in a strong yuan world." *Asia Times Online*. August 2. <http://www.atimes.com/atimes/China/GH02Ad02.html>
- Gulick, John. 2007. "Socio-Ecological Instability in China." *Peace Review*. 19(3):315-322.
- \_\_\_\_\_. 2004a. "A Critical Appraisal of Peter Gowan's 'Contemporary Intra-Core Relations and World-Systems Theory': A Capitalist World-Empire or US-East Asian Geo-Economic Integration?" *Journal of World-Systems Research*. 10(2):502-515.
- \_\_\_\_\_. 2004b. "Insurgent Chinese Workers and Peasants: The 'Weak Link' in Capitalist Globalization and US Imperialism," in Burton-Rose, Daniel, George Katsiaficas, and Eddie Yuen, editors, *Confronting Capitalism: Dispatches from a Global Movement*. Brooklyn, NY: Soft Skull, 292-306.
- Hansen, James, Makiko Sato, Pushker Kharecha, David Beerling, Robert Berner, Valerie Masson-Delmotte, Mark Pagani, Maureen Raymo, Dana L. Royer and James C. Zachos. 2008. "Target Atmospheric CO2: Where Should Humanity Aim?" *The Open Atmospheric Science Journal*. 2:217-231.
- Harris, Jerry. 2005. "Emerging Third World powers: China, India, and Brazil." *Race and Class*. 46(3):7-27.
- Hart-Landsberg, Martin. 2008. "The Realities of China Today." *Against the Current* November/December. <http://www.solidarity-us.org/node/1940>.

- Hart-Landsberg, Martin, and Paul Burkett. 2004. "China and Socialism: Market Reforms and Class Struggle." *Monthly Review*. 56(3):7-123.
- Harvey, David. 2009. "Why the US Stimulus Package Is Bound To Fail." *Reading Marx's Capital with David Harvey*. February 12. <http://davidharvey.org/2009/02/why-the-us-stimulus-package-is-bound-to-fail/>
- \_\_\_\_\_. 2005. *A Brief History of Neoliberalism*. Oxford, UK: Oxford University Press.
- \_\_\_\_\_. 1989. "The Place of Urban Politics in the Geography of Uneven Capitalist Development," in Harvey, *The Urban Experience*. Baltimore, MD: Johns Hopkins Press.
- Hatemi, Peter, and Andrew Wedeman. 2007. "Oil and Conflict in Sino-American Relations." *China Security*. 3(3): 95-118.
- Hatoyama, Yukio. 2009. "Japan must shake off US-style globalization." *Christian Science Monitor*. August 19. <http://www.csmonitor.com/Commentary/Opinion/2009/0819/p09s07-coop.html>
- Heinberg, Richard. 2008. "Coal in China." *MuseLetter* #195. June 27. [http://globalpublicmedia.com/museletter\\_coal\\_in\\_china](http://globalpublicmedia.com/museletter_coal_in_china)
- Hirai, Junichi. 2004. "After the elections." *International Viewpoint Online Magazine* 356. February. [http://www.internationalviewpoint.org/spip.php?article108&var\\_recherche=Hirai](http://www.internationalviewpoint.org/spip.php?article108&var_recherche=Hirai)
- Hiro, Dilip. 2009. "Defying the Economic Odds." *TomDispatch.com*. May 3. [http://www.tomdispatch.com/post/175067/dilip\\_hiro\\_the\\_newest\\_superpower](http://www.tomdispatch.com/post/175067/dilip_hiro_the_newest_superpower)
- Hornborg, Alf. 2001. *The Power of the Machine*. Walnut Creek, CA: Altamira.
- Hughes, Christopher. 2009. "Japan's response to China's rise: regional engagement, global containment, dangers of collision." *International Affairs*. 85(4):837-856.
- Hung, Ho-fung. 2009. "America's Head Servant? The PRC's Dilemma in the Global Crisis." *New Left Review* 60:5-25.
- Ito, Takatoshi. 2010. "China's property bubble is worse than it looks." *Financial Times*. March 17. <http://www.ft.com/cms/s/0/9b09f824-3163-11df-9741-00144feabdc0.html>.
- Ito, Aki and Patrick Rial. 2010. "Rogoff Says China Crisis May Trigger Regional Slump." *BusinessWeek.com*. February 24. <http://www.businessweek.com/news/2010-02-24/rogoff-says-china-crisis-may-trigger-regional-slump-update1-.html>
- Jacobs, Andrew. 2009. "China Fears Tremors as Jobs Vanish From Coast." *New York Times*. February 23.
- Johnson, Chalmers. 2008. "We Have the Money." *TomDispatch.com*. September 28. [http://www.tomdispatch.com/post/174982/chalmers\\_johnson\\_the\\_pentagon\\_bailout\\_fraud](http://www.tomdispatch.com/post/174982/chalmers_johnson_the_pentagon_bailout_fraud)
- Johnson, Tim. 2008. "China's coal fires belch fumes, worsening global warming." *McClatchy Newspapers*. November 17. <http://www.mcclatchydc.com/226/story/55758.html>
- \_\_\_\_\_. 2007. "Warming triggers 'alarming' retreat of Himalayan glaciers." *McClatchy Newspapers*. June 7. <http://www.mcclatchydc.com/163/story/16151.html>
- Jones, Mark. 2005. "Battle of the Titans," in McKillop, Andrew and Sheila Newman, editors. *The Final Energy Crisis*. Pluto Press: London.
- Kahn, Joseph. 2005. "Police Fire on Protestors in China, Killing Several." *New York Times*. December 9.

- Kahn, Joseph and Jim Yardley. 2007. "As China Roars, Pollution Reaches Deadly Extremes." *New York Times*. August 26. <http://www.nytimes.com/2007/08/26/world/asia/26china.html?ex=1188705600&en=6ae4a672525a05e7&ei=5070&emc=eta1>
- Kambayashi, Takehiko. 2009. "Briefing: Why power may shift in Japan." *Christian Science Monitor*. <http://www.csmonitor.com/World/Asia-Pacific/2009/0819/p10s04-woap.html>
- Kingston, Jeff. 2007. "Japan, Just a Puppet of America?" *The Japan Times*. July 8.
- Klare, Michael. 2009. "Oil 2009: Be Careful What You Wish For." *TomDispatch.com*. January 8.
- \_\_\_\_\_. 2008. *Rising Powers, Shrinking Planet*. New York: Metropolitan Books.
- \_\_\_\_\_. 2006. "Containing China." *TomDispatch.com*. April 18. <http://www.tomdispatch.com/index.mhtml?pid=78021>
- \_\_\_\_\_. 2005. "Revving Up the China Threat." *The Nation*. October 24. <http://www.thenation.com/doc/20051024/klare>
- Kunitomi, Kenji. 2007. "Neo-liberal counter-reform and militarization." *International Viewpoint Online Magazine* 386. <http://www.internationalviewpoint.org/spip.php?article1212>
- Kwong, Peter. 2009. "No Reform or Relief in China." *Agence Global*. April 27. <http://www.agenceglobal.com/Article.asp?Id=1984>
- LaFraniere, Sharon. 2009. "Possible Link Between Dam and China Quake." *New York Times*. February 6. <http://www.nytimes.com/2009/02/06/world/asia/06quake.html?partner=rssemc=rss>
- Leahy, Stephen. 2009. "Time Running Out on Vows to Act, Scientists Warn." *InterPress Service*. September 24. <http://www.ipsnews.net/print.asp?idnews=48577>
- \_\_\_\_\_. 2008. "Record Financing For Biofuels, Not Food." *InterPress Service*. February 4. <http://www.ipsnews.net/news.asp?idnews=41066>
- Li, Minqi. Forthcoming. "The End of the End of History: the Structural Crisis of Capitalism and the Fate of Humanity." *Science and Society*
- \_\_\_\_\_. 2008a. "Peak Energy and the Limits to China's Economic Growth: Prospect of Energy Supply and Economic Growth from Now to 2050." Political Economy Research Institute Working Paper Number 189. December 2008. [http://www.peri.umass.edu/fileadmin/pdf/working\\_papers/working\\_papers\\_151-200/WP189.pdf](http://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_151-200/WP189.pdf)
- \_\_\_\_\_. 2008b. "Climate Change, Limits to Growth, and the Imperative for Socialism." *Monthly Review*. 60(3):51-67.
- \_\_\_\_\_. 2008c. "An Age of Transition: The United States, China, Peak Oil, and the Demise of Neoliberalism." *Monthly Review*. 59(11):20-34.
- \_\_\_\_\_. 2007. "Capitalism with Zero Profit Rate?: Limits to Growth and the Law of the Tendency of the Rate of Profit to Fall." University of Utah Department of Economics Working Paper Series, No. 2007-05, [www.econ.utah.edu/~mli/CV%20\(minqi-Utah\).doc](http://www.econ.utah.edu/~mli/CV%20(minqi-Utah).doc)
- Li, Vic and Graeme Lang. 2010. "China's 'Green GDP' Experiment and the Struggle for Ecological Modernisation." *Journal of Contemporary Asia*. 40(1):44-62.
- Li, Xinxin. 2003. "Ten Hidden Dangers Affecting China's Economic Operations." *Beijing Liaowang in Chinese*. November 24(47):6-8.
- Lo, Dic. 1999. "The East Asian Phenomenon: The Consensus, the Dissent, and the Significance of the Present Crisis." *Capital and Class* 67:14-15.
- Los Angeles Times*. 2005. "Scapegoat, Made in China." April 16. <http://www.latimes.com/news/printedition/opinion/la-ed-trade16apr16,1,4414212.story>

- Lynn, Barry. 2003. "Trading with a Low-wage Tiger." *The American Prospect*. 14(2). <http://www.prospect.org/print/V14/2/lynn-ba.html>
- Magner, Mark. 2006. "As China Spews Pollution, Villagers Rise Up." *Los Angeles Times*. September 3. [http://www.latimes.com/news/nationworld/world/la-fg-enviro3sep03.1.687961\\_story?page=2&cset=true&ctrack=1&coll=la-headlines-world](http://www.latimes.com/news/nationworld/world/la-fg-enviro3sep03.1.687961_story?page=2&cset=true&ctrack=1&coll=la-headlines-world)
- McCormack, Gavan. 2007. *Client State: Japan in the American Embrace*. London and New York: Verso.
- \_\_\_\_\_. 2005. "Koizumi's Coup." *New Left Review* 35:5-16.
- McKay, Huw. 2007. "From growth to 'quality of growth.'" *Asia Times Online*. March 17. <http://www.atimes.com/atimes/China/IC17Ad05.html>
- McKibben, Bill. 2006. "The Coming Meltdown." *The New York Review of Books* 53(1). <http://www.nybooks.com/articles/18616>
- \_\_\_\_\_. 2005. "The Great Leap." *Harper's Magazine*. 311(1867):42-52.
- McNally, David. 2009. "From Financial Crisis to World-Slump: Accumulation, Financialisation, and the Global Slowdown." *Historical Materialism*. 17(2009):35-83.
- Mead, Walter Russell. 2007. "The Great Fall of China." *Los Angeles Times*. December 30.
- Mooney, Paul. 2004. "China faces up to growing unrest." *Asia Times Online*. November 16. <http://www.atimes.com/atimes/China/FK16Ad01.html>
- Moore, Jason W. 2009. "Ecology and the Accumulation of Capital." Unpublished manuscript prepared for the workshop "Food, Energy, Environment: Crisis of the Modern World-System," Fernand Braudel Center, Binghamton University, 9-10 October 2009.
- \_\_\_\_\_. 2008. "Ecological Crises and the Agrarian Question in World-Historical Perspective." *Monthly Review*. 60(6):54-62.
- Mouawad, Jad. 2009. "Oil Industry Sets a Brisk Pace of New Discoveries." *New York Times*. September 24. [http://www.nytimes.com/2009/09/24/business/energy-environment/24oil.html?\\_r=4&adxnnl=1&adxnnlx=1253823214-gOUKnCPuYHLssi65Q2h+Gw](http://www.nytimes.com/2009/09/24/business/energy-environment/24oil.html?_r=4&adxnnl=1&adxnnlx=1253823214-gOUKnCPuYHLssi65Q2h+Gw)
- Murphy, R. Taggart. 2006. "East Asia's Dollars." *New Left Review* 40:39-64.
- Negroponte, John. 2007. *Annual Threat Assessment of the Director of National Intelligence*. Washington, D.C.: Office of the Director of National Intelligence.
- Nolan, Peter. 2004. *China at the Crossroads*. Cambridge, UK: Polity.
- O'Connor, James. 1998. *Natural Causes*. New York: Guilford.
- Overholt, William. 2007. *Asia, America, and the Transformation of Geopolitics*. New York: Cambridge University Press.
- Palat, Ravi. 2005. "On New Rules for Destroying Old Countries." *Critical Asian Studies*. 37(1): 75-94.
- Palat, Ravi Arvind. 2004. *Capitalist Restructuring and the Pacific Rim*. London and New York: RoutledgeCurzon.
- Panitch, Leo. 2010. "Giovanni Arrighi in Beijing: An Alternative to Capitalism?" *Historical Materialism* 18:74-87.
- \_\_\_\_\_. 2009. "The Financial Crisis and American Power: An Interview with Leo Panitch." *Socialist Project*. E-bulletin No.186. February 16.
- Parenti, Christian. 2009. "Can China Catch a Cool Breeze?" *The Nation*. April 15. <http://www.thenation.com/print/article/can-china-catch-cool-breeze>
- van der Pijl, Kiis. 2006. *Global Rivalries from the Cold War to Iraq*. London: Pluto Press.

- Pei, Minxin and Michael Swaine. 2005. "Simmering Fire in Asia: Averting Sino-Japanese Strategic Conflict." *Carnegie Endowment Policy Brief*. No. 44.
- Petras, James. 2005. "Statism or Free Markets? China Bashing and the Loss of US Competitiveness." *Counterpunch Online*, October 22-23. <http://joun.leb.net/petras10222005.html>
- Pettis, Michael. 2010. "How will an RMB revaluation affect China, the US, and the world?" *mpettis.com (china financial markets)*. March 17. <http://mpettis.com/2010/03/how-will-an-rmb-revaluation-affect-china-the-us-and-the-world>
- Righter, Rosemary. 2008. "Black Smoke over China." *Times Literary Supplement*. January 30.
- Roberts, Dexter, and Pete Engardio. 2009. "The China Hype." *Business Week*. November 2:36-42.
- Schwartz, Nelson. 2009. "Rise in Jobless Poses Threat to Stability Worldwide." *New York Times*. February 15.
- Searchinger, Timothy et al. 2008. "Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land Use Change." *Scienceexpress*. February 7. [http://www.princeton.edu/~tsearchi/writings/Searchinger\\_et\\_al-ScienceExpress.pdf](http://www.princeton.edu/~tsearchi/writings/Searchinger_et_al-ScienceExpress.pdf)
- Selden, Mark. 2009a. "China's Way Forward? Historical and Contemporary Perspectives on Hegemony and the World Economy in Crisis." *The Asia-Pacific Journal*. March 24. <http://www.japanfocus.org/-Mark-Selden/3105>
- \_\_\_\_\_. 2009b. "East Asian Regionalism and its Enemies in Three Epochs: Political Economy and Geopolitics, 16<sup>th</sup> to 21<sup>st</sup> Centuries." *The Asia-Pacific Journal*. February 25. <http://www.japanfocus.org/-Mark-Selden/3061>
- Sender, Henny. 2009. "China to stick with US bonds." *Financial Times*. February 11. [http://www.ft.com/cms/s/0/ba857be6-f88f-11dd-aae8-000077b07658.html?nclick\\_check=1](http://www.ft.com/cms/s/0/ba857be6-f88f-11dd-aae8-000077b07658.html?nclick_check=1)
- Sevastopulo, Demetri. 2006. "Japan foreign chief warns of nationalism in Asia." *Financial Times*. May 4.
- Shirk, Susan. 2007. *China: Fragile Superpower*. Oxford, UK: Oxford University Press.
- Shorrocks, Tim. 2005. "Bright Side to Stormy Sino-Japanese Ties." *InterPress Service*. December 14. <http://www.ips.org/asiaamerica/morevoices/2005/china-japan2.html>.
- Silver, Beverly. 2003. *Forces of Labor: Workers' Movements and Globalization Since 1870*. Cambridge, UK and New York: Cambridge University Press.
- Simms, Andrew. 2005. *Ecological Debt*. London: Pluto.
- Shah, Sonia. 2004. *Crude: The Story of Oil*. New York: Seven Stories Press.
- Smith, Richard. 1997. "Creative Destruction: Capitalist Development and China's Environment." *New Left Review* 1(222):3-41.
- So, Alvin. 2009. "Rethinking the Chinese Developmental Miracle," in *China and the Transformation of Global Capitalism*, Ho-fung Hung, editor. Baltimore, MD: Johns Hopkins Press.
- \_\_\_\_\_. 2003. "The Communist Path of Developmental State: The Chinese Experience." Unpublished manuscript.
- So, Alvin and Stephen Chiu. 1995. *East Asia and the World Economy*. Thousand Oaks, CA: Sage Publications.
- Solinger, Dorothy. 2005. "Worker protests in China – plentiful but preempted?" *Taipei Times*. February 19:9.

- Tabb, William. 2008. "IBSA and the BRICs: State Logic versus Capital Logic Approaches to Projecting 21st Century Globalisation." Paper presented as keynote address at the Global Studies Association Annual Conference, Pace University, New York City, June 8.
- \_\_\_\_\_. 1996. "The East and the World Today." *Social Justice* 23(1-2):250-262.
- Tabuchi, Hiroko. 2009. "Japan's Economy Plunges at Fastest Pace Since '74." *New York Times*. February 16.
- Takeda, Louise. 2003. "Political Ecological Economics: An Emerging Transdisciplinary Approach to Sustainability." *The Interdisciplinary Journal of International Studies* 1:41-57.
- Thompson, Drew. 2009. "Beijing's GDP Numerology." *Foreign Policy*. March 10. [http://www.foreignpolicy.com/articles/2009/03/09/beijings\\_gdp\\_numerology](http://www.foreignpolicy.com/articles/2009/03/09/beijings_gdp_numerology)
- Tsai, Michelle. 2009. "China's Other Massacre." *Foreign Policy*. June 2. [http://www.foreignpolicy.com/story/cms.php?story\\_id=4960](http://www.foreignpolicy.com/story/cms.php?story_id=4960)
- Tucker, Noah. 2009. "Did China Cause the Crisis?" *21st Century Socialism*. February 2. [http://21stcenturysocialism.com/article/did\\_china\\_cause\\_the\\_crisis\\_01808.html](http://21stcenturysocialism.com/article/did_china_cause_the_crisis_01808.html)
- UNEP. 2009. *Climate Change Science Compendium 2009*. Nairobi: United Nations Environmental Program.
- Walker, Richard and Daniel Buck. 2007. "The Chinese Road." *New Left Review* 46:39-66.
- Wallerstein, Immanuel. 2005. "The U.S., China, and India." *Commentary No.166*. August 1. <http://www.binghamton.edu/fbc/166en.htm>
- \_\_\_\_\_. 1996. "The Global Possibilities, 1990-2025," in Terence K. Hopkins and Wallerstein et al. *The Age of Transition: Trajectory of the World System 1945-2025*. London: Zed Books.
- Watts, Jonathan. 2004. "On the water front." *The Guardian*. November 11. <http://www.guardian.co.uk/china/story/0,7369,1348274,00.html>
- Wen, Dale, and Minqi Li. 2006. "China: Hyper-Development and Environmental Crisis," in Panitch, Leo and Colin Leys, eds. *Coming to Terms with Nature*. Monmouth, UK: Merlin Press.
- Went, Robert. 2001-2002. "Globalization: Towards a Transnational State? A Skeptical Note." *Science and Society*. 65(4):484-491.
- Wolf, Martin. 2010. "China and Germany unite to impose global deflation." *Financial Times*. March 16. <http://www.ft.com/cms/s/0/cd01f69e-3134-11df-8e6f-00144feabdc0.html>
- Xinhuanet*. 2009. "Melting glaciers on China's Qinghai-Tibet plateau water source 'worrisome'." February 4. [http://news.xinhuanet.com/english/2009-02/04/content\\_10763469.htm](http://news.xinhuanet.com/english/2009-02/04/content_10763469.htm)
- Yamaguchi, Mari. 2007. "Fukuda wins poll, likely next PM." *Associated Press*. September 23.
- Yang, Lian. 2005. "Dark Side of the Chinese Moon." *New Left Review* 32:132-140.
- Yang, Yao. 2010. "The End of the Beijing Consensus." *Foreign Affairs.com*. February 2. <http://www.foreignaffairs.com/articles/65947/the-end-of-the-beijing-consensus>
- Yardley, Jim. 2004. "Rivers Run Black, and Chinese Die of Cancer." *New York Times*. September 12.
- York, Geoffrey. 2007. "Japan's right wing re-emerges." *Toronto Globe and Mail*. August 7.