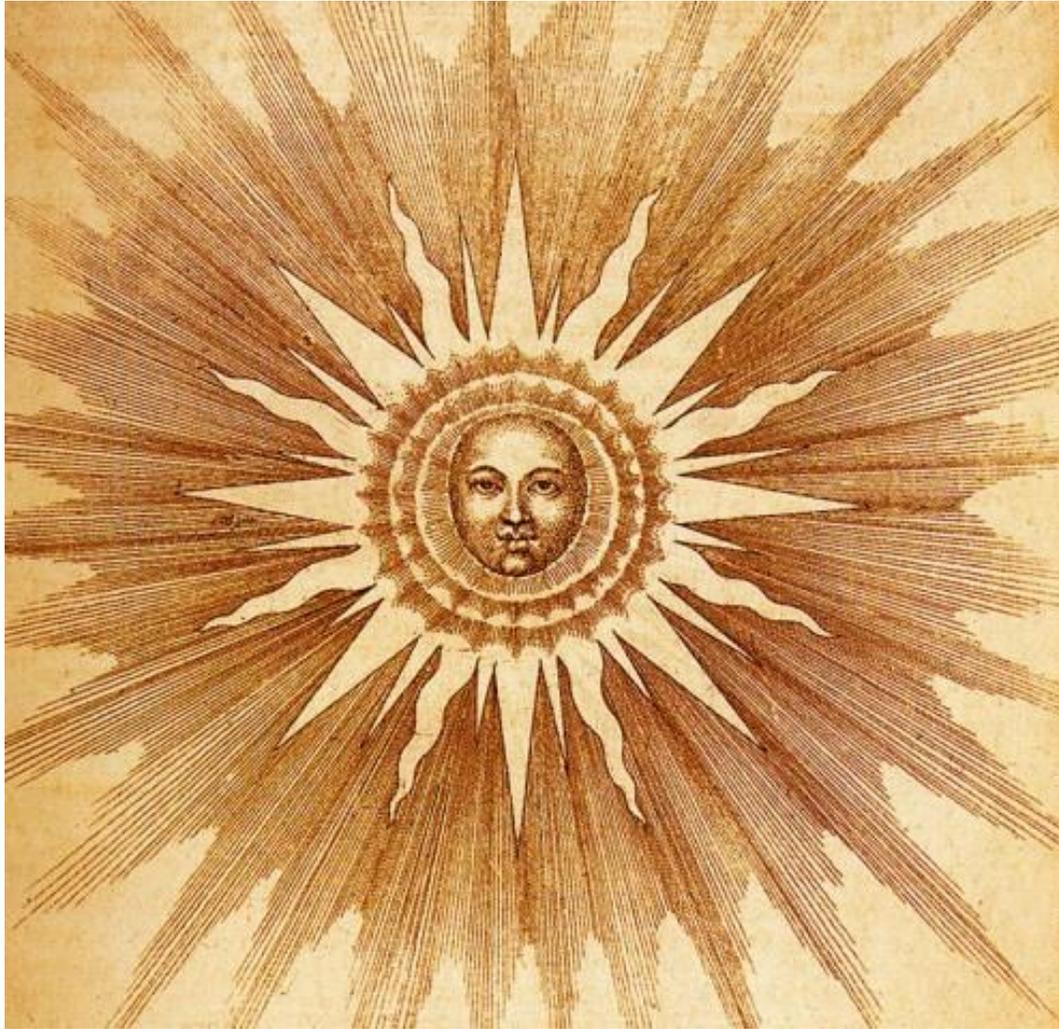


Journal of World-Systems Research



Volume 18, Number 2, 2012 (Summer Issue)

**A Journal of the Political Economy of the World-System Section
of the American Sociological Association**

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Editor's Introduction: Utopias and the Politics of Dispossession

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"It is easier for us to imagine the end of the world than the end of capitalism."
-- Slavoj Žižek

The survival of the global capitalist order depends upon its ability to convince people who are disempowered and dispossessed by this system that there is no alternative. Thus, utopias are defined as impossible and nonexistent. Yet Erik Olin Wright's *Real Utopias* project upends this dominant logic and highlights actually existing alternatives to capitalism that have been essential to the very survival of many. The deepening global financial crisis heightens the urgency that these real utopias become more widely known and practiced.

World-systems analysis has long urged people to imagine the world before, after, and beyond capitalism. Among scholarly traditions, world-systems stands out for its perseverance in helping people think creatively about the limits and boundaries of the dominant capitalist system. For without a sense that another world is possible, people will not come together to resist this system. Thus, our collective work to imagine the end of capitalism is vital to realizing a more equitable, humane, and sustainable world-system.

This issue of the *Journal of World-Systems Research* highlights some of the best of this work. Drawing from feminist research's wisdom that the greatest insights about the operation of power come from those most exploited by it, we sought out three leading women scholars and activists – Ariel Salleh, Rose Brewer, and Marina Karides – for a symposium on the theme of this year's American Sociological Association conference, "[Real Utopias.](#)" Their contributions explore both the particular ways capitalism marginalizes women, Indigenous and rural peoples, Africans, and nature, and the resistances to such dispossession and exclusion. With lenses fine-tuned to see who and what is relegated to the most exploited peripheries of the world-system, these analysts show us "utopias" that are emergent or enduring amidst the multiple crises of global capitalism. Together these pieces offer compelling ideas about how power and exploitation perpetuate a failing system and about how such a system could be –or is in fact being--transformed. They suggest innovative avenues for thinking about "utopias" and understanding the kinds of conceptual and social innovation necessary to move us from a world-system based in exploitation of people and the environment to one that is in harmony with the earth. They draw from ancient yet marginalized wisdom to suggest concepts such as *buen vivir* (living well), *filoxenia* (hospitality and generosity), and *kerasma* (gift-giving) that can orient non-capitalist social orders and sow the seeds of system transformation.

In 2009 we lost a leading thinker who helped build and shape the world-systems tradition and the *Journal of World-Systems Research*, but we continue to learn from the words of Giovanni Arrighi. One of his former students, Kevan Harris, has transcribed an interview he did with Arrighi in 2008 which explores themes quite timely to our work today. Arrighi's reflections

on the decline of U.S. hegemony, on his book, *Adam Smith in Beijing*, and on related themes strongly resonate with the issue's other contributions as well as contemporary debates.

In the wake of the Rio+20 conference's failure to offer effective responses to global climate change, we are pleased to be able to offer two articles that shed light on the reasons why international environmental politics has not only failed to curb environmental degradation but allowed it to expand to new territories and intensities. Eric Bonds and Liam Downey provide a compelling case against the technological optimism that is seen as panacea to our environmental woes. They test the "ecological modernization" thesis against evidence from the automobile industry, showing that key "environmental innovations" such as biofuels and hybrid vehicles actually do more harm to the environment by displacing rather than eliminating environmental costs. This article reinforces the notion that what we're seeing in the contemporary period is *systemic crisis* ([Wallerstein 2009](#)): that is, a situation where the solutions that worked to solve short-term crises in the past are no longer effective and in fact exacerbate social and ecological crises.

Brian Gareau's analysis of the failures of the Montreal Protocol – a treaty deemed among the most successful of environmental agreements – shows how the structure of inter-state environmental politics and US hegemony account for these failures. His account reveals how the efforts of powerful industry actors exploited the inequities of the hegemonic world-system to undercut their competition while selectively resisting environmental regulation. Even where environmentally friendly technology exists, the capitalist world-system reproduces destructive practices that privilege prevailing holders of power. Gareau looks to China to find the emergence of practices reflecting a "green hegemony" that may be a key element of any subsequent world-system.

The contribution by Alexander Thomas offers ideas about how world-systems analysis can be refined to better account for the meso-level processes and social relations that help reinforce and reproduce this system. Thomas looks to ancient Mesopotamian cities to argue that processes inherent to urbanization predate the capitalist world-system but set the stage for its advance. He connects the development and expansion of trade networks to the creation of cities and the emergence of divisions of labor that generated gender-based and other forms of social stratification. He challenges conventional thinking about cities as privileged units of analysis and encourages analysts to focus on the underlying processes of cities and systems.

Jason Hall and Loretta Bass contribute additional insights into the connections between global integration and poverty. They distinguish factors related to more- and less-extreme poverty and find that global integration is less effective at reducing poverty than World Bank officials and other proponents of neoliberal globalization have argued, and they suggest domestic policies that better account for variations in poverty levels within countries.

Finally, we are very pleased to publish Salvatore Babones and Robin Farabee-Siers's research note and data on trade partner concentrations over recent decades. For many scholars, assembling relevant measures of complex world-systems concepts is a time-consuming and thankless task, and too often we settle for less than ideal proxies. Babones and Farabee-Siers have generously offered these [data](#) to other scholars, and their contribution presents a preliminary analysis that illustrates the advantages of these data over common substitutes. The new editorial team at the *Journal of World-Systems Research* will be working to expand our relationship with the [World Historical Dataverse](#) project to make datasets relevant to world-systems analysis, including those upon which *JWSR* articles are based, available to a larger public. We invite readers to explore this rich resource on world-historical processes.

With this issue, we introduce our new editorial team at *JWSR*. But first a word of thanks to Andrew K. Jorgensen and Edward Kick, along with book review editor Tom Hall and technical editor Greg Fulkerson, for their editorial leadership.¹ We will strive to maintain the high standards they helped to set. I am grateful to our managing editor, Brittany Duncan, for her close attention to the many details involved in editing the journal. Jennifer Bair is taking the lead as our book review editor, and she invites readers to suggest books for review and to volunteer to serve as reviewers. Scott Byrd, our technical editor, has been hard at work this summer building our new website. His experience with open source software and his commitment to expanding the knowledge commons will help us ensure that *JWSR* remains a free online journal with worldwide access. We look forward to many exciting issues ahead, and we hope you'll help us spread the word about *JWSR* through your virtual and real social networks. We invite your feedback: jwsr@pitt.edu or on [Facebook](#) (PEWSJWSR).

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Wallerstein, Immanuel. 2009. "[Crisis of the Capitalist System: Where Do We Go from Here?](#)" *Monthly Review* 61.

¹ This leadership includes work to help bring this issue of *JWSR* to fruition: articles by Babones and Farabee-Siers, Bonds and Downey, Hall and Bass, and Thomas were reviewed and accepted under the previous editorial team.

Green Economy or Green Utopia? Rio+20 and the Reproductive Labor Class

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Sociologists use the concept of class variously to explain and predict people's relation to the means of production, their earnings, living conditions, social standing, capacities, and political identification. With the rise of capitalist globalization, many sociologists focus on the transnational ruling class and new economic predicaments faced by industrial workers in the world-system (see, for example, Robinson and Harris 2000). Here I will argue that to understand and respond to the current global environmental crisis, another major class formation should be acknowledged - one defined by its materially regenerative activities under "relations of reproduction" (Salleh 2010).

The salience of this hypothetical third class is demonstrated by the 2012 United Nations Rio+20 summit and its official "green economy" negotiating text *The Future We Want* ([UNCSD 2012](#)). Clearly, the question that begs to be asked is - who is the "we" in this international document, and whose "utopia" does it serve? Part of the answer is found in a recent G20 media release, suggesting that "current high energy prices open policy space for economic incentives to renewables [...] investors are looking for alternatives given the low interest rates in developed countries, a factor that presents an opportunity for green economy projects" ([Calderon 2012](#)).

The UN, together with the transnational capitalist class, looks to technology and new institutional architectures to push against the limits of living ecologies, and these measures are given legitimation as "economic necessity." Yet empirically, it is peasants, mothers, fishers and gatherers working with natural thermodynamic processes who meet everyday needs for the majority of people on earth. Inhabiting the margins of capitalism – domestic and geographic peripheries – these workers are unspoken, as if "nowhere" in the world-system. As a meta-industrial labor class, they constitute the broadest base of the global 99 percent. Moreover, looking toward a green utopia, it is their reproductive modes of economic provisioning that already practice precaution and sustainability (consider the *Mujeres Manifesto 2009*; or Serrano 2011).

Sociologists may not recognize this class, but the [World Social Forum](#) (WSF) is one international process that is helping to unify women's, peasant, Indigenous, and ecological voices, alongside the traditional proletariat. The WSF began a decade ago as a grassroots response to the annual World Economic Forum at Davos. It is not without its problems, but people with meta-industrial skills and life-affirming values have been taking their concerns to the WSF (see Smith et al. 2012). In June, women anti-toxics campaigners, organic farmers, Indigenous climate networkers – many working within the WSF process – gathered at Rio+20 in a [People's Summit for Environmental and Social Justice in Defense of the Commons](#). The name

of this meeting speaks to the fact that great world cities grow by forcing food-sufficient peoples off their land to join the treadmill of factory workers and consumers.

As the business sector and UN promote a future "green economy" based on finance, technology, market mechanisms, and "voluntary commitments," ETC, a people's science advocacy group, explains that soon petroleum-based plastics, chemicals, fuels, and drugs will be derived from feed stocks and forest residues and "transformed through bio-engineering platforms," including untested and unregulated applications like nanotechnology. This corporate utopia will mean more land appropriation from the global South, biodiversity loss, and atmospheric pollution (ETC 2011). The international peasant organization Via Campesina describes it as capital accumulation for the rich, and structural adjustment for the rest (Via Campesina 2012). This ongoing assault on the material basis of life is exposed in the World Watch estimate that 60 percent of global "ecosystem services" has been destroyed since World War II (World Watch 2009).

Rather than concede the fundamental irrationality of industrialized provisioning, the transnational ruling class asks the World Bank, Organization for Economic Cooperation and Development, and UNEP to insert green growth and sustainable development into structural reform policies on a country by country basis. The International Monetary Fund, regional development banks, UNCTAD, and World Trade Organization have agreed to consider ecosystem costs in their decision making. But at the same time, "innovative instruments" for high tech financing are to be consistent with the Doha Development Round of multilateral trade negotiations. *The Future We Want* builds on Agenda 21, the Johannesburg Declaration, Monterrey Consensus, Istanbul Programme for Least Developed Countries, and the Bali Strategic Plan for Technology Support and Capacity Building. Needless to say, pursuit of competitive advantage through free trade and intercontinental product shipments will seriously aggravate nature's entropy.

The neoliberal hegemon is using the Rio+20 process to achieve several institutional restructures to facilitate accumulation. Internal to the UN, the Commission on Sustainable Development may be upgraded to Council status, with ECOSOC allocated a stronger outreach role. UNEP may be transformed into a more imposing World Environment Organization; alternatively, the Global Environment Facility may be given wider powers. Capital's technocratic sub-class is also exploring the feasibility of new agencies for Earth System Governance; even a revamp of Global Financial Architecture is on the table.

The corporate "green economy" idea came spinning into view with networks, promotional agencies, think tanks, websites, and conferences, but public understanding of the politics of Rio+20 remains paralysed in a maze of official acronyms. A discourse of international governance is in the making: a shared set of social and material expectations across nations, classes, bodies. Yet new forms of commodification and market logic like "carbon trading," "geo-engineering," or "climate smart agriculture" cannot restore the life-support-systems broken by industrial capitalism. Nor will the "green economy" advance democracy, since green jobs designed by free traders will only deepen the unequal exchange between global North and South. In principle, the UN endorses the 1992 Rio commitment to "common but differentiated responsibilities" in redefining relations between affluent and "developing" nations, but while "poverty alleviation" is highlighted, class power is not.

What unfolds here is the next phase in a history of eurocentric expansion – a world-system of accumulation for the few that functions on an economic surplus provided by the many. The material surplus is fourfold: a social debt to exploited workers; an embodied debt to unpaid

women for their reproductive labors; a neocolonial debt to peasants and indigenes for taking their land and livelihood away; and an ecological debt transferred to living nature at large. As always, the extraction of labor and resources from the margins of capitalism relies on the cooperation of compradors, groomed with incentives by the coloniser. This is the real meaning of "development" and such power relations are enacted today through the UN machinery, business connections, and universities. In New York, high-level consultations for Rio+20 acculturate technocratic managers for capital among scientists and bureaucrats. Special opportunities for travel are made available to "young professionals."

Women are especially vulnerable to the privileges of comprador status as they strive to climb out of oppressive patriarchalisms and obtain better conditions for their communities. UN-Women's Executive Director Michelle Bachelet has called for gender sensitivity in both national budgeting and corporate practice. UN Deputy Secretary-General Asha-Rose Migiro reminded the 56th session of the Commission on the Status of Women that unpaid rural women grow most of the world's food while unpaid rural and urban women do most of the world's care giving ([UN Women 2012](#)). If the industrial work force is declining, the meta-industrial class remains a steady global labor majority. Its work is trans-cultural, and in principle non-gendered, but for historical reasons, women still undertake more regenerative-ecological activities than men do. This phenomenon should interest sociologists, but it is the private sector that responds to women's plight – with "easy terms" on technology transfer for water infrastructure or renewables for climate mitigation. Such aid often benefits donors more than recipients, and like micro-credit, it locks women into the capitalist system.

In UN "mainstreaming" policy, the right to cultural difference is subsumed by the principle of equality. So too, the accepted criterion for gender equality is "the masculine universal," an ideal of the emancipated woman as one who is able to live like a white, middle-class man. In the corporate utopia of *The Future We Want*, the meta-industrial skills and integrative insights that women learn from undertaking reproductive labors are diminished as a valid source of alternative values and basis for a life-affirming future utopia.

In the Rio+20 process, women's and indigenous "rights" are fostered by conference Secretary-General Sha Zukang, a Chinese career diplomat also responsible for the initiative Sustainable Energy for All. Coordination of governmental, inter-governmental, and non-governmental participation falls to UNEP Executive Director Achim Steiner. The UNEP Global Ministerial Environment Forum is deployed to tailor "green economy" free markets to local conditions, a program that is at once "pro-growth" and seeking an index of wellbeing "beyond GDP." Business leaders are invited by UN Secretary-General Ban Ki-moon to sign the Global Compact, a voluntary credo of 10 principles for corporate social responsibility. The International Trade Union Confederation supports both the "green economy" and new ideas for global governance.

Non-governmental participants in the Rio+20 process are organized into a Global Major Groups and Stakeholders Forum. Here space is made for Women (52 percent of the world's population), along with Children and Youth, Indigenous Peoples, NGOs, Labor and Unions, Business and Industry, the Science and Technology community, and Local Authorities. Significantly, the only Major Groups demanding fundamental material changes in the global economy are people involved in the hands-on regeneration of natural processes: women want their reproductive labor contributions valued; peasant farmers want community food sovereignty prioritized; and Indigenous peoples want secure land and biodiversity rights.

It is this meta-industrial majority, inhabiting the domestic and geographic peripheries of

capitalism, whose local economic provisioning and care giving already exemplifies the green goals of grassroots democracy and sustainability. Their jobs are "real" green jobs. By contrast, the UNEP "green economy" stresses research into product design and entrepreneurial partnerships. Its ambiguous objectives combine equity with inclusive governance, competitiveness with market reform, green jobs with high tech, workplace standards with best practices. The UK-based New Economics Foundation is making considerable effort in this respect to help "join the dots" of social, economic, environmental concerns, but sooner or later a more thoughtful transdisciplinary analysis is likely to confront the complex contradictions existing between these "three pillars" (New Economics Foundation 2008).

The "green economy" ideology is an amalgam of actual and imaginary interactions between financial capital, human capital, and natural capital. The imputation of economic value to the life-giving capacities of "nature's services" translates metabolic flows into fictitious units (Salleh 2010). This epistemological reductionism does environmental and social violence. Consider the popular "dematerialization" rhetoric of ecological economists: sophisticated production systems do not avoid further energy and resource drawdowns. Instead, each new technology relies on a further cradle-to-grave cycle of extraction, *transport*, manufacture, *transport*, market, *transport*, consumption, *transport*, waste pit. In the human metabolism with nature, industrial innovation for "efficiency" does not solve problems; it simply displaces them. The displacement may be spatial, shifted on to the backs of less powerful social classes, or temporal, shifted on to the backs of future generations.

For two decades, the transnational capitalist class has used the UN sustainable development agenda to promote a technocratic form of environmentalism. In sociology, this professional trend is associated with a functionalist theory known as ecological modernization. However, the reproductive labor class of women, peasants, and indigenous peoples are advancing an alternative discourse on society and habitat ([World People's Conference 2010](#); Salleh 2011). This rejects economic provisioning based on the fracture, commodification, and financialization of "eco-system services." Instead, it accords legal rights to nature as a living-subject. It advocates *sumak kawsay*, *buen vivir*, or "living well" as a guide to building low-footprint models of the humanity-nature metabolism. The World Social Forum's deliberative document for the Rio+20 People's Summit, [Another Future is Possible](#), applies this perspective. In calling for a "bio-civilization," it articulates a rationality practiced worldwide by an (as yet) invisible meta-industrial class.

A meta-industrial lens on relations of reproduction can be a useful class analytic notion for sociologists who hope to democratize the world-system in a time of environmental crisis. It obliges the discipline to re-examine its classical foundations, resting as these do on anthropocentric, androcentric, and eurocentric premises. Politically, a grounded materialist strategy for the global ecological crisis is effectively the same as a grounded response to global economic crisis. For the South, it means de-linking from the capitalist juggernaut. For the North, it means de-growth and learning from sustainable sufficiency practices modeled in the domestic and geographic peripheries. This insight radically contests conventional understandings of "dispossession" and "underdevelopment." Reading sociology through a meta-industrial lens makes clear that it is the affluent who are dispossessed of their human embodiment in nature, and thus most in need of "capacity building."

As globalization and free trade regimes undermine the needs and rights of peoples everywhere, the search for alternative ways of provisioning is on. Indeed, the contributions to this symposium point to several ways in which the world-system is transforming from within. In

terms of restoring integrity to the humanity-nature metabolism, the transformation is energized by international initiatives like commoning, solidarity economics, permaculture, *sumak kawsay*, bioregionalism, urban transitions, and other elegant subsistence paradigms. At Rio+20, financial interests, the UN, and governments recommended dismantling more of nature and livelihoods in order to set up a global "green economy." But the point is surely to recognise and support the multiplicity of sustaining, life-reproducing "green utopias" already in existence.

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Political Economy of the World-System: The Imperative of African-Centered Utopias

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What is clear to me in this current moment of capitalist crisis and the demand for its alternative is this: African peoples throughout Africa and the diaspora – the United States, Brazil, the Caribbean, Europe – are at the center of dispossession: social, economic, political, and environmental. It is the continent of Africa in the context of neoimperialism and neocolonialism that closely aligns with Professor Salleh’s assertion in this Symposium:

As always, the extraction of labor and resources from the margins of capitalism relies on the cooperation of compradors, groomed with incentives by the colonizer.

This is not simply an expression of the economic crisis of the world-system but multiple crises of persistent racism, imperialism, neocolonialism, environmental degradation, economic exploitation and patriarchal expropriation.

The World Capitalist System enshrines a property rights regime within nation-states in a way that guarantees the taking of dispossession off the table in discourse and practice. It uses the intersecting forces of structural racism (or the white supremacy system), patriarchy, core-capitalist-dependent nationalist projects, and a dynamic mix of national and international policies to create and sustain an increasingly unequal world (Grant and Brewer 2010).

Relatedly, as Lisa Duggan (2003) argues, the deep interpenetration of ideologies of white supremacy, sexism, and classism into neoliberal transnational capitalism cannot be ignored. This interpenetration brings the African continent in deep interconnectivity to the Black population in the United States – centered in the “heart of the beast” – as well as other parts of the African diaspora in South America, Europe, and Asia. Thus, I contend that the systems of neoimperialism and internal neocolonialism are intertwined. And it is through the ideologies of white supremacy and so-called Black incapacity (two sides of the same coin) that the system maneuvers and justifies widespread Black dispossession throughout the African World. Regarding 21st century neoliberalism in the United States, Duggan (2003) notes:

Welfare reform and the law and order politics of the past two decades clearly illustrate the dense interrelations among neoliberalism’s economic vision and its cultural projects. The goal of raising corporate profits has never been pursued separately from the rearticulation of hierarchies of race, gender, and sexuality in the United States and around the globe... They [*neoliberal* capitalists] make use of identity politics to obscure redistributive aims, and they use “neutral” economic policy terms to hide their investments in identity-based hierarchies... (14-15, emphasis added).

In short, racism and other 'isms' are deeply rooted in a global, technologically-driven capitalist world order where the wealth and resources of the globe are held by a small elite of multinational firms and their comprador allies (as noted by Salleh). Moreover, there is an ideological structure in place which is intertwined with global capital. While the global owners are nearly all non-African males, the comprador allies are, and they benefit richly from the current arrangement. At the core of world-systems analysis is an articulation of how capitalism has engendered underdevelopment in peripheries of the world consistently since 1789 through core-dominated techniques of enfolded the periphery in the world capitalist system according to the interests of the core (Wallerstein 1974).

For the poorest Black people in advanced Western capitalist societies such as the United States, the dismantling of the social wage through destruction of social welfare, attacks on public education, the increasing incarceration and imprisonment of Black men (and women), and the structural consequences of wealth concentration in the hands of a tiny elite are part and parcel of the global politics of accumulation through austerity and uneven development. A brief analysis of Hurricane Katrina is illustrative.

Hurricane Katrina

By the time of the first United States Social Forum in 2007 in Atlanta, Georgia, the Gulf coast hurricanes of Rita and Katrina had already wrought irreparable devastation. The shorthand discursive applied to the region centered on the devastation of the Black and the poor in New Orleans, Louisiana: Hurricane Katrina. Yet a deeper look reveals the whole region as the victim of the "unnatural disaster" (Dyson 2006) of deeply institutionalized poverty and racism for generations. The hardest hit regions in the Gulf states were already drowning in extreme immiseration before Hurricanes Katrina and Rita hit. Mississippi remains the poorest state in the nation, with Louisiana just behind it. More than 90,000 people, disproportionately Black, in each of the areas stormed by Katrina in Louisiana, Mississippi, and Alabama made less than \$10,000 a year in 2006 (Dyson). This is far below anything denoted as an official poverty line for a family of four in the United States, even in 2006.

This region is also the site of horrendous environmental racism: toxin dumping, pollution, and degradation. Cancer alleys, asthma epidemics, and lung diseases are prevalent throughout the southern Black belt (Bullard 1990). Sadly, the situation has not been remediated since Bullard first published his research over 20 years ago. The capitalist, commodified green economy will not resolve this deeply rooted environmental racism. It will intensify it.

In a connected way on the continent of Africa, the issues of environmental devastation loom large. Water privatization and desertification are at the center of the crises (Global Ecology Project). The result is the intensification of conflict catalyzed by changes in land and herding dynamics resulting from climate change. In Kenya, at the 2007 Africa-based World Social Forum, analysts stressed how water privatization had exacerbated the continent's dispossession. As Professor Mugaubi asserted at the forum, "it is a crime to deny people water because it is life." WSF discourses clearly cast these policies as rooted in the relentless search for profit and insist that profit is not life.

What's To Be Done?: African-Centered Utopias Rooted in Concrete Social Transformation

Understanding the inequality of African diaspora peoples within the political economy of the world capitalist system demands an alternative to the current order, a new vision and practice. Dismantling neoimperialism and neocolonialism must be front and center in Africa's and African America's vision. Centrally this means that imperialism, as a logic and practice which expropriates the resources of the world and shifts these resources – land, labor, mineral, etc. – into the coffers of a small elite of multinationals, must end. Concurrently, this means that neocolonialism expressed in the form of the comprador group integrated into the logic of transnational capital to the benefit of themselves and the multinationals must cease to exist.

While Africa and the African diaspora continue to live out the legacies of colonialism, neocolonialism, neoimperialism, and the multiple crises of the world capitalist system, organizing is happening in the African world and “Freedom Dreams” are in the making.

A case in point is the theory and practice of change concretized in the political vision of grassroots Brazilian group, CEAFFRO. It is a community-based organization with an extension program located at the Federal University of Bahia. CEAFFRO's struggle is to help craft a future for youth, and the women of CEAFFRO express a powerful Black feminist consciousness. They exemplify in their work the growing and expanding awareness of how gender and race are intertwined, affecting Brazilian men and women. They are keenly intent on mobilizing the Afro-Brazilian women who are locked in domestic work (*empregadas*) today, and Black women make up the majority of these domestics in Brazil. Many of these women are, in fact, girls. Indeed, we are talking about girls as young as 12 and 13 years old who are exploited materially, sexually, and physically. The work of CEAFFRO in Bahia uses a women-centered/Black feminist consciousness to make public and organize around this race, class, and gender exploitation. This kind of consciousness and practical work centered on building Black women's resistance to labor exploitation must be a recognized force in motion in the African world. I believe this work should be front and center of a World Social Forum process which pays too little attention to the experience of exploitation by the women of Africa and the African diaspora (Brewer 2008). The work of CEAFFRO connects (or should connect) to the Domestic Workers Alliance, which emerged out of the 2007 USSF in Atlanta and now has international allies. Converging global resistance is imperative.

CEAFFRO understands how racism shapes sexism and how sexism is shaped by class and race. This holds true in Brazil, the United States, and throughout the African diaspora. At the center of the capitalist world-system are highly exploited women whose labor is multifaceted, centered in public labor, domestic reproductive work, and unpaid home labor that goes unnamed.

Other movements worth mentioning with significance implications for the African world are The Landless Peoples Movement of South Africa and the MST movement in Brazil. They are connecting their work to the Take Back the Land movement in the United States. In turn, the United States-based movement draws upon the theory and practice of The Landless Peoples Movement of South Africa and the MST movement in Brazil.

Nonetheless, connecting to the current expressions of political change by peoples of Africa and the African diaspora to the Occupy Wall Street or the World Social Forum process will be demanding. The World Social Forum in its current expression does not reach deep enough into the dispossession of the African world. As Joyce Mulama points out in her 2007 article on the World Social Forum in Kenya, “What is WSF? Something that Will Bring Me

Medicine?" the criticism of the Forum in Kenya by the poorest slum dwellers was sharp and pointed. One respondent said this about the Kenyan WSF:

Communities are not (so) naïve that they cannot talk about their problems. They know where they are hurting and how they want their plight addressed. Can NGOs stop using problems of poor people to enrich themselves? Can we see communities being given a chance to express themselves at meetings such as the WSF? (Mulama 2007)

Essentially, the charge for the African world involves the highly demanding work of movement building. This entails connecting the forces in motion committed to social transformation of the world capitalist system and its imperialistic face. As Sam Grant (Grant and Brewer 2010) asserts, "the people ask the question: what is to be done?" He summarizes the possibilities emerging from Africa and the African diaspora: African Nationalists propose the rights of states and a strengthening of sovereignty over natural resources, labor, monetary policy, and the environment within their borders. Internationalist-Anti-Corporate Globalization movements propose a dismantling of the corporate-dominated world political economic pact that ushers in rapid privatization and liberalization. Poor peoples' movements, whether urban or rural, make claims alternately on local authorities, the state and on global intermediaries to resist further dispossession and assert their rights to survival. A smaller, yet growing number, such as the Landless Peoples' Movement of South Africa, call for a more thorough-going transformation. In addition, there is an important and growing group of the adherents to the world-systems frame calling for organizing to build another world (Grant and Brewer 2010).

The World Social Forum process may be the gateway to the interconnected struggles so desperately needed. Professor Salleh gestures toward this possibility in her assertion that the World Social Forum is on the verge of such unification. More precisely, she notes "sociologists may not recognize this class, but the World Social Forum is coming close to unifying women's, indigenous, and ecological voices alongside the traditional proletariat." Perhaps. But my sense is that much work remains to be done. While our movements must act to end to this highly unequal world capitalist system, my concern remains the one I voiced in my overall reflection: How must the African world struggle? It certainly requires more of the WSF and the USSF to recognize white supremacy as deeply imbricated in gender, race, and class. Thus the dilemmas remain: How does a radical collectivity cohere given this history? What is the vision of social transformation given this reality?

While difficult, this stark moment of dispossession and travesty requires us to lead with complex theorizing and practice (Brewer 2008). This is the change that must occur for another world to be realized.

Indeed, transforming transnational, heteropatriarchal, white supremacist, neoliberal capitalism must be at the center of our theory and practice. This is the profound and imperative lesson of revolutionary struggles all over the world, as noted in the Greek case of the Karides essay. In movements for social transformation we simply cannot be race, gender, or class reductionist, but rather we need to employ a critically mediated understanding of these deep interrelationalities. This is the crucial lesson that the social forum process is still trying to perfect. This is our unfinished utopian call.

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Local Utopia as Unobtrusive Resistance: The Greek Village Micro-Economy

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In late 2008 Athenian youths, triggered by extreme police violence, took to the streets with collective and intensive protests against the growing poverty, unemployment, and political corruption in Greece. The subsequent, regular protests in urban Greece speak not only to the rejection of Greek governance but also to the political and economic promise of the Euro-zone falsely promoted as a boon for its periphery. The oft-reiterated headline “Athens is burning” is varyingly used by left and right media reporting on Greece and its population’s fierce dissent.

Yet Greece is not Athens. While half the nation’s population lives in urban centers such as Athens, Thessaloniki, and Patra, the other lives in small agricultural villages often mixed with low-key tourism. It is these small independent and diverse communities, or “meta-industrial populations” (Salleh), in which local agriculture literally feeds the immediate population and its tourists, offering a modest blueprint for a convivial economy. In this Symposium Ariel Salleh highlights the foundations of real ecological sustainability in the work of peasants, women, and Indigenous communities versus the commodification of a green economy. In Greece and its villages, it is not only the historical practices of environmental sustainability – a hallmark of island populations – that is to be showcased, but also an economic culture oriented towards sharing, generosity, and negotiation that is characteristic of many non-core communities.

Analyses of the Greek economy are inconclusive; conservative commentators focus on political clientelism, a bloated state sector, migration and the informal economy. Considerably shaped by multi-rooted negative and ethnically-biased stereotypes of Greeks, European politicians, economists, and reporters of all stripes blame Greece’s crisis on its fiscal irresponsibility (e.g., Kulish and Ewing 2012). Most recently this has been negated by a shift in Greece’s public finances, rarely achieved by a national economy, which includes a 6.5 percent reduction in the budget deficit between 2009 and 2011 (Malkoutzis 2012: 12). Worst are purely racist descriptions of Greeks being categorically corrupt and lazy, confirming, as Rose Brewer argues in this Symposium, that there is “an ideological structure in place which is intertwined with global capital.” Left-oriented analyses, such as those presented in the Greek documentary *Debtocracy*, emphasize the increased wage rates in peripheral EU nations and the decline in the German one, exempting economic elite from taxation, and extravagant government military purchases in connection with European and U.S. corporations. Such is the comprador tradition (that Brewer readily critiques) among Greek politicians that provoked so many to turn away from the traditional parties and give the majority of votes to left parties in both elections this year (although this did not result in their victory).

Greece’s agora, however, belongs to the small shopkeepers, *taverna* and *cafenion* owners, agricultural cooperatives, micro-entrepreneurs, and artisans. While criticism and public

challenges to political elite and corporate capital stand, the growth of small-scale and autonomous economic units and their methods of trade and exchange globally and in Greece signify an alternative momentum of social transformation. Greece has a much higher rate of micro-enterprises than the rest of Europe, and firms with less than 10 employees account for well over 50 percent of employment (European Commission 2010). Many of the structural adjustment demands of the “troika” (IMF, European Commission, European Central Bank) on Greece have strained these small autonomous economic entities that still are proving to be a lifeline for local communities.

Alternative Economics

Academic debates and discussions around the possibilities of an alternative economy are recent, or rather have reemerged (Hess 2009). Historically, individuals and communities in the global South have developed through independent action solutions to the ecological destruction, poverty, and unemployment wrought since colonialism. These efforts have significantly increased, and were first conceived as traditional or “backward” and anathema to development (Geertz 1963), and later as part of the informal sector (Portes 1983). Over the last several decades of neoliberalism these same activities are considered emblems of entrepreneurship.

The astounding growth of alternative economics in the last decade is also distinctly informed by popular rejections of work and careers that are regulated and organized for capitalist production, hierarchical, and punitive. Formal jobs, often in urban environments, require such a commitment of time, mind, and physical presence that many who enter into one aspect of alternative economics or another are choosing to do so for the sake of having some personal control in their everyday lives. Actors in both the global South and North are acting, in Harvey’s (2000: 235) phrasing, as “insurgent architects” who attempt “to shape their own beingness,” not condemning themselves to work paths set out by pre-existing structures and values.

The recent social movement and research around alternative economic practices referred to as the social economy, community economics, third sector, non-profit, or solidarity economy capture a variety of nuances on labor and exchange they seek to highlight. There is no consensus on the types of economic activities that should be included as outside of capitalism, but the emphasis in the real utopia project has been on the social economy or third sector that includes bigger cooperatives, larger non-profit organizations and associations, and a focus on institutional design.

Micro-enterprises and small businesses, on the other hand, are a contested terrain. Even though they can support local community development, maintain fair labor practices, and support autonomy, by some accounts they are problematically susceptible to the profit motive of capitalism. Yet by virtue of scale and intention, small and micro- enterprises operate outside capitalist principles of mass production and consumption and centralized bureaucratic control, offering environmental viability, autonomy, and creative expression in one’s work. In particular, groups marginalized by gender, sexuality, migrant status, race, and ethnicity have relied on micro-businesses for economic wellbeing and community survival.

“Small is beautiful,” the idiom made famous by E. F. Schumacher’s (1973) book of the same title, reflects a popular perspective during the early seventies, a social moment in which socialism, large and bureaucratic, had been considered the central progressive alternative to capitalism by critical sociologists. Schumacher and others, however, were concerned more with

the ecological damage and dullness of the large-scale production and consumerism they witnessed expanding (Carson 1962; Illich 1973; Schumacher 1973; Lovelock 1979). In essence, it was the size and scale of production and their destructive capacities toward material and mind that triggered the calls for small-scale businesses, markets, communes, collectives, and conviviality worldwide in the 1970s as alternatives to ever-expanding capitalism. Although predominantly rejected as a development strategy, the possibility of small independent enterprises had garnered previous sociological attention. For instance, Portes and Stepick (1993) explain:

In a 1946 report to the US Senate, C. Wright Mills raised a related issue namely whether cities suffered when their economies became dominated by outside interests. Mills denounced footloose corporate capitalism [...] Mills proposed to the Congress a program to revitalize local business on the theory that community-based enterprises were more egalitarian and more responsive to local welfare. Critics called Mill's position retrograde. (5)

In conceiving of utopias and alternatives, Erik Olin Wright (2009: 166) and others overlook or dismiss the location of the trader, artisans, micro-entrepreneurs in both the formal and informal sector, self-employed workers, the subsistence economy, or small-scale alternative entities not driven by profit and maximization as an anti-systemic force of social change. Yet these entities have existed for quite some time throughout the world, creating situations for sociality and political expression. While increases of micro- and small-scale units of trade and production, especially farmers in local food movements and urban artisans, are given some leverage in recent frames of alternative economics, they have for decades been conceptualized by social scientists in a variety of ways depending upon when and where they were located (proto-capitalists, traditional sector, petty production, informal economy, micro-enterprises) but hardly as a force of resistance.

Conviviality and Resistance

To locate small shops, farms, and artisanal enterprises in a framework of resistance to capitalism and social inequality, it is worth resuscitating Ivan Illich's (1973) position for "tools that guarantee the right to work with independent efficiency" that is in advance of but consistent with the current growth of alternative economic studies. In *Tools of Conviviality*, Illich (1973) builds an argument against industrialization or large-scale production in which workers are no longer directly in control of their labor or "tools" such as technology, production facilities, or systems of decision-making. For conviviality to occur there must be "autonomous and creative intercourse among persons, and the intercourse among persons with their environment; and this in contrast with the conditioned responses of persons to the demands made upon them by others" (Illich 1973: 11).

The organic expansion of the urban informal sector everywhere, in the global South and North, adds to the argumentation such as Illich's (1973) and Schumacher's (1973) and to the more recent work on social and solidarity economy and community economics (Gibson-Graham 2003; Allard and Matthaei 2008). Despite the oppressive condition in which they may sometimes come to fruition, small, autonomous units of production can lend themselves to creating

opportunities for convivial work. Especially important is the socio-cultural landscape in many regions of the global South (Simone 2004; Osirim 2009) that historically have prioritized community and solidarity over economic gain. In Greece, a “crypto-colony” (Herzfeld 2002) with its own history of *filoxenia*, or the hospitality and generosity extended to strangers, and *kerasma*, the practice of gift giving, are distinctly embedded in economic exchanges among smaller enterprises and with clients and customers which leads to building community, sharing economic costs, and encouraging the survival of independent economic entities – practices highly inconsistent with neoliberalism.

Broadening perspectives of social activism, the new movements and conceptualizations around post-capitalist economics breathe viability to Susan George’s (2002) claim that “there are thousands of alternatives” to capitalism. James C. Scott (1985) was early to challenge the distinction between “real” versus “token” resistance, but it continues to characterize the sociological literature. Resistance was narrowly defined as efforts that were organized and systematic, principled, motivated by a revolutionary consciousness, and with intentions to negate the basis of domination itself (Scott 1985). Feminist scholars also challenged traditional characterization of protest and resistance to exploitive work, drawing attention to how gender shapes opportunities for political action and expression (Antrobus 2004). Unorganized or individual actions have been described as opportunistic and self-indulgent and considered to accommodate the system and to demonstrate no revolutionary consciousness. Micro-enterprise and artisanal activities and small scale farming generally have not been considered within the scope of capitalist resistance.

Quarreling against the dismissal of autonomous action, Scott (1985) stressed the misunderstanding of the political and social struggles of those marginally located. He argued that independent acts of self-preservation that do not adhere to the dominant ideology (repeatedly conducted by many) signify resistance. Revisiting his conceptualization of resistance, especially in application to the practice of social, solidarity, or community economics, is a crucial step toward a framework of how small convivial enterprises may offer a real counterpoint to global capitalism. Consider that the artisanal producers in medieval Europe built a post-feudal model of conviviality and solidarity by seeking independence and autonomy through their lateral associations. For example, Wallerstein (1983) suggests:

Had Europe continued on the path along which it was going it is difficult to believe that the patterns of medieval feudal Europe with its highly structured system of orders could have been reconsolidated. Far more probable is that the European feudal social structure would have evolved towards a system of relatively equal small-scale producers, further flattening out the aristocracies and decentralizing the political structures. (41-42)

Drawing on Greece as example and case, the goal is to highlight not only the survival and sustainability capacities of the micro-economies found in Greek villages, but also the resistive stance of this “meta-industrial” population toward capitalist profiteering or the ethos of corporate globalization. The convivial orientations of many engaged in local and small-scale artisanal, trade, or agricultural enterprises inform Greek public protests of the EU’s neo-liberal foundation. By taking heed of the current flourishing of alternative economic strategies in Greece and across the globe as resonant of the 1450s, when “small farmers were demonstrating great efficiency as producers” (Wallerstein 1983) and egalitarian systems of trade were developed, a “utopistic” perspective towards these activities could help further assess their contemporary capabilities for

surviving and challenging global capitalism (Wallerstein 1998). In light of recent corporate projects of centralized global control, to which Salleh and Brewer refer, revisiting micro-economies, their expansion, and what they offer as a form of activism, especially in crisis zones like Greece, might facilitate their retention, rather than leaving them to be squashed by the “upper strata” as they were by the 1650s.

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**Special Contribution:
Interview with Giovanni Arrighi**

“At Some Point Something Has To Give” – Declining U.S. Power, the Rise of China, and an Adam Smith for the Contemporary Left¹

Conducted and transcribed by

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G*iovanni Arrighi (1937-2009) spent his life thinking and writing about what he saw on his well-traveled path: liberation movements in Africa, worker rebellion in Italy, global inequality between North and South, the military and financial limits of US power, and the economic rise of China. In his many articles and books, including an unplanned trilogy on the origins and workings of global capitalism, Arrighi grappled with the complexities of history and the limitations of existing economic and political theories. This rethinking was fully on display in his final book, Adam Smith in Beijing: Lineages of the Twenty-First Century. Although I interviewed Arrighi on May 18, 2008, several months before the financial meltdown in global markets, his prescient statements are relevant for the crises we face today. Arrighi passed away in June 2009. His scholarly and intellectual tradition continues on at the Giovanni Arrighi Center for Global Studies at The Johns Hopkins University.*

Kevan Harris: Fareed Zakaria, in his book *The Post-American World*, says that the United States is no longer the country of “number ones.” We don’t have the tallest building in the world, the biggest mall, the biggest company, the biggest airplane, or even the biggest movie industry. Zakaria believes, however, this is not a world defined by the decline of America but by the

rise of everyone else, or to paraphrase Alice Amsden (and Zakaria himself), what we are seeing is the “Rise of the Rest.” Zakaria writes, “Billions of people are escaping from abject poverty. The world will be enriched and ennobled as they become consumers, producers, inventors, thinkers, dreamers, and doers. This is all happening because of American ideas and actions. For 60 years the United States has pushed countries to open their markets, free up their politics, and embrace trade and technology – to learn the secrets of *our* success.” He goes on to say that rising protectionist and isolationist sentiments in the U.S. today go directly against this track record of success. How much truth is there in Zakaria’s argument?

Giovanni Arrighi: Well, there is one element of truth there. The United States did indeed push countries to liberalize trade. And it is true that the liberalization of trade in the world, *generally*, has enabled many countries to industrialize and “modernize.” However, in spite of widespread “modernization,” “industrialization,” etc. of “the Rest,” the income gap between the North and the Rest – what used to be the Second and Third Worlds – has not been reduced much. So, on the whole, the wealthy remain wealthy, and the poor remain poor. However, starting in the 1980s, there has been major diversification and unevenness of outcomes within the global South. Some regions have done well, most notably East

Asia and to a lesser extent South Asia. Some regions have done very badly, experiencing social, economic, and political catastrophes – first and foremost Sub-Saharan Africa, but also Latin America in the 1980s and 1990s, and the former Soviet Union in the 1990s. So, it is true that on the whole there is not an absolute decline of the United States as much as the relative rise of certain regions. First Europe and Japan narrowed the gap in relation to the United States in the decades immediately following the Second World War, and then more recently certain regions in the global South. But this has been counterbalanced by the widening of the gap in other places.

Also, in terms of periods, one has to distinguish the 1980s and 1990s, which had been rather bad for most of the global South, and the late 1990s and early 2000s, where just within China there has been a great improvement of living conditions. Zakaria says “billions,” but in fact there have been hundreds of millions of people uplifted from poverty, according to and as defined by the World Bank. But almost all of them are actually in China. So one has to look at what has happened in China and ask if China has lifted hundreds of millions of people out of poverty because it followed the advice of the United States. In my view, China has not followed that advice.

KH: Let’s turn to another popular book about global development, Naomi Klein’s *The Shock Doctrine*. Klein argues that free markets did not spread around the world democratically and peacefully, and that countries such as Chile, Russia, China, and most recently, Iraq, were “shocked,” or subjected to rapid and severe social dislocation as a result of political or economic catastrophes. Afterwards, international and local elites subsequently reengineered these societies based on

neoliberal economic principles, and through this a fusion of militarism (public and private) and market fundamentalism has pervaded the reunification of the world economy since the 1970s. This is emblematic of a more general belief on the US and European left that participation in the world market carries with it the subjugation of a country’s population to the prevailing international political and economic order. There is similarity here with Zakaria’s argument, except that Klein sees this as disastrous for the global South. Is this a better way to view the last 30 years?

GA: Well, this other way of viewing the last 30 years is as problematic as the first view. It is problematic because, just for the countries you mentioned, only Chile meets the characteristic of having trade liberalization and shock therapies applied by a dictatorship. In China, though it may be considered a dictatorship, it certainly did not introduce any shock therapy or rapid liberalization and privatization of the kind that was done in Chile and elsewhere. In other cases, these changes were introduced democratically. If you take the 1980s, it was a period when Latin American dictatorships were in crisis and were displaced by democratic regimes, who then often introduced these changes in the 1990s. Certainly that’s also the case with the implementation of shock therapy in Russia under Yeltsin, where the country had moved from a Soviet dictatorship to a democratically elected leadership. So I think the problem with that type of characterization is that the introduction of shock therapies and neoliberal prescriptions occurred under diverse circumstances, since in many cases the neoliberal changes occurred during the shift *from* authoritarian regimes *to* parliamentary democracies.

In the case that matters most in terms of positive results – that is, China – as Joseph Stiglitz and many others have pointed out, they did not follow the prescriptions of Washington at all. They were very gradual and careful, issuing countermeasures to prevent massive unemployment, for example. So, again, if we single out China, it is a case which doesn't fit in either one of these views. In fact, there is a convergence of views, between liberals and those on the left, which claims that China followed the prescriptions that came out of Washington, whereas in fact they didn't. So, in a way, China is the exception that proves the rule that the prescriptions that came out of Washington in the 1980s and '90s were disastrous rather than beneficial.

KH: You've argued that the world has moved from a Washington consensus towards a Beijing consensus, though you certainly didn't coin those phrases yourself. What is the difference between the two, and are you saying that the rise of China as an economic power is a model that other countries can follow?

GA: Well, the Chinese themselves are very careful in not setting themselves up as a model. In some ways, the experience of China is a model in the sense that market reforms have to be introduced very cautiously, gradually, and always with other actions that counter the negative effects of liberalization. From this point of view, in a general sense it could be taken as a prescription that is antithetical and opposite to that of the Washington consensus. However, unlike the Washington consensus, the so-called Beijing consensus goes against the idea that "one size fits all." The Chinese are perfectly aware that the success of the reforms was not just due to the particular form that they took – gradualism and such –

but also to an historical heritage that doesn't exist elsewhere.

For example, two legacies have been crucial in the success of the Chinese reforms. One is the revolutionary tradition that created very equal conditions in the country. China did not dispossess or destroy the peasantry, as had happened in the Soviet Union, but uplifted the peasantry through health and educational improvements, which were major achievements *before* the reforms began. So they had a large peasantry that supplied not just cheap labor but also large masses of small-scale entrepreneurship who mobilized this labor locally and translated it into the growth of the Chinese domestic market, which was crucial in generating the rates of growth that China has been experiencing.

Another important legacy was that of the late Imperial market economy that had involved peasants and artisans in widespread market exchanges but was not a capitalist market economy, in the sense that it did not lead to massive dispossession of the peasants. So these were characteristics of the labor force that were rather different than those produced by proletarianization, specialization, and divisions of labor of the kind experienced by the West. These conditions exist in China because of legacies that don't exist elsewhere, nor can they be reproduced. For example, in Southern Africa, there was an extreme dispossession of the peasantry.

So, there is an awareness that different regions of the global South have different legacies and therefore policies have to be tailored to these differences. In that way, China cannot be a model for other regions, except for that they did not follow the Washington consensus.

KH: Your most recent book is titled *Adam Smith in Beijing: Lineages of the 21st Century*. For many people on the left, Adam Smith is a dirty word, just as he is a hero for many others. Why is Adam Smith in your book title and why is he in Beijing?

GA: One reason Adam Smith is in the title is that I've been reading *The Wealth of Nations* for many years and I teach it in my classes. I've always pointed out how the liberal, or neo-liberal, readings of Adam Smith in fact find very little support in the text itself. For one thing, the idea of self-regulating markets, of the invisible hand that is supposed to govern, is clearly not to be found in *The Wealth of Nations*. What you do find is the idea that governments should use and rely on markets to rule and govern. So the *market* is the invisible hand of the *government*. Rather than rule bureaucratically, you can in many circumstances rule more effectively by organizing exchanges and divisions of labor among the citizenry and then you can just regulate these processes.

The idea that Smith is an advocate of capitalist development finds even less support in *The Wealth of Nations*, where you find lots of statements to the effect that government should make capitalists compete with one another. The idea that governments should make workers compete, to the favor of capital, is totally absent in *The Wealth of Nations*. Also, the idea that Smith is in favor of a division of labor like the one experienced in large-scale industry under so-called Taylorism, scientific management, or Fordism, is again totally absent in *The Wealth of Nations*. Smith was as aware as Karl Marx that this type of division of labor, with big units and narrow specialization, had a negative effect on the intellectual and even moral qualities of the labor force. Therefore he was in favor of another type of

development that did not involve dispossession of the workers, and he had a very positive image of what we would call the peasantry, as a labor force that was capable of flexibility and self-management.

There are also two reasons that Adam Smith is in Beijing. One, in *The Wealth of Nations*, Smith was aware that the European model of "extroverted growth" -- meaning a growth that relied not so much on exports but on

"[T]he idea of self-regulating markets, of the invisible hand that is supposed to govern, is clearly not to be found in The Wealth of Nations."

long distance trade such as the expansion of the European economy through chartered companies -- was less constructive or socially beneficial than a type of growth based on small units and agricultural production. In other words, instead of going from long distance trade to manufacturing to agriculture, as the direction of a process of modernization, in Smith's view the direction should have gone from agriculture to manufacturing to foreign trade. He set up two models: one that could be observed in Europe and one that could be observed in China. So Smith had a more positive view of market-based, non-capitalist development as it occurred in the East than Marx and subsequent theories of capitalist development.

The other reason is that, though I have no evidence that Deng Xiaoping read or was inspired by the ideas in *The Wealth of Nations*, the steps taken in the Chinese reforms -- the gradualism, the use of the market as an instrument of governance, the initial reforms occurring in agriculture, and then moving to industry and foreign trade, making capitalists compete amongst

themselves – follow a pattern that from this point of view can be defined as “Smithian.”

So on the one hand, it was the China as seen by Smith, and on the other hand, the Chinese reforms and their success, as seen through Smith, that together give us a new key for interpreting *The Wealth of Nations* – hence the title *Adam Smith in Beijing*.

KH: So, you are saying that the Chinese state makes capitalists compete, but the view that most Americans get from the media and even academics is that capitalists have a large say in Chinese affairs. Is this view completely misguided, or is it capturing some truth about the process underway in China?

GA: This is really a question of assessing what is happening in China, which is difficult because China is a huge place with many different things going on in different places at the same time. But, on the whole, I would say that, of three possible scenarios that could be posited as taking place in China, the least plausible, in my view, is that capitalists control the state. A more plausible scenario is that there is an alliance between the Communist Party, which actually controls the state, and capitalists of various kinds. First and foremost, though, the closest alliance is not with foreign Western or Japanese capital, but with Chinese diaspora capital. But I have never seen anyone convincingly argue that this diaspora capital has more power over the Communist Party than the Party has over it. So at best there is a relationship of political exchange, but not one where the diaspora controls the Party.

The third possibility, which I think is also more plausible than capitalists controlling the state, is that no one is controlling much of the state these days in China. This is

because the top leadership gives directives, and is now trying to change direction, but the Party has been disintegrating in the middle ranks – the cadres have mostly gone into business – and it is difficult for the top to control. So, overall, either it is a situation where the Party controls the state and has a relationship of political exchange with diaspora capitalists and, to a lesser extent, with multinational corporations – but I don’t think they actually have such a relationship with multinationals – or it is a situation where neither the capitalists nor the Communist Party controls much in terms of capabilities of directing the state. But certainly I don’t see any evidence whatsoever of capitalists controlling the state in the way in which they might have in the West.

KH: This perhaps is a question of definition, then. Many on the left see the spread of markets and the presence of economic exchange as containing elements of political coercion that generally cause negative consequences for the global South. Then we have liberals, or perhaps neo-liberals, who see the expansion of markets as having good consequences overall. There are, of course, various nuances on both sides, but both see the market economy as synonymous with capitalism. They would definitely all agree on that, but I get the feeling you do not. Since the most popular critiques of neoliberalism have equated the functioning and expansion of markets with capitalism *per se*, can you elaborate on the differences?

GA: Well, yes, that’s the prevalent view of markets and capitalism, but it is theoretically and politically a pretty disastrous view. The term market can be used in two different senses. One is the idea that people meet to exchange products that are different because they are generated by a division of labor

among individuals, who then come to the market. The idea that you can rely on barter or various forms of central planning works for certain processes but doesn't work for others. Also, in capitalist economies, like the United States, certain sectors are thoroughly planned. The military-industrial complex is far more a centrally planned economy than a market economy. Capitalism has relied as much on planning as on markets whenever it made sense. Large corporations, for example, don't use the market for many of their transactions and instead internalize these exchanges within the organization.

So planning and the command economy is not something that necessarily relates to socialism, or to non-capitalist forms of production and exchange. I think that it is madness, then, to try to plan all exchanges in an allegedly socialist economy, because what then occurs is that the market is simply driven underground. In the Soviet Union, at one point, the goods were disappearing from the planning system and being exchanged informally in the underground economy. This continued until the Soviet collapse, and the sclerosis of economic planning led to no one planning anything, since the commodities had gone into the other economy. So it is more effective for many kinds of exchanges to be organized as market exchanges.

The issue of capitalism comes into the picture not because there is a market, since markets existed before capitalism. China is an example of a society that was a market economy that was not capitalist. Capitalism comes into the picture when two things occur. First is when capitalists occupy the commanding heights of society – the state – and, second, is when the market economy is subjected to all kinds of “creative destruction” that continually destabilizes the market economy. This is why the historian

Fernand Braudel calls capitalism the “anti-market,” because capitalism needs the market but at the same time prospers on the destabilization of the market, on, for example, a big disequilibrium between supply and demand that creates profitable opportunities for speculation.

Certainly, markets, when they are unregulated, tend to generate powerful capitalist strata that can then destabilize the market. But I, for one, never understood how one could organize a society on the scale of the United States, or China, or the former Soviet Union, or the world, without market exchanges. When they are the expression of cooperation among individuals who specialize in different types of activities, markets are often the most efficient form of exchange.

KH: You've startled some by pronouncing the death of neoliberalism in your book. What actually occurred in the last 30 years, which has been labeled a period of “neoliberalism” or “market fundamentalism,” and is this really over? And if it is over, what's coming next?

GA: Well, after the Second World War, there was an idea that markets have to be regulated to bring about positive results in terms of both welfare and development. Also, within theories of economic development in that period, there was room for what was called the “infant industry” argument; that is, before industries from relatively poor countries could compete they had to protect and strengthen themselves. Then, basically, during the big change that came under the name of neo-liberalism, or as some call it, a neo-liberal counter-revolution, between about 1979-1982, all of this was declared obsolete. An ideology developed that self-regulating markets were

the solution both to issues of welfare and to issues of development.

The reason why this has been called a counter-revolution, and why it *was* a counter-revolution, is because those in power attempted to dismantle the welfare state. Obviously they were not successful everywhere. But they tried to dismantle developmental states and give free reign to capital movements globally, which could then take advantage of the most profitable situations wherever they appeared. Behind the idea of the “magic of the market,” there was the idea of making concessions to capital by creating the most profitable conditions of investment throughout the globe. This was propagated by the infamous slogan, launched by Margaret Thatcher, that “There is No Alternative” to competition of all against all in making concessions to capital.

This was pretty disastrous for many countries and regions. It was also pretty advantageous, in the short-run, for some countries and regions, and in the longer run, for other countries and regions. In the short run, the country that benefited the most was the United States, which was in a deep crisis in the 1970s, and then took the lead in promoting financialization, thereby attracting massive amounts of capital. This enabled the US, ironically, to follow ultra-Keynesian policies of deficit financing – an increasing indebtedness of the US economy and state to the rest of the world. So, capital flew massively, more and more, to the United States and reflat its economic and political power in the world. Therefore, throughout the late 1980s and especially the 1990s there was this idea that the United

States had “come back.” However, all this was based on an escalating dependence of the United States on external funds. In 2007, this amounted to \$2 billion every day coming in from the rest of the world to allow the United States to balance its current account – the amount it imports in excess of what it exports and consumes in excess of what it produces.

On the other hand, for many countries that had become indebted in the 1970s, all of a sudden they experienced a major drought of capital and thus a major downsizing. This was aggravated by shock therapy measures

that were often introduced as a cure, but turned out to be worse than the disease, since by freeing capital movements they were enabling capitalists to move funds to the United States, worsening the balance of payments problems of these countries.

“Zakaria and others are saying: ‘Yes, we can adapt to this.’ But adapting means sharing power globally, and sharing power means accepting that you may have to subject yourself to ‘structural adjustment’ rather than preaching it to others.”

Countries that benefited were mostly East Asian countries that had never gone into debt in the 1970s; thus they were not as vulnerable to the disruptions caused by the reorientation of global capital flows towards the United States. Also, these countries were endowed with large supplies of competitive labor, cheap but also educated and healthy. And they were endowed with large supplies of small entrepreneurship that enabled them to develop extensive subcontracting processes, making them highly competitive vis-à-vis the bureaucratic structures of the large corporations of the West. These Western corporations had to then restructure

themselves to try to take advantage of these subcontracting processes in East Asia.

So there was a combination of economic disasters in some regions and economic advances in others. The end result was a United States that experienced a major resurgence of economic and political power, but was amassing a debt that was becoming less and less sustainable. And other countries were accumulating surpluses and becoming the financiers of the US debt. With this came a shift in power relations. The United States became increasingly dependent on cheap commodities and cheap credit coming from outside.

It is also true that the outside became dependent on the US market for selling their commodities. However, there is a difference between a dependence on demand and a dependence on supply, because those who are dependent on demand can reorient and create the demand internally, since they have the supply. But those who depend on external supplies are always risking that they will not be able to regenerate the supply internally – of both finance and cheap commodities. So this imbalance originally favored the United States but is shifting more and more in favor of its outside creditors, and that's where we are today.

Zakaria and others are saying: "Yes, we can adapt to this." But adapting means sharing power globally, and sharing power means accepting that you may have to subject yourself to "structural adjustment" rather than preaching it to others. It may mean that you have to give up established ways of life because they cannot be reproduced on a larger scale. High energy consumption, as it exists in the United States, cannot be reproduced globally – if China and India adopt the same patterns, they may end up choking themselves and everyone else to

death. So this means that negotiations have to occur by which the US changes its way of life. Eventually, the US population may be better off, in terms of welfare. But it requires adjustment.

KH: What's more politically likely in the United States, though? That the large majority of Americans, who have not generally benefited from the last 30 years, see the changes you are describing as beneficial for them? How likely are they to willingly give up "their way of life," and perhaps more importantly, link their futures and their fortunes with the future and fortunes of people in other countries?

GA: OK, let's just take one example. Just before the 2003 Iraq War, the media tycoon Rupert Murdoch said that if the war would reduce the price of oil from \$30 a barrel to \$20, it would be a big gain because it would enable the American way of life to reproduce itself. That was the idea. Now, instead of falling, as of today [May 2008] the price of oil has quadrupled. So what does that mean? First, if consumption norms are not consciously transformed, for example, in a less energy-intensive direction, the market steps in and makes it expensive to stick to certain consumption norms, and people take steps later that they should have done earlier. In other words, if decisions are not going to be made consciously, anticipating market tendencies, these market tendencies will force such changes. Second, the United States does not have the power to control the world market, meaning, the world community of producers and consumers, in a way that would allow it to maintain its own consumption norms. When Bush the father went to Rio de Janeiro, at the meeting that laid the foundation for the Kyoto agreement, he said, "the American way of life is not up for negotiation." Well, the American way of life

will *have* to be up for negotiation, because the United States doesn't have the power to impose it.

Now, is that going to be good or bad for the welfare of the American people? Well, that depends on a lot of things but there is no reason why it should be bad, especially for future generations. This renegotiation of consumption norms is something that is ecologically quite crucial for future generations. Moreover, the choice will have to be made between getting involved in wars like the present ones, which has had disastrous consequences for the power and welfare of the United States, or just negotiate, directly or indirectly, a new way of life. So, today people may not be

“[The] renegotiation of consumption norms is something that is ecologically quite crucial for future generations.”

prepared, but eventually one way or another they will have to, and this is not necessarily bad for the welfare of the American people.

KH: What struck me in your answer as problematic is that the market – global price pressure on oil, for example – will be incentive enough to transform the world economy and ways of life to, well, save us all. People probably would be skeptical of that, since as much as they rely on the market for a host of things, the market has seemed unprepared often enough in history to deal with extra-economic problems – especially with the ecological problems dominating most of the discussion these days in the United States and Europe. What about the various global governance institutions that many argue are required for tackling ecological disasters in advance of

market signals, in which case it may be too late?

GA: Well, I agree that relying exclusively on market forces to solve ecological problems is madness. Negotiations and conscious agreements about what can and cannot be done to the environment will be important for changing consumption norms. But the market may help, or may hinder, the reaching of such agreements. For example, in the 1970s, when the price of oil was at today's levels, under the Carter Administration some measures were introduced to change norms for energy consumption. Then, as soon as the counter-revolution provoked a collapse in the market for oil, and the price plunged downwards, there was no incentive anymore to pursue this type of thinking and SUVs began appearing everywhere. Now, with the recent rise in the price of oil, talk about whether certain patterns of consumption are sustainable has returned. Clearly, this cannot in itself solve the problem since you have to still make decisions, but if the price of oil doubles or triples again, it will induce more people to realize that maybe we should change our habits.

Another example is that Bush the son has just visited Saudi Arabia [May 2008] and asked the Saudis to pump more oil and the Saudis said no. What does that mean? Bush would like to create the conditions for retaining US consumption patterns, but doesn't have the power to force the Saudis to accommodate. Apparently Congress wants to pass some resolution that the Saudis will not get American supplies of weapons unless they agree to pump more oil. So this is about maintaining certain consumption patterns, but the power to do so is not there anymore. At some point something has to give.

More by Giovanni Arrighi:

- *The Long Twentieth Century: Money, Power and the Origins of Our Times (New and Updated Edition)*. Verso, 2010.
- *Adam Smith in Beijing: Lineages of the Twenty-First Century*. Verso, 2007.
- “The End of the Long Twentieth Century” (with Beverly Silver). In *Business As Usual: The Roots of the Global Financial Meltdown*, edited by Craig Calhoun and Georgi Derluguian. NYU Press, 2011.
- “Industrial Convergence, Globalization, and the Persistence of the North-South Divide” (with Beverly Silver and Ben Brewer). *Studies in Comparative International Development*, 2003, 38: 3-31.
- “Accumulation by Dispossession and Its Limits: The Southern Africa Paradigm Revisited” (with Nicole Aschoff and Ben Scully). *Studies in Comparative International Development*, 2010, 45: 410-438.

1. My thanks to the participants in Beverly Silver's graduate research seminar at the Johns Hopkins University Sociology Department (especially Yige Dong and Smriti Upadhyay) who helped with the review and editing of this interview.

“Green” Technology and Ecologically Unequal Exchange: The Environmental and Social Consequences of Ecological Modernization in the World-System

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Abstract

This paper contributes to understandings of ecologically unequal exchange within the world-systems perspective by offering a series of case studies of ecological modernization in the automobile industry. The case studies demonstrate that “green” technologies developed and instituted in core nations often require specific raw materials that are extracted from the periphery and semi-periphery. Extraction of such natural resources causes significant environmental degradation and often displaces entire communities from their land. Moreover, because states often use violence and repression to facilitate raw material extraction, the widespread commercialization of “green” technologies can result in serious human rights violations. These findings challenge ecological modernization theory, which rests on the assumption that the development and commercialization of more ecologically-efficient technologies is universally beneficial.

Popular and academic environmental discourses often endow technology with heroic powers. According to such accounts, contemporary societies have the capacity to develop and commercialize new eco-efficient technologies that utilize significantly fewer natural resources and produce much less pollution per unit compared to previous generation technologies. Green technology, these discourses assert, is developed and made broadly available through market forces and/or government policies, and has the ability to pull societies back from the brink of environmental and economic decline (see Salleh 2012). For instance, the president of the Environmental Defense Fund, a large U.S. environmental organization, writes that a new industrial revolution is on the horizon that “will almost certainly create the great fortunes of the twenty-first century. But this new industrial revolution holds a more important promise: securing the world against the dangers of global warming” (Krupp and Horn 2008: 1). Voicing a similar sentiment, U.S. President Barack Obama stated, “all of us are going to have to work together in an effective way to figure out how do we balance the imperatives of economic growth with very real concerns about the effect we’re having on our planet. And ultimately, I think this can be solved by technology” (CBC 2009). Putting it more strongly, *New York Times* columnist Thomas Friedman claims that the development of a “clean energy system” will “allow us to grow the world’s economy—not only without exacerbating energy supply and demand issues, petrodicatorships, climate change, biodiversity loss, and energy poverty—but by actually reducing them at the same time” (Friedman 2008: 186).

Such treatment of technology does not only exist in popular environmental discourse, but in certain academic discourses as well, particularly in ecological modernization theory. According to one of the perspective’s founders, “the pivotal component of ecological modernization is advanced technology” (Huber 2008: 360). Academic proponents of ecological modernization argue that state regulation and tax regimes, market forces, consumer preferences, and environmental movements propel technological innovation and implementation in ways that diminish society’s impacts on the environment (Mol 2002; Mol and Spaargaren 2002; Buttel 2003; Cohen 2006; Schlosberg and Rinfret 2008). In this way, increasingly self-aware and reflective modern societies have, according to ecological modernization theorists, the technical ability to achieve long-term environmental sustainability and can do so without dramatically altering or reforming today’s predominant social structures and processes (Mol 1996; Mol and Janicke 2009). This central argument of ecological modernization theory rests on the unacknowledged assumption that “green” technologies—developed and commercialized in core nations—will benefit, or at least have the capacity to benefit, all people universally.

Expectations from a world-systems perspective are very different. Theorists drawing from this perspective would conceptualize “green” technologies as commodities. As such, they are derived from particular natural resources that exist in finite quantities in specific places across the globe (Smith 2005). And, from a world-systems perspective, because “green” technologies are commodities, they imply relations of inequality and exploitation (Marx 1994 [1867]). The social relations of particular concern here are of those between the comparatively wealthy core and the comparatively poorer periphery and the semi-periphery. To world-systems analysts, the economic development of the core came at the cost of the underdevelopment, social disruption, and environmental degradation of the periphery (Bunker 1984). Taken together, this means that while the widespread development of “green” technologies may create real benefits in core nations, it may also produce further environmental degradation, violence, and social disruption in peripheral zones. In other words, “green” technologies, like other commodities

whose production and consumption spans the globe, are part and parcel to processes of ecologically unequal exchange (see, for instance, Jorgenson 2006, 2009; Foster and Clark 2009).

In order to assess these different expectations, we examine three cases of technological development in the automotive industry: catalytic converters, biofuels, and hybrid cars. In so doing, we ask to what extent the utilization of “green” technologies in the cars and trucks of wealthier nations inadvertently displaces, or might displace in the future, environmental harms onto others. In a series of case studies we demonstrate that many “green” automotive technologies require raw materials derived from the Global South and that the extraction of these raw materials regularly results in devastating amounts of environmental destruction. Due to the structure and operation of the world-economic system in which core nations have a privileged capacity to obtain such materials for their own domestic use, ecologically unequal exchange can occur even through processes of ecological modernization. The advancement of “green” technologies therefore can produce very different outcomes for the core, periphery, and semi-periphery in today’s world.

To further consider the actual or potential impacts of ecological modernization, we also contribute to a growing literature that attends to the ways state violence and repression facilitate uneven global relationships. States act to violently dispossess people from their land, violently suppress environmental protest movements, and otherwise curtail basic human rights in order to promote and protect access to the natural resources—such as minerals, oil, and timber—that constitute the basis of industrial technologies (Downey, Bonds, and Clark 2010). We contribute to this literature by arguing that the widespread adoption of “green” technologies in core nations would require significant amounts of raw materials derived from the Global South, facilitated through continued violence and human rights abuses, thereby resulting in the further underdevelopment of less wealthy countries.

Environmental and Social Costs of Ecological Modernization in the World-System

Ecological modernization is an influential theory that has received a great deal of attention from social scientists. A fundamental component of ecological modernization theory is the prediction that the adoption of new technologies such as shifts to renewable energy, “clean” technologies that produce less pollution, and the use of low-impact chemicals will substantially lessen societies’ impact on the environment (Mol 1997; Huber 2008; see also Hawken, Lovins, and Lovins 1999). This means that, according to a second important premise of ecological modernization theory, the economy and the environment have to some degree been “decoupled,” meaning that increased future economic activity no longer necessarily requires increased environmental degradation (Mol 2002). These two related principles rest on a third premise. Because ecological modernization theorists argue that technological advancement in capitalism can substantially lessen humanity’s impact on the environment, and so help avert an ecological crisis, they assume that advancements in “green” technologies are neutral and universally beneficial (see, for instance, Mol 1997; Huber 2008).

These interrelated premises, though fundamental to ecological modernization theory, are strongly disputed by theorists and researchers from other perspectives. The argument that increasingly efficient technologies will bring about increased resource conservation is one of the most accepted “solutions” to environmental problems upheld by the corporate wealthy and policy-makers because it offers a “magic bullet” that, according to the argument, will allow

societies to manage the environmental crisis without social-structural changes or reduced economic production (Foster 2002). Despite the popularity of this key ecological modernization claim, many researchers argue that it simply is not true. Some have, for instance, called attention to the so called “Jevons paradox,” named after the work of nineteenth-century political economist William Stanley Jevons, whose study of coal usage led him to conclude that the widespread use of technologies that improve efficiency actually increase—rather than decrease—total natural resource use (Clark and Foster 2001). This paradox occurs because as efficiency increases, an energy source becomes more affordable and increasingly available to consumers (York and Rosa 2003).

For this reason numerous social scientists have disputed the idea that the economy and the environment have in any way been decoupled in late modernity. The widespread commercialization of more efficient technologies, by making natural resources less expensive, can have the further effect of spurring economic expansion and thus increasing society’s *total* impact on the environment (Clark and Foster 2001). Empirical tests using cross-national data bear this point out, indicating that the environment and society have not been decoupled in late modernity as highly developed and fully modern societies have not, as a whole, lessened their environmental impacts in terms of their per capita ecological footprints (York, Dietz, and Rosa 2003; Jorgenson and Clark 2009a).

The implicit assumption that technological innovation is neutral and benefits all people universally is at the very heart of ecological modernization theory. Nevertheless, it has not received much critical attention. Because ecological modernization theorists do not focus on issues of power, inequality, and domination, they tend to see technological innovation as the outcome of value-neutral scientific imperatives. For these theorists, innovations in “green” technologies are caused by the ongoing ecological rationalization of society, which is an impartial and purely technical process uninfluenced by social relations (see Mol 1997 for one example). These theorists rarely ask, for example, if a particular innovation in “green” technology benefits one group of people more than others, or if some may be harmed by the development and consumption of such technologies. Critical social scientists from numerous different perspectives—including Marxist and neo-Marxists (Braverman 1974), environmental sociologists (Schnaiberg and Gould 1994; Gould 2008), environmental anthropologists (Hornborg 1992), feminist scholars (Wajcam 1991, 1994), and some scholars of science and technology (Law 1991)—have long argued that technological development is profoundly social. Those with greater power have an increased capacity to develop technologies that best suit their interests at the expense of alternate technologies that may better suit other groups’ needs. Indeed, power is often embedded in new technologies in ways that reproduce and even extend domination. “Green” technological development, we argue, is no exception. This point will become clear when placed in the context of global capitalism and ecologically unequal exchange between nations.

The literature on ecologically unequal exchange emphasizes the historical context of the core’s exploitation of natural resources in the periphery. During the colonial era, the material infrastructure and economic growth of core nations depended upon access to the plentiful and cheap raw materials of their colonies (Bunker 1984; Moore 2003; Bunker and Ciccantell 2005). Consequently, European powers *underdeveloped* their colonies by extracting natural resources to the point of depletion while creating a wake of environmental destruction and social upheaval that inhibited – and continues to inhibit – more judicious economic and social development (Bunker 1984). The legacy of colonial underdevelopment lives on today in the form of

ecologically uneven exchange. Wealthy nations in the core – due to their greater economic, political, and military power in the world-system – can externalize the environmental impacts of capital accumulation onto the people of economically and politically weaker peripheral and semi-peripheral nations (Jorgenson 2006, 2009). This ecologically uneven exchange occurs when core regions extract and underpay peripheral regions for the energy and mineral resources that fuel core industrial infrastructure (Hornborg 1992, 2001) and utilize the atmosphere, waters, and ecosystems of peripheral zones to assimilate pollution and other waste produced in the core (Rice 2008).

It follows then that core nations may displace environmental harm on the people of peripheral and semi-peripheral nations even in the name of environmental improvement (Pellow 2007). For instance, Sonnenfeld (2000) documents how the pulp and paper industry in Southeast Asia adopted increasingly ecologically efficient technologies in response to civil society and market pressures. While these new mills produce much less pollution compared to previous generation technologies, they nevertheless are fueling deforestation in the region's tropical forests, prompting Sonnenfeld (2000: 254) to ask: "Is ecological modernization in advanced industrial societies dependent upon *increased* materialization elsewhere?" Similarly, Frey (2006) argues that environmental regulations and increased environmental protection in the world's wealthiest nations have created incentives for transnational corporations to move toxic and hazardous production to poorer nations that have weaker environmental standards and limited regulatory enforcement.¹ Pellow (2007) provides complementary findings in his examination of the toxic trade of electronic waste, in which corporations ship millions of tons of used and obsolete electronic commodities from the United States and Europe to Asian and African nations every year, resulting in massive transfers of highly toxic and deadly waste from the relatively wealthy to the relatively poor.

The following evidence and analysis contributes to these accounts by explaining how ecological modernization may result in ecologically unequal exchange between core and periphery in another way as well: many "green" technologies developed and commercialized in core nations are derived from raw materials that originate in the global South. The extraction of these resources causes deforestation, contaminates local ecosystems, and displaces people from their land. This paper also seeks to contribute to the world-systems literature by considering the violence and human rights violations that may be unintended outcomes of processes of ecological modernization.

While ecological modernization theory emphasizes the role of markets in advancing and increasing the availability of "green" technology, world-systems analysts take for granted that markets are created and maintained by the real or threatened violent action of states (Wallerstein 2005). Marx (1994 [1867]), for example, pointed out that many of the first labor markets in the formative days of capitalism were created when peasants were violently dispossessed of their land. Markets for raw materials, too, can hardly be thought of as "free" when states employ violence to create and protect access. Recent scholarship has examined how state violence contributed to ecologically unequal exchange in earlier eras, as colonial powers, through their capacity for violence, transferred great amounts of natural wealth from the periphery to the core while leaving tremendous environmental damage in their wake (Foster 1994; Moore 2003; Foster and Clark 2009). Jorgenson and Clark (2009a) demonstrate that military power, or states' ability

¹ We acknowledge, however, that the desire to avoid higher production costs associated with stronger environmental laws is not the only reason corporations shift production to the periphery. Such shifts may result in other cost savings that are important to corporations, for instance savings in terms of labor costs.

to exert sustained violent force, is still strongly associated with a nation’s ability to consume the natural resources of other lands. The United States’ recent war in Iraq is one particular case in point (Foster 2004; Klare 2004).

In this paper we contribute to these accounts, but do not limit ourselves to the violence of core nations. States in the periphery and semi-periphery may undertake a number of strategies to promote domestic capital accumulation, including the use of violence and repression (Evans 1979). By violating citizens’ basic civil and political rights, repressive states attempt to lure foreign investment by creating or sustaining a “good business climate” for multinational corporations (Shandra 2007). Semi-peripheral and peripheral states may have powerful motivation to do so. For example, such states may be highly indebted and so experience a strong need to attract foreign investment; their government might depend on resource extraction for revenue due to the legacy of colonial underdevelopment; state officials may stand to personally gain from resource extraction; and due to the legacy of colonialism, these states are more likely than core nations to be in conflict with rebel groups over the control of valuable resources. Such violence and repression may take many forms. For instance, states in the periphery and semi-periphery may (1) censor public speech to prevent awareness of environmental degradation and to otherwise inhibit the development of protest movements; (2) suppress environmental protests with violent force; and (3) dispossess persons from their homes and farmlands through force or the threat of force.

Such policies have profound environmental consequences, as they can dramatically increase rates of natural resource extraction accomplished by multinational corporations, along with the corresponding amount of environmental degradation it causes (Shandra 2007). By so doing, peripheral and semi-peripheral state violence and repression contributes to ecologically unequal exchange between nations in the world-system (Downey et al. 2010). Core nations, after all, have developed their material economies, infrastructures, and military power by accessing the natural resource wealth from the periphery. State violence in the periphery ensures that this natural resource wealth can continue to be transferred in high enough quantities and at low enough costs to contribute to capital accumulation and state power in the core (Downey et al. 2010). So, even while processes of ecological modernization may potentially contribute to some increased environmental well-being in the core, state violence associated with resource extraction for “green” technologies means that such extraction will be undertaken in ways that create profound environmental and social disruptions in the periphery. In the remainder of this paper we demonstrate the importance of attention in research and theory-building to inequality, violence, and resource extraction in the production of “green” technologies in the world-system through three case studies from the automotive sector.

Method

We attempt to provide a holistic understanding of the environmental and human consequences of the widespread adoption of “green” technologies in the automobile industry by presenting three case studies of the ecological modernization of the automobile: catalytic converters, biofuels, and hybrid technologies.² We constructed these cases by determining the natural resource origins of these technologies, or, in other words, by determining what raw materials constitute these

² The particular natural resources of interest include platinum group metals (catalytic converters); palm oil (biofuels); and copper, nickel, rare earth minerals, and lithium (hybrid technologies).

technologies and where they are extracted. We then conducted LexisNexis searches to understand the environmental consequences of this natural resource extraction and to determine whether or not states utilize violence to facilitate it.

We looked for potential violence associated with natural resource extraction on multiple levels, including direct military or police action against anti-mine protestors or rebels; mine security provided by military, police, or mercenary forces; state violations of widely upheld human rights, like the right to speak about mine pollution; and the forced removal of local residents to make way for an extractive development. Though the last two categories are not as obviously violent as the other categories, we argue they should both be considered instances of violence because they are intentional acts of deprivation committed by the state that are backed by threatened or real force.

We instructed LexisNexis to search in major world newspapers printed in or translated to English, and used search phrases such as “copper & Indonesia & violence,” “biofuel & deforestation,” and “South Africa & protest & platinum.” We supplemented the archival searches with internet research as needed, using websites from environmental nongovernmental organizations such as “Mines and Communities” (www.minesandcommunities.org) and “Mining Watch” (www.miningwatch.ca).

The research strategy we employed likely under-represents the environmental degradation resulting from extraction/production of the natural resources in question and the extent to which violence is used to facilitate it. First, it is likely that much of this environmental degradation and many acts of violence associated with the extraction of the resources in question escape the attention of the world’s largest newspapers printed in English—and even the attention of anti-mining activists in Canada, the U.S. and the U.K.—due to language barriers and the remote location of many mines. Moreover, many of the major producers of the natural resources in question are countries (such as Indonesia, the Democratic Republic of the Congo, and Russia) in which the press and anti-mining activists enjoy limited freedom, making it less likely that environmental degradation and violent actions associated with natural resource extraction/production in these countries would show up in our search. With this caveat in mind, we turn to the case studies.

Environmental and Social Consequences of the Ecological Modernization of the Automobile

Our examination of the environmental and social consequences of ecological modernization begins with the catalytic converter. American auto-manufacturers began installing catalytic converters on their fleets in the 1970s in response to increasingly protective environmental laws (McCarthy 2007). Consistent with the expectations of ecological modernization theory and its optimism regarding “green” technology, the environmental benefits in the U.S. were significant. Catalytic converters installed in automotive exhaust systems have reduced the amount of hydrocarbons, carbon-monoxide, and nitrogen-oxide (a smog-forming pollutant) each car emits by up to 90% compared to 1970 levels (McCarthy 2007). Altogether, the widespread

implementation of the catalytic converter is “the single biggest step ever taken to reduce the automobile’s environmental impact”³ (McCarthy 2007: xvii).

Catalytic converters in the exhaust system of automobiles trigger chemical reactions that transform toxic or harmful emissions into more benign compounds. They are effective because of the remarkable chemical properties of a group of minerals called “platinum group metals” (or pgms), which include platinum, palladium, and rhodium (National Research Council 2008). Platinum and palladium are essential components for the reduction of hydrocarbon and carbon monoxide emissions, and rhodium has no other commercially viable mineral substitute for the reduction of nitrogen oxide emissions (National Research Council 2008).

The vast majority of pgms used in catalytic converters is extracted from mines in South Africa and Russia (National Research Council 2008). While the widespread implementation of catalytic converters has been extremely beneficial to American and European citizens whose societies are structured around automobile transportation, as well as anywhere else catalytic converters are required, an examination of pgm extraction in South African and Russia demonstrates that it has not benefited all people equally.

In both South Africa and Russia, the environmental consequences of platinum mining have been severe for local people. In the Limpopo region of South Africa, the construction of platinum mines displaced local people from their farms and grazing land, destroying their self-sufficiency by eliminating their access to land over which they claimed historic ownership (Curtis 2008). The platinum mines have also contaminated rivers and wells used by locals for drinking water (Curtis 2008; Mathews 2008).

In Russia, the extraction of platinum group metals is also enormously destructive to the environment. The majority of the world’s palladium, along with a great deal of the world’s nickel, is produced by Norilsk Nickel near the city of Norilsk, which is located in Siberia above the Arctic Circle. Norilsk is considered one of the most polluted places in the world (Walsh 2007) and the single largest source of acid-rain pollution (BBC 2007a). An estimated 1.9 million tons of sulfur dioxide, a toxic pollutant, pour out of Norilsk’s smelters every year as a result of its pgm and nickel smelting, more than that produced by the entire nation of France (Kramer 2007). Moreover, four million tons of heavy metals—which are chemically toxic to humans—are released into the air each year. Perhaps not surprisingly, it is reported that Norilsk is surrounded by an 18-30 mile “dead zone” where trees can no longer survive (BBC 2007a; Walsh 2007). So much heavy metal has been released into the air by Norilsk Nickel in the sixty years it has mined and processed pgms and nickel that entrepreneurs are now mining soot deposited from the smelters to collect valuable, but also chemically toxic, heavy metals (Kramer 2007).

Platinum group mining is also strongly associated with violence and the deprivation of people’s human rights in South Africa and Russia. In order to obtain platinum to install catalytic converters on their 1975 fleet, General Motors and Ford looked to South Africa, where thousands of miners were hired to work in apartheid conditions to meet the new demand (McCarthy 2007). Perhaps of greater consequence, South Africa’s apartheid government was provided with an important new source of revenue that soon rivaled gold (Feinstein 2005).

More recently the South African state has forced the relocation of 1000 households at Mothotlo Village in order to make way for the multinational mining corporation Anglo

³ It should be made clear, however, that while the addition of catalytic converters successfully relieved important sources of smog-forming pollution, it did nothing to address greenhouse gas emissions and other environmental problems associated with car-dependent societies.

American⁴ to create a new mine (Mathews 2008). When some townspeople in Mothotlo refused to leave their homes, they were tear-gassed and forced from the area by armed police (Mathews 2008). When villagers protested their treatment, many were beaten and arrested (Curtis 2007). South African police have violently suppressed other protests over platinum mining expansion, in some instances shooting protesters with live and rubber bullets (Curtis 2007).

In Russia, the social costs associated with platinum group mining are also high. Norilsk's mines and one of its smelters were first built by forced labor in the Soviet Gulag⁵ (BBC 2007a). The continued operations of the Norilsk mines and smelters are strongly associated with human rights violations committed by the Russian state by limiting freedom of speech and freedom to information. The Russian state manages the Norilsk region as a "closed" area, where journalists need to obtain state permission to report there (Walsh 2007). Moreover, the Russian state has denied researchers access to conduct long-term studies on the health effects of so much pollution on the local population (Kramer 2007).

The above case illustrates that, while the widespread implementation of catalytic converters into cars and trucks resulted in significant environmental improvements in the United States and other nations where they are required, these benefits are not shared equally by all people. Mining platinum group metals in South Africa and Russia has meant severe environmental damage for the people there. Furthermore, the South African and Russian states utilized violence and infringed on persons' human rights in order to facilitate the mining. Taken together, the case of catalytic converters indicates that environmental improvements brought about by new technologies are not universally beneficial, but may disproportionately benefit people in core nations at the expense of people in more peripheral zones.

Biofuels

Biofuels—alternative fuels from organic sources such as corn, sugar, palm oil, soy, or even seaweed—were once widely heralded as a technical innovation that would dramatically reduce greenhouse gas emissions from automobiles, while simultaneously eliminating U.S. and European dependence on foreign oil (Krupp and Horn 2009). As such, they were "green" technologies heralded as a means of eliminating many of the adverse environmental impacts of oil-dependence in wealthy nations consistent with the expectations of ecological modernization theory. Nevertheless, today much of their appeal has faded. Notable studies, for instance, produced evidence that biofuels made from corn, soy beans, switch grass, or other crops may actually increase carbon in the atmosphere due to the increased conversion of forests, savanna, peat lands, and shrub lands—which tend to store carbon—into plantations and farms (Fargione et al. 2008; Searchinger et al. 2008; UNEP 2009). In addition, the U.N. Food Program and humanitarian organizations have criticized biofuel subsidies in wealthy nations, arguing that they provide incentives for farmers to produce crops for fuel instead of food, thereby raising food prices and contributing to hunger in the Global South (Rosenthal 2008b; FAO 2011).

In tropical countries, biofuel production creates essentially the same kinds of outcomes as any other form of monocrop agricultural development oriented to external markets, including deforestation and dispossession (Dauvergne and Neville 2010; White and Dasgupta 2010). Specifically, biofuels derived from palm oil plants for markets in Europe have increased environmental degradation and the likelihood of violence. Investigators working on behalf of the

⁴ This operation is being conducted by Anglo American's subsidiary, "Anglo Platinum."

⁵ This, however, was before the wide-spread adoption of catalytic converters in the U.S.

government of the Netherlands, for instance, determined that the nation’s heavy importation of biofuels from palm oil was contributing to massive deforestation in Malaysia and Indonesia (Rosenthal 2007). In Indonesia alone, 9.4 million acres of rainforest have been cleared and planted with palm oil since 1996, which is an area larger than New Hampshire and Connecticut combined (Knudson 2009). Indigenous communities and small-scale farmers are also being displaced by palm oil plantation developments. For example, the United Nations estimated that 5 million indigenous people may be displaced by palm oil development in Indonesia alone (BBC 2007).

Both the Indonesian and Malaysian governments have facilitated deforestation and displacement. In Indonesia, villages were bulldozed with no advance notice, at times under the supervision and protection of soldiers (Green 2007; Knudson 2009). State officials participated in the eviction by threatening those who refused to leave with arrest (Knudson 2009), in some instances beating and even killing those who resisted (Green 2007).

In Malaysia, the Penan indigenous communities continue to lose the forests in which they live due to new palm oil plantations. The Malaysian state has facilitated the expansion of palm oil plantations through “bait and switch” techniques, granting approval for new or expanded plantations on traditional Penan land while promising the Penan new “biosphere reserves” of untouched forest elsewhere. However, due to rampant illegal and unpermitted logging and plantation conversion, these “preserves” often have already been—or soon will be—decimated as well (FOEI 2008).

The case of biofuels, made from palm oil in particular, cautions against purely technical solutions to environmental problems. The case indicates that, in a highly unequal but highly interdependent world economy, technical solutions like the production and adoption of biofuels may unintentionally displace environmental harm to others, degrading whole landscapes while displacing people—through violence or the threat of violence—from the ecosystems upon which they depend. The widespread adoption and utilization of hybrid cars in wealthier nations poses a similar threat to citizens of poorer nations with extractive-dependent economies.

Hybrid Cars

Hybrid vehicles, which utilize both electric motors and internal combustion engines, accounted for almost 3% of 2010 U.S. auto sales (Mouawad 2010). A hybrid vehicle is able to achieve remarkably improved efficiency compared to conventional automobiles because it primarily uses its electric motor in stop-and-go city traffic, recharging its battery(s) each time the brakes are applied (McCarthy 2007). The widespread adoption of hybrid vehicles, if replacing conventional automobiles, could result in environmental gains for wealthy car-dependent nations by reducing air pollution that kills thousands every year and that contributes to global climate change. For instance, the Toyota Prius, which is the most popular hybrid on the American market, emits ninety percent less smog-forming emissions and up to fifty percent less green house gas emissions compared to the emissions of the average American automobile⁶ (Union of Concerned Scientists 2009). Because the replacement of conventional automobiles with hybrid vehicles could result in meaningful environmental savings for wealthy nations, such technologies seem to be quintessential “green” technologies anticipated by ecological modernization theory.

⁶ While the widespread adoption of hybrid cars could result in very real environmental benefits, this is provided that it does not simply result in more vehicles on the road and more total miles driven, as the Jevons Paradox would predict.

A full accounting of the costs associated with the widespread production of hybrid vehicles must acknowledge, however, that it would require large quantities of specific mineral resources that may increase rates of environmental destruction and military violence experienced by individuals living near existing or future mines. Specifically, the electrical wiring, rechargeable battery system, and electric motor of hybrid vehicles would utilize twenty-six pounds (twelve kilograms) more copper than conventional vehicles, along with significantly more nickel (National Research Council 2008). Copper and nickel mining has resulted in substantial environmental degradation in the global South and many governments in nations producing these minerals have proven willing to utilize violence to facilitate the minerals' extraction. It is impossible to say to what extent these environmental and social costs would increase with the mass adoption of hybrid vehicles, but any complete analysis of their potential impact must at least acknowledge them and attempt to take them into account.

Copper mines are some of the biggest and most environmentally destructive mines on the planet. The Grasberg mine in West Papua, Indonesia, which produces a substantial amount of gold each year and is also one of the world's largest copper mines and reserves, is a case in point. The mine, owned by the giant multinationals Freeport-McMoRan and Rio Tinto⁷, has caused tremendous environmental destruction, producing hundreds of thousands of tons of mine waste a day⁸ (Perlez 2006). The total mine waste covers 90 square miles (Perlez 2006). The mine waste is carried away by rivers into wetlands and estuaries, which at one time were some of the most productive fisheries in the world. This pollution causes massive fish die-offs, and few-if-any fish live in the polluted waterways today (Perlez 2005). The mine waste will remain dangerous for decades to come because of acid leaching (Perlez 2005).

West Papuans have long argued that they have received little benefit from the mine while nevertheless bearing the brunt of its environmental destruction, and have protested and rioted in response (Perlez 2006a, 2006b, 2006c). Freeport-McMoRan and the Indonesian government have worked hand in hand to protect the Grasberg mine and suppress an independence movement that may threaten production. The Indonesian military has violently put down student riots and taken student anti-mine/pro-independence leaders into custody (Perlez 2006a). The military also polices and protects the mine itself (Perlez 2006b) and has been accused of rapes, extrajudicial killings, and other human rights abuses to suppress the resistance of communities living near the mine (Perlez and Bonner 2005). Finally, the Indonesian state works to keep West Papua off limits to foreigners, including journalists (Perlez and Bonner 2005).

The corporate owners of the Grasberg mine have been accused of "purchasing" these services from the Indonesian military. For example, Freeport gave at least \$20 million in direct payments to the military and police to protect the mine, though others believe the actual number is much higher, in addition to spending another \$35 million on military infrastructure, including barracks, headquarters, roads, and vehicles (Perlez and Bonner 2005). Freeport and the Indonesian military have also worked together to spy on environmentalists working to address impacts of the Grasberg mine (Perlez and Bonner 2005).

In Peru, which holds some of the world's most extensive copper reserves (USGS 2010), the government utilized violence and the threat of violence to expropriate land to make way for

⁷ Freeport-McMoRan is a corporation based in the United States, while Rio Tinto has headquarters in both the United Kingdom and Australia.

⁸ To give some sense of this, the total amount of copper produced throughout the world according to the USGS in 2006 was 1.7 million tons, which means that the Grasberg mine alone produces more mining waste in just a few days than all the copper produced (and used) by the world in a year.

the Tintaya copper mine, paying only an average of three U.S. dollars per acre to local farmers and beating and forcibly removing individuals who refused to leave their land (Oxfam 2009a; 2009b). Police have since used violence to protect the mine, now owned by BHP Billiton, from protesters demanding fair compensation for the land expropriation and the environmental destruction caused by the mine (Herald Sun 2005). In response to protests at Tintaya and other mines across Peru in 2005, then president Toledo signed a law criminalizing the disruption of mining activities, which included a six year prison sentence for blocking roads to or from a mine (Radio Mundo Real 2005).

Similarly, in the mineral-rich Democratic Republic of the Congo (DRC), the state and the Anvil Mining Corporation utilized violence to protect copper resources. When several young men in 2004 staged a bloodless uprising in the city of Kilwa, arguing for the need to direct the wealth generated by the nearby Anvil copper mine to local people, Anvil flew approximately 150 DRC troops to the region (United Nations 2005). The company also provided the troops with vehicles, drivers, food, and payments (United Nations 2005). Troops used the vehicles to drive to Kilwa, which they recaptured without loss. Troops then conducted house to house searches, arresting townspeople, beating them, and in some cases torturing and killing them. Up to 100 persons were massacred in the aftermath and many more were injured. Anvil’s vehicles were further used to transfer captives, haul corpses, and transport loot taken from residents’ homes (United Nations 2005).

In yet another example, the Ecuadoran state has also utilized violence to suppress indigenous and environmental protests of a new law designed to spur large-scale copper and gold mining. The state has forcibly removed anti-mine road blockades; used teargas to put down anti-mine protests; broken up press conferences given by indigenous groups; and arrested, imprisoned, and beaten protest leaders—in one case killing a prominent anti-mine activist (Denvir 2009a; Moore 2009). The Ecuadoran state also attempted to criminalize “Accion Ecologica,” Ecuador’s leading environmental organization, by withdrawing its legal status (Denvir 2009b).

As previously noted, today’s hybrid vehicles also require greater quantities of nickel (for their rechargeable nickel-metal-hydride battery systems) than conventional automobiles (National Research Council 2008). Nickel mining and smelting produces severe and extensive environmental degradation. It is also associated with a great deal of state violence and repression in a number of producing countries. The Norilsk area, described earlier, is the single largest producer of the world’s nickel (BBCa 2007) and is a case in point. Nickel mining in Indonesia, which is the third-highest producing nation (USGS 2009), provides further evidence. The mining multinational Vale S.A.⁹ produces 90% of Indonesia’s nickel and is responsible for large-scale degradation of forest and agricultural land (Sangaji 2000). Vale S.A. mines nickel on land the Indonesian state expropriated from small-scale farmers, including the Karonsi’e Dongi indigenous people (Mining Watch 2005).

Mining in New Caledonia, a South Pacific Island claimed by France that possesses the second greatest nickel reserves in the world (USGS 2009), also degrades the environment and has resulted in state violence and human rights violations. The indigenous Kanack, native to New Caledonia, have heavily contested Vale S.A.’s nickel project on the island, hoping to protect fresh drinking water and the island’s fisheries (Mining Watch 2005). French military police have violently broken indigenous blockades of the mine, at one point firing live ammunition at protesters (Mining Watch 2005). Elsewhere on New Caledonia, the mining company Xstrata plans to extract nickel by constructing one of the largest open-pit mines in the world (Mining

⁹ Much of Vale S.A.’s nickel extraction is conducted by its wholly-owned subsidiary “Vale Inco.”

Watch 2008). It also intends to dredge a coastal barrier reef in order to develop a port to ship minerals from the mine (Mining Watch 2008).

Guatemalans have also experienced environmental degradation and suffered state violence in association with nickel mining. The Guatemalan state expropriated land for nickel extraction from indigenous Q'eqchi' people in the 1960s and 1970s, imprisoning and assassinating community leaders who resisted (Mining Watch 2007). Today, the Guatemalan state continues to protect this land through military force from Q'eqchi' people's attempts to peacefully reoccupy their ancestral home and stave off the development of another nickel mine (Mining Watch 2007).

It is important to note that we are not claiming that the violence associated with copper mining in Indonesia and Ecuador, and with nickel mining in Indonesia, New Caledonia, and Guatemala, is necessarily connected with hybrid vehicle production. However, because hybrid vehicles currently use much larger quantities of these minerals compared to conventional vehicles, the large-scale replacement of conventional autos with hybrids will increase demand and likely exacerbate the environmental destruction and violence associated with copper and nickel mining. The large-scale production of hybrids may increase demand for other minerals as well, raising similar concerns. For instance, hybrid cars currently utilize an estimated 20 kilograms (44 pounds) of rare earth minerals for the rechargeable battery pack alone, far more than that used in conventional vehicles (National Research Council 2008). Rare earth minerals are mined almost exclusively in Inner Mongolia and Southeastern China. Inner Mongolia is a mineral-rich area colonized by China, where pastoral Mongolians have long been targeted by government repression (Sneath 2000) and, more recently, have been forcibly moved from their land and resettled (York 2008). In Southeastern China, rare earth mines are "some of most environmentally damaging in the country," producing toxic and radioactive waste that contaminates water and soils, destroying rice and aquaculture production (Bradsher 2009).

Furthermore, hybrid vehicle manufacturers may increasingly use lithium-ion batteries, which are lighter-weight and have greater energy-storage capacities compared to nickel-cadmium batteries. But here too increased demand might mean increased environmental degradation and state violence, given that some of the world's largest lithium reserves are found in Chinese-occupied Tibet¹⁰ (Ladurantaye 2008). Colonized people rarely passively accept the extraction of wealth from land they claim as their historic right, nor do they often passively accept the environmental degradation that accompanies it (Geddicks 1992; Klare 2002). The presence of large amounts of lithium in Tibet then, combined with the Chinese state's willingness to utilize violence to extract mineral resources, means that the widespread commercialization of hybrid vehicles may pose increased hardships for the people of that region.

Taken together, these cases suggest that increasing demand for hybrid cars and, as a result, increasing demand for certain minerals critical to their production will result in the displacement of environmental harm across nations from the core to the periphery. If hybrid vehicles largely replaced conventional vehicles in car-dependent wealthy nations, these nations may produce less air pollution and greenhouse gas emissions. It is no simple accounting practice to determine if these gains outweigh the increased environmental degradation and human rights abuses people living near copper, nickel, lithium, and rare earth mineral deposits would likely

¹⁰ The world's largest lithium deposits are found in Bolivia's high deserts, which may prove a boon to that nation's socialist programs (Romero 2009), or, conversely, may provide further incentives for the United States to intervene in that region in various ways. Also of note, the U.S. has recently identified major lithium reserves in Afghanistan (Risen 2010).

face. The case of hybrid vehicle technology underscores the importance of placing inequality and aspects of uneven development at the center of any analysis of the possible benefits and harms of the widespread adoption of “green” technologies in the world-system.

Conclusion

In all of these cases, we demonstrate that the extraction of natural resources used in “green” technologies in core nations is often accompanied by severe environmental degradation in the periphery or semi-periphery. In some instances, as in the case of extraction for platinum group metals in South Africa, this environmental degradation is local. In other instances, as with the extraction of pgm and nickel in Russia or the creation of palm oil plantations in Malaysia or Indonesia, the environmental destruction is extremely widespread. We further establish that much of the extraction of natural resources used in “green” automobile technologies is associated with state violence and abuses of human rights. In some of these instances, the violation of human rights is in the form of restrictions on travel and free speech, as in Russia. In other instances, the violation of human rights is much more severe—involving direct violence, dispossession, and sometimes death—as in Indonesia, South Africa, Malaysia, and the Democratic Republic of the Congo. While documenting associations between the extraction of natural resources that may be used for “green” technologies in the core and human rights violations and environmental degradation in peripheral regions of the world does not prove causation, it does provide a useful theoretical exercise that contributes to understandings of ecologically unequal exchange within the world-systems perspective, while also adding to existing critiques of ecological modernization theory.

The extraction of critical raw materials for “green” technologies and their transfer from the relatively poor to the relatively wealthy constitutes a variety of ecologically unequal exchange. Because core nations have a privileged position in the world-system due to the strength of their economies, their military power, and the functioning of international financial institutions and trade agreements, they are able to utilize peripheral and semi-peripheral regions as sources for raw materials and as pollution “sinks.” The structure and operation of the world-system means, therefore, that processes of ecological modernization in the core, which might result in real domestic environmental improvements as in the case of catalytic converters, can displace environmental harm onto the people of less economically and politically powerful regions of the world.

The evidence presented in this article adds to a growing body of work that shows that state and corporate violence in the periphery contributes to ecologically unequal exchange, resulting in transfers of natural resource wealth to the core without a full payment for their value and cost of extraction (Shandra 2007; Downey et al. 2010). In order to prevent or overcome opposition to mining or other types of resource extraction, states may impede people’s right to free expression, may criminalize or forcibly put down protests, or remove people from their land through force or threat of force. Significantly, the association between violence and natural resource extraction for materials used in “green” technologies in the periphery means that members of impacted communities have a diminished capacity to protect themselves and their environment in the face of ongoing extractive projects, or to pressure corporations to initiate more ecologically judicious extraction techniques in the future. This means that state violence to facilitate natural resource extraction in the periphery will likely result in continued or increasing

environmental degradation in those regions of the world, even when these resources are used for “green” technologies in the core.

These analyses raise important questions for ecological modernization theory. Other social scientists have disputed the idea that efficiencies created by new technologies can significantly improve capitalist societies’ relation with the environment. While new technologies may result in increased efficiencies, the “pace of eco-efficiency” is likely not enough to compensate for the ever-increasing resource use and waste production of a society structured around the unlimited accumulation of capital (York and Rosa 2003). Quite the contrary, increases in efficiency can actually mean increased resource use by making raw materials less expensive and therefore more widely available (Clark and Foster 2001). This paper adds to these critiques by establishing that whatever benefits may accrue from advancements in eco-efficient technology, they are far from universal. Rather, in a world torn by deep inequalities, the widespread commercialization of “green” technologies has the potential to create new, more serious, or at least different environmental and humanitarian problems for less wealthy and less powerful groups of individuals across the globe.

In addition to raising the empirical question about relative costs and benefits from advancements in “green” technologies for people in the core, periphery, and semi-periphery, this paper challenges the very conceptualization of technology in ecological modernization theory. Ecological modernization theory tends to conceptualize technological development as the end result of rational-scientific imperatives. Technology is, according to ecological modernization’s treatment, neutral and beyond the influence of social relations. However, there is a long-standing tradition of research that consistently demonstrates the profoundly social nature of technological development (Wajcam 1991, 1994; Hornborg 2001; Gould 2008). Those with disproportionately more power in a society, according to this literature, have a greater capacity to develop technologies that best serve their interests at the expense of other people and at the cost of other potential technologies that may better serve other groups’ needs.

The cases presented in this paper demonstrate that “green” automotive technologies are far from neutral. They are commodities that imply particular social relations both between people and between people and the natural world. Like all commodities, the “green” technologies examined here are comprised of specific minerals, the extraction of which benefits some while often subjecting others to environmental degradation and state violence. Unlike other commodities, however, “green” technologies are often upheld as a solution to the ongoing ecological crisis of capitalism.

While we do not doubt the technical genius of humanity, nor that improved and more efficient technologies can play a part in addressing the ecological crisis, we maintain that technical fixes alone cannot solve environmental problems. Inequality—between both people and nations—matters a great deal. Technical “solutions” by themselves, in a highly unequal world, may solve very little for the world’s poor. More likely, such “solutions” will further degrade their environments while exposing already marginalized groups to increased levels of violence and military force—all while presenting a new justification to maintain the status quo.

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Theorizing Environmental Governance of the World-System: Global Political Economy Theory and Some Applications to Stratospheric Ozone Politics¹

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Abstract

This paper incorporates world-systems perspectives into an analysis of global environmental politics, thus adjoining a political economic analysis of scale with studies of global environmental policy. It is the ability of some social groups and institutions to jump scale that determines how global environmental policies are shaped. The United States' carbon-intensive economy is seen to face larger short-term costs from global environmental agreements than many other countries in the core of the world-system, but what remains unexplored in the environmental politics literature is the question of why the United States sees its long-term economic condition hindered by these agreements. This analysis points to the ways industry actors intervene at multiple scales of global environmental negotiations to affect national policy positions as well as larger discourses about science and risk. The article reviews the methyl bromide controversy in the Montreal Protocol to explain why this agreement has recently failed to live up to expectations in removing ozone-depleting substances. The United States is particularly responsible for this impediment: rather than innovate in response to new information and changing international contexts, industry actors have drawn upon US hegemony to enforce their dominant market positions. As the parties to the Montreal Protocol remain polarized over questions of methyl bromide use, this analysis calls for attention to the ways capital, states, and other social institutions are embedded in international environmental agreements and how they use such arrangements to obstruct successful multilateral agreements. I conclude by suggesting that environmental and other social movements might strategize in two ways: 1) by helping support an emergent 'green hegemony' (most apparent in Chinese policy) as a counterhegemonic alternative, and 2) by developing strategies that account for the ways industry interests overlap with declining US hegemony in a shifting world-system.

¹Special thanks to Wally Goldfrank, E. Melanie DuPuis, Ben Crow, David Goodman, Ronnie Lipschutz, John Borrego, Barbara Epstein, Joyeeta Gupta, Dave Huitema, Marja Spierenburg, Jackie Smith, and three anonymous reviewers for their comments and support. Funding for this research was provided by the STEPS Institute for Innovation in Environmental Research, UC- Santa Cruz; The Center for Agroecology and Sustainable Food Systems, UC- Santa Cruz; the UCOP Pacific Rim Research Program; the Department of Sociology, UC- Santa Cruz, and; a Boston College Faculty Research Incentive Grant.

Understanding the outcomes of international environmental negotiations requires more extensive attention to how key states are embedded in the larger world-system. The following analysis shows how various influential actors in the international negotiations on ozone layer depletion are linked to important, powerful national industries. Understanding the multiplicity of actors and their connections to key industries and interests helps account for the recent failures in negotiations to protect the ozone layer. The paper explores some of the leading literatures in global political economy and capitalist development in order to uncover why treaties on global environmental protection so frequently fail. Indeed, ozone layer protection is not the only area of concern in this regard. The failed climate change negotiations are a major case in point (cf. Roberts and Parks 2007; also note the recent Rio+20 meeting). To better understand the reasons for these failures I argue for a conjoining of world-systems analysis of large-scale changes with studies of global environmental policy.

World-systems analyses utilize theoretical approaches able to interrogate socio-economic activity at various scales, thus investigating the degree to which some institutions (corporate or public), civil society groups (environmental, scientific, industrial, religious, etc.), and nation-states are able to influence global and international agreements. The paper will examine iterations of world-systems perspectives that are flexible enough to move from one scale to another. These approaches present theoretical visions of the global political and economic barriers to effective global environmental governance, providing both an historical vision of social change and critical assessments of the links between the state, capital, civil society, local communities, and geopolitics. Importantly, world-system approaches are able to assess power and social influence as they move across scales, following actors, institutions, and political agendas from local, state and international levels while remaining attentive to the political economic tendencies that exist in global capitalism.

In this usage, scale is seen as both relational and contextual; relational because the degree to which some actors can exert pressure at the global level is related to their political and economic power at other scales (the national, regional, state, and communal) as well as to their status in the global economy. It is also contextual, because certain aspects of global environmental policy, such as nation-state sovereignty, cannot be ‘scaled down’ or ‘scaled up.’ Yet, this analysis suggests that the power that strong nation-states have at the international environmental regulatory level confounds understandings of state power as wholly ‘fixed’ at the state level. Rather, studies at the global scale must recognize how global politics are impacted by global, national, and regional powers that fluctuate over space and time (cf. Arrighi 1994, Harvey 2006: chs. 12 and 13). In the case of the Montreal Protocol, the power of certain nation-states combined with the more fluid operation of capitalist interests have inhibited the full potential of international environmental policy, reflecting broader changes in global political economic power and hegemony.

The world-systems approaches presented here are mindful of the historical patterns of global economic hegemony and changes in the spatial configurations of global economic activity. This theoretical strand suggests that US global hegemony is declining as its economy becomes more dependent on foreign capital, and as other regions become more economically competitive. This speculation in turn suggests why the US has recently involved itself in global environmental agreements in such a protectionist way – perhaps more protectionist than in years past – even amid the current neoliberal economic milieu. The connection between US economic interests, its declining hegemony, and its protectionist involvement in global environmental

policies raise questions about the leniency shown toward the US in international environmental agreements. I conclude with reference to Roberts's and Parks's (2007) useful contribution on global environmental agreements by supporting their call for reducing global inequality in order to improve the effectiveness of environmental agreements. But I add to this the importance of supporting an environmentally-sound hegemonic shift, one perhaps centralized around China.

Background: The Montreal Protocol in Crisis

The 1987 Montreal Protocol on Substances that Deplete the Ozone Layer is considered by many the emblematic success story of international environmental agreements (Litfin 1994; Benedick 1998; Andersen et al. 2002; Parson 2003; Conca and Dabelko 2004). Ozone-depleting substances break down ozone molecules that, by protecting the earth from ultraviolet radiation, literally make life on Earth possible. As Ken Conca (2006) puts it,

reached in September 1987 and entering into force just sixteen months later, the Montreal Protocol was the critical step in consolidation of the stratospheric ozone protection regime. It replaced vague commitments with specific goals and timetables for cutting back on production and use of ozone-depleting chemicals. (25)

The combination of nation-state cooperation, effective corporate participation, a capable, informed, and respected scientific community, and vibrant support from civil society are regularly regarded as critical components to the relatively smooth phase-out of most chlorofluorocarbons (CFCs), the chief ozone-depleting substance (Cf. Haas 1992; Litfin 1994; Young 1994, 2002; Benedick 1998; Andersen, et. al. 2002; Parson 2003; Conca 2006; Andersen et al. 2007; Kaniaru 2007).

However, although some regimes might get off to a smooth start, they can change trajectory. For the Montreal Protocol, Oran Young (2002) notes, "the news is not entirely good with regard to phasing out [remaining] CFCs" (87). This is largely because, for the majority of CFC uses, alternatives were readily available, profitable, and held by the largest and most powerful CFC producers, whilst remaining uses are less easily replaced and sometimes are politically contentious (Gareau 2010). In addition, CFCs are still produced and exported illegally, especially in the Asia and Pacific Region (Ning 2007). Nevertheless, the Montreal Protocol has successfully phased out close to ninety-five percent of legal CFC use, which is indeed promising for global governance proponents. If the news is not good for phasing out remaining CFCs, however, then it is even worse with regard to methyl bromide, an agricultural fumigant and significant ozone-depleting substance (ODS). At the Copenhagen meeting of the Montreal Protocol in 1992, member states mandated the systematic phase-out of methyl bromide, which is used heavily in strawberry production and for quarantine pre-shipment. Parties to the Protocol organized a phase-out by 2005 for industrialized countries, and by 2015 for less-developed countries (LDCs). The ten-year extension for LDCs was designed to help those countries make the transition to less harmful alternatives. But 2005 has come and gone, and methyl bromide is still used today in the industrialized world, if in smaller quantities than in earlier years.

In addition, some industrialized nations—including the United States—have refused to relinquish methyl bromide in agriculture as per the Protocol's phase-out schedule, asserting that

the alternatives do not provide equivalent results. This argument of needing equivalent results is made legitimate by the inclusion of particular language in the treaty (see below).² Nevertheless, this case illustrates how the United States has prolonged the use of a substance that the global community has deemed dangerous to the entire world. It seems that the wait for an acceptable alternative will continue, as the United States continues to request allowances for future methyl bromide use (U.S. Department of State 2012).

Methyl bromide use is allowed in the United States and other member states by the treaty's "critical use exemptions" to the Protocol's phase-out (Decision IX/6 of the Montreal Protocol). The U.S. request for critical use exemptions in 2005 was by far the largest, totaling almost 10,000 metric tons, over half the exemptions requested worldwide. Such exemptions could delay ozone layer recovery well into the future, increasing surface ultraviolet radiation levels and rates of skin cancer, and threatening agriculture and societies worldwide (United Nations Development Programme 1999; Ozone Secretariat 2003; Goodhue et al. 2005). The United Nations Environmental Programme (UNEP) reports that methyl bromide leads to the ozone layer's destruction at a rate similar to that of CFCs (WMO/UNEP 2002), but it also has a localized impact. In some situations applicators and residents have inhaled the chemical, leading to eye and skin irritation, to damage to the central nervous system, kidneys, and lungs, and even to death (California Department of Pesticide Regulation 1990-1992; 1996; Californians for Alternatives to Toxics 1994).

The quantities of methyl bromide exempted from phase-out have fluctuated over the years, and overall use actually increased in 2005, but has since been gradually on the decline. Gareau (2008; 2012) shows that, since 2003, LDCs and international non-governmental organizations (NGOs) have declared at Montreal Protocol deliberations that the United States should have taken precautionary measures to avoid the need for critical use exemptions, and that they themselves have found technically and economically feasible alternatives to methyl bromide, often with help from the Protocol's Multilateral Fund.³ Furthermore, LDCs contest that allowing for large exemptions in the developed world could compromise terms of trade for less-developed nations if the adopted alternatives prove less effective (Gareau and DuPuis 2009). Nevertheless, the exemptions have moved through, seemingly at the behest of the U.S. government.

U.S. influence in the Montreal Protocol (and other global environmental agreements for that matter – see Speth 2005, 2008) is exceptional. For example, in 2003 the Montreal Protocol's Agricultural Economics Task Force (AETF) provided a rigorous economics-based report about the feasibility of alternatives to methyl bromide in strawberry production. The report concluded that most requests for phase-out exemptions were inaccurate, not because they did not reflect the Montreal Protocol guidelines for exemptions, but rather because they demonstrated an unwillingness to make an economically rational switch to non-ODS substitutes (DeCanio and

² Recently an alternative was registered by the United States Environmental Protection Agency (EPA) that would have dramatically reduced the need for methyl bromide, methyl iodide- an extremely toxic substance that endangers human health and water quality (California Coastkeeper Alliance 2011). However, civil society groups, mainly in California (where most remaining U.S. methyl bromide use is concentrated) have caused such a public display of discontent with the substitute that it was taken off the shelf by its maker, Japan-based Arysta LifeScience Corporation (Wollan 2012).

³ The Multilateral Fund for the Implementation of the Montreal Protocol was established in 1991 "to assist developing countries meet their Montreal Protocol commitments," and it is funded by the industrialized countries "according to the UN scale of assessment" (<http://www.multilateralfund.org>).

Norman 2005; for counter-argument, see Goodhue, et. al. 2005). In plenary sessions, the United States responded to the report with disapproval, noting that it would only acknowledge the outcomes of the report as a “learning process.” Although impossible to show a direct correlation, DuPuis and Gareau (2008) illustrate how the AETF was dissolved during the 2003 Open-Ended Meeting of the Montreal Protocol. In support of the LDC’s argument about alternatives, Mayfield and Norman (2012) have shown that the (much delayed) methyl bromide phase-out has indeed not hampered the expansion of California’s strawberry production complex, which has increased in scale and yield despite gradual reductions in the use of the chemical.

Another sign of U.S. environmental hegemony is that, on November 26, 2004, the Parties approved a large adjustment made to the Methyl Bromide Technical Options Committee report (MBTOC, a sub-group of TEAP) allowing for larger levels of methyl bromide, even though their previous report did not recommend this increase. Some countries, like New Zealand, expressed concern because they do not have stockpiles of methyl bromide, and could thus find themselves at an economic disadvantage to stockpiling countries like the United States. Early that week, the United States accused MBTOC of mixing its scientific findings with political actions by proposing an arbitrary cut-off for exemptions. MBTOC denied this claim. As a result, not only the United States, but also *fourteen other developed countries* negotiated for higher permitted levels of methyl bromide use until the next Meeting of the Parties. Many of these countries were previously strong proponents of a total phase-out of methyl bromide, with no previous nominations for exemptions. Clearly, these countries were reacting to the concessions the United States received, responding with protectionist measures of their own to help their domestic industries amid global competition (see Gareau 2008).

The strength of U.S. influence in international environmental deliberations will come as a shock to no one reading this journal. Nor will this explanation of U.S. concern that binding global environmental agreements can hinder national economic interests. There is substantial proof that tackling some of the world’s most dire ecological problems, such as global climate change, will affect the carbon-intensive economy of the United States in the short term more than many other countries in the core of the world-system (Cf. Nordhaus and Boyer 2000; York et al. 2005; Roberts and Parks 2007). What remains disconnected in the environmental politics literature, however, is why, exactly, the United States feels this and similar global agreements – such as those on global climate change – will hinder its long-term economic condition. The larger historically-based structural conditions facing the United States and the economic conditions of certain institutions and influential powers within the country are left out of the (largely political science-based) literature on international environmental agreements. Why, for instance, does the United States choose policies that err on the side of potential global environmental destruction over potential global environmental sustainability? Why does the European Union (EU), another global power, appear highly interested in accelerating the methyl bromide phase-out while the United States works towards deceleration? These are questions that cannot be answered with an explicit evaluation of the Montreal Protocol at the regime level, but rather require a broader analysis of the United States vis-à-vis the political economy of the world-system. Without understanding this larger context, analyses of environmental treaties remain incomplete.

Literature Review: World-Systems Analysis of Development and Global Environmental Governance

“Issues of development persistently spill over into environmental ones.” (Roberts and Parks 2007: 26)

Roberts and Parks (2007) have made the salient point that most of the scholarship on global environmental governance fails to take seriously the historically-contrived structure of the world-system and the effect it has on environmental negotiations. Nation-states enter environmental agreements with different “material and ideational preferences” that shape how they negotiate, which has been noted in international regime scholarship (e.g., Young 1999; Müller 2001). But “without understanding the origin of those preferences, it is hard to say how stable they are or under what conditions they might shift” (Roberts and Parks 2007: 29). In short, these structures are very stable, deeply rooted in years of uneven development, global inequality, unequal ecological exchange, colonialism, and imperialism.

While regime commentators point to the lack of capacity of LDCs to negotiate aptly in the global setting (due to a lack of resources, be those expertise, finances, number of delegates, etc.), Roberts and Parks (2007) suggest that the root set-back is global inequality, the “gaping divide in global wealth” that makes it extremely difficult for nations in the periphery to cooperate with those in the core (26). The peripheral nations have beliefs about the way the global economy is structured, and those beliefs are deeply rooted in years of exploitation of one form or another. In addition, they are keenly interested in developing their economies in order to achieve higher standards of living. This division – material and ideational – seems to contradict much of the world polity scholarship claiming that global environmental regimes bring nations together in a “world culture” that increases global cooperation on environmental issues.

World polity theory aims to provide an explanation for how certain cultural and political traits become disseminated worldwide. It is “an institutionalist approach that explains the unexpectedly high and rising levels of isomorphism among states as a function of embeddedness in a singular and universalist ‘world polity’” (Beckfield 2010: 1019). Through embeddedness in the world polity, it is argued, nation-states and other actors learn which actions are legitimate and which contrast with the world culture (Boli and Thomas 1997; Meyer et al. 1997). For example, researchers have shown that nation-states with abundant ties to the world polity (through, for example, membership in international NGOs and intergovernmental organizations such as the IMF, World Bank, WTO, or the UN) prescribe environmental laws and regulations more rapidly than do less embedded nations (Frank 1999; Frank et al. 2000; Schofer and Hironaka 2005). Yet some scholars have argued that world polity theory does not adequately take into account the gap between international environmental commitments and meaningful implementation or actual environmental improvements (e.g., Buttel 2000). Simply put, states embedded in the world polity might rapidly establish environmental laws, but that does not mean that they intend to implement those laws. On this ground, Schofer and Hironaka (2005) have shown that environmental improvement can occur when the intergovernmental organizations and treaties that disseminate the environmental action are strongly supported by the global community over a significant period of time (see also Dietz and Kalof 1992; Zahran et al. 2007). For instance, Schofer and Hironaka (2007) argue that environmentalism in the world polity was likely successful in eradicating ozone-depleting chlorofluorocarbons (CFCs) under the Montreal Protocol, and not successful in reducing carbon dioxide emissions (CO₂), in part because the ozone cause was

more long-lasting and supported for a longer period of time by the world polity structure, nation-state citizenry, and firms (37).

In response, critics point out that world polity theory seldom considers the roles that power and inequality play in the establishment of global norms (Smith 2000; Beckfield 2003; Beckfield 2010), and that these attributes can help explain why certain treaties work and others do not. For instance, some intergovernmental treaties clearly benefit global powers, and thus they are implemented and made to be effective (Boswell and Chase-Dunn 2000). It could be argued, for instance, that CFC eradication via the Montreal Protocol, while a consequence of public pressure to protect the ozone layer, was also a profitable move for the chemical industry, which strongly contributed to its success (cf. Parson 2003; Gareau 2010). Such a dichotomy leads some scholars to employ a synthetic approach that acknowledges the cohesive nature of the world polity, its embeddedness, and the legitimization of world cultural norms, but also the “material and symbolic struggles” that still occur on the global stage (Beckfield 2003: 404). Embeddedness may be present, but it is still a conflict-driven process in which some actors hold more sway than others, thus creating a world society with structural privileges (Beckfield 2003: 417). Material divisions and global inequality between the zones of the world-system make “environmental cooperation” next to impossible.

The historical nature of the world-systems approach allows us to see how deeply entrenched differences between the core, semi-peripheral, and peripheral zones truly are. However, an aspect left unexplored in the literature on global environmental governance – international relations and world-systems alike – is the effect that political and economic shifts among core nations have on the environmental governance processes. As we know from world-systems scholarship, the core, while being relatively stable, is not static, and the world system eventually shifts development in ways that brings to the surface potent rivalries amid the status quo. Thus, hegemonic power shifts over time. Therefore, environmental imperialism and ecologically unequal exchange are both historically researched realities (e.g., Roberts 2001; Grimes and Kentor 2003; Roberts and Parks 2007, Ch. 5; Clark and Foster 2009; Jorgenson and Clark 2009; Foster, Clark, and York 2010; Moore 2010), as are the harms perceived by the periphery which affect how they engage in global environmental governance (Roberts and Parks 2007). By the same token, shifts in global hegemony are also historically researched realities (e.g., Wallerstein 1974, 2003; Arrighi 1994; Gowan 1999), and these hegemonic shifts likely shape quite significantly the ways that core nations engage in global environmental governance.

The world-system approach aids in understanding the potentiality of global environmental regimes, because it links the current state of global affairs with the historic trends from whence they emerge. This approach necessarily pays close attention to the role that global powers play in shaping the global economy in ways that inevitably lead to a shift in global power. Accordingly, the role of the US today is an important focus in world-systems scholarship. Since the 1980s, world-systems scholars have begun to focus centrally on the link between global environmental conditions and the history of global development, and consequently linking the potential for making global development more sustainable through analyses of socio-ecological historical process (e.g., Bunker 1984; Bartley and Bergesen 1997; Foster and Magdoff 2000; Moore 2003; Chew 2007; Hornborg and Crumley 2007; Jorgenson and Kuykendall 2008). In the mid-1980s, for instance, Stephen Bunker (1984) famously employed a world-system approach to describe the historic link between Brazil’s resource extraction for exports under colonial regimes and its consequential underdeveloped status (1020). Bunker noted that extractive economies are at a global disadvantage: whereas commodity production costs tend to

fall as the scale of production increases in non-extractive systems, the opposite is true for extractive systems. The depletion of non-renewable (or slowly-renewing) resources coupled by a lack of in-country links (i.e., export enclaves) and weak in-country civil society groups all add up to less development (Bunker 1984: 1058-59).

A country's economic and social history as a peripheral nation also affects how it engages in environmental politics. While not a world-systems scholar, Peluso uses an historical lens to understand why some less-developed states use the guise of international environmentalism to support the appropriation of resources from its marginalized citizens and then "appropriate the moral ideology of global conservation to justify state systems of resource extraction and production" (Peluso 2004: 347). For Peluso, the current economic and social policies of developing countries are strongly tied to their colonial past vis-à-vis global environmental policy. Despite decolonization, "world market linkages continue to influence the decision of former colonies by increasing the returns of market activities to the national elites who control the trading links" (Peluso 2004: 347). Understanding the history of a country's state-society and state-global economy sheds light on the reasons why certain states empowered by international environmental policy turn resource conservation into "the commercial exploitation of resources" (Peluso 2004: 355; see also Guha and Martinez-Alier 2000).

Indeed, to think that global environmental policy is exempt from the influence of global economic (and military) powers would be ahistorical. Lipschutz and Conca (1993) and Lipschutz and Mayer (1996) clearly show that "the security concerns of states and the profit motives of multinational corporations (MNCs) incline both to disregard environmental protection unless pressed by environmental movements and non-governmental organizations (NGOs)" (in Mitchell 2002: 501). Arrighi (1994) provides a more sophisticated framework for understanding the global economic context in which global environmental regimes are embedded. This framework reveals the differential character of that which Lipschutz and others note about state and multinational corporation (MNC) inclinations. In other words, the difference between states lies partly in the kind of state that exists – i.e. how connected the state apparatus is to the global economy, and to various facets of civil society. In *The Long Twentieth Century*, Arrighi (1994) uses the concept of hegemony both in and beyond the traditional Gramscian sense – the establishment and maintenance of domination of one social group over others via "intellectual and moral leadership," whereby the "supremacy of a social group" is supported by consent, or, when consent is low, by force and corruption (consensus sheltered by the so-called "armor of coercion") (Gramsci 1971). Inflating the concept to the global scale, Arrighi (1994) recognizes more than corruption and fraud in the 'grey areas' of weakened hegemonic power; that is, hegemony also implies that other social and national powers perceive that the continuance of the hegemon is in fact to their own benefit. When it is not, the hegemon falls.

What is helpful here for fully understanding global environmental regimes is Arrighi's analysis of shifts in global power by assessing shifts in economic activity. This also includes analysis of the state to identify how powerful states control production and investment and how finance shifts power away from extant hegemons. This process is basically an historical cycle of material-based production/accumulation conducted under the aegis of the hegemonic power. Consequently, the hegemon, in conjunction with capitalist interests, develops a potentially innovative way to expand accumulation through financialization. This leads to a surge in capital investment in finance of alternative productive systems. This period, dominated by financial expansion is not accompanied so much by territorial expansion as by the flexible expansion of capital, for instance, U.S. "flexible production." Financial expansion gives rise to breaks from

past forms of accumulation, restructures the global economy, and threatens – and eventually topples – economic hegemony.

Recent economic data support Arrighi's model of the rise and decline of hegemony, and the actuality that the US is making financial decisions that reflect its hegemonic decline (if not military decline; see Wallerstein 2004). In the United States, direct and long-term investments currently have a net outflow, foreign banks are currently funding close to half of the national account deficit (an unprecedented 47 percent as of January 2011),⁴ productive investment is low, and U.S. imports are much larger than exports (ergo, growth will only widen the deficit; see Barnes 2004: 72; Treasury.gov 2011; Treasurydirect.gov 2011). Importantly, unlike the Bretton Woods system, under which the United States had a current-account surplus, the country is weakened by a current-account deficit while being supported by foreign federal banks, particularly Asian central banks, that buy treasuries to finance the U.S. deficit. With a growing national deficit, these Asian powers may soon worry about the value of their dollar reserves (*The Economist* 2004b: 72; Foster 2009). Moreover, there are significant global contenders that can provide the material capital needed for further accumulation. China, for example, has the capacity to increase drastically its material, direct investment, which has been extending its urbanization effort to inland China since the early 2000s (*The Economist* 2004a) and fund the U.S. deficit via further investment in US treasuries (*The Economist* 2004c; Wallerstein 2004). Thus, Arrighi's method allows for an historical analysis of contemporary global events, which currently aids in the analysis of the United States as its military campaigns attempt to stave off threats to its fragile hegemony at the same time as it tries to maintain investment in US industry and finance (see also Wallerstein 2003; Harvey 2003).

Although Arrighi's framework is largely focused on macroeconomics and geopolitics, this approach can help us understand global environmental agreements. One could argue, for instance, that the U.S. financial concerns are intricately tied to its global environmental policy. The Bush administration pulled out of or weakened several global environmental agreements with the rhetoric that they would hinder the country's industrial efforts. Subsequently, the Obama administration has made no gesture to improve the U.S. role in said agreements. World-systems analysis suggests that the United States is acting in ways to help prolong its domination of the global economy. Foster (2002), for example, provides an overview of the U.S. role in the Kyoto Protocol, the legally binding agreement designed to reduce greenhouse gas emissions in industrialized countries (13-22). Since the inception of the Kyoto Protocol in 1997, the United States tried to minimize its economic impact by requesting permits for tradable emissions and allowances for carbon sinks. It also requested the National Academy of Sciences (NAS) to assess the scientific validity of the UN Inter-governmental Panel on Climate Change (IPCC, a panel of the world's top climatologists) to determine if the IPCC "had somehow created a politically determined set of conclusions not merited by the underlying science – or worse still, that the science had been politically tampered with," as several industry-backed lobbies such as the Global Climate Coalition (GCC) had argued (Foster, 2002: 15).⁵ Yet, the NAS found no such evidence, and the United States was forced to admit the genuine reason for its aversion to the Kyoto Protocol: jobs and unfair advantages for developing countries (like China) not included under the provisions of greenhouse reductions until a later date (see also Nordaus and Boyer 2000).

⁴ China owns over \$1.1 trillion in United States treasuries, or 26 percent of all foreign-held United States debt.

⁵ The GCC was a group of businesses that worked to deny climate change science mainly in the 1990s. The IPCC's 2001 report on the seriousness of global climate change basically led to the dissolution of this group (Revkin 2009).

These efforts to undermine the imperatives of the Kyoto Protocol are similar to a pattern found in the Montreal Protocol. The United States has stressed economic concerns in relation to the uneven phase-out of methyl bromide between industrialized and industrializing nations. World-systems analysis would implicate competition between the United States and rival production platforms as the likely reason for U.S. demands for “critical-use exemptions” for methyl bromide. U.S.-based chemical industry lobbyists and farmer coalitions are historically powerful political actors in the U.S. economy threatened by competing agricultural sectors in Mexico, Europe and China, including in the strawberry industry (Friedman 1982; Carter et. al. 2005; Ragan 2005; Sideman 2005). In this case, regional agro-industrial production platforms in California and Florida joined forces with elements of the U.S. state, effectively ‘jumping’ to the global scale and stalling the progress of the Montreal Protocol via economic and political power and influence over the state apparatus. As one anonymous U.S.-based industrial lobbyist exclaimed to me at the 2004 First Extraordinary Meeting of the Parties to the Montreal Protocol—a meeting designed explicitly to decide how to deal with US requests for critical use exemptions—“Baja California [Mexico] is flooding the damn market [with strawberries] as far as I am concerned!” This reveals how US agro-industrial interests sought to take advantage of U.S. hegemonic influence in order to advance their interests and undercut competition. Gareau (2008; 2010) shows how the United States often complained at Montreal Protocol meetings that developing countries would have an unfair advantage in strawberry and tomato production if they were able to continue the use of methyl bromide while the United States was forced to use less productive alternatives. In this case, it appears that the United States wants to have its cake and eat it too: maintaining a highly developed industrial strawberry production complex that it fears is only globally dominant if it is able to use methyl bromide while subjecting other countries to the rules of the Protocol. Although studies on methyl bromide alternatives funded by the Montreal Protocol’s Multilateral Fund have proven them to be successful, the United States argues that these projects did not consider seriously the economic conditions in which core nation farmers must operate or their unique climatic and soil conditions that do not allow for methyl bromide alternatives (cf. Gareau 2008). Here, not only local political powers, but the very *spatial conditions of production* jump to the global scale to represent the local interests of capital (cf. Swyngedouw 2004).

That is not all. The United States has openly questioned whether methyl bromide scientific experts operating in the Montreal Protocol are acting politically in favor of other nations, although expert bodies of the Protocol contain experts from the developed and the developing world (Gareau forthcoming). As stated in the introduction, at the 16th Meeting of the Parties in Prague, the United States openly accused the methyl bromide expert group to the Protocol, the Methyl Bromide Technical Options Committee (MBTOC), of drawing political lines on how much methyl bromide should be included in exemptions to the phase-out date (discussed in more detail below).⁶

Gareau and DuPuis (2008) show how this is a reflection of the intense debate that exists between the EU and the United States. The EU has taken great efforts to phase out methyl bromide, often voicing its concerns over the high amounts of critical uses requested by the United States. For example, at the closing ceremony of the 2003 15th Meeting of the Parties, a meeting which ended in a standstill between the United States and other countries opposed to U.S. critical use nominations for methyl bromide, the EU delegation stated that phasing out methyl bromide as soon as possible was their ‘top priority’ and that critical use exemptions

⁶ This is similar to the United States’ accusations against the IPCC in the Kyoto Protocol.

should decrease each year. Indeed, the EU has now completely shifted to methyl bromide alternatives while the United States is still slowly transitioning to alternatives on its own terms (Mayfield and Norman 2012). The difference between these two regions is likely tied to U.S. concerns over increased investment in European methyl bromide-free strawberry production (which would allow producers therein to sever their dependence on the expensive U.S.-produced patented strawberry varieties), its tie to cheap labor in Spanish and Moroccan strawberry production, and potential links between European investment in Chinese strawberry production at the expense of the U.S. methyl bromide-dependent strawberry production platforms (; USDA Foreign Agricultural Service 2002a, 2002b, 2004, 2005a, 2005b; Carter et. al. 2005; FAO 2005; Goodhue et. al. 2005; Ragan 2005; Sideman 2005; Zhang et al. 2006; Gareau 2008). Much of the details of this global competition in the strawberry sector, as well as its organic sector, are still unknown and understudied, but it is clearly a growing threat in the eyes of many agro-industrial lobbyists and farmer coalitions in the US (Borrego 2008; Fruitnet 2009; Gareau and Borrego 2012).

Here, the world-systems approach prompts us to consider the scalar differences between historical forms of globalization within the global context. In terms of environmental treaties, this means that the very structure of the treaties, their links to science, nation-states, NGOs, corporations and local communities can be compared over space and time. Environmental treaties are established by countries in order to extend production and organize consumption in a way that, ostensibly, is friendly toward the environment (however the treaty might define “environment”). The manner in which those countries enter a treaty is influenced by the historical and spatial form of industrialization that is predominant therein and their position in the global economy. Kenya’s gross domestic product, for instance, contains a large agriculture component, a sizable proportion of which is in flower production, a sector with a history of methyl bromide use. This fact has undoubtedly affected the way Kenya engages in ozone politics around pesticide use and alternatives to certain pesticides that might threaten their production, as does the strength of industrial, civil society, and agrarian groups in Kenya.

Agriculture and Hegemony

Approaches that consider long-term trajectories are able to situate particular events in a larger scheme of causal relationships. For instance, we discussed how one articulation of the U.S. attempt to maintain its hegemony consists of that country vigorously trying to extend its use of ozone-depleting substances in general and methyl bromide in particular, while much of the world resists this extension, albeit to varying degrees. In fact, the United States went so far as to threaten to withdraw from the treaty were its demands not met (Gareau forthcoming). While the situation is complex, the causes of the US position may resemble (here in microcosm) historical moments in which past global powers fought off their competition. For instance, Arrighi (1994) points out that the contradiction of U.S. hegemony is that it is one of unrivalled military power and “near-monopoly of the legitimate use of violence on a world scale,” but is financially dependent on the confidence of foreign powers – governmental and private – vis-à-vis the U.S. market. If the United States is attempting to hold on to certain ODSs in order to maintain control of a portion of its agrochemical/industrial production, it is possible that it is doing so in other sectors of industry. Indeed, the U.S. pullout from the Kyoto Protocol and its substantial Farm Bill strongly support this conclusion. This situation is consistent with shifts in hegemonic rule in

the past, such as the shift in economic flows from the Dutch model of capital accumulation via mercantilist production for export (ship-building, printing, construction via Hollandries, etc.) to that of English colonialist territorial expansion. In this regard, it is hard not to think of China – boosted by its wealth of investment and of venture capital and by lenient environmental policies allowed by its “less-developed” status – providing the territorial, labor, and financial pathways to a new hegemonic regime.⁷

From this perspective, the position of the United States in the global regulatory arena is partially dependent upon the state’s relationship with private corporations, and their consequential relationship with labor and the general populace. Ever since U.S. policy shifted from “Keynesian” social welfare to neoliberal economics, the relationship between labor and firms has been tenuous at best. Yet, with agriculture the labor-capitalist relationship has *always* been tenuous. For instance, most agricultural workers in California are migrants from Mexico, with few rights and even fewer social or political networks to bolster their negotiating power (most strawberry workers are not unionized).⁸ The strong state-agricultural sector relation that was initiated as part of New Deal politics in the 1930s may still be influencing the United States to engage in international environmental agreements to their economic advantage. The United States, then, may see the shift away from methyl bromide as a threat to its strong control over global agricultural production with protectionist subsidization; but, more importantly, farmer and agro-chemical coalitions find it necessary to use their influence at the global scale to maintain dominance at the expense of the stratospheric ozone layer.

Similar to the “mode of regulation” of agriculture in France, U.S. agriculture is based on a “technical, economic, and social organization of production directed entirely towards a rapid and intensive industrialization of agriculture” (Allaire and Mollard 2002: 215). It enjoys consistent public support, but it also faces deep global economic pressures. For the United States, strawberry production was able to create a ‘growth regime’ in strawberry production largely due to the value added to the production chain by methyl bromide, a technology embedded in every aspect of US strawberry production, from the varieties created by the University of California and private agricultural institutions to the shelf-life of the product (Runstan 1987; Bertelsen 1995; Sances and Ingham 1997; Halprin and Broome 2000; Goodhue et. al. 2005; Muramoto et. al. 2005). This relationship created a “regime of accumulation” that is all but exhausted, at least in the sense that global competition is opening up competitive strawberry production around the globe and global environmental agreements (and the global civil society groups involved with them) demand the end of methyl bromide. Yet it most likely also means that U.S. agrochemical firms want to use up enormous methyl bromide stockpiles prior to any phase-out date. If the overall economic situation in the United States is weakening, then it may lack the political and economic clout to counter the negative economic effects of ODS phase-outs with more protectionist subsidization. The answer the Bush and Obama administrations have given is to ignore or weaken global environmental treaties.

Industrialized countries like the United States have the capacity to shape the decision-making process of the Montreal Protocol due to their political and economic power, but this alone does not explain how the United States is able to exert its power in convincing ways during international treaty negotiations. At the Montreal Protocol, typical US practice is to join forces

⁷ Such a regime may not necessarily be dictated directly by China, but rather by global powers influencing production and consumption in China and East Asia in general.

⁸ In fact, U.S. labor law does not protect agricultural workers very much at all, and worker organization in the sector has been largely unsuccessful.

with groups often associated with the state and regional scales through the politics surrounding the condition of California strawberry production. As Gareau (2008) shows, at the 24th OEWG of the Montreal Protocol, these powerful lobbies demonstrated their ability to ‘jump scale’ and virtually reconfigure international environmental policy to their advantage. The California Strawberry Commission, the spokesperson for California’s strawberry growers, indicated that “alternatives [to methyl bromide] do not work well on hillsides and heavily sloped fields,” and the U.S. delegation stated that “regulatory restraints on alternative pesticides [to methyl bromide] can limit their use” in the United States. Both of these positions strongly influenced the current framework of the Montreal Protocol, providing evidence that local institutions with political power at the national level can successfully scale up their agendas to the international level. Through the world-systems approach, we see the local articulation of this construction in the global context, where the search for comparisons across different scales, and not studies of place, reveals sources of unity in struggles against global economic pressures. It should be clear that the United States’ actions at the Montreal Protocol are intimately tied to the pressures it faces from the globalization of agricultural production. The solution may be for emerging core and semi-peripheral zones to stand firm against the United States (much as Brazil has done in WTO deliberations) and demand that it abide by Protocol guidelines. Declining U.S. global economic hegemony vis-à-vis competing agricultural zones might be pressure enough, where non-compliance with the Montreal Protocol would be environmentally disastrous and would close markets from U.S. exports.

In terms of the Montreal Protocol, U.S. insistence on using methyl bromide can be viewed three ways. One, it demonstrates the age-old measure taken by powerful, industrialized countries to maintain control over agriculture and industry within their own borders. The bulk of production remains in the “core” nations, and provides leverage for the core to dictate the flows of capital and abuse its balance of payments (Brenner 2003). Two, it shows the potential weakness of the US state, which fears losing control of agrarian and agro-chemical production to the global South and the EU. Unlike in the case of CFCs, the United States does not foresee a viable alternative for methyl bromide that will simultaneously maintain revenue and support global environmental sustainability (Cf. Gareau 2008; Gareau and DuPuis 2009). Or three, if it is the sign of a declining hegemon, then it must be so vis-à-vis a stronger international monopoly sector, the chemical industry, or vis-à-vis a stronger EU, which has worked hard to force the United States to ban the use of its environmentally destructive ODS, such as methyl bromide in strawberry production and hydrochlorofluorocarbons (HCFCs) in its metered dose inhalers (Gareau forthcoming). Two of the three largest producers of methyl bromide, for instance, are U.S. firms, and the United States is historically the largest consumer of methyl bromide (Mayfield and Norman 2012).

As Weiss (1997) indicates, policy instruments indeed change, are taken away from states, or need adjustment to boost economic integration, but this could just as easily be a sign of *policy weakness*, not necessarily state weakness (see also Lipschutz and Conca 1993; Litfin 1994; Ronit and Schneider 1999; Murphy and Gouldson 2000; Cashore 2002). Facilitative states, such as most of the Western European states and Japan, seek to establish agreements with other states that would allow them to expand the horizons of domestic business. These states create ways for local corporations to broaden their operations to other parts of the world as part of an agreement, for instance, to obtain positions in the foreign bureaucracy, or to obtain foreign market share. However, the U.S. position in global environmental agreements, such as the critical use exemptions of methyl bromide in the Montreal Protocol, demonstrates a different, hegemonic

role as facilitator. The U.S. effort to continue its use of methyl bromide beyond the globally agreed limit of 2005 is a form of protectionism aimed at stopping the loss of control of production vis-à-vis the globalization of environmental policy rather than facilitation to expand the agro-business potential of its domestic businesses. The strength of the state in Weiss's description might be translated in this case to the United States using the Montreal Protocol as a vehicle to dictate policy in order to improve its position in the global market.

U.S. opposition to the consensus of global environmental politics illustrates a case where a dominant state feels threatened by transnational forces that can shift agricultural production away from the United States to other parts of the world that can use more chemicals, hire cheaper labor, and produce commodities amid fewer environmental regulations like those operating in earlier-industrialized nations. Why else would the United States pull out of the Kyoto Protocol, and threaten to pull out of the Montreal Protocol? These policies threaten to reduce the space for competitive industrial and agro-industrial production that has advantaged the core zone. These are the spaces where industries function as dominant – but contested – players in globalization. The U.S. hold on the global economy is linked to its control of agro-industrial production, and this control is seen as threatened by environmental agreements like the Kyoto and Montreal Protocols. Rather than innovate in response to new information and changing international contexts, industry actors have drawn upon U.S. hegemony to enforce their dominant market positions.

Conclusion

As we have seen, world-systems analysis provides insights into the historical origins of uneven ecological exchange, which shapes present inequities worldwide. Roberts and Parks (2007) convincingly argue that these material, structurally-based inequities in the world-system have created deeply-rooted feelings of mistrust among peripheral nations, making cooperation on global environmental agreements extremely difficult to achieve. Without reducing global inequity, we cannot expect much from global environmental governance. Where such agreements have been successful in the past, such as in ozone politics, they have often provided ample financial opportunities for core-based industries (Gareau 2010), as well as financial incentives for LDCs, what Roberts and Parks (2007) refer to as “compensatory justice”:

It is important to note that [The Montreal Protocol] did not spontaneously emerge from a socially shared understanding of ‘appropriate’ principles among nations, as the logic of social constructivism would suggest. Rather, developing nations bargained hard for the side payments – environmental aid, technical assistance, and technology transfer – that would help them comply with their negotiated obligations. China and India, in particular, sent clear and credible signals that they would not participate in an ozone regime without financial compensation. (46)

The George H. W. Bush administration, however, made very clear that compensatory justice would not become a mainstay in global environmental governance, and such a condition has yet to be replicated at such grand a scale (Roberts and Parks 2007: 47). And subsequent U.S. administrations have followed suit.

Recent failures in the Montreal Protocol show how powerful actors are able, because of the convergence between their interests and that of the United States, to ‘jump scale’ from the local/regional conditions of production to the global in order to influence decision-making. In the methyl bromide controversy, the California agro-industry has a powerful asset in the US’s interest in maintaining this production platform. There are clear signs that countries in the semi-periphery, such as India, Brazil, China, and Western Europe are becoming (in different ways) major threats to the U.S. agro-industrial platform, which is clearly affecting global environmental agreements such as the failed Doha Round of the World Trade Organization (Diaz-Bonilla et al. 2006; McMichael 2009; Prichard 2009), and the Montreal Protocol. The turmoil in these multilateral negotiations both signals and contributes to the decline of US hegemony in the global economy.

There is a distinct possibility that the ‘green growth’ policies promoted by many groups and nations attending and influencing the Rio+20 Conference⁹ will serve to further disunite the core and peripheral zones. Although it is perhaps too early to speculate, the ‘green growth’ concept that was prominent in the Rio+20 Summit attempts to extend the notion that economic growth and sustainability are compatible, provided that markets remain or become liberalized (e.g., Salleh 2012). The UNEP’s *Green Economy Report*, for instance, suggests that, the greening of economies is not generally a drag on growth but rather “has the potential to be a new engine of growth,” that it is “a net generator of decent jobs, and a vital strategy for the elimination of persistent poverty” (UNEP 2011: 16). According to the report, states have generally agreed that sustainable development “should not become a pretext for non tariff barriers to trade, increasing trade protectionism and aid conditionalities” (UNEP 2011: 24; Gabizon 2011). On the whole, the UNEP report suggests “to motivate policy makers to *create the enabling conditions* for increased investments in a transition to a green economy” (UNEP 2011:16, emphasis added).

This rhetoric seems to match that of green neoliberalism, where markets are opened in the South for the benefit of the protected North while environmental governance supports the process in various ways (cf. Goldman 2005; McCarthy 2012). Yet global inequality must be reduced, for without greater equity further global environmental protection is unlikely. Additionally, the material conditions of the global South rightfully deserve to be improved, something upon which green neoliberals and critical environmental sociologists agree:

Poor and middle-income countries know full well that their environment is degraded, their cities sprawling and their water supplies running out. They also know that to try to solve such problems by cutting growth would be to commit political suicide and condemn today’s poor to a hopeless future. Green growth offers the best hope that the countries facing the sharpest conflicts between prosperity and preserving the environment can square the circle. (*The Economist* 2012)

However, the direction of ‘green growth’ requires an understanding of the material and ideational conditions of the modern world-system, especially the reality of hegemonic shifts. We argue that NGOs and other global civil society groups would do well to support the establishment of local/regional civil society groups operating in zones of hegemony-contestation, such as in China.

⁹ Rio+20 refers to the twenty-year follow-up to the 1992 UN Conference on Sustainable Development, held in June of 2012.

While it is clear that China is a site of massive environmental degradation (Foster 2009), it is also potentially a site of ecologically-sane production (Arrighi 2007; Ho 2009; Gareau and Borrego 2012). In a very short period of time, China has become the world's largest site of organic farming, through both state support and foreign direct investment (Gareau and Borrego 2012). While organic commodity-production is not in itself necessarily sustainable, and can be rife with social issues such as labor exploitation, unsustainable resource extraction, export-oriented production, and the like, the organic model is potentially carbon-friendly and can be made to harness agroecological techniques that promise to improve socio-ecological conditions (Foster and Magdoff 2000; Kovel 2003). True, China's focus on export-oriented growth in organics threatens to continue reorganizing traditional productive relations and decreasing food security of rural communities whilst increasing tolls on water supplies and other socio-ecological resources. Growing labor shortages and civil unrest, however, might force China to consider food sovereignty, small farms, and diversity (Altieri 2009) in organic production, which could lead to the development of a state-led regional production platform worthy of replication (cf. Trichur 2012). The key here would be to strengthen civil society groups, groups that are essential for provoking states to take environmentalism seriously, both locally and globally, in order to support the emergence of a "green hegemony" (Keck and Sikkink 1998; Tarrow 2001; Kaldor 2003; Roberts and Parks 2007).

Studies of environmental movements in authoritarian contexts show that such movements often end up working for human rights and other democratic goals in addition to their environmental agendas, including in China (Economy 2010). Indeed, China's civil society model might be more potentially emancipative in terms of socio-ecological conditions of production that is commonly surmised in the West. While civil society in China operates very differently due to the authoritarian nature of the state, environmental groups have begun to make some ground. Partly, this is because the Chinese government acknowledges that it is losing a great deal of gross domestic product to environmental degradation, therefore making environmentalism a key agenda item for the state (*The Economist* 2012). However, at the same time, "a vibrant environmentalist sector has sprung up in Chinese society" with relative autonomy and movement success: "Instead of a better overview and control by the state, [new state] policies and regulations have led to civil society and voluntary green organizations vanishing from the state's gaze, as they fail to register" (Ho 2001: 914). Therefore, China's environmental groups are different from many of their Western counterparts, reflecting, perhaps, a nuanced form of civil society amid a shifting (green) hegemony: "Green social organizations are increasingly courting government approval and influence in policy-making, rather than seeking a potentially dangerous confrontation with the national state. This is not true at the local level: open confrontation of environmentalists with local officials is sometimes even encouraged by the central state, as it is regarded as a way to overcome 'local protectionism'" (Ho 2001: 917). China, as an increasingly important participant in global environmental (and economic) governance and potential locus of both transnational association and capital, might plausibly become a vibrant site for transnational activism (cf. Smith and Wiest 2005; Coleman and Wayland 2006). For example, Economy (2010) found that international treaties and officials helped environmental groups in China gain protection and leverage. Thus, China's increasingly influential role in global governance might work to garner green hegemony, especially as it becomes more influential in international environmental treaties that the US is seeking to undermine/weaken. It seems imperative that global civil society groups assist in these efforts, for the betterment of local socio-ecological conditions, and for the sake of the planet.

Of course, this is speculative. More immediately, the international community must decide how to handle the United States' determination to maintain hegemonic control in global environmental governance. How the United States intervenes in global environmental treaties parallels its intervention in global policy in general: with a big stick. This is strikingly different from the way the EU, for instance, engages in environmental policy, which I believe explains some of the stark differences between civil society influences in those two regions (cf. Jasanoff 2005). On the other hand, the strength of EU civil society groups – represented via the EU in international plenary sessions of environmental treaties – might effectively force the United States to adopt a greener position in Montreal Protocol provisions by limiting its access to the European market. In a 2004 Montreal Protocol meeting, the EU blocked the passage of a policy that would allow the United States to produce more Salbutamol (a CFC) for metered dose inhalers (MDIs). The EU noted that it has been 12 years since essential use decisions regarding MDIs have been updated. The EU also noted that the US has too much CFC use and production, and wants to have all EU and U.S. essential uses for CFCs re-evaluated. As such, the EU was not willing to approve CFCs for MDIs for the United States in 2006. In plenary, the U.S. delegation harshly accused the EU of blocking this policy because of the US position on methyl bromide critical use exemptions (Gareau forthcoming).

The global community may wish to re-think its strategy of taking a lenient stance on U.S. demands to continue producing and consuming environmentally harmful chemicals and increasing its greenhouse gas emissions. Allowing the United States to maintain the status quo may inadvertently prolong U.S. economic dominance via environmentally destructive policies, and it allows for the perpetuation of global inequality (Roberts and Parks 2007). The different policy orientations of the EU and the United States is not limited to a single chemical, or group of chemicals; it is based on the level of desire for change, most likely intensified by civil society pressure that is able to jump scale with its institutional and political connections to the state. It is also highly influenced by their different positions in the global economy. The United States finds itself in a position of declining economic hegemony, whereas the EU, China, and other zones may foresee growing potential in adopting sustainable alternatives and/or attracting investment counter to the U.S. industrial complex. For example, in 2003, the EU tried to pass legislation that would accelerate the process of declaring chemicals ODSs and consequently, phasing them out of existence. The EU commented at the 2003 Open-ended Working Group meeting of the Montreal Protocol that the procedure for introducing new substances into the Montreal Protocol regime takes too long and needs amendment. The only solution open to the United States may soon be compliance with the Montreal Protocol, or its withdrawal from this legally binding agreement – something it has threatened in plenary is a distinct possibility in 2003. However, in the current global political economic milieu, with the United States ostensibly attempting to repair its relations with Europe, the latter solution may be an implausible, or at least unwise, choice.

This analysis also holds lessons for civil society actors. By understanding and addressing the complex, overlapping interests between industry, U.S. hegemony, and the conditions of a shifting world-system, social movements can help push global powers to challenge US positions while advancing alternative approaches toward a more equitable – and ecologically sane – future.

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Urbanization Before Cities: Lessons for Social Theory from the Evolution of Cities

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Abstract

This article examines the role of the world-system in the structure of cities. Data from the evolution of cities in the Fertile Crescent shows that a number of traits of modern cities were also present in the earliest cities. Specifically, mass production, social differentiation and inequality, cultural mechanisms utilized for social control, and a tendency – even a need – for territorial expansion were all characteristic of ancient cities. Such characteristics of cities are rooted in the process of urbanization, understood here as the creation and maintenance of networks of economic and cultural exchange amongst communities in disparate regions. Cities are understood as “nodes” in this system of exchange. It is argued that urbanization predates cities by thousands of years, and that the social dynamics arising from urbanization must be teased out of the data in order to understand cities better.

Outside the tradition of world-systems research (e.g., Braudel 1977; Kohl 1992; Chase-Dunn and Hall 1997), studies of modern cities often present a historical context that stretches back perhaps one-to-two hundred years (e.g., Taylor 2002; Davis 1990; Zukin 1991; Thomas 2003) or present barely any at all (e.g., Wilson 1987). This state of affairs is often appropriate to the aims of urban studies, particularly in its emphasis on modern societies and on current social policy. The cumulative effect, however, is a tendency to de-historicize the city in its deep context as a social form evolved over thousands of years. The result is that the scientific study of urbanization is impeded by a modern bias.

A world-systems approach to the study of urban evolution would analyze ancient cities in a manner similar to modern cities: as located within a broad network of economic and cultural exchange. As discussed below, the city is an outgrowth, rather than a cause, of such an emergent world-system. This observation explains some of the features of modern cities that are also found in ancient cities of the Fertile Crescent, such as the existence of the network itself, mass production, social stratification, hegemonic means of social control, and the expansion, indeed the emergence, of the state. This paper examines the lessons for modern urban theory that can be gleaned from a study of ancient cities and world-systems.

Defining the City

As a feature that is so central to modern life as the city might be expected to have a precise scientific definition, the treatment of the city is disappointing. In terms of practicality, governments across the world have attempted to define cities in terms of population. In the United States, for example, an urban place is defined as a settlement with at least 2,500 residents (Federal Register 2010). This rather generous definition results in thousands of “cities,” a state of affairs that most social scientists find unconvincing. As size alone does not appear to explain the features of the city, social scientists have utilized a variety of approaches in defining the city and urbanization.

An early approach to defining the city and urbanization was that of cultural opposition. Tonnies (1963 [1887]) viewed the rise of the city in Europe as being accompanied by a major shift in social life. According to Tonnies, rural society (*gemeinschaft*) was characterized by close-knit social relations with high social control, in contrast to a form of anonymity and the lack of social ties found in the emerging cities (*gesellschaft*). For Georg Simmel (1964 [1905]), the effects of city life were so deleterious that serious mental disorder was considered a real possibility without the comforts of village life and society. Simmel did see in this shift, however, an emancipatory potential as primarily rural residents were freed from age-old patterns of status hierarchies and loyalties. These former forms of domination were replaced by impersonal characteristics. Instead of social relations built up over time, first impressions became more a prominent feature of social life, influencing, for instance, fashion. The pinnacle of such impersonalism in public life was the use of money. Indeed, Simmel portrayed such themes – similar to Durkheim’s concept of anomie (1997 [1933]) and Weber’s (1978) Iron Cage of Rationalism – as outgrowths of urbanization and city life itself.

The city was thus defined in relation to the country, and this was functional but also problematic. Perhaps one of the best attempts to define the city was by Louis Wirth (1938), who defined the city, “as a relatively large, dense, and permanent settlement of socially heterogeneous individuals” (8). Few social scientists today would argue that the size, density, and heterogeneity

of a settlement define the city. The definition remains problematic, however, as the precise measure remains unmentioned: how dense, or large, must a settlement be? Indeed, how should we define “dense” and “large?” This issue has been avoided through reference to an urban-rural continuum, although research at the time failed to show as compelling a contrast as the early scholars believed (see Dewey 1960; Pahl 1966).

Another approach to defining the city is in relation to other types of communities while avoiding the distinction of cultural measures that may be summarized as “triggers.” In this approach the diversity of places is acknowledged, and the city is differentiated from other types of settlements (towns, villages, etc.) through a system of triggers that establish the place as a city. Max Weber (1921), for example, established the following criteria for a city:

- 1) the presence of fortifications;
- 2) the presence of markets;
- 3) a court system and laws;
- 4) a sense of citizenship; and
- 5) some level of political autonomy.

Weber meant the model to be an ideal type and thus some variation was expected. Nonetheless, his contrast between the “occidental” and the “oriental” city was based on the supposed failure of the oriental city to develop a sense of citizenship in the city separate from that of the state; in other words, not sufficiently triggering all the criteria. The model has not held up to more recent research: ancient Near Eastern (oriental) cities were more democratic than realized by Weber (see van de Mieroop 1999).

Another trigger system was proposed by V. Gordon Childe (1950) in regard to ancient cities. The criteria included (see also Kleniewski and Thomas 2011):

- 1) Early cities were, in relation to neighboring communities, geographically and demographically larger;
- 2) Early cities exhibited a division of labor that includes individuals who do not work the fields for their own sustenance, such as priests and administrators;
- 3) Each producer granted the agricultural surplus to a ruling elite through tax or tithe;
- 4) Early cities contained monumental buildings;
- 5) Cities were characterized by social stratification, including a ruling class;
- 6) The culture included writing and numbers;
- 7) Cities were home to predictive sciences;
- 8) There was a developed artisan class;
- 9) Cities were part of a long-distance trade network; and
- 10) Citizens were interdependent upon each other economically.

A reading of the two sets of criteria reveals that Weber and Childe had different ideas of how and when a settlement achieved the status of “city.” For Weber, the medieval European city was the model, whereas for Childe the Near Eastern city was acceptable. For our purposes, the differing triggers point to differing definitions of the city and, as such, point to the problem of defining the city.

It is useful to understand the city in relation to the hinterland: the city is larger physically and demographically than rural towns and villages, and in most cases is densely populated as

well, although it should be noted that density has decreased in many American metropolitan areas due to the rise of the suburbs based on the automobile. Cities are also heterogeneous, including a variety of social classes, ethnic and racial groups, and other populations. By stressing the relative nature of the definition and avoiding specific criteria (e.g., a population limit), it is possible to compare differing urban societies. In other words, even though Uruk in the third millennium BCE had only fifty thousand residents, it is possible to acknowledge the similar role the city played to that of first millennium CE Rome with a million residents. For this reason the trigger approach is also useful because it stresses the functions performed by the city for the wider society. Both approaches to defining the city are, however, limited by their inability to account for the full variation of places in between: as dichotomies between “city” and “country,” “urban” and “rural,” and even “occidental” and “oriental” are central to these definitions, the interested researcher is drawn, even if unintentionally, to the ideal types themselves.

Economic approaches to explaining the city have allowed for more variation in size and function. Karl Marx (1990 [1867]) viewed ancient cities as having been supported by slave labor, itself constituting a “stage” in the progressive development of humanity, but also recognized the dislocations found throughout the European countryside during the nineteenth century as having been caused by the shift to capitalist accumulation. Capitalist development was dependent upon and a cause of mass production as the bourgeoisie sought to accumulate increasingly high profits. This dynamic led to and was based upon the influx of new workers who, in effect, flooded the labor market, driving wages down and increasing profit margins for the factory owners. His compatriot and benefactor Friedrich Engels (1958) noted that cities were arranged in such a way that the working classes lived near their sources of employment but also hidden from the upper classes, relegated to the smallest streets away from the wider public. The class conflict and exploitation of workers relegated them to low-income districts of the city, and most modern sociologists see this process of class segregation as related to racial and ethnic segregation as well. The role of capitalism is central to Wallerstein’s (1974) understanding of the development of the modern world-system.

In a similar manner, Pirenne (1925) argued that medieval European cities developed because of, and in turn influenced more, trade. While limiting himself to medieval Europe, the influence of this work has been to see cities performing economic functions, even before the rise of industrial capitalism.

Sjoberg (1955; 1960) emphasized the role of technology in the ability of a city to industrialize, ultimately influencing (and influenced by) other social structures such as family, social class, and politics. Sjoberg avoided the pitfalls of previous comparative work by not suggesting triggers: the work is primarily descriptive and assumes the legitimacy of defining such cities as cities. The work primarily suffered from a tendency to over-generalize. The preindustrial city was compared to the industrial city, and as such diverse city forms including modern cities in the developing world and cities in the ancient world were lumped together, although he did distinguish from region to region (Sjoberg 1960).

A similar approach to classification, although dealing with American cities, was that of David Gordon (1978). Gordon classified cities into those characterized by economic function and time period. Cities from the time of European settlement to the Industrial Revolution were characterized as commercial cities (1620-1850). Industrial cities were marked by manufacturing from about 1850 through 1920, after which corporate cities became the norm.

Each of these approaches to defining cities and urbanization shares the same limitations. While emphasizing the city in relation to other settlements is important, sacrificed is an

empirically verifiable approach to defining the city. The city is assumed to exist because the largest settlements are called “cities.” In the middle of the urban-rural continuum, however, are numerous settlements that satisfy some but not all of the criteria for “city” status in a given society but not all – this makes comparative and historical research extremely difficult. In order for comparative work to be meaningful, a definition of the city that incorporates lessons from world-systems theory is preferable.

A World-Systems Approach to Urbanization

Given helpful but ultimately unsatisfactory definitions of the city, world-systems theory can further illuminate the nature of the city and urbanization. In practice, most urban sociologists have been able to work with the existing definitions of the city because the presence of cities has been taken for granted, and issues of origins have been relegated to other disciplines such as history and archaeology. Although history has long been an important component of urban studies (see Harris and Smith 2011), a recent article in the *Journal of Urban Affairs* suggested that urban studies as a field was rooted in concerns of the present (Bowen et al. 2010). Like world-systems analysis, urban studies is heavily interdisciplinary in nature, and like world-systems analysis would benefit from a sense of the *longue durée* (see Braudel 1982). This includes lessons from archaeology and the origins of cities (Peregrine 2000). Nevertheless, urban sociology, particularly that of the political economy school, has adopted perspectives complimentary of world-systems theory.

Contemporary urban sociology has been increasingly moving toward a view of cities as part of a “hierarchical global system” based upon competitive capitalism (Smith 1995). This view had been central to that of the political economy paradigm as it developed during the last quarter of the twentieth century, and is a central assumption of the “Los Angeles school” as well (see, for instance, Zukin 1991; Dear and Flusty 1998; Soja 2000). Weber (1966), too, saw cities as part of a larger network as he defined the city as those communities having a prominent place in such networks. Recent scholarship has discussed the importance of major cities to the creation and maintenance of such systems (see Smith 1995; Sassen 2001, 2002; Abrahamson 2004). The nature of such global systems has even spread into prominent debate within Mesopotamian studies as such scholars as Algaze (1989, 1993) and others have argued for a fourth millennium BCE global system based in southern Mesopotamia (specifically on Uruk), with a periphery extending into western Iran and as far north as southern Turkey. Others have questioned the appropriateness of this analogy (Joffe 1994; see also the readings in Rothman 2001 for a discussion). Frank and Gills (1996) have argued for a single global system dating to this period.

The influence of world-systems theory on the understanding of modern cities has been considerable. The view that cities are part of a network of cities was not necessarily new (see Smith 1996), but the idea gained momentum during the 1980s and 1990s. As summarized by Beaverstock et al. (2000):

Historically, cities have always existed in environments of linkages, both material flows and information transfers. They have acted as centers from where their hinterlands are serviced and connected to wider realms. This is reflected in how economic geographers have treated economic sectors: primary and secondary activities are typically mapped as formal agricultural or industrial regions, tertiary activities as functional regions, epitomized by central-place theory. Why is our concern for contemporary cities in a

world of flows any different from this previous tertiary activity and its study? First, the twentieth century has witnessed a remarkable sectoral turnabout in advanced economies: originally defined by their manufacturing industry, economic growth has become increasingly dependent on service industries. Second, this trend has been massively augmented by more recent developments in information technology that has enabled service and control to operate not only more rapidly and effectively, but crucially on a global scale. (123)

In other words, the existence of a global network of cities became more significant with advances in communications and transportation technologies that created a global division of labor (Henderson and Castells 1987; Smith and Feagin 1987). The idea was that corporations organize production from their headquarters in world cities, the three most important of which are New York, London, and Tokyo (Friedman 1986; Sassen 1991). By the 1990s the approach in urban sociology was to analyze those relations using variants of social network analysis. Smith and Timberlake (1995) proposed that a network analysis framework could illuminate the working of the world-system through economic, cultural, political, and spatial linkages (see also Smith 1996). World-systems analysis has added to this literature three major insights: 1) the influence of place on economic development; 2) the utility of a wider ecological approach; and 3) the importance of historical development and context.

The importance of a nation's position in the global political economy has strongly influenced its potential for future economic growth. In his seminal works, Immanuel Wallerstein (1974, 1980, 1989) showed the evolution of the capitalist world economy as one of vertical integration of nations within the core, semi-periphery, and periphery. Snyder and Kick (1979) empirically demonstrated this three-tiered system, and subsequent work has largely drawn similar conclusions (Kick and Davis 2001; Clark and Beckfield 2009). As the fate of individual cities is tied to those of nations, this line of world-systems research is directly applicable to cities (Walton 1976).

A world-systems approach also ties the functioning of the global city system to ecological destruction. Urbanization itself, and its correlates with the position of the city within the world system, has been shown to predict the level of biodiversity loss and its accompanying effects of worsening health and food security (McKinney et al. 2010). Boone and Modarres (2006) show how the morphology of the city – the increases in population and resultant stress on farmland and natural resources – results in the degradation of the environment (see also Hornborg 2006). Chew (2000) showed how this demand for resources and the resulting long-range trade spreads this degradation over a wide region. The environmental degradation associated with urbanization and the increasing demand for resources forced social changes and increased pressure in a dialectical fashion. For instance, increasing agricultural yields in Europe created pressure for colonization which then in turn created more pressure for social change and increased uneven development (Jorgenson 2006).

Development has been concentrated in cities, whereas the hinterlands have been sites of resource extraction (Chase-Dunn et al. 2005). Near the city the trade network for bulk-goods is considerable, but as one leaves the core other networks become prevalent: information travels the farthest and is thus the most far-reaching network emanating from the core, and the network for trade in luxury goods is also relatively large. In a given city information and luxury goods often come from great distance, whereas bulk goods have historically been more likely to be produced locally (Chase-Dunn and Hall 1997). At the frontier of the city's influence the periphery is

contested. The drive for resources has not only ecological consequences but social as well: as discussed below, it is responsible for the earliest evidence for war in Mesoamerica (Flannery and Marcus 2003), Syria (Ur 2002), and southern Mesopotamia (Dalley 2000).

The location of cities within the larger ecological framework provides a link between world-systems theory and a more broadly “evolutionary” sociology. For instance, Lenski (1966, 2005) places human society squarely within the larger framework of “nature,” and in so doing presents such macrosociological phenomena as power, technology, and change. Like other species, human populations must interact with the environment and in turn influence it themselves – when population increases beyond carrying capacity it must come down somehow (Jorgenson 2006). The growth of cities can thus be understood as a technological innovation meant to increase production necessary to survival and defend against rivals (Chew 2000; Boone and Modarres 2006). Massey (2005) noted that life in cities is not “natural” given the previous course of human evolution in small groups.

Perhaps the greater gift of world-systems analysis to an understanding of cities is the deep historical perspective. Although early works (e.g., Wallerstein 1974, 1980, 1989; Braudel 1977, 1982) concentrated on the making of the capitalist world-system, the perspective has increasingly pursued a radically historical-comparative lens. Indeed, related work in world-systems allows for pre-capitalist world-systems that were based on the urban economy and political structures (Braudel 1977; Kohl 1992; Algaze 1993; Kardulias 1996; van de Mierop 1999). Chase-Dunn and Hall (1997) examined thousands of years and multiple societies, for instance, even allowing for world-systems of hunter-gatherers. Both Chew (2000) and Boone and Modarres (2006) start their analyses with the rise of cities in Mesopotamia. Chase-Dunn et al. (2005) examine the relationship between empires and cities between 1200 BCE and the present. Algaze (1993) has demonstrated the existence of a world-system in the fourth to third millennium BCE in Mesopotamia, and Frank and Gills (1996) have argued that the current world-system is ultimately rooted in this early system. Abu-Lughod (1989) and Mielants (2005) have examined the European system during the pre-capitalist Middle Ages. On the basis of a deep historical approach, Thomas (2010) argued that the state arose because of the city, in stark contrast to earlier sociologists such as Weber (1921) and Pirenne (1925).

As was suggested by Childe (1950), it can be inferred from the world-systems literature that a world-system is necessary for the functioning of the city. Indeed, a world-system is a necessary pre-requisite of cities as it allows for a diversity of products to be brought to one place (Chase-Dunn and Hall 1997; Thomas 2010). As the system is necessary for the functioning of the city, it follows that the system must pre-date the formation of cities (see below; also Blessy et al. 2005; McCorrison 1992). Although it has been common among social scientists to state that urbanization is a consequence of cities, given the empirical difficulties of defining “city” it is more accurate to see all cities as the result of urbanization, or the rise of the “urban” world system prior to the formation of what most social scientists would call cities.

This definition obviously accounts for the current alignment of the global economy, but also considers the Uruk world-system of the fourth millennium BCE and many other ancient systems (see Chase-Dunn and Hall 1997). To account for such “non-global” systems, we might consider the term “urban system.” In contrast, a city is a particular locale where economies of scale and agglomeration based upon a differentially large population for a region exists. Such locales function as “attractor points” within the system, bringing resources and talent to a place that grows dynamically as a result (Thomas 2010). From this perspective, cities are nodes in a wider social network, and often differentiated from one another by the particular role each plays

in the network (Sassen 2001). Another benefit of this approach – that the development of the world-system that lead to cities be understood as urbanization, with cities resulting from the functioning of this system – is to provide a way of distinguishing between world-systems as they existed prior to sedentary communities and those that came into existence after sedentism (see Chase-Dunn and Hall 1997).

If we understand urbanization and the city in this way, then there are several features of modern cities discussed by scholars that have analogs in ancient cities. Evidence for such features of cities found in non-capitalistic settings is evidence that these features are not specific to capitalist or modern economies, but are more likely the result of the process of urbanization itself. Such phenomena include networks of cities we may call urban systems, mass production, social stratification, ideologies of cultural hegemony, and the impetus for expansion of the system. In other words, from this perspective urbanization does in fact pre-date cities.

Modern Phenomena?

Many of the phenomena found in modern urban systems have been found in the past as well. This paper examines such phenomena primarily through the archaeological record of the Fertile Crescent, the first place in the world where urban systems arose, with some contrasting material from other regions as well.

Networked Communities

In a sense, one of the great “discoveries” of the past generation in urban studies has been the great social network we call the “global system” (see Abu-Lughod 2000; Soja 2000; Sassen 2001, 2002; Abrahamson 2004; Harvey 2006). Contemporary scholars have described a phenomenon in which relations of trade, cultural influence, and power are distributed throughout a complex network of social relations with cities acting as nodes in the system (Sassen 2002). At the “top” of the system, global cities function as administrative centers and magnets of global capital (Abu-Lughod 2000; Sassen 2001). In the United States, such cities as New York, Los Angeles, and Chicago come immediately to mind, but it should be noted that there are similar cities throughout the world, such as Shanghai, Mumbai, and Rio de Janeiro.

Although much of the research literature has stressed the role of global cities (e.g., Abu-Lughod 2000; Sassen 2001), a number of studies have examined those places lower in the hierarchy. For instance, Zukin (1991) examined not only large cities but smaller industrial cities such as Youngstown, Ohio and Weirton, West Virginia in her study of the postmodern urban landscape, finding that such cities experience the post-industrial world differently than larger cities (Zukin 1991). In her study of Pittsfield, Massachusetts, Nash (1989) found that the major impact of globalization was deindustrialization as local multinational firms found it practical to close local facilities and move them to distant locales, both national and international. Similarly, Thomas (2003) found that the fortunes of Utica, New York, were heavily influenced by the ability of global capital to 1) move much of the local textile industry to the American south during the 1950s, and 2) move much of the high technology sector to other countries during the 1980s and 1990s. Rabrenovic (1996) similarly found that the position of a city in the global political economy influenced its ability to revitalize. She found that neighborhoods in Albany, a

healthy service sector city, had advantages over similar neighborhoods (adjusted for race and social class) in Schenectady, a manufacturing city.

In parts of the global economy some social distance from the centers of power, the fate of communities is still intrinsically tied to global elites even if the dominant ideologies bespeak a desire for independence. Within core countries this effect is found in rural communities. Fitchen (1991) distinguished between “truly rural” communities and those slightly more integrated with the global system, betraying a distinction between those communities that are considered unimportant to the system and those ignored altogether. In her study of a newly founded mining community, Tauxe (1993) found that administrative elites moving to the community were attracted to newly-built suburban-like subdivisions that “local” residents could not afford. Davidson (1996) found that many rural communities have suffered so much through deindustrialization and the restructuring of agriculture that they are becoming “rural ghettos” (see also Duncan 2000).

In the developing world, a city’s ultimate economic fate rests on the position of its country in the global political economy (Walton 1976; Snyder and Kick 1979). Cities in the developing world are nodes of intersection for the global political economy and the countryside, often attracting global corporations intent on taking advantage of “emerging markets” (Smith 1996). The result is a dramatic rural-to-urban migration as formerly agrarian villagers move to the cities in search of employment, often landing in urban slums in rapidly growing cities (Neuwirth 2006; Davis 2007). Nevertheless, such patterns of urbanization are subject to the specific historical context unique to each city and country; in other words, the experience of urbanization in a city in Nigeria is not the same as that of a city in South Korea, regardless of similarities in the country’s position in the global political economy (Smith 1996).

Much analysis of the modern world-system has, not surprisingly, concentrated on the capitalist world-system (see Wallerstein 1974, 1980, 1989; Harvey 2006). Research on other time periods has also found evidence for world-systems prior to the advent of capitalism, even in relatively egalitarian settings (Braudel 1977; Kohl 1992; Algaze 1993; Frank and Gills 1996; Kardulias 1996; Chase-Dunn and Hall 1997). In the Fertile Crescent, networks of communities based on trade and cultural exchange are attested as early as the sixth millennium BCE, two thousand years before the rise of the Uruk system in southern Mesopotamia (Oates 1993; Blessy et al. 2005). The cultural tradition known as the Halaf was spread from areas in northern Iraq and Syria (northern Mesopotamia) as far west as the Mediterranean Sea (McCorriston 1992; Akkermans and Schwartz 2003). Identified primarily by Halaf pottery, Halafian communities also shared a common stone tool kit and agricultural regimes, as well as interdependence with semi-nomadic herders of goats and sheep (Schwartz 1994; see also Kradin 2002). At about the same time, the Samarra “culture” overlapped with the Halaf in its eastern regions and spread to the east of Halaf territory (Maisels 1990). The Samarra culture was similarly marked by a reliance of its towns on a settled agriculture and trade with semi-nomadic herders. In both regions, the larger towns could reach perhaps five to ten thousand in population, and these towns typically had a small network of local hamlets with which they traded and perhaps served central place functions (Maisels 1990; Pollock 1999). In this context, central place functions would likely have been limited to trade activities with distant places via semi-nomadic populations and religious functions. Indeed, these larger towns typically featured religious sanctuaries that were the forerunners to the ancient Near Eastern temple system.

It was this network of trade that allowed for an expansion of the Samarra culture into the southern half of Mesopotamia during the sixth millennium BCE (McCorriston 1992; Zeder

1994). Unlike northern Mesopotamia, where rainfall was plentiful enough to support dry farming and sheep and goat herding in the mountains, southern Mesopotamia is characterized by large expanses of desert interspersed by fertile swaths surrounding the Tigris and Euphrates rivers. A lowland alluvial plain, southern Mesopotamia had quite fertile soil, and the introduction of irrigation techniques made agriculture possible. Simple irrigation began during the sixth millennium BCE, became more complex during the Ubaid culture of the fifth millennium BCE, and achieved its full flourishing during the Uruk period when the first “true” cities developed (Nissan 1988; Pollock 1999). Nonetheless, even with the increasingly sophisticated agricultural regimes, southern Mesopotamia remained dependent upon trade for the importation of certain resources such as wood and some foods (McCorrison 1992). As with agriculture, this trade system grew more complex from the Samarra culture, through the Ubaid culture, and into the Uruk period when the system resembled in many respects a modern global system (Algaze 1993). Population grew with these changes, and the largest towns contained perhaps ten thousand residents during the Ubaid period (fifth millennium BCE) and up to fifty thousand in Uruk at the end of the fourth millennium BCE. However, the vast majority of settlements contained perhaps a few hundred to a thousand residents (Pollock 1999).

A similar state of affairs existed in the American southwest between 900 and 1200 CE (Dickson 1975; Lekson 2009). The Chaco Canyon civilization was, like the Samarra and Halaf cultures, based on agriculture. In Chaco Canyon, a cultural area spread over 120 miles of New Mexico and adjoining states, ancestors of modern Puebloan Indians built a series of large towns in the forms of pueblos, or great houses, that were home for up to five thousand residents (Stuart 2000; Fagan 2005). As in Mesopotamia, however, the majority of settlements contained only a few hundred residents of farmers. The inhabitants built a complex road system and a system of communications centers utilizing smoke (daytime) and fires (at night), and these aided both trade and defense (Stuart 2000). Unlike in Mesopotamia, however, the society of Chaco Canyon did not become an urban society in the sense of the Uruk civilization. It suffered an environmental catastrophe as the regional climate dried, and the survivors became the modern Puebloan cultures (Stuart 2000; see also Boone and Modarres 2006). Nevertheless, we can suggest that Chaco Canyon exhibits urbanization without the rise of cities, a condition similar to the Ubaid period in Mesopotamia during the fifth millennium BCE.

There were in both cases advantages to the growth of a system of communities interacting in trade and other forms of exchange. First and foremost, the development of the urban system spread the risk of agriculture across a wider area. In contrast to hunting and gathering societies, agricultural societies cannot leave their region in hope of finding more abundant resources elsewhere; in case of environmental desiccation, agricultural societies need trade to bring resources from places where conditions are not so bad. In the cases of southern Mesopotamia prior to the Uruk period (fourth millennium BCE) and at Chaco Canyon, political power for the emerging elite was based on the control of food production in the name of serving the community. At Chaco Canyon, for instance, food and other resources were brought to the great houses and redistributed in public ceremonies, with the emphasis being on the integration of the community (Earle 1987; see also Durkheim 1965). In Mesopotamia during the Ubaid Period, the increasing power of the temple as a mechanism for social integration and economic redistribution were central to the social structure and increasing social inequality (Maisels 1990). Along with new possibilities, the rise of the urban system in agricultural societies also increased the possibility of war. For instance, during the Samarra period in Mesopotamia the first evidence of defensive walls, most likely used against animals, is followed by increasingly sophisticated

walls throughout the Ubaid and Uruk periods. The sequence comes to full flourish during the Uruk period when in about 3500 BCE a complex wall at Hamoukar in northern Mesopotamia was breached, its pottery assemblage ominously changing from the local to the foreign Uruk assemblage immediately afterward – the first good evidence of a war of conquest in the region (Ur 2002). Urbanization is tied to the rise of war in Mesoamerica as well (Flannery and Marcus 2003).

Mass Production

Mass production is widely seen as an economic advance, but within an evolutionary context it must be understood as a cognitive and conceptual advance as well. In this sense, the roots of mass production are not found in the manufacturing sector, but rather earlier. As early as the ninth millennium BCE at Mureybet in Syria, small seals were designed to be impressed in wet clay and thus mark an object as belonging to the owner (Schmandt-Besserat 1996; Cauvin 2000). The advantage of such a system is a uniformity of seal impression over multiple uses, a technology updated by the fourth millennium BCE at Uruk sites with the cylinder seal capable of complex and repetitive designs. Such seals were used as forms of communication, and served as the forerunner to the cuneiform writing system of Mesopotamia – the first such system in the world (Schmandt-Besserat 1996). The significance of this cognitive innovation was to “mass produce” the insignia of the owner, and we can be assured that although mass production in terms of manufacturing was not yet found the concept was understood.

We see this concept of mass production in use during the formative period of the fifth millennium BCE known as the Ubaid period. The Ubaid culture evolved from the Samarra culture as it worked its way into the southern alluvial plains of Mesopotamia and adapted to this new, harsher environment. We see the concept of mass production put to use primarily when there was a reason for doing so, and in the case of the Ubaid period this was the complex needs involved with food production. The Samarra culture had been using small scale irrigation techniques as it worked its way south, and one aspect of the emerging Ubaid culture was an intensification of those techniques and the development of social organization such intensification required (Pollock 1999; Liverani 2006). During the Ubaid period and into the following Uruk period, the temple became increasingly important to the organization of agriculture. The temple would have been involved in organizing the labor required for digging and maintaining canals, for such tasks as plowing, planting, and harvesting crops, and for the eventual redistribution of food (Sterba 1976). With an eye toward efficiency, we see a shift from short furrows in fields, more advantageous for smaller planters, to long furrows that were better suited to larger operations and the efficient use of available water (Liverani 2006).

In terms of manufacturing, we again see a shift to mass production in response to a need. Although Sjoberg (1960) stated that “manufacturing in the preindustrial city is a small-scale undertaking...,” more recent archaeological evidence has since shown a level of mass production previously unknown (van de Mierop 1999; see also Ward-Perkins 2006). This can be seen in examining the role of mass production in its broader economic context. In the case of agriculture, by the beginning of the Uruk period (during which cities developed) there arose a need for increasing quantification of food rations. As Weber (1978) noted, such a move toward rationalization occurs as organizations (in this case, a society) become more complex and bureaucratized. In the case of food rations, this involved a standardized unit as manifest in the “beveled rim bowl.” In later years, the pictograph for the beveled rim bowl would become the

cuneiform inscription for “ration,” but beyond its role in the distribution of resources and the general bureaucratization of Mesopotamian society, the beveled rim bowl is also notable for its sheer ubiquity. It was mass produced with an eye toward disposability, and as such has been found throughout the region in a variety of contexts: in temples, households, and even scattered throughout agricultural fields (Pollock 1999). Unlike the elaborate pottery of the Ubaid period, the Uruk pottery in general seems to have been mass produced at a generally lower level of quality with rougher features and a lack of decorative detail.

Mesopotamian cities after the Uruk period were also characterized by entire neighborhoods devoted to particular manufacturing activities (van de Mieroop 1999). While not all such activities necessarily involved mass production in a modern sense, the clustering of such activities suggests knowledge of city planning; for instance, certain activities, such as leather tanning, were relegated to outside of the city wall and downwind of the city itself (van de Mieroop 1999). Specific neighborhoods involved in such activities as tanning, pottery production, and metallurgy may also have been home to specific ethnic groups involved in their manufacture (Sjoberg 1955, 1960). Even lacking Fordist modes of production, such manufacturing neighborhoods would have benefitted from the economies of scale and agglomeration that characterize similar neighborhoods in modern contexts.

In the comparatively less urbanized western flank of the Fertile Crescent known as Canaan, middle and late Bronze Age cities were often little more than administrative centers in city-states with specialized production facilities for wine, olive oil, and or metallurgy (Tubb 1998). We nonetheless see production of such items for trade on a massive scale. For instance, at Tell es-Sadaiyah and other sites, large presses used in the production of olive oil have been found in an industrial context capable of producing a significant surplus of trade goods (Tubb 1998).

Social Stratification and Differentiation

In his seminal work on cities, V. Gordon Childe (1950) specified that cities had a broad division of labor and hardened social classes, explicitly stating that the city could not exist without social class. In ancient Mesopotamia social class was not merely a function of economic fortune. The basic organizing principle of these early cities was the *oikos*, an economic and social unit that used the metaphor of the family and kinship as a way to organize a disparate array of people into a cohesive unit (Maisels 1990; Gelb et al. 1991; van de Mieroop 1999). One is tempted to suggest the corporation as a modern equivalent, but the lack of reciprocal social responsibility and the division between corporate (work) and domestic (home) activities disqualifies such a comparison. A more apt modern analogue may be the syndicate, with its lack of kinship but higher standard of social responsibility. To understand social stratification in the ancient city, an understanding of its development within the context of the *oikos* is essential.

The *oikos* was descended from the household of earlier, that is, Samarra and early Ubaid, times. It appears to have been the primary mechanism for organizing production and other social functions, a rudimentary gender-based division of labor translating into differing but not necessarily differentially empowered social roles. Judging from the presence of “goddess” figurines in domestic contexts, particularly in middens (ancient household waste dumps), it has been suggested that women held prominence in the household during the Neolithic period prior to the growth of large towns and cities (Zegarell 1986; Hodder 2006; see also Dever 2005). Similarly, the burial of primarily women beneath the homes of many Neolithic villages of the

ninth through sixth millennia BCE in such varied sites as Jericho, Mureybet, and Catalhoyuk further implies a centrality of a “matriarchal” woman at the center of family life. The central role of women is further suggested by the fact that the earliest evidence of a shaman, a burial from Israel dating to the Natufian period thousands of years before cities (ca. 11000 BCE), is also of a woman (Grosman et al. 2008). In contrast, the role of men seems to have been relegated to relations outside the home, to hunting and trade, and to the contacts with men from other villages (Hodder 2006). Given such a social structure – one that implies not a hardened social inequality but a relatively benign division of labor – the rise of urbanization as a system of trade and social relations also occurred in concert with associated changes in the organization of the *oikos*. Increasing trade over a period of at least two thousand years resulted in a higher prestige for men as this required contact outside the village (Zegarell 1986). Nevertheless, there is little reason to assume that such relations resulted in major differentials of power when rural villages were still organized around kinship where a matriarchal figure could have been most important. The shift to such differentials of power is more likely to have arisen during the Ubaid and Uruk periods, the period from 5,000 BCE to 3,000 BCE, when large towns and the first cities formed and groups of different families were organized in large towns.

The rise of social classes in the earliest cities of the late fourth millennium BCE has been tied to matters of production. McCorrison (1997) discussed the relationship between the rise of social class and the extensification of textile production during this period. For much of Mesopotamian history, most textile production was in the form of linen, a product of flax. During the late fourth millennium BCE, just as cities were developing throughout Mesopotamia, an increased dependence on wool (from sheep) transformed the nature of textile production. Sheep were primarily herded by semi-nomadic populations, some loosely tied to cities through kinship, which were found primarily in the steppe regions of the mountains. Whereas flax production had occurred locally where the plant was grown, the increased reliance on wool meant that cities were more reliant on such herders. It seems difficult to believe that residents of the alluvial plain, whether living in cities or their agricultural satellites, would have voluntarily submitted to such an arrangement of dependency, and as such it seems more likely that growth of population in those regions resulted in food crops such as wheat being more necessary to survival than flax, especially with wool as a viable alternative. One aspect of this change would have involved a change in the status of women: women were less likely to have left home for extended periods to herd sheep than were men (McCorrison 1997: 528). In exchange, women were more likely involved in household or even workshop textile production for a larger political-economic entity, whether the temple, the palace, or an independent *oikos*. A similar argument for the role of beer in control of the agricultural workforce has been advanced by Joffe (1998): simply, changes in the mode of production were accompanied by an increasingly unequal system of class and gender relations.

It should be stressed that the changes that resulted in increased social stratification evolved from approximately 5000 BCE when relations were relatively egalitarian to 1000 BCE and beyond. There is evidence that diverse arrangements of social structure were evident. For instance, a basic form of social stratification – stratification of place – seems to have been accompanied by different mechanisms for *oikos* organization. In rural villages, kinship networks were at the heart of social organization, and even though the population seems to have become more or less organized based on security considerations (villagers moved to cities in times of war, and back to villages in peace), kinship (and fictive kinship) seems to have been dominant throughout the entire period. In the cities, however, *oikoi* were more likely to have been

organized on the basis of profession and/or neighborhood – often strongly correlated units – using the metaphor of kinship as an organizing principle based on fictive ties. Each *oikos* was run by an elite group of elders, the chief among them being the “father” or, in later Greco-Roman terminology, the *paterfamilias*. Women were responsible for household maintenance, including over time an increasing responsibility for household production of trade items such as cloth (Sjoberg 1960). Men and women appear to have worked the fields, particularly during periods of high labor consumption such as planting and harvesting, with administrative overlords responsible for organizational decisions (van de Mieroop, 1999).

This basic social structure was the foundation for the social organization of the city itself, conceived as an *oikos* writ large, although again we are faced with a diversity of structures from differing times and places. For instance, early in Mesopotamian history the temple appears to have been a dominant presence in southern Mesopotamia, with the secular authorities becoming dominant as “kings” in the north before 2400 BCE. By the early second millennium BCE, however, the palace is certainly the stronger institution throughout the land, though still highly reliant on the temple elite for legitimacy (van de Mieroop, 2006). It is likely that kings, as military leaders, gained power when under threat or through wars of aggression against their neighbors. For instance, the earliest written account of war dates to the twenty-fifth century – it was over competing claims to agricultural fields between the cities of Umma and Lagash (Dalley 2000). By the mid-second century, a large number of the elders appear to have participated in the temple economy, often holding a specific office for a short period of time of the year, in order to gain some share of temple revenues. It seems likely that the main economy at question here was not so much for income, as some officials were priests for as little as one day, but a system of prestige and legitimacy.

In contrast to outmoded concepts of “oriental despotism” (e.g., Wittfogel 1957), the Mesopotamian city appears to have had at least some element of democratic institutions. Although the strength of any particular ruler vis-a-vis his subjects likely varied across time and space as it does today, at all times the role of the assembly seems to have been important. In the *Epic of Gilgamesh*, for instance, Gilgamesh must appeal to the assembly for permission to fight an invader. When the “council of elders” votes to sue for peace rather than go to war, Gilgamesh appeals to the “assembly” to overturn that decision, which it does. At various stages of Mesopotamian history reference is made to the great and small assemblies. It appears that a “council of elders” composed of the heads of each *oikos* was influential in decisions of state and city, whereas a larger assembly of all free men could also be called upon (van de Mieroop 1999; Jacobsen 1943).

In the cities, the temple and palace elite was supported in their activities by a class of retainers, the closest analogy to the middle class. Like the modern middle class, they were detached from the land and lived off surplus agriculture (van de Mieroop 1999). This also translated into them being dependent upon the tutelage of the upper class, and as such they tended to adopt the perspectives of their social superiors. This class included cooks, scribes and educators. Hierarchically below them were craftsmen who produced a variety of wares, often mass produced in large workshops akin to modern factories, such as pottery and metalwork. Below them were the mass of the Mesopotamian population, working for urban-based *oikoi* on nearby lands, for the palace or temple *oikoi* directly, or for rural-based kinship *oikoi* further in the countryside (van de Mieroop 1999; see also Sjoberg 1960).

Ethnicity is not easily discerned in the archaeological record, and as such segregation along ethnic lines is also not easily discerned. Nevertheless, it can be identified in some cases,

and those cases do show at least some circumstantial evidence of segregation. Certain neighborhoods of ancient Mesopotamian cities are dominated by particular industries, for instance, and if the common pattern of members of certain ethnic groups working in particular occupations held in those cities, this would indicate some level of segregation (Sjoberg 1960; van de Mierop 1999). The best evidence of segregation by ethnicity, however, occurs in early Iron Age (Iron I) cities in Philistia (southern coast) and the central highlands of modern Israel and Palestine. In those regions, “Israelite” ethnicity is found in both rural contexts and in certain quarters of Philistine cities (Faust 2007).

Cultural and Ideological Hegemony

Hegemonic power has as an advantage over the use of coercion the fact that it is more efficient in its implementation: whereas coercive power requires a credible threat of force at minimum, hegemonic power is constituted of the ability of the ruler to convince the ruled of shared interests (Mann 1986). As urban elites organized production and distribution primarily through the temple establishment and the *oikos* – the temple itself was ultimately organized as a large *oikos* with the god as the patriarch – it is not surprising that the ideological basis for many ancient societies was based on the religious views of the temple establishment.

Spiritual or religious beliefs were not so clear cut in earlier times as they are today, and from deep in the Neolithic through the building of the earliest cities we see a religious belief system that functioned as knowledge *in toto*. Cauvin (2000), for instance, has argued that the birth of agriculture itself at the beginning of the Neolithic (ca. 9500 BCE) was the result of a conceptual change in how “the gods” were perceived. Specifically, he argues that agriculture was possible because humans could see themselves as capable of altering and controlling nature, and not merely as part of nature. Throughout the Neolithic, people living in agricultural villages appear to have sought help from ancestors, creating “goddess” figurines that likely symbolized a maternal ancestor thought to exert influence in a spiritual realm, for example. The earliest cities, as well as those later cities of the third millennium BCE from which the first good written accounts come, reflect such a tradition in that they nearly all had a divine couple as city patrons (Bottero 2001). Urban spiritual entities experienced an upgrade, however, as they became identified as gods rather than mere spirits or ancestors (Oates 1993; Bottero 2001). In a sense, the gods were socially significant spirits, exhibiting normal human frailties in contradistinction to the later “all powerful” gods. They served as the macro-level counterparts of household or family gods, such as Biblical *teraphim*.

Besides the mythologies that explained key questions such as the creation of the world and the exaltation of certain leaders such as Uruk’s Gilgamesh, urban elites would often utilize the structure of the city itself to suggest both urban greatness, thereby instilling pride in the city by suggesting a sense of common ownership, and to convey specific messages. In terms of temple architecture, for instance, in southern Mesopotamia temples were built on “sacred” sites and then rebuilt over thousands of years – the site of the temple at Ur, for instance, dates to the Ubaid period and has over twenty distinct temple buildings, each rising over the remains of the other. Temples and later forms of monumental architecture, particularly the palace and city walls, were expressions of the power of the state and a source of communal pride. The larger the project, particularly but not exclusively in terms of height, the better. At the end of the *Epic of Gilgamesh*, for instance, Gilgamesh contemplates his own mortality in the shadows of the walls of Uruk which he recognizes as his *raison d’être* for life: management of his city.

The use of architecture and art in building a hegemonic means of control through cultural representations was widespread in the ancient world. In Mesopotamia, the building of the Ziggurat, a pyramid-like temple complex similar to Mesoamerican “pyramids,” was often the symbolic center of the city in a manner similar to the Empire State Building in New York and the Prudential Center in Boston. In Egypt, differing time periods witnessed similar structures: pyramids during the Old Kingdom signified the pharaoh’s power, as did various temples during the Middle and New Kingdoms. Lively artistic renditions of military campaigns and other magnificent works of the king were both carved and painted into such structures. Throughout the region, the placement of steles – sizeable stones erected to commemorate a significant event – typically involved the carving of boastful claims of the event’s significance. A typical such stele is the Mesha stele, a ninth century BCE basalt slab erected by the king of Moab to boast of his defeat of the Israelites, an important find because we have his opponent’s perspective in the Biblical account (2 Kings 3:4-27). In the stele, Mesha recounts the history of the oppression of his people by the “House of Omri,” an allusion to the ancient kingdom of Israel, and his subsequent revolt with the aid of the Moabite god Chemosh. He then goes on to list the improvements made upon the sites after taking them from Israel, including presenting the artifacts of YHWH to Chemosh in thanks for his help; constructing new city walls, towers, and other fortifications; a new palace; a reservoir; and a decree ordering the inhabitants to each build a cistern for their own dwelling. Such a stele was meant to:

- 1) Justify the taking of the territory by suggesting it had been illicitly taken by the Israelites in the first place. One is struck by the reference to the leadership (House of Omri) rather than to the Israelites themselves: the territory would have included a number of ethnic Israelites.
- 2) Justify taking the territory as a religious function. The stele explains that the god Chemosh allowed the Israelites to rule the territory because of the Moabites’ sin and his subsequent anger, but that Mesha found favor with the god. Mesha’s actions are thus attributed to the god in exchange for the king being able to claim a divine rule and, one might add, the superiority of the Moabite god over the Israelite god.
- 3) Justify taking the territory by suggesting Mesha was a better steward of the region’s urban centers. Mesha spends about half of the stele recounting the urban improvements, including the new walls, palace, and water systems.

A similar ideological framework is found from Persia to Greece by the turn of the Common Era (Mikalson 2004).

By the fifth century BCE every society had a pantheon ruled by a patriarchal god, and that god ruled always from the capital city. Babylon was home to Marduk, and the Assyrian capitals (the capital moved several times) were home to Assur, each move “inspired” by Assur. A god could be patron to more than city, as the god Ba’al was patron to several such cities, including Ugarit in the Middle Bronze Age and Sidon during the Iron Age, among others. It seems likely that the phenomenon called syncretism, in which the identity of two or more gods would become fused into one, was the result of rulers and traders attempting to build bridges to various other societies and ethnic groups within their own societies by equating a “native” god with a “foreign” god. For instance, although the goddesses Astarte, Asherah, and Anat are quite distinct in the Middle Bronze Age at Ugarit (ca. 1800 BCE), by the late Iron Age (ca. 600 BCE) they appear to be fused into one deity and even equated with the Egyptian goddess Hathor

(Dever 2005). Similarly, the Israelite god YHWH appears to have been equated by at least some with the former Canaanite high god El, now the Hebrew word for “god” (Cross 1997; Smith 2002). This indicates two trends common to modern societies as well: the delicate balance between nationalism (in the form of exalting the national deity) and the attempt to keep the peace and maintain good relations through acknowledging diversity (in the form of syncretism).

Expansion

The maintenance of good relations across ethnic groups in the ancient city was necessary because 1) the city then as now attracted immigrants from a variety of locales, and 2) the process of urbanization itself forced the state to expand its influence. In his discussion of the building of the New York City water supply, Thomas (2005) suggested that the need for a city to expand into its adjoining hinterland was necessitated by urbanization itself. As a city grows, the enlarged population consumes a greater land area through building, ultimately forcing such activities as farming and resource extraction (such as water) to the periphery. This expansion also forces the city to seek control of land and resources at a distance from the city itself. In New York, the water supply extends over an area over a hundred miles away, and in order to protect its interests the city needs to have some mechanism of control. For New York City, this is a combination of its own agency to watch over the water supply as well as the power of the state itself. If the city of New York were to exert direct control over the region, it could be seen as act of colonization, and as such appeal to the higher authority of the state, obscuring the relationship between the city and its hinterland. In essence, the city exchanges some level of direct control in exchange for the state government legitimating its *de facto* power in the region. In ancient societies, the development of the state was similarly an act of control: cities needed to control the water supply, agricultural fields, and trade routes, and this meant placing a claim over people living in rural villages and even smaller cities at a distance from the main city.

The structure of the Mesopotamian city-state, as well as its later descendant the Greek city-state, was based on the idea that a city included not only its urbanized area, but also the satellite villages immediately connected to the city and agricultural villages at a greater distance (Morley 1996; van de Mierop 1999, 2006; Hall 2001). Expansion of influence often brought in not only new resources but new people, but even without the new populations the city population would be allowed to grow by the presence of additional resources. This in turn set up a dynamic wherein additional growth was eventually necessary, with the result of frequent wars (Yoffee 2005; Thomas 2010). This dynamic of growth and expansion was found not only in Mesopotamia, but in other regions of new urbanization such as China (Maisels 1999) and Mesoamerica (Flannery and Marcus 2003). In time, successful expansion and continued favorable environmental conditions led to the rise of territorial states in some regions wherein the political, economic and ideological functions were integrated into one dominant system (Yoffee 2005). Of course, territorial states continued to face the same issues and as a result continued to seek greater and greater social entities, leading to even larger states, empire building, and colonization.

The drive for expansion at the center of the urbanization process led to the continual redefinition of core-periphery relations. Early city-states shared “contested peripheries” where their spheres of influence overlapped (Allen 1997; Chase-Dunn and Hall 1997). Early in Mesopotamian history the first recorded war between Umma and Lagash was over the contested fields of Ningirsu (see Dalley 2000). The fields were the contested periphery between cities 18

miles distant from one another, but the territory would soon be consolidated under Sargon of Akkad. The Akkadian Empire, i.e. a territorial state, soon dissolved, but other states such as the Third Dynasty of Ur and the Babylonian Empire would envelop the contested territory as well. Similarly, the Jezreel Valley functioned as a contested periphery through the Iron Age and the Hellenistic Period only to be consolidated under Rome (Cline 2000). The drive of urban systems – and world-systems – to expand is related to urbanization as a process.

Conclusion

A world-systems approach to the growth of cities would see the evolution of the world-system as a prerequisite for the growth of cities, and we can term this process “urbanization.” Viewed as a network of social and cultural exchange, with cities as major nodes in that network, such an approach explains the coevolution of cities with their associated phenomena such as social stratification, and more importantly explains the rise of certain “urban” phenomena before the growth of cities themselves. Even if one does not wish to equate the growth of the world-system with the process of urbanization – a question of semantics – the point is clear: in the Fertile Crescent, the world-system evolved prior to the growth of cities. There are ramifications of this observation for social scientists studying modern cities. Specifically, urbanization is shown to be the root cause of many of the phenomena sometimes associated with modern industrial capitalism, and as such it should not be surprising that these same phenomena in the ancient world brought about some very modern looking conditions.

Mass production is today associated with ubiquitous products that are sometimes, and perhaps unfairly, characterized as “cheap.” In Uruk in the late fourth millennium BCE the ubiquity of the Beveled Rim bowl used for rations is evidenced by their being found strewn across the desert in former agricultural fields and in various environments in the cities themselves (Maisels 1990). They are often considered to be “cheap” in comparison to the pottery of previous periods. Similarly, in Iron Age Israel Asherah figurines, small clay figures of the goddess with a tree like base were found in a variety of contexts throughout the countryside as well as the capital cities of Jerusalem and Samaria, much to the consternation of the Biblical authors (Mazar 1992; Dever 2005). Many of the mass-produced items found in ancient times were in the same industries as those in early capitalism: textiles and jewelry, for example.

It is tempting at times to think that it is our modern society that has become so diverse, but social stratification and differentiation dates to deep into prehistory. A typical city dweller in ancient Babylon (ca. 600 BCE) would have heard the voices of a variety of ethnic groups, including the ruling Chaldeans, traders and new residents from Assyria, Phoenicia, Israel, Egypt, Afghanistan, and many other societies. Besides cultural diversity, the spectacle of the palace and the ziggurat would have been faced by the slaves doing much of the work, by “middle class” artisans with fine skills producing for the palace, temple, and other *oikoi* and dependent upon those institutions for access to the agricultural surplus, and the serfs and peasants working the fields. Members of these groups would have been found in their own distinct “neighborhoods.”

Cultural mechanisms of political control are prevalent today, and no less so in the ancient city. Today we speak of the impact of such media as television and the internet, but the primary mechanism of such propaganda in ancient times was carved in stone. Through monumental architecture and memorial steles, ancient rulers could convey their perspective to the populace in ways that resemble modern conditions: the cost of such construction was high and as a result the

ability to produce such work limited to the elite. Even in ancient times, however, there were lower cost alternatives: clay ostraca, the remnants of broken pottery, were used to convey messages of a more basic nature. The dominant cultural institutions were related to religion, and as such most rulers legitimated their authority on religious grounds. Indeed, the rise of Babylon as a political power was accompanied by the rise of Marduk as a god of importance as Babylonian scribes adapted the Sumerian creation myths for the new political realities in the form of the *Enuma Elish*. Similarly, the centralization of political and economic authority in ancient Judah under Kings Hezekiah and Josiah was justified by the call to centralize all worship and animal sacrifice in the Jerusalem temple.

In terms of the expansion of the urban system, one can see in this dynamic the roots of later colonialism and the modern world-system. Sociologists are accustomed to see this dynamic as the result of the state, but what preceded the state? As cities in ancient times became the dominant political realities, their enlarged populations presented an objective need for more resources, and as a consequence early cities of necessity “annexed” adjacent lands and, over time, smaller cities and their lands. It was this process that generated the state, and it is of course the state that continued to expand its influence through direct and indirect means. The modern world-system, founded on modern colonialism but today characterized by “core” states dominating the periphery through indirect hegemonic means, is a modern continuation of these basic urban dynamics. It is also a basis for dating the beginning of world-systems. Although it has been suggested that world-systems existed among hunting and gathering societies (see Chase-Dunn and Hall 1997), it can instead be argued that world-systems evolved in lockstep with cities, ultimately predating cities and giving rise to them.

The task for sociology is to tease out the traits of the contemporary world that are the result of urbanization as distinct from modern economic systems. Although the rise of the megacities known today may be understood as relating to capitalist accumulation, the city is not the creation of a capitalist economy, and many of the problems associated with capitalism are not specific to capitalist economies. This does not mean that capitalism does not bring about its own problems: it is likely, for instance, that capitalism (and not urbanization) encourages considerable waste and environmental degradation, for instance. Similarly, the cultural effects of a consumer driven economy seem the result of capitalist accumulation, not the city. The ramification of the acknowledgement that some problems with capitalism are in fact rooted in urbanization itself, however, is obvious: if we are to create a more fair society that is sustainable over the long term, it is not enough to restructure the means of production. As social scientists, it is essential that we study not only the city, but urbanization as a whole. Paradoxically, this means decentering the global city as the unit of analysis, and examining the functioning of the system from the centers of economic and political power to their most outlying provinces. It means placing such key components of ancient urbanization – agriculture, power, and the maintenance of community – at the center of urban sociology.

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The Effects of Global Interaction on Poverty in Developing Countries, 1991-2005

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Abstract

While previous studies have examined the impact of globalization on a myriad of welfare outcomes in developing countries, the effect of cross-national exchanges on extreme poverty remains unexplored. Poverty has declined substantially during this most recent wave of globalization, suggesting that cross-border relations may be partially responsible. We test this proposition by estimating the impact of foreign direct investment (FDI), trade openness, and the presence of international non-governmental organizations (INGOs) on poverty, measured at both the \$1.25-a-day (extreme poverty) level, and the \$2.50-a-day (moderate poverty) level, net of domestic conditions. Using a sample of 114 developing countries over five waves of data collected from 1991 to 2005, results from random effects models show that FDI exhibits a positive relationship with poverty at the \$1.25 and \$2.50 levels, while trade openness demonstrates a negative relationship with both extreme and moderate poverty. Once domestic conditions are controlled, INGO participation fails to demonstrate a significant effect on poverty at either level. Among domestic variables, economic growth and fertility rate affect poverty at the \$1.25 level, while growth and domestic investment demonstrate an effect at the \$2.50 level. These findings confirm that global interaction by poor countries influences poverty reduction within these countries, but in different directions.

¹ The authors would like to thank Dr. Rob Clark for his assistance and review of this project.

Over one billion people – around 25% of the world’s population – live in extreme poverty, surviving on \$1.25 a day or less, with an additional two billion living in moderate poverty, on less than \$2.50 a day (Chen and Ravallion 2007). The great majority of these people live in less-developed countries across the world. Individuals who face poverty at these levels have vastly decreased life chances relative to those with higher incomes, experiencing constant food insecurity, health problems, limited opportunities, and lowered life expectancies. Efforts to alleviate poverty have been a part of the philanthropic work of countries in the developed world and international organizations for decades, and a good deal of progress has been made. Globally, the percentage of the population living in extreme and moderate poverty has decreased since 1990 (Chen and Ravallion 2007; Ravallion, Chen, and Sangraula 2008), with particular gains in poverty reduction realized in many East and South Asian countries. However, these Asian successes have masked increased levels of poverty in many parts of Sub-Saharan Africa, Latin America, and the former Soviet countries of Eastern Europe (Sala-I-Martin 2006; Ravallion et al. 2008). Understanding this uneven success requires an examination of the processes – both global and domestic – that affect levels of poverty across countries. Currently, however, few studies examine these relationships at the global level (e.g., Sachs 2005; Collier 2007).

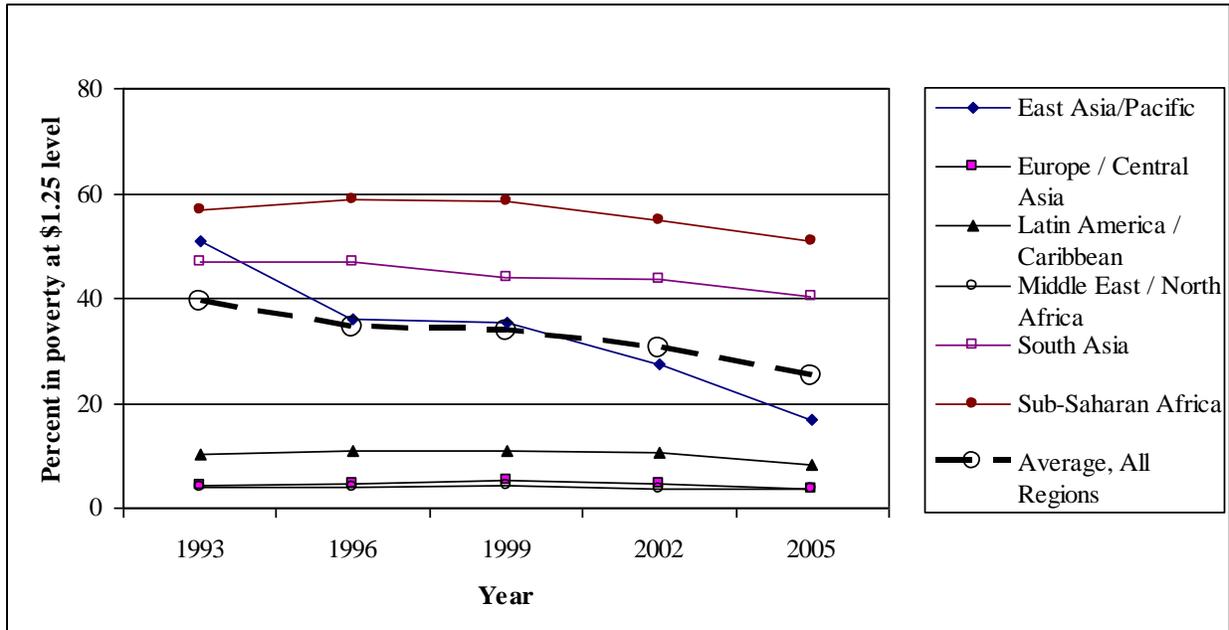
This study addresses this gap in development knowledge by examining extreme and moderate poverty levels by country over five waves covering the years 1991 to 2005. Using economic and non-economic measures developed from international sources, this research analyzes global and domestic variables to determine the extent to which a country’s experience of globalization affects the percentage of its population living in poverty at the \$1.25-a-day (i.e., extreme) and \$2.50-a-day (i.e., moderate) levels, net of domestic effects. Arguments from the neoclassical economic, dependency and world-systems, and world polity schools about the potential effects of foreign interactions will be tested in this analysis. This research addresses three questions: Does a country’s level of interaction in the global environment via international economic and polity institutions affect the percentage of its population living in extreme poverty? Do the effects of global variables on poverty hold when controlling for domestic conditions within that country? Is there a difference in the effects of global interactions net of domestic conditions at the \$1.25-a-day and \$2.50-a-day levels?

Review of Previous Literature

Poverty

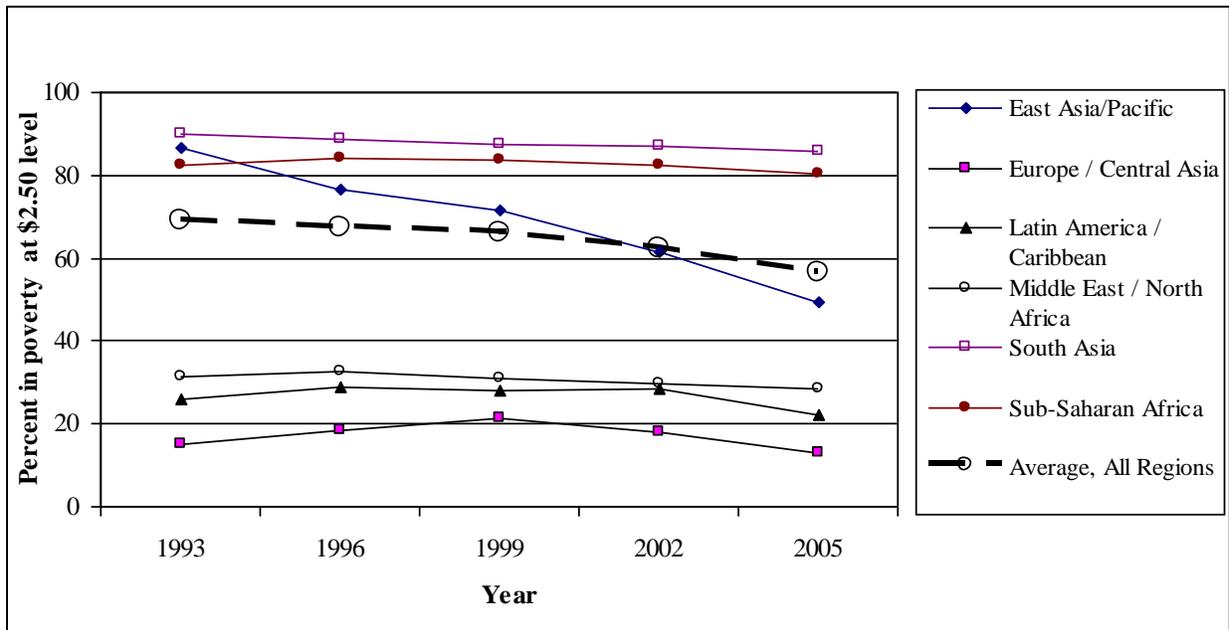
Reducing by one-half the world’s population who live in extreme poverty over the period 1990 to 2015 is the first stated goal of the Millennium Declaration, signed by 152 heads of state from around the world in 2000 (United Nations 2007). Figure 1 portrays progress toward that goal by presenting the global trends in poverty since 1993 at the \$1.25 level. Though all regions have seen some level of reduction over this time period, an uneven distribution of poverty reduction across regions of the world is clearly evident. Within these regions, many countries have actually experienced significant *increases* in their levels of poverty (Sala-I-Martin 2006). Recent data on poverty levels suggest that these increases are becoming more commonplace due to the global economic slowdown and the disruptions in food availability and pricing that occurred in 2008 (United Nations 2009).

Figure 1. Global \$1.25-per-day Poverty Trends by Region, 1993 – 2005



Source: Poverty levels are extracted from the World Bank Indicators database, 1991-2005 (World Bank 2010).

Figure 2. Global \$2.50-a-day Poverty Trends by Region, 1993 – 2005



Source: Poverty levels are extracted from the World Bank Indicators database, 1991-2005 (World Bank 2010).

While the Millennium Declaration specifically identifies extreme poverty reduction as the 2015 goal, Chen and Ravallion (2008) illustrate the usefulness of examining the \$1.25-a-day level of poverty as one threshold denoting extreme poverty in the poorest countries and the \$2.50-a-day level of poverty representing a typical poverty level among a broader range of developing countries. For comparison, trends in moderate poverty since 1993 are presented in Figure 2. While this figure demonstrates the same global downward trend as Figure 1, overall rates of moderate poverty are much higher than those of extreme poverty in every region of the world. Also of interest in Figure 2 are the trajectories of Sub-Saharan Africa and the emerging economies in Europe and Central Asia that show increases in moderate poverty through the third wave (i.e., 1999), followed by declines through the end of the period. The differences in prevalence and trajectory of poverty prevalence across these figures indicate that differences may exist with respect to the effects of global and domestic variables on poverty reduction at these distinct levels, necessitating separate analysis and comparison of the two.

Scholars have developed a number of ideas about why poverty exists at the levels and in the places it does. Among these, a key idea is the impact of interaction by developing countries in the global economic, political, and cultural systems. Proponents of greater global integration from the neoclassical school hold that increased participation in the global system brings economic benefits that are ultimately accompanied by welfare benefits for the general population (Sachs 2005). A competing view, developed by scholars in the dependency and world-systems schools, asserts that greater levels of globalization lead to negative economic and welfare outcomes as developing countries are exploited by those ahead of them on the development curve (Wallerstein 1974).

This study attempts to parse out the veracity of these opposing viewpoints (i.e., Sachs versus Wallerstein) with respect to the relationship between global integration and poverty reduction, net of domestic conditions that may influence poverty. The next sections review the scholarly and applied literature on what is known to influence poverty along three globalization areas of inquiry – foreign investment, trade openness, and international non-governmental organization involvement – and then considers the role of domestic factors in poverty reduction.

Foreign Investment and Poverty

Debates about the effects of foreign direct investment (FDI) in the developing world typically occur in contexts dealing with income inequality or economic development, but the principles discussed in these contexts can also be applied to poverty reduction. For those in the neoclassical school, the goal of every developing country should be the acquisition of as much foreign investment capital as possible (Firebaugh 1992). Because the source of investment money is not as important as its presence, it makes sense for countries to pursue foreign investment, as there are typically more funds available from foreign than domestic sources in developing countries. Researchers from this school have found positive effects of FDI on economic growth (Firebaugh 1992), health outcomes (Firebaugh and Beck 1994), education (Schofer and Meyer 2005), and domestic investment (de Soysa and Oneal 1999). These scholars acknowledge that growth in inequality may follow the growth brought by increased FDI, but this inequality is both acceptable and necessary as wages rise across the lower strata of the workforce (Firebaugh 2003). They argue that this increase in wages will eventually result in the elevation of incomes across most of the country. Whether this proves to be the case or not, the hypothesized increase

in wages from an influx of FDI could serve to lift some of the population out of poverty, potentially linking FDI to poverty reduction.

Alternatively, scholars in the dependency school argue that gains identified by neoclassical scholars mask longer-term losses that often result in countries experiencing worse economic conditions than when they started (Kentor 1998). A number of studies from this perspective have found that FDI generates increased income inequality and slows economic growth (Bradshaw et al. 1993; Dixon and Boswell 1996; Kentor and Boswell 2003). Vijaya and Kaltani (2007) found that increased FDI flows have a negative impact on manufacturing wages in the developing world, particularly among female wage-earners, countering a central point of the neoclassical argument. These negative economic outcomes have also been linked to a number of negative health and welfare outcomes including food consumption (Wimberley and Bello 1992), quality of life (Bradshaw and Huang 1991), and infant mortality, child mortality, and calorie consumption among children (Bradshaw et al. 1993). Expanding on the dependency argument, world-systems scholars hold that these negative outcomes emerge as economies in the developing world participate in inherently unequal interactions with more developed countries (Wallerstein 1974). Through these relationships of exploitation and extraction, countries in the periphery of the world economy encounter greater difficulty in reducing poverty than those in the core or semi-periphery due to the inherent economic constraints of their relative isolation (Kim and Shin 2003). These perspectives lead to the prediction that increases in FDI inhibit poverty reduction as economic growth is stifled by the presence of foreign capital.

Few empirical studies examine the relationships between FDI and poverty, and the existing research has demonstrated mixed results (Sumner 2005). Dollar and Kraay (2001) find that increases in FDI inflows correspond with increases in income. This finding, however, may reflect only short-term gains that other studies have found to be negated over time (Kentor 1998). Most attempts to track this relationship find no relationship between FDI and different measures of poverty or income, including GDP growth (Carkovic and Levine 2002), income growth (Milanovic 2002), and poverty headcount (Agenor 2002). This study extends this line of research on the role of the relationship between FDI and poverty by examining a more recent dataset than these earlier studies and using panel data to allow for the examination of relationships both across countries and over time. In doing so, this study also tests the neo-classical argument (i.e., FDI would share a negative relationship with poverty) versus the dependency and world-systems' argument (i.e., FDI would share a positive relationship with poverty).

Trade Openness and Poverty

Arguments about the effects of trade openness on poverty reduction are similar to the debates over FDI. Proponents of increased trade (i.e., again from the neoclassical school) argue that freer trade maximizes the size of potential markets, yielding greater opportunities to trade and encouraging greater productivity and entrepreneurship (Weede 2008). Sachs and Warner (1995), among others (Yanikkaya 2003; Wacziarg and Welch 2008), claim that expansion leads to greater economic growth and, as a result, a reduction in poverty. As economic growth is seen as a key to improved welfare outcomes (Firebaugh and Beck 1994; Jalles 2011), the expansion of trade is seen as a natural way to enhance growth and, by extension, human welfare.

Predictably, dependency scholars caution against countries throwing open their borders to trade with no protections, fearing that such openness will result in poorer countries being exploited by wealthier countries that are better able to dictate terms of trade to their advantage.

The world-systems argument again emerges, expecting more open peripheral countries to be vulnerable to extraction of resources and exploitation because they do not have the connections or resources to develop industries that can compete with more developed countries in a global market.

While both sides assert the potential strength of effects in one direction or the other as a result of openness, research findings are mixed. Some studies have found little, if any significant relationship between openness and poverty (Dollar and Kraay 2004; Edwards et al. 2007). Ravallion (2006: 1388) investigated the relationship between openness and poverty reduction in case studies of China and Morocco, stating that his findings “cast doubt” that openness has either a positive or negative effect on poverty. Other case studies in the Philippines (Pernia and Quising 2003) and Brazil (Carneiro and Arbache 2003) offer further evidence that openness alone is insufficient for poverty reduction. This study extends this line of research by testing whether there is a trade openness effect on poverty alongside other competing global and domestic effects. As a result, this study therefore tests the neo-classical argument (i.e., trade openness would have a negative effect on poverty) versus the dependency argument (i.e., trade openness would have a positive effect on poverty).

INGOs and Poverty

The world polity perspective provides an alternative narrative to the neoclassical and dependency arguments. This school of thought credits the global rise in international non-governmental organizations (INGOs) and the subsequent development of a global civil society with many of the gains realized in development and welfare outcomes around the world. Beckfield (2003) notes substantial increases in INGO participation – generally measured as membership ties to INGOs– by every country in his study of INGO participation from 1960 to 2000. Highest-gaining countries increased their memberships by as much as 400% over that span. More significantly, many countries at the bottom of the spectrum went from zero INGO ties in 1960 to over 200 in 2000. The coincidence of this proliferation with significant advances in human development outcomes has led scholars in the world polity school to conclude that the rise in INGOs is responsible for these positive development outcomes through the development and diffusion of *world culture* frames that challenge governments and individuals to adhere to global norms of citizenship (Boli and Thomas 1999). In addition to the development of these global ideas, INGOs can act as a “global third sector” beyond economics or politics that works outside of constraints placed by economies or governments (Salamon 1994) to influence human development and welfare outcomes by providing services (Chabbott 1999), funds (Ndegwa 1996), technology (Shirin 2000), and human capital (Chabbott 1999)

Research shows that INGOs have a positive effect on educational enrollment and persistence, health outcomes, environmental outcomes, women’s rights and a reduction in the negative effects of overurbanization (Soros 2004). Jorgenson (2009) finds that the presence of environmentally-oriented INGOs is related to reduced industrial organic water pollution intensity. Examining factors shaping overurbanization in the developing world, Bradshaw and Schafer (2000) provide evidence that the increased presence of INGOs ameliorate the negative consequences associated with overurbanization, and further, that INGO expansion is positively related to economic growth and access to clean water. Finally, the world culture ideas espoused by these organizations encourage the growth of grass roots organizations within developing countries (Salamon 1994), help standardize trade and professional practices (Boli and Thomas

1999), and lead to greater accountability of governments to their people and the international community (Bello 2001).

While research in the world polity framework has examined a number of welfare and development outcomes, a country's level of poverty represents an unexamined area that may be affected by INGO presence. As INGOs have been found to have a number of positive effects in areas related to economic development in poor countries and many of these organizations have emerged to deal with issues related to poverty, the presence of these organizations in a country may directly affect the extent of poverty present in that society. While not all INGOs deal with issues related to poverty and development, the world polity school asserts that their presence may influence poverty reduction through the distribution of world culture scripts that encourage the elimination of extreme and moderate poverty. Finally, as the majority of INGOs are devoted to issues like trade and commerce (Boli and Thomas 1997), the presence of these organizations may help create an economic climate in a country that lends itself to job creation and commerce, generating pathways for individuals to move out of poverty. Drawing on what is theoretically postulated by the world policy school, then, this study tests whether the presence of INGOs in a country is related to the poverty level.

Domestic Conditions and Poverty

Poverty levels in a country may be affected by factors both within and outside the country's borders. In addition to potential global influences on poverty, domestic conditions – such as economic growth, domestic investment, democratization, and population growth – shape economic and welfare outcomes in developing countries. Key among these domestic elements is economic growth. Neoclassical economics holds that, as economies grow, jobs are created, higher wages are paid, and greater market opportunities emerge, both within and outside of the country. Jalles (2011) finds that an increase in aggregate income is related to a decrease in poverty in the former Soviet states. In a study of the effects of changes in GDP per capita in the newly emerging economies of Central Asia and the Caucasus, Falkingham (2005) provides evidence of inequality and poverty rates declining as GDP per capita grows. Likewise, Jalilian and Kirkpatrick (2005) find a negative relationship between growth and poverty up to a certain threshold of development, which, in addition to a negative relationship among the poorest countries, suggests that more than one level of poverty should be examined. Beyond these economic outcomes, growth is also known to influence a number of welfare outcomes favorably, including: food consumption, infant survival, and life expectancy (Firebaugh and Beck 1994), one-to-five-year-old child survival (Brady, Kaya, and Beckfield 2007), and food security (Jenkins and Scanlan 2007). Based upon these prior studies, we expect that economic growth will demonstrate a negative relationship with poverty.

Similar to GDP, domestic investment is a salient factor to consider as being related to a country's poverty level. Domestic investment has been determined by scholars as one of, if not the most effective way, for a country to grow its economy (Firebaugh 1992). The application of domestic investment offers a double benefit for economic growth as it spurs indigenous development of business and industry and provides resources for investment as loans are repaid, markets are expanded, and incomes grow. In an examination of domestic investment in Africa, Anyanwu (2006) shows a clear relationship between high rates of domestic investment and higher levels of economic growth. Firebaugh (1992) and de Soysa and Oneal (1999) find similar relationships, demonstrating the efficacy of domestic investment in promoting growth. If

economic growth affects poverty, then it is clear that domestic investment represents an important part of that growth.

Democracy is another domestic factor that may influence poverty, yet Kerbo's (2006) review of the development literature fails to find a consistent relationship between democracy and the presence of extreme poverty. While an overt relationship to poverty has not been identified, there are a number of studies investigating the relationship between democracy and inequality. As with examinations of poverty, the results of these studies are inconclusive. Bollen and Jackman (1985) find no relationship between inequality and democracy, while others (Simpson 1990; Crenshaw 1992) find clear evidence of a curvilinear relationship between the two using Bollen's (1980) Democracy Index. These studies show that inequality increases as a country's level of democracy increases, but that the relationship reverses once a threshold of democracy is achieved. Studies using a temporal measure of democracy find a similar curvilinear effect, with inequality declining as democracies reach the 20-year mark (Muller 1988). Therefore, it may be that nascent democracies have economic growth but not strong enough state institutions to ensure that this income is evenly distributed. Together, research in this area points to the need to include democracy as a salient factor that may affect the economy, and in turn, poverty.

Human capital, specifically in the form of education, is another domestic element that has the potential to affect the level of poverty within a country. An educated population is necessary for the adoption of new technologies and the attraction of businesses that require a more educated workforce. The United Nations has equated education with development in its discussion of the Millennium Development Goals (United Nations 2010). Barro (2001) finds that higher levels of school attainment are associated with greater economic growth. Education has also been linked to welfare outcomes such as reduced infant mortality and extended life expectancies (Brady et al. 2007). These findings point to the need to consider education as a domestic influence on the percentage of a country's population living in extreme or moderate poverty. The literature suggests that education will have a negative effect on the level of poverty.

The potential for population growth is another domestic element that may shape economic growth and poverty reduction. High population growth is related to lower economic growth (Barro 2001) and reductions in per capita income (Bloom and Sachs 1998). In studies directly linking poverty and population growth, scholars find fertility rates to be positively related to poverty levels in both developed (Abernethy 2002) and developing (Eastwood and Lipton 1999) countries. A high fertility rate is linked to higher inequality (Kentor 2001), greater levels of maternal morbidity and mortality (Goesling and Firebaugh 2004), and lower life expectancy and calorie consumption but higher infant mortality (Brady et al. 2007). Based upon this research, we expect that fertility will be positively associated with the percentage of a country's population living in poverty, whether measuring extreme or moderate levels, in the current analysis.

Each of these domestic elements has demonstrated effects on welfare outcomes. While other internal conditions play key roles in shaping the ability of a population to move out of poverty, we agree with Kentor (2001) that global processes affect these domestic conditions and anticipate that the global variables in this analysis will continue to demonstrate significant effects on poverty net of these domestic variables. Additionally, this examination of what is associated with poverty holds that we should control for regional variation and the temporal nature of the data. As Figures 1 and 2 clearly show, regions experience poverty and poverty reduction at different rates due to differential geography, access to trade route and ports, access to resources,

and colonial histories. While these effects are not specifically controlled for in the analysis, controlling for regional variation captures many of these differences. Finally, as previous studies have demonstrated that change over time matters when examining poverty (Muller 1988; Simpson 1990; Crenshaw 1992;), we include a control variable to account for this variation.

Statement of Research Problem

This study seeks to examine the presence and persistence of extreme and moderate poverty by investigating relationships between both global and domestic variables and poverty scores at the \$1.25 and \$2.50-a-day levels, respectively, to determine the extent that these macro-level variables affect the percentage of a country's population that lives in poverty. To this end, three questions are addressed. First, does a country's level of interaction in the global environment via international economic and polity institutions affect the percentage of its population living in extreme poverty? Next, do the effects of global variables on poverty hold when controlled for domestic conditions within that country? Finally, is there a difference in the effects of global variables net of domestic conditions at the \$1.25-a-day and \$2.50-a-day levels?

This study anticipates that all of the globalization variables will demonstrate significant relationships with poverty at both levels. Specifically, and agreeing with dependency and world-systems arguments, we expect FDI to have a positive relationship with poverty (i.e., higher levels of FDI penetration will be related to a higher percentage of the population living in poverty). Based on somewhat mixed findings in the scholarly literature and the limited effectiveness demonstrated by openness in previous studies, we predict that, agreeing with the neoclassical school, trade openness will have a slightly negative effect on poverty in the globalization models, but that this effect will not maintain significance net of domestic conditions. We hypothesize along with the world polity school in terms of the effect of INGO presence; we expect that countries with greater numbers of INGO ties will have a lower percentage of the population living in poverty over the period of the study compared with those with fewer INGO ties. Additionally, it is expected that domestic factors will shape the effects of global variables, but that – in spite of these effects – the impact of global interactions will persist. Finally, it is expected that poverty at the \$1.25 and \$2.50-a-day levels will be affected differently by these variables as these poverty levels may represent different types of poverty. By addressing these questions, this study fills gaps in the dependency/world-systems, world polity, and poverty literatures and provides insights for potential policy efforts toward poverty reduction at both the domestic and international levels.

Methodology

Data for the measures included in this study come from multiple sources that provide country-level data for international comparisons, including The United Nations, The World Bank, *The Yearbook of International Organizations*, and The Polity IV Project. While the data examined in this analysis are the best available for this type of research, limitations associated with cross-national research exist, particularly among poor populations. In spite of the challenges presented by the nature of these data, the efficacy of variables developed from these sources has been demonstrated in research in a number of areas including: world-systems (Clark and Beckfield

2009), world polity (Meyer et al. 1997), human rights (Hafner-Burton and Tsutsui 2005), and refugee studies (Moore and Shellman 2007).

The World Bank Indicators (2010) database includes observations of poverty levels for 114 countries (see Appendix A for a list of included countries). These observations occur at regular intervals and these intervals are used as the center points of three-year waves. Using data from 1991 – 2005 allows for the creation of five waves of data, expanding the total possible observations to 570. However, due to differential availability of data for many of the included variables, some countries will not have observations for all of the waves of the study, resulting in pooled data that are unbalanced. Appropriate measures are therefore taken in handling these data as discussed in the Methods section of this paper.

Because the data for this project come from a variety of sources, variation exists in definitions, levels of measurement, and data manipulations. Whatever variation may exist, two commonalities are present across the dataset that allow for comparisons using these disparate data to be made. First, all of the data included are at the country or nation-state level. Whatever decisions were made in producing these data, they all share the same unit of analysis, which allows for comparability. Second, each measure uses a common data source for all observations. Whatever flaws may exist in the data, they will be consistent across all observations of a particular measure.

Methods

To examine the relationships between explanatory variables and poverty, the dataset was analyzed using random effects regression models (REMs). REMs are preferable for this analysis as they allow for comparisons of both between-country and within-country variations, making possible the observation of changes in the effects of independent variables in both cross-national and historical perspectives. This ability to make comparisons along these two vectors makes the use of random effects models preferable to fixed effects models (FEMs) that only capture variation within countries across time. Additionally, FEMs do not allow for the inclusion of time invariant variables, which would preclude the ability to control for regional variation. FEMs for all models in the analysis were conducted for robustness and these results are presented in Appendix B. These results demonstrate both similarities and differences to REMs findings. While many of the main REMs findings are confirmed, some relationships – particularly those identified in final models – fail to emerge in the FEMs results. This indicates that, to some extent, the effects identified in the REMs are the result of cross-sectional variation in experiences of the independent variables and poverty, and not the result of change in these variables across time in all countries. However, the primary relationships (i.e., FDI penetration, trade openness, and INGOs with poverty) are present in both REMs and FEMs, confirming that these effects occur both across countries and over time.

Pooled time series data, such as will be used here, have consistently demonstrated the tendency to violate the ordinary least squares (OLS) assumption of uncorrelated errors due to the likelihood of unmeasured heterogeneity in the panels (Lee, Nielsen, and Anderson 2007). The strong possibility exists that observations in the same country have correlated error. This correlation of error within panels due to time-invariant, unit-specific effects may bias the parameter estimates (Greene 2000). The use of random effects models is a common strategy for accounting for this error (Mahutga and Bandelj 2008), as these models adjust for error correlation through the inclusion of a panel-specific error term that is normally distributed.

Because the analysis in this project evaluates relationships in waves, the variables used as predictors and controls are period averages for the years included in each period (1991-1993, 1994-1996, 1997-1999, 2000-2002, 2003-2005). The use of averages controls for variation resulting from changes that may have occurred in a particular country over the time being studied, allowing lag time for the effects of these variables on poverty to manifest. For some variables this information is not available and for others there is no need to calculate averages, given that scores do not change significantly over such a short span. Due to the highly skewed nature of many of these variables, a number of them are logged. Whether a variable is included as a period average, a simple score, or a logged transformation is noted in the descriptions of variables that follow. Pairwise correlations for all variables are presented in Appendix C. Additionally, collinearity checks were performed and all relationships were found to fall within accepted standards. Observations from all of the waves of the study will be included in this analysis. Descriptive statistics for all variables are presented in Appendix D.

Dependent Variables – Poverty at the \$1.25- and \$2.50-a-day Levels

Extreme and *moderate poverty* are the outcome variables for this analysis. The *extreme poverty* measure is presented as the percentage of a country's population living at or below \$1.25 a day. All dollar measures are in 2005 U.S. dollars adjusted for purchasing power parity (2005 PPP). In order to examine differences in the effects of variables in the analysis on poverty at different levels, a second set of analyses will be done with poverty percentages at the \$2.50 a day, or *moderate poverty* level. Data for these measures come from the World Bank (2010) and reflect estimates for countries based on a variety of sources collected from different years within the time period. Each country has a single score for each wave. The use of multiple sources for the poverty estimates creates some problems in terms of the reliability of the data (Chen and Ravallion 2007), and it is with full awareness of these potential flaws in the data that this analysis is conducted. These data are the standard measures of extreme poverty in spite of their flaws and provide a solid picture of trends in poverty at the national level.

Globalization Variables

The *foreign direct investment (FDI) penetration (logged)* variable measures the extent to which a country's economy is dependent on foreign investment. This measure is constructed by dividing FDI stock by total Gross Domestic Product (GDP). The data for FDI stock come from the United Nations Conference on Trade and Development (UNCTAD 2010) and the GDP numbers come from the World Bank's (2010) World Development Indicators Database (WDI). This measure is presented as a period average for each of the waves. For countries that do not have available data for all of the years of the period, available years will be averaged. A country must have data available for at least two years to be included in a given wave. The log of this variable is used in order to account for the skewed nature of the data.

Trade openness measures the level at which a particular nation participates in the world economy (Clark 2008). This variable includes all exports and imports and calculates the percentage of a country's total GDP accounted for by trade outside the country's borders. This measure is developed by summing total exports and imports as a share of total GDP and is presented as a period average for each wave. The data for this measure come from the World Bank. This variable is logged to account for the skewed nature of the data.

The *International Non-Governmental Organization (INGO) membership ties* measure reflects the extent to which a country is connected to the world polity and examines the effects of that connection on poverty. Data for this measure come from the *Yearbook of International Organizations* (1996; 2002; 2005; 2008) and represent counts of organizational ties. As the distribution of these data demonstrates a degree of stability over time (Beckfield 2003), counts will be included for only one year in each of the waves.

Domestic Variables

GDP per capita, (logged) is a measure to account for economic growth. It is included as period averages for all of the years in each wave and is logged to account for skewness in the data. These data come from the WDI (World Bank 2010). While valid arguments can be made for the use of either purchasing power parity (Passe-Smith 2008) or fixed exchange (Korzeniewicz et al. 2004) data for this measure, we agree with Milanovic (2005: 13) that PPP provides “a much better handle on the real welfare of people,” and use PPP for this analysis.

Domestic investment is a measure of the effects of resources spent within the country to encourage development. It is presented as domestic credit to the private sector as a percentage of GDP. Data for this measure come from the WDI (World Bank 2010).

Data for the *democracy* variable come from the Polity IV Index maintained by the University of Maryland’s Center for International Development and Conflict Management (Marshall and Jaggers 2008). This index presents a country’s level of democracy on a scale from -10 to 10, with lower numbers representing lower scores on the component parts of the index. For this measure, scores are averaged across all of the years included in each wave. Adjustments have been made to the scores of several countries to account for transitional governments or foreign occupations. These adjustments were made according to the standards outlined by the developers of the index with careful attention to the way in which scores were imputed or translated. The inclusion of a measure of democracy that captures the level of democracy in a country (e.g., Bollen and Jackman 1985) – rather than one that captures the length of time a country has been democratic (e.g., Muller 1988) or simply measures democracy as a dichotomous variable (e.g., Lee 2005) – flows from the assertion by Kuznets (1955) and others that democracy creates greater equality through participation levels, and institutions that tend to exist in countries with higher levels of democracy.

The *fertility rate* is an indicator of the population pressures experienced by a country. It is the average number of births per female and expresses the expected number of children that a woman will bear if she survives to the end of her reproductive age span and experiences the given age-specific rate. Data for this measure come from the WDI (World Bank 2010).

Secondary school enrollment measures a country’s level of formal education. Data are from the WDI (World Bank 2010) and capture the percentage of the secondary school-age population who are enrolled in school. While enrollment does not necessarily indicate attendance, higher enrollment levels generally indicate higher levels of participation.

Control Variables

Regional variation is captured in a series of dummy variables that control for the region in which a country is located. It is possible that a number of elements related to a country’s regional location could affect the levels of extreme and/or moderate poverty in that country. Countries in

the analysis are divided into six regions – Sub Saharan Africa, South Asia, Middle East/North Africa, Eastern Europe/Central Asia, Latin America/Caribbean, and East Asia and the Pacific. Location in a particular region is based on World Bank classifications (2010). These variables account for those elements that may not be captured in the domestic conditions variables. For each of the dummy variables, countries located within that region are coded “1,” with all other countries coded “0.”

Time period captures the waves represented in each observation and accounts for change over time.

Analysis

To address the questions in this analysis, a series of random effects regression models are examined with poverty measures at the \$1.25 and \$2.50 levels. The \$1.25 results are presented in Table 1, while the \$2.50 results are presented in Table 2. The first model in each table (Model 1) includes the global variables together with the appropriate poverty measure and controls. Model 2 includes all of the domestic variables with controls. In Model 3, the regional dummy variables are presented by themselves in order to examine these relationships unencumbered by additional variables. Finally, Model 4 includes all of the global, domestic, and control variables together.

Results

What is related to \$1.25-a-day or extreme poverty?

The effects of regional variables presented in Model 1 reflect the statistics reflected in Figure 1. Africa has a higher level of poverty relative to East Asia, while the Middle East, Latin America, and the former Soviet countries in Eastern Europe and Central Asia all demonstrate lower poverty levels. Of these variables, Eastern Europe/Central Asia has the strongest relationship, followed by Africa, Latin America, and the Middle East. Interestingly, South Asia does not demonstrate a significant relationship in this model. Time also reflects Figure 1, demonstrating a reduction in poverty over the course of years covered in this analysis.

Table 1. Relationships with Extreme Poverty at the \$1.25-a-day Level

	Model 1	Model 2	Model 3	Model 4
<i>Globalization variables</i>				
FDI penetration (log)		.061*		.069*
		(.029)		(.028)
Trade openness (log)		-.118***		-.059*
		(.031)		(.029)
INGO membership (log)		-.099**		.045
		(.035)		(.034)
<i>Domestic variables</i>				
GDP per capita (PPP) (log)			-.466***	-.481***
			(.055)	(.061)
Domestic investment			-.006	-.002
			(.030)	(.031)
Democracy			.002	-.006
			(.025)	(.027)
Fertility rate			.091*	.098*
			(.041)	(.041)
Secondary school			-.043	-.052
			(.053)	(.057)
<i>Control Variables</i>				
Sub-Saharan Africa	.368***	.388***	.227***	.244***
	(.083)	(.073)	(.064)	(.064)
South Asia	.013	.038*	.045*	.058**
	(.016)	(.019)	(.018)	(.019)
Middle East / North Africa	-.256***	-.223***	-.161***	-.146**
	(.064)	(.055)	(.046)	(.045)
Eastern Europe / Central Asia	-.417***	-.324***	-.187**	-.125†
	(.079)	(.069)	(.067)	(.068)
Latin America / Caribbean	-.316***	-.266***	-.111†	-.084
	(.078)	(.068)	(.060)	(.060)
Time period	-.091***	-.072***	-.042**	-.049*
	(.012)	(.018)	(.016)	(.020)
Observations	570	471	467	408
Countries	114	112	108	106
R ² Within	.15	.16	.23	.26
R ² Between	.63	.69	.82	.82
R ² Overall	.60	.64	.80	.79

† $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed tests)

Notes: Six random effects regression models (REMs) examine what globalization and domestic variables are significantly related to poverty at the \$1.25-a-day level. All models include a first-order autocorrelation correction. Each cell reports the standardized coefficient with the standard error in parentheses. In bivariate regressions, the global variables each demonstrated the similar relationships and levels of significance. Additionally, the full model was run without GDP per capita to check for the possible influence of collinearity. Relationships and significance remained robust in this model (FDI penetration, $p=.037$; Trade openness, $p=.005$; INGO membership, $p=.139$).

Model 2 of Table 1 demonstrates that significant relationships exist between each of the global variables and poverty at the \$1.25-a-day level. Higher levels of FDI lead to increased levels of poverty while trade openness and INGO participation both reduce poverty levels. Of these global variables, trade openness demonstrates the strongest effect on poverty. In this model the effects of most of the regional variables decrease, however, the positive relationship demonstrated by Africa becomes stronger and the positive relationship between South Asia and poverty becomes significant. This indicates that the influence of these global interactions increases poverty levels across regions, relative to East Asia. Time continues to demonstrate a negative relationship with poverty in this model.

In the domestic model presented in Model 3, GDP per capita and fertility demonstrate significant relationships, with increases in GDP per capita leading to decreased poverty while increases in fertility lead to increases in poverty. Domestic investment, democracy, and secondary school enrollment do not demonstrate significant relationships in this model. The effects of regional variation are reduced for most regions, with South Asia as the exception. These changes indicate that some of the effect of regional status is explained by the domestic conditions included in the analysis.

The full model, Model 4, demonstrates few changes from the previous three models, the most important of which is the failure of INGO membership to reach significance net of the domestic conditions included in this model. FDI maintains significance, as does the negative effect of trade openness. Interestingly, the effect of FDI becomes slightly stronger in this model (.061 versus .069). GDP per capita and fertility remain significant among the domestic variables, while the regional variables exhibit movement toward greater levels of poverty (i.e., positive relationships becomes stronger and negative relationships become weaker). The persistent significant effect of trade openness in this model is an unexpected finding and demonstrates that countries experience benefits from greater trade, net of internal conditions. Equally surprising is the lack of effect demonstrated by the INGO measure. All other significant variables show effects in expected directions (i.e., positive for FDI, and the fertility rate, while negative for GDP per capita). It is worth noting that, while significant, the effects of the FDI and trade openness are weaker than those of the significant domestic conditions; however, the persistence of these global variables net of domestic conditions is an important discovery and agrees with our expectations.

What is related to \$2.50-a-day or moderate poverty?**Table 2. Relationships with Moderate Poverty at the \$2.50-a-day Level**

	Model 1	Model 2	Model 3	Model 4
<i>Globalization variables</i>				
FDI penetration (log)		.064*		.060**
		(.027)		(.024)
Trade openness (log)		-.124***		-.049*
		(.029)		(.025)
INGO membership (log)		-.156***		-.004
		(.032)		(.029)
<i>Domestic variables</i>				
GDP per capita (PPP) (log)			-.552***	-.561***
			(.044)	(.050)
Domestic investment			-.055*	-.045†
			(.026)	(.027)
Democracy			.009	-.001
			(.022)	(.023)
Fertility rate			.017	.016
			(.032)	(.033)
Secondary school			-.232	-.039
			(.602)	(.048)
<i>Control Variables</i>				
Sub-Saharan Africa	.143†	.130†	-.009	-.002
	(.082)	(.068)	(.050)	(.051)
South Asia	-.003	.020	.029†	.033*
	(.015)	(.018)	(.016)	(.017)
Middle East / North Africa	-.293***	-.262***	-.185***	-.176***
	(.063)	(.051)	(.036)	(.036)
Eastern Europe / Central Asia	-.630***	-.546***	-.398***	-.354***
	(.078)	(.064)	(.053)	(.055)
Latin America / Caribbean	-.500***	-.453***	-.286***	-.263***
	(.076)	(.064)	(.047)	(.049)
Time period	-.061***	-.036*	-.023†	-.022
	(.054)	(.017)	(.013)	(.017)
Observations	570	471	467	408
Countries	114	112	108	106
R ² Within	.08	.11	.22	.26
R ² Between	.64	.72	.89	.89
R ² Overall	.62	.69	.87	.87

† $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed tests)

Notes: Six random effects regression models (REMs) examine what globalization and domestic variables are significantly related to poverty at the \$1.25-a-day level. All models include a first-order autocorrelation correction. Each cell reports the standardized coefficient with the standard error in parentheses. In bivariate regressions, the global variables each demonstrated the similar relationships and levels of significance. Additionally, the full model was run without GDP per capita to check for the possible influence of collinearity. Relationships and levels of significance remained robust in this model (FDI penetration, $p=.043$; Trade openness, $p=.003$; INGO membership, $p=.538$).

As in the \$1.25 analysis, the regional variables in Model 1 generally reflect the conditions presented in Figure 2. The Middle East, Eastern Europe, and Latin America all demonstrate lower levels of poverty relative to East Asia. South Asia again fails to reach significance in this model, while the positive relationship of Africa is only marginally significant ($p = .079$). In Model 2, each global variable demonstrates significance in the expected direction. Higher levels of FDI penetration are related to greater poverty, while greater trade openness and INGO participation are related to lower levels of poverty at the \$2.50 threshold. In the domestic model presented in Model 3, secondary school enrollment and democracy fail to achieve significance while GDP per capita persists in its significant negative relationship with poverty. Unlike the \$1.25 analysis, however, fertility fails to reach significance with poverty at the \$2.50 level, while domestic investment demonstrates a significant negative relationship. As in the \$1.25 analysis, the inclusion of domestic conditions in Model 3 greatly reduces the strength of the impact of the regional variables and causes time to become only marginally significant.

In Model 4, the full model, INGO participation is no longer significant but FDI maintains a positive, significant relationship, and trade openness maintains a significant – though greatly weakened – negative relationship. Among the domestic conditions, GDP per capita maintains significance, while domestic investment falls to only marginal significance. As in the extreme poverty analysis, each of the significant regional variables shares a negative relationship with poverty in this full model. Of the significant variables, GDP per capita again exhibits the strongest effect, demonstrating the importance of growth as a strategy for poverty reduction at this level as well.

Discussion

The Effects of Global Interactions and Domestic Conditions on Poverty

A chief contribution of this research is the demonstration of the consistent, harmful effects of foreign direct investment (FDI) on poverty in the developing world. Similar to the negative impact of FDI found on manufacturing wages in Vijays and Kaltani's (2007) cross-country investigation, greater levels of FDI penetration yield higher levels of poverty at both the \$1.25 and \$2.50 poverty levels. The persistence of this effect net of other significant domestic variables demonstrates that gains in poverty reduction that can occur as a product of economic growth or educational development may be hampered by the presence of high levels of FDI. While this study is unable to investigate the ways in which FDI influences poverty, this finding is an important addition to the ongoing conversation about the role of FDI in development. Our finding that FDI has a negative impact on welfare outcomes in poor countries aligns with other world-systems scholars (Dixon and Boswell 1996; Kentor 1998).

The unexpected persistence of the beneficial effects of trade openness net of domestic conditions is an interesting finding that demonstrates a clear distinction between different types of global economic interaction. While foreign investment is related to increased poverty, participation in foreign trade leads to lower poverty at both the \$1.25 and \$2.50 levels. The trade finding supports the neoclassical perspective (Wacziarg and Welch 2008) and demonstrates that the pursuit of greater levels of international trade is a viable strategy for the reduction of both extreme and moderate poverty in developing countries.

The failure of the predicted negative effect of globalization in the form of international non-governmental organization (INGO) participation on poverty to emerge net of domestic factors is another interesting and important finding of this analysis. While the presence of INGOs in the developing world has clearly demonstrated positive outcomes in a number of areas related to human welfare, poverty reduction is not among these outcomes when domestic conditions are considered. This finding provides mixed support for world polity theory as INGOs do perform as expected in a global context, but fail to maintain their effect in a more integrated model. As there is a significant negative effect in the global model, it may be that the poverty-reducing benefits of the presence of INGOs present themselves in areas like secondary school education and fertility reduction, causing the presence of these variables to negate the significance of INGOs in the models in which they appear.

In addition to the effects of the global variables, the identification of significant relationships between poverty and the domestic variables represents another substantial contribution of this study. Among these variables, a key finding is the consistent role of economic growth in poverty reduction at both the \$1.25 and \$2.50 levels. Gross domestic product per capita growth demonstrates the strongest negative effect on poverty in every model in which it appears, supporting the findings of Framingham (2005) and providing support for the position that economic growth is an important factor in determining welfare outcomes (Firebaugh and Beck 1994). However, while this study finds that economic growth clearly has an important effect on poverty in the developing world, this effect does not completely overwhelm other elements from having positive and negative independent effects on poverty, demonstrating that economic growth is not the only factor at play in efforts to address poverty. While issues like fertility and domestic investment are certainly affected by economic conditions within a country, this study demonstrates that these factors affect poverty above and beyond their connection to the economy.

The differences demonstrated between random effects and fixed effects models for the relationships in this study are noteworthy. FEMs results (presented in Appendix B) show fewer significant effects than those present in the REMs results, particularly in the final models (Model 4). This indicates that the effects noted for the global variables are largely a function of cross-sectional differences between countries in their experiences of these conditions and that longitudinal change within countries is less important. However, it is important to note that many of the relationships identified in the REMs are also present in the FEMs, indicating that both cross-sectional and longitudinal variation impact the experience of poverty at both levels.

Finally, this study demonstrates clear regional trends in both extreme and moderate poverty. While elements like the domestic conditions included in this study explain some of the differential experience of poverty present in these regions, the persistence of the impact of these variables indicate that other factors are at play as well. Colonial history, ethnic and political conflict, slavery, geography, natural resources, and health also differentially shape the presence of poverty across these regions. As many of these influences are key components of the world-systems paradigm, examining their effects on regional variation in poverty reduction is an important area for further study.

Evaluation of Research Questions

The first question of this study involves an examination of the effects of global interaction variables on poverty in countries with a population living at either the \$1.25- or \$2.50-a-day level. When the globalization variables are taken together, FDI penetration, trade openness, and INGO participation each has a significant effect on poverty at both levels. The presence of FDI increases poverty levels while greater trade openness and INGO participation reduce those levels. The fact that each of these effects persists, net of each other, in the global models (i.e., Model 2 of Table 1 and Table 2, respectively) highlights the key role that each can play in poverty reduction strategies for developing countries.

In evaluating the persistence of the effects of these global variables net of domestic influences, a varied picture emerges. All of the effect of INGO participation at either level of poverty is absorbed by the presence of domestic conditions. This indicates that benefits experienced by poor countries through their level of INGO participation on poverty come through the domestic conditions that these organizations foster. In contrast, FDI maintains a significant positive relationship with poverty and trade openness a significant negative effect at both levels in spite of the inclusion of domestic conditions (e.g., GDP per capita and the fertility rate at the \$1.25 poverty level, and GDP per capita and domestic investment at the \$2.50 poverty level).

Few clear differences emerge in the effects of the global variables at the \$1.25 and \$2.50 levels. In fact, the only real difference is an increase in the effects of these variables in the global model of the \$2.50 analysis, followed by smaller coefficients in the full model of this analysis. Other differences identified between these levels of poverty are the significance of fertility and domestic investment at different levels. Higher fertility leads to greater levels of poverty at the \$1.25 level, but is not significant at the \$2.50 level while domestic investment exhibits the opposite effect. Domestic investment levels are not significant at the \$1.25 level, but lead to lower poverty at the \$2.50 level. Understanding the effects of these variables and their persistence in light of both global factors and the strong effect of GDP per capita is an important area of further analysis with implications for poverty reduction.

Another difference in the \$1.25 and \$2.50 analyses is the increased strength of the effect of economic growth (measured as GDP per capita) at the \$2.50 level (i.e., -.481 compared to -.561 respectively in the full models). This difference may reflect differences that exist in the types of people who experience poverty at these different levels. While economic growth clearly benefits both groups, those at the \$2.50 level may be in a better position to take advantage of benefits accrued due to economic growth. This may be a difference in urban versus rural poverty, level of education, or a product of differences in family structure or racial/ethnic position. Whatever the reason, it is clear that those at a slightly higher income level are better able to accrue benefits from growth. Additional research on the differences in these types of poverty and the effects of different factors on them may produce ideas about what interventions and policy decisions will have the most beneficial impact on the poorest members of a society.

While this study provides important insight into factors that affect extreme poverty in the developing world, the limited sample of countries available for this study must be acknowledged. The sample is limited to those countries that 1) have a large enough population living in extreme poverty to be counted and 2) have adequate data on that population to be included in the World Bank data. This means that a number of wealthier, developed countries were not eligible for the study due to their lack of population in extreme poverty. Also, many of the poorest countries in

the world were excluded due to a lack of data, a problem often produced by the absence of resources necessary to estimate the level of poverty present within their borders. Additionally, nations with large percentages of their population displaced by famine, conflict, or drought cannot adequately survey these populations to develop usable numbers for studying poverty. Finally, some countries were excluded that had poverty data but lacked data on the explanatory variables. While the sample is limited, examining relationships over a number of waves allows for a larger sample size and commensurate number of comparisons. This constraint highlights the ongoing need for better data collection methods and efforts geared at developing information about some of the poorest populations.

Limitations related to the data available for independent variables should be acknowledged. Measures of government spending and trade structure were excluded due to the loss of cases brought about when these measures were included in the models. In addition to the high level of missing data across countries of interest, the government spending measure was found to be highly collinear with GDP per capita, so we excluded government spending from the final analysis in order to preserve sample size while safeguarding the reliability of the estimates being modeled. Excluding trade structure limits our ability to test completely the efficacy of the world-systems perspective in this analysis, as some of this argument is predicated on the different type of trade experienced by poor countries, not just participation in trade relationships. When trade structure was included in the analysis for countries with available data (results not presented), it was not found to be significant across all models, and when it was excluded, the overall findings did not change substantively. The lack of significant findings for this measure indicates that, in this instance, the presence of trade may be more important with respect to poverty reduction than the nature of that trade. Moreover, these acknowledged data limitations and additional findings underscore the balancing act often inherent in the analytic process when using these types of data.

Conclusion

The findings on the effect of foreign direct investment on poverty in the developing world represent a key contribution of this study and provide support for the world-systems argument. The consistency of this effect in the face of other global and domestic variables clearly demonstrates the potentially problematic nature of developing economies relying on foreign investment to reduce poverty. Alternatively, trade openness presents a stronger than anticipated effect on poverty, providing support for the neoclassical argument. Finally, the lack of a persistent effect of INGO membership ties on poverty at either level net of domestic conditions is an unexpected outcome. World polity theory and previous research would hold that INGO ties should have a strong influence on poverty, and the lack of impact when domestic variables are considered indicates that conditions “on the ground” hold greater sway than globalization interactions or that the benefits of INGOs take place through their effect on domestic conditions.

Despite some data limitations and corresponding implications for the findings reported, this study reveals a number of relationships and introduces new questions that should be examined in future analyses. Further research is necessary to disaggregate the nature of the relationship between poverty and FDI penetration or trade openness, as well as GDP per capita, fertility, and domestic investment. As income inequality is associated with many of the welfare outcomes examined in this study, future research should examine the relationship between

inequality and poverty in light of global interactions. Additionally, demonstrated differences in the strength of the effects of global variables between poverty at the \$1.25-a-day and \$2.50-a-day levels should be examined to understand how these levels of poverty are different at the macro level and how intervention strategies might be tailored to address these differences. The differential effect of the domestic variables on these levels is another intriguing area for exploration. Finally, examining the persistent impact of regional variation on poverty at both levels, net of domestic conditions and globalization interactions, is vital to ongoing efforts to reduce poverty levels in the poorest regions. Future studies should consider historical, geographic, political, and health factors.

This study speaks to public policy and the first United Nations Millennium Development Goal as it examines global and domestic variables to discern their effects on the percentage of a country's population living in extreme poverty. Additionally, this study examines both extreme and moderate poverty, finding differences in what shapes poverty at these different levels. Policy and development experts should note that what is relevant at the extreme poverty level is not always relevant at the moderate poverty level (e.g., fertility rate). The application of panel data over a number of waves and countries provides a broader picture of how these variables operate across time and geographic space. By finding a number of variables that impact poverty in both positive and negative directions, this study expands conversations in the neoclassical, world-systems, world polity and development literatures and provides a number of avenues for future study.

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Appendix A. Countries Included in the Analysis

Albania	Cote d'Ivoire	Lao PDR	Rwanda
Algeria	Croatia	Latvia	Senegal
Angola	Czech Republic	Lesotho	Sierra Leone
Argentina	Djibouti	Liberia	Slovak Republic
Armenia	Dominican Rep.	Lithuania	Slovenia
Azerbaijan	Ecuador	Macedonia	South Africa
Bangladesh	Egypt	Malawi	Sri Lanka
Belarus	El Salvador	Malaysia	St. Lucia
Benin	Estonia	Mali	Suriname
Bhutan	Ethiopia	Mauritania	Swaziland
Bolivia	Gabon	Mexico	Tajikistan
Bosnia and Herzegovina	The Gambia	Republic of Moldova	Tanzania
Botswana	Georgia	Mongolia	Thailand
Brazil	Ghana	Morocco	Togo
Bulgaria	Guatemala	Mozambique	Trinidad and Tobago
Burkina Faso	Guinea	Namibia	Tunisia
Burundi	Guinea-Bissau	Nepal	Turkey
Cambodia	Guyana	Nicaragua	Turkmenistan
Cameroon	Haiti	Niger	Uganda
Cape Verde	Honduras	Nigeria	Ukraine
Central African Rep.	Hungary	Pakistan	Uruguay
Chad	India	Panama	Uzbekistan
Chile	Indonesia	Papua New Guinea	Venezuela
China	Iran	Paraguay	Vietnam
Colombia	Jamaica	Peru	Yemen
Comoros	Jordan	Philippines	Zambia
DR Congo	Kazakhstan	Poland	
Congo	Kenya	Romania	
Costa Rica	Kyrgyz Rep.	Russian Federation	

Appendix B. Results from Fixed Effects Models

Table B1. Relationships with Extreme Poverty at the \$1.25-a-day Level

	Model 1	Model 2	Model 3	Model 4
<i>Globalization variables</i>				
FDI penetration (log)		.121** (.046)		.071 (.055)
Trade openness (log)		-.076† (.045)		-.045 (.053)
INGO membership (log)		-.153* (.067)		-.157† (.082)
<i>Domestic variables</i>				
GDP per capita (PPP) (log)			-.393** (.142)	-.291 (.204)
Domestic investment			.027 (.049)	.002 (.052)
Democracy			-.018 (.037)	-.002 (.043)
Fertility rate			.066 (.171)	.262 (.201)
Secondary school			.057 (.082)	.087 (.096)
<i>Control Variables</i>				
Sub-Saharan Africa				
South Asia				
Middle East / North Africa				
Eastern Europe / Central Asia				
Latin America / Caribbean				
Time period		-.106*** (.029)	-.061 (.040)	-.044 (.049)
Observations	359	359	359	302
Countries	100	106	106	92
R ² Within	.14	.11	.11	.15
R ² Between	.20	.67	.67	.54
R ² Overall	.18	.64	.64	.52

† $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed tests)

Notes: Six fixed effects regression models (FEMs) examine what globalization and domestic variables are significantly related to poverty at the \$1.25-a-day level. All models include a first-order autocorrelation correction. Each cell reports the standardized coefficient with the standard error in parentheses.

Table B2. Relationships with Moderate Poverty at the \$2.50-a-day Level

	Model 1	Model 2	Model 3	Model 4
<i>Globalization variables</i>				
FDI penetration (log)		.062 (.040)		-.005 (.047)
Trade openness (log)		-.106** (.039)		-.071 (.045)
INGO membership (log)		-.238*** (.059)		-.152* (.070)
<i>Domestic variables</i>				
GDP per capita (PPP) (log)			-.727*** (.126)	-.824*** (.175)
Domestic investment			.005 (.435)	-.006 (.045)
Democracy			-.028 (.033)	-.027 (.037)
Fertility rate			-.254† (.147)	-.205 (.174)
Secondary school			.053 (.073)	.045 (.083)
<i>Control Variables</i>				
Sub-Saharan Africa				
South Asia				
Middle East / North Africa				
Eastern Europe / Central Asia				
Latin America / Caribbean				
Time period		-.092*** (.025)	-.060† (.034)	-.028 (.042)
Observations		359	359	302
Countries		100	106	92
R ² Within		.20	.24	.30
R ² Between		.40	.65	.73
R ² Overall		.35	.63	.71

† $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$ (two-tailed tests)

Notes: Six fixed effects regression models (FEMs) examine what global and domestic variables are related to poverty at the \$2.50-a-day level. All models include a first-order autocorrelation correction. Each cell reports the standardized coefficient with the standard error in parentheses

Appendix C. Pairwise Correlation Matrix for Variables of Interest

	Extreme poverty	Moderate poverty	FDI Penetration (log)	Trade Openness (log)	INGO membership (log)	GDP per capita (log)	Domestic investment	Democracy	Secondary school	Fertility rate	Sub-Saharan Africa	South Asia	Middle East / North Africa	Eastern Europe / Central Asia	Latin America / Caribbean	Time period
Extreme poverty	1.00															
Moderate poverty	.933	1.00														
FDI penetration (log)	-.071	-.062	1.00													
Trade openness (log)	-.256	-.266	.371	1.00												
INGO membership (log)	-.446	-.491	-.017	-.134	1.00											
GDP per capita (log)	-.813	-.881	.093	.216	.586	1.00										
Domestic investment	-.351	-.348	.097	.205	.418	.408	1.00									
Democracy	-.310	-.405	.024	.039	.406	.434	.118	1.00								
Secondary school	-.787	-.797	.121	.263	.455	.783	.302	.392	1.00							
Fertility rate	.425	.373	-.050	-.018	-.266	-.375	-.126	-.084	-.468	1.00						
Sub-Saharan Africa	.725	.675	-.049	-.066	-.397	-.631	-.273	-.293	-.718	.369	1.00					
South Asia	.107	.178	-.129	-.167	.075	-.103	.015	.041	-.055	-.046	-.146	1.00				
Middle East / North Africa	-.242	-.165	.036	-.012	.084	.094	.164	-.322	.102	-.099	-.207	-.058	1.00			
Eastern Europe / Central Asia	-.454	-.509	-.094	.303	.082	.390	-.123	.200	.607	-.202	-.401	-.112	-.159	1.00		
Latin America / Caribbean	-.302	-.342	.140	-.167	.249	.364	.121	.402	.195	-.132	-.387	-.048	-.154	-.297	1.00	
Time period	-.131	-.104	.282	.132	.149	.104	.009	.130	.237	-.180	-.036	-.002	.005	.113	-.055	1.00

Appendix D. Descriptive Statistics for Unstandardized Variables of Interest

Variable	N	Mean	Std. Dev.	Min	Max
Extreme poverty	570	28.04	26.44	0.00	88.70
Moderate poverty	570	50.87	32.19	0.00	97.92
FDI (log)	536	-1.89	1.20	-5.58	1.24
Trade openness (log)	499	-.41	.60	-2.88	.97
INGOs (log)	550	6.08	.83	-2.77	8.59
GDP per capita (log)	569	7.91	1.01	5.06	10.02
Domestic investment (log)	553	27.00	27.07	.72	202.12
Democratization	551	2.48	5.92	-10.00	10.00
Fertility rate (log)	570	3.75	1.76	1.10	7.81
Secondary school	494	55.74	29.57	5.18	106.75
Sub-Saharan Africa	570	.35	.48	0.00	1.00
South Asia	570	.05	.22	0.00	1.00
Middle East / North Africa	570	.06	.24	0.00	1.00
Eastern Europe / Central Asia	570	.24	.42	0.00	1.00
Latin America / Caribbean	570	.21	.41	0.00	1.00
Time	570	3.00	1.42	1.00	5.00

Indices of Trade Partner Concentration for 183 Countries, 1980-2008¹

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Abstract

Trade partner concentration can be used to operationalize important concepts like dependency and globalization, but it can be very time-consuming to calculate concentration indices. In research for which export, import, or total trade partner concentration would be useful as one among many variables but is not the primary variable of interest, potential users of concentration indices are likely to be deterred by the high level of commitment required to process the raw data. In addition, the expense of acquiring the raw data can be a deterrent to some scholars. To address these problems and broaden access to data we report seven indices of export, import, and trade partner concentration for all 183 countries for which data are readily available for the years 1980-2008. The raw data underlying the indices are drawn from the International Monetary Fund's Direction of Trade Statistics (DOTS) database. Details of data preparation and index construction are provided and basic characteristics of the resulting concentration indices described. The indices presented here are likely to find use in regression-based and time-trend studies of the structure and political economy of the contemporary world-system.

¹ The research reported in this article has been funded in part by the Australian Research Council under grant DP1094566.

This paper and associated datasets describe export, import, and trade partner concentration data that are appropriate for use in quantitative macro-comparative research involving the analysis of the structure of the contemporary world-economy. Trade partner concentration is the degree to which a country engages in international trade with a limited number of partner countries. Export partner concentration is the degree to which a country relies on a limited number of partners as markets for its exports, while import partner concentration is the degree to which a country relies on a limited number of partners as sources for its imports. All three kinds of trade (export, import) partner concentration are ordinarily calculated in relation to a country's total international trade (exports, imports) with all partner countries.

Trade partner concentration was already being used as an indicator of the structure of the modern world-system well before the formalization of the world-systems perspective by Wallerstein (1974). Writing in the midst of World War II, Hirschman (1945) used trade partner concentration as an indicator of national economic and political vulnerability, with specific reference to the expansion of German economic imperialism in the run-up to World War II. He analyzed export and import partner concentration separately, noting that in most countries export partner concentration was higher. He also found that in those countries with the highest levels of trade concentration, export partner concentration was especially high relative to import partner concentration. He concluded emphatically that:

The existing pattern of world trade tends to correlate dependence upon a few countries which in turn depend on a few products; it also brings about conditions in which the availability of alternative markets is seriously impaired. Under the condition of unchecked national sovereignties, this pattern therefore provides large opportunities for the exercise of economic pressures. (Hirschman 1945:111)

Three decades later, Galtung (1971) influentially used export partner concentration as an indicator of "feudal" relationships between countries. He considered feudal relationships to be a form of neocolonial imperialism in which poor countries were connected indirectly through their individual relationships with rich countries rather than directly with each other. Oddly (considering how close Galtung's arguments were to Hirschman's), Galtung did not cite Hirschman's well-known work (though he did cite Hirschman in another context).

Subsequently, beginning in the 1970s, a series of empirical studies by Chase-Dunn (1975), Rubinson (1977), and many others used export partner concentration as a primary or secondary indicator of dependency in poor countries. This dependency literature on export partner concentration extended into the 1980s and 1990s. More recently export partner concentration has been used in studies of growth (Kentor and Boswell 2003), inequality (Lee et al. 2007), and the environment (Shandra 2007). Import partner concentration has appeared in the literature much less frequently (e.g., Gasiorowski 1985; Ragin and Bradshaw 1992), but we include it in our calculations for completeness. A closely-related measure called "weighted export flow" has also recently been used extensively on the literature on dependency and ecologically unequal exchange (Jorgenson et al. 2009: 266-267). Throughout these literatures, high levels of dependency are generally associated with negative outcomes for poor countries.

The use of trade partner concentration variables in empirical research, however, has been hampered by high level of commitment required to process the raw data into usable indices. The International Monetary Fund (IMF) publishes directional partner-to-partner exports and imports data in its Direction of Trade Statistics (DOTS) database, but these data are expensive and the

data CDs are cumbersome to use. Moreover, these raw partner-to-partner trade data require extensive processing to turn them into trade concentration indices. These high costs are unlikely to deter researchers whose main objective is to study trade concentration levels, but they are very likely to deter researchers from using trade concentration indices as variables in wider analyses.

We address this problem by calculating and reporting complete export, import, and trade partner concentration series for all countries covered in the DOTS database for the years 1980-2008. We report seven different concentration measures for each series. The year 1980 was chosen as the start point both because it is widely viewed as the beginning of the current age or era of globalization (Babones 2007) and because the raw DOTS data are reported differently for years before and after 1980. Our series end in 2008 because that is the final year for which complete data were available in DOTS at the time the raw data were downloaded for analysis (March 2010). The advent of the global financial crisis (and the associated disruption to world trade) also makes 2008 a convenient statistical end point for the first phase of globalization.

Source Data and Country Coverage

The underlying data for this paper come from the IMF's DOTS database. We began our analyses using data for 1980-2005 from the 2008 DOTS database, later updating our series to include 2006-2008 data from the 2010 DOTS database. As a result, our full data series run from 1980-2008. Since our initial data collection used the 2006 DOTS database, our list of countries is based on the list of DOTS reporting countries at that time. A few small countries (East Timor, Eritrea, Montenegro) and several small French dependencies have been added since, but historical data are in any case lacking for these entities. Otherwise there were no major changes between the different editions of the DOTS database. Due to the data processing requirements involved, we have not recalculated our 1980-2005 figures using the more recent DOTS releases.

Our data thus represent only the 189 countries that were included in the IMF DOTS database as of 2008. These 189 countries or country-equivalents represent over 98% of the world's population in 2008. The only major trading country not included in the DOTS database is Taiwan. Taiwan data are reported only in hardcopy paper IMF publications and not in electronic IMF databases. Due to this inconvenience, Taiwan has been excluded from our analyses.

A major inconvenience of the raw IMF DOTS data (from the perspective of scholars who want to use the data in panel regression studies) is that it reports figures for countries as they existed at the time of reporting. As a result, many of the 189 countries included in the DOTS database are now defunct. There have been border changes, amalgamations of countries, and disintegrations of countries over time. In cleaning the DOTS data to create continuous series for further analysis, we have prioritized two main principles:

- (1) As far as possible, the time series data actually included for any named entity should represent a constant geographical space over time
- (2) As far as possible, the named entities included in our final database should correspond to the named entities that are currently included in major international datasets, particularly the World Bank's World Development Indicators

It was not always possible to follow these principles to the letter, but we have come as close as we were able, making necessary judgment calls along the way. Most countries have not changed

borders over the study period. Despite the relatively short time frame of 29 years, however, many countries have come into or out of existence.

The breakups of the Soviet Union, Yugoslavia, and Czechoslovakia resulted in the transformation of 3 old countries into 21 new countries. As a result, the Soviet Union is represented in the DOTS database from 1980-1991 and Czechoslovakia and Yugoslavia from 1980-1992. After these years, the data are recorded according to the 21 successor countries. All of these entities, however, are included as data rows for all years. This is consistent with the treatment in most international data sources on national income and other economic statistics. As a result, our concentration series include different potential partners at different times. For example, the Soviet Union was a major export destination for Poland, so Poland's exports would have become instantly more diversified in 1992 when that single country was replaced by 15 successor countries.

On the other hand, there were two cases of countries formed by merger over the study period. In 1990 East and West Germany combined to form the newly unified Germany and North and South Yemen combined to form the newly unified Yemen. German data today are reported in the World Bank's World Development Indicators as amalgamated data for unified Germany, even for years when East and West Germany had originally been distinct reporting entities. We have accordingly combined all data referring to either East or West Germany for any year into a single record for unified Germany. As a result, there is only one record for Germany in our data, which includes all data relating to any form of Germany (East, West, or unified). We followed an equivalent rule for North and South Yemen, for the same reasons.

A similar procedure was used to amalgamate data from Belgium, Luxembourg, and the combined reporting entity "Belgium-Luxembourg." In earlier years the DOTS data for Belgium and Luxembourg were combined. Over the years many countries (but not all at the same time) began separating out their imports from and exports to these two countries, until eventually all countries reported separately for Belgium and Luxembourg. Because of the impossibility of separating the data for earlier years (and the over-time transition from one reporting regime to the other) we have chosen to combine data for Belgium and Luxembourg for all years. We have gone this route in order to create a continuous series with no breaks for "Belgium" that can be used in cross-national panels. Given Luxembourg's very small footprint in international trade and the rarity with which it is used in cross-national comparative studies, we consider this a reasonable compromise. The alternative would have been to exclude Belgium entirely, since the shift in Belgium-Luxembourg from one to two reporting entities occurred at different times for different reporting partners.

As a result of the Germany, Yemen, and Belgium-Luxembourg amalgamations, our final working database included six fewer records than the original IMF data (East and West Germany, North and South Yemen, and Belgium and Luxembourg have all been eliminated). As a result, the data universe underlying our concentration series consists of 183 countries. The data themselves take the form of a matrix of flows of imports and exports from each country to each other country for each year. Thus, for each year there are 33,489 raw data entries (183 entries for each of 183 countries, with blanks where a country matches with itself) for each of exports and imports for each of the 29 study years. Since the DOTS data are reported by the constituent countries themselves, the recorded exports of Country A to Country B in the DOTS database do not always equal the recorded imports of Country B from Country A. We make no adjustment for this fact; we simply rely on the imports and exports as reported by each reporting country.

The DOTS data are expressed in terms of the U.S. dollar value of the goods traded (in millions). For the purpose of constructing concentration indices, the currency unit is irrelevant: since the currency appears in both the numerator and the denominator of the calculations, the unit ultimately cancels out. Thus the IMF's choice of exchange rates for converting the underlying national currency trade figures into U.S. dollars does not affect the concentration figures. Exports are expressed "f.o.b." (free on board) while import is expressed "c.i.f." (cost, insurance, freight), meaning that the exports figures represent the value of the exported while the imports figures represent the value of the goods imported plus the costs of freight and insurance. In other words, goods are in both cases valued in terms of their prices at the ports of the reporting countries.

The DOTS database does not include figures for total trade (imports plus exports). We have calculated total trade figures by summing the DOTS reported imports and exports figures for each country for each partner for each year. Once again, we rely on the figures reported by the reporting country. As a result, Country A's recorded trade with Country B may not equal Country B's recorded trade with Country A.

Index Construction

We computed seven measures of partner concentration. These will be described with reference to export partner concentration, but in each case the same logic applies (*mutatis mutandis*) for import and trade partner concentrations. The first measure, the percentage of a country's total exports that goes to its single largest export destination country, is the measure most commonly used in the sociology and dependency literatures. In particular, it is the measure used by Galtung (1971). We call this measure 1-CON, short for "top 1 partner CONcentration." In our view, however, the same logic that applies to dependency on a single export partner would also apply to dependency on a small number of export partners. Accordingly, we have computed 2-CON, 3-CON, 4-CON, and 5-CON measures as well (top two, three, four, and five partner concentrations, respectively). The 1-CON measure ranges from a theoretical low of less than 0.0055 (were a country's exports equally divided among all 182 potential partners) to a theoretical high of 1 (were a country's exports all concentrated with a single partner). Since the other CON measures include more partners, they have correspondingly higher minimum values.

Further extending this logic of using data from multiple partners, it is reasonable to suggest that concentration should matter the most when it represents concentration of exports into just one partner, a little less when it represents two partners, a little less for three partners, etc. Hirschman (1945) argued that the appropriate measure of inordinate power in trade partnership relationships was geometric mean concentration: the square root of the sum of the squares of the concentrations with each partner. Our HIRSCH series implement this equation. A particular advantage of the Hirschman index is that it uses all of the available data (including even that for the 182nd trading partner), weighting each partner according to its dominance. The Hirschman index ranges from a theoretical low of 0.0741 to a theoretical high of 1 when applied to 182 partners.

A final measure of concentration that is closely related to the Hirschman index is the Herfindahl (1950) index (cited in Hirschman 1964). The Herfindahl index is equal to the sum of the squares of the concentrations with each partner. It is equal to the Hirschman index before the final Hirschman step of taking the square root, or (equivalently) it is equal to the Hirschman

index squared. Our HERF series implement this equation. Like the Hirschman index, the Herfindahl index uses all of the available data weighting each partner according to its dominance. Since the Herfindahl index squares each concentration, the units of the Herfindahl index are notionally "concentration squared," an inconvenience that is rectified in the Hirschman index through taking the square root. The Herfindahl index ranges from a theoretical low of 0.0055 to a theoretical high of 1 when applied to 182 partners.

Equations for all seven indices, plus their theoretical minimum and maximum values, are presented in Table 1. Note that all seven indices would have a theoretical minimum of 0 if there were an infinite number of potential partners.

Table 1. Export Concentration Index Formulas (mutatis mutandis for Import and Trade Concentration Indices)

Index	Formula	Minimum	Maximum
1-CON	$\text{Exports}_{(1)} / \text{Total_Exports}$	0.0055	1
2-CON	$\text{SUM}_{(i)=1 \text{ to } 2}[\text{Exports}_{(i)}] / \text{Total_Exports}$	0.0110	1
3-CON	$\text{SUM}_{(i)=1 \text{ to } 3}[\text{Exports}_{(i)}] / \text{Total_Exports}$	0.0165	1
4-CON	$\text{SUM}_{(i)=1 \text{ to } 4}[\text{Exports}_{(i)}] / \text{Total_Exports}$	0.0220	1
5-CON	$\text{SUM}_{(i)=1 \text{ to } 5}[\text{Exports}_{(i)}] / \text{Total_Exports}$	0.0275	1
HIRSCH	$\text{SQRT}(\text{SUM}_{(i)=1 \text{ to } 183}[\text{Exports}_{(i)} / \text{Total_Exports}]^2)$	0.0741	1
HERF	$\text{SUM}_{(i)=1 \text{ to } 183}[\text{Exports}_{(i)} / \text{Total_Exports}]^2$	0.0055	1

Note: (i) represents the i-th largest partner.

Hall and Tideman (1967) classically formulated six desirable properties of concentration indices. They find that the Hirschman index fulfills all six, while simple concentration measures fulfill only three out of six. Nonetheless, the situations in which simple concentration measures fall short are unlikely to arise in practice (e.g., when there is only one trading partner, or when trade with all partners is exactly equal). In all of the real-world analyses we have attempted, results found using any of the seven concentration indices are near identical. The indices themselves are correlated well over $r = 0.95$ for most panels of countries. The choice of index is not likely to affect empirical results in any meaningful way when studying broad panels of countries -- though it may make a real difference when studying concentration for any one country, as highlighted in the next section.

Concentration Series and Their Potential Uses

The export, import, and trade concentration series that result from carrying out these procedures are reported in the associated [datasets](#).² Three spreadsheet workbooks are included, one each for export concentrations, import concentrations, and trade concentrations. The first spreadsheet in each workbook contains a country code cross-reference; this is identical for all three workbooks. The codes used are three-digit International Organization for Standardization (ISO) alphabetic

² The datasets can be found in the University of Pittsburgh's World-Historical Dataverse, at <http://dvn.iq.harvard.edu/dvn/dv/worldhistorical/faces/StudyListingPage.xhtml?mode=1&collectionId=3515>.

country codes. Note that the codes CSK (Czechoslovakia), SUN (Soviet Union / USSR), and YUF (Yugoslav Federation) are now defunct.

Following this are 29 annual spreadsheets containing concentration figures for all countries for the years 1980-2008 (inclusive). The first column contains total exports, imports, or trade (respectively) in millions of current U.S. dollars, summed from the raw DOTS data themselves. Following this are the seven concentration measures. Concentration figures are reported for any given country in any given year only if the country existed in that year and any export or import partner data were reported in the DOTS database. The dataset panel is constant from 1981-1991, after which the USSR (1992) and Yugoslavia (1993) break into their constituent republics. The only other changes are in 1995 and 1998, when Aruba and South Africa (respectively) enter the dataset. A summary of the panel changes over the full period 1980-2008 is presented in Table 2.

Table 2. Number of Countries Available by Year (with Explanatory Notes)

Years	Number	Notes
1999-2008	180	
1998	180	South Africa enters the data
1996-1997	179	
1995	179	Aruba enters the data
1994	178	
1993	178	Dissolution of Czechoslovakia and Yugoslavia
1992	172	Dissolution of USSR
1981-1991	159	
1980	129	Many countries missing

The largest constant panel that can be constructed over the period 1980-2008 is 127 countries. This panel includes the 129 countries reporting data for 1980, minus Czechoslovakia and Yugoslavia, which later drop from the data (coincidentally, USSR data happen to be missing for 1980, so they do not "drop out" later, since they were never there in the first place). Restricting the time frame to 1981-2008 permits the construction of a 156 country panel. Pragmatically speaking, this 156 country panel is likely to be the most desirable panel for analyzing trends over time. A breakdown of this panel by official World Bank region is reported in Table 3. The small number of countries from Europe & Central Asia is due to the fact that none of the Czechoslovakia/Yugoslavia/USSR successor states are included in the constant sample (this World Bank region consists entirely of post-Communist states). The small number of countries from South Asia is due to the fact that there are simply very few countries in the World Bank's South Asia region (in fact, only one country -- Bhutan -- is missing from the constant sample).

Table 3. Number of Countries Available by Region (156 Country Panel Reporting Data for the Period 1981-2008)

<u>Region</u>	<u>Number of Countries</u>
All Countries	156
Poor Countries	110
Rich Countries	46
East Asia & Pacific	17
Europe & Central Asia	5
Latin America & Caribbean	29
Middle East & North Africa	12
South Asia	7
Sub-Saharan Africa	40

We envisage several major uses for these datasets. First, we expect that researchers will use them to study trends in export, import, and trade concentration over time for individual countries, for groups of countries, and for the world as a whole. We strongly recommend that researchers studying concentration trends in individual countries use either the HIRSCH or HERF series. The 1-CON series may seem more straightforward, but 1-CON can mask important nuances in the structure of a country's trade. For example, one problem is that the identity of the one largest trading partner of a country may change from year to year. Another problem is that 1-CON can change dramatically when the universe of potential partners changes (as with the disappearance of the USSR from the data in 1992 and the appearance of South Africa in the data in 1998). Since the HIRSCH or HERF series combine data from all partners, the impact of such discontinuities is more muted in these series.

For researchers studying trends in average concentration levels across groups of countries (or the world as a whole) we strongly recommend weighting of the raw concentration figures. To facilitate weighting by total exports, imports, or trade themselves we have included these figures (as summed from the DOTS country partner data) alongside the concentration data. It might also be reasonable to weight the concentration figures by national income or (less likely) population. Weighting is necessary because of the dramatic differences in country size and the fact that the figures for the smallest and poorest economies can be highly volatile. In the absence of weighting, the appearance or disappearance of data for a single trading partner for a very small economy can result in a large swing in average concentration levels across a group of countries. For example, average unweighted concentration levels in South Asia display dramatic swings from year to year due to instability in the data for Afghanistan.

Second, we expect that researchers will use cross-sectional concentration data for particular years as variables in regression models. We recommend that in doing so researchers consider using averages of three or five years of concentration figures centered on their year of record. For example, a 1990 concentration figure might be represented by average concentration over 1989-1991. The annual concentration series we report reflect high levels of variability (and presumably error) in the underlying DOTS data. Period averages will tend to cancel out this potential source of error. Moreover, it is not *prima facie* obvious that the year represents the appropriate period of observation, what Chase-Dunn (1998: 321-322) called the "width of a time point." Our advice is that three or five year period averages will almost certainly produce more reliable regression results than the actually reported annual figures.

Third, we expect that researchers will use specific figures for individual countries in individual years, especially export partner concentration, to illustrate levels of dependency. Though we prefer the HIRSCH series, we suspect that for this purpose many scholars will prefer to use the 1-CON series. We caution, however, that 1-CON export partner concentration says nothing in itself about what country is the partner. Argentina, for example, has a relatively high level of 1-CON: nearly 20% of its total exports go to its single most important export partner. That partner, however, is Brazil, a country that is poorer than Argentina, not the United States or some other rich country. A high concentration should not be automatically associated with a neo-colonial relationship; researchers should dig deeper into the data before making any such claim about any particular case.

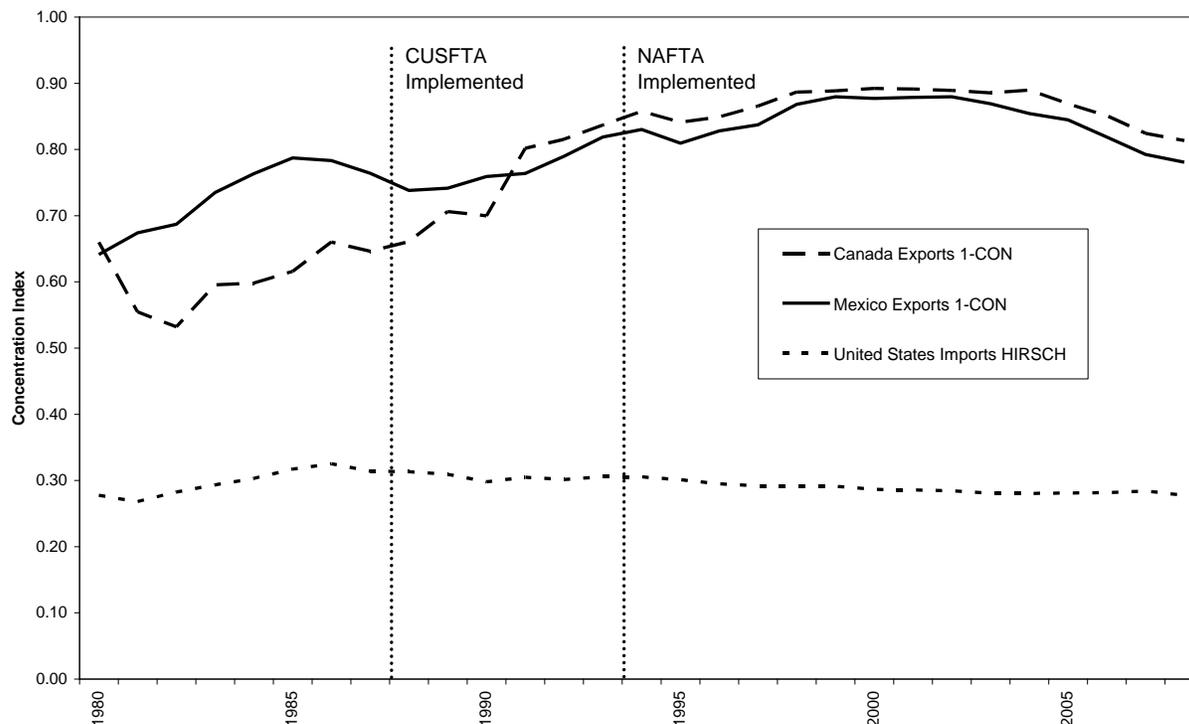
Illustrative Analysis: The Impact of NAFTA

The databases published alongside this paper have been optimized for use in cross-national panel studies, but they are equally useful for studying trends in trade concentration. As an illustration of the data, we examine trends in trade concentration in Canada, Mexico, and the United States before, during, and after the implementation of the North American Free Trade Agreement (NAFTA). The implementation of NAFTA brought Mexico into the preexisting Canadian-American free trade area and gave extraordinary protections to cross-border investors and business operators across all three countries. Canada, Mexico, and the United States signed the NAFTA treaty on December 17, 1992, with an implementation date of January 1, 1994.

Both Canada and Mexico are very dependent on the United States as a market for their exports. Since trade between Canada and the United States had already been liberalized before the implementation of NAFTA, NAFTA would be expected to have had very little effect on Canada's export dependence level: the Canada - United States Free Trade Agreement (CUSFTA) had already come into force on January 1, 1989. On the other hand, NAFTA might be expected to have had a major effect on Mexico's export dependence on the United States. The expansion of the cross-border *maquiladora* export industry in northern Mexico in the 1990s is consistent with this view.

Figure 1 tracks actual levels of top export partner concentration (1-CON) over time for both Canada and Mexico. Since the United States was the top export partner for both countries throughout this period, the 1-CON figures in practice represent exports to the United States. The trends depicted in Figure 1 suggest that the effect of NAFTA on trade dependence in Mexico was in fact modest. Mexican export partner concentration levels almost exactly track Canadian levels following the implementation of NAFTA in 1994. If Figure 1 suggests anything, it's that CUSFTA had a major impact on Canadian export dependence on the United States market. Canada's 1-CON level jumped from 0.74% to 0.82% between 1988 and 1993, around the time of the implementation of CUSFTA.

Figure 1. Trends in Canadian and Mexican Export Partner Concentration (1-CON) Compared with U.S. Import Partner Concentration (HIRSCH), 1980-2008



From the U.S. perspective, NAFTA also had little discernible effect. Figure 1 plots U.S. import partner concentration using the Hirschman index. The HIRSCH series is used because U.S. imports are widely dispersed among many partners. The U.S. HIRSCH index for imports never strays very far from its long-term average of 0.29, though the trend since the implementation of NAFTA has been slightly downward. Note that this stability in the U.S. HIRSCH index for imports is not due to any kind of built-in stability in the index itself. The Canadian HIRSCH for imports declined from 0.71 in 1980 to 0.53 in 2008, while the Mexican HIRSCH for imports fell from 0.67 to 0.53.

This simple example illustrates the usefulness of the databases presented here for constructing trade concentration series quickly and easily. Researchers who are studying trade concentration as such may prefer to go back to the original IMF data, since doing so will give them greater control over how they define partners and how they calculate dependency, but researchers using trade concentration data for substantive reasons are likely to prefer our pre-digested series. We also expect our series to be used by researchers estimating statistical models based on cross-national panel data. Where trade dependence is just one of a dozen or more variables under consideration, the marginal costs of collecting, cleaning, and compiling concentration figures may be prohibitive. The ready availability of the databases presented here will reduce the up-front cost of using dependency variables in panel analyses.

In making these trade partner concentration series publicly available we hope to spur renewed research into how the structure of trade has the potential to affect countries and the larger world-system in which they are embedded. Sixty-five years ago Hirschman concluded that

Germany strategically used trade structure as a tool of political domination over Eastern Europe in the run-up to World War II. Hirschman himself cited Adam Smith on the dangers of trade partner concentration, quoting at length a passage in which Smith warned of the dangers to the United Kingdom of its high concentration of trade with its American colonies (Smith 1999[1776]: 180-181; quoted in Hirschman 1945: 73-74). Trade partner concentration has been recognized as having potentially deleterious political and social implications for as long as there have been political and social sciences. It would be a shame if it were to drop off our agenda -- in this, the most data-rich era of all -- simply because of the inconvenience of computing the relevant indicators.

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Book Reviews

Go, Julian. 2011. *Patterns of Empire: The British and American Empires, 1688 to the Present*. Cambridge: Cambridge University Press. 286 Pages, ISBN 978-1107600782 Paper (\$28.99); 978-1107011830 Cloth (\$86.76)

This book could well have been titled “The Myth of American Exceptionalism,” but that might have led to a storm of right wing tirades that obscured its illustration of how to make an extended, nuanced comparison between two empires. The introductory chapter sets up the comparative structure, outlines the goals of the book, and clears many thickets of definitional issues. For readers conversant with world-systems analysis the comparative framework will be straightforward and logical. For others it may take some convincing. Briefly, the idea is that in order to compare two empires, in this case Britain and the United States, one must compare similar phases of the hegemonic cycle: ascent (long and short parts), maturity, and decline or competition. Go follows more-or-less standard world-system dates for these phases. The entire book is a detailed execution of this comparison.

The goals of the comparison are to add to the growing literature that critiques the idea of American exceptionalism. That is, that the United States differs from all other empires in being more interested in liberty and freedom, the pursuit of which drives the administration of empire and makes it more benign than all other empires. What is different here is the detailed, systematic examination of the claim for exceptionalism via comparisons of similar phases of the hegemonic cycle, with attention to the global context of those phases occurring at different chronological times. Throughout Go also describes the historiography of exceptionalism, and shows that it, too, is parallel between the two empires. The bulk of the introduction is a careful examination of terms like empire, colonialism, power, hegemony, and so forth. Go is very careful and precise to specify how he uses such terms, why they are appropriate for his purposes, and how they differ from other meanings. He does this clearly without sliding into tedium – though that may not be obvious to some readers until well into the discussion. He is consistent in his use of terms, with occasional reminders that he is using these terms in special ways. Go is explicitly aware of the limitations of comparison based on only two cases. Here and there, he alludes to other possible cases to round out his comparisons. Most important, he couches his explanations in ways that facilitate development of a general theory of empires and the kinds of questions that demand further empirical investigation. This summary of the introduction, albeit in a different sequence than Go presents it, is necessary to understand all that follows, and to describe the layers of intellectual work that follow.

The first substantive chapter compares the paths to imperial power. Here the nuanced similarities and differences are explored with due attention to the variations within each empire as well as between them. Already we begin to see that strategies of empire building originate far more in structural conditions – especially the forms and degrees of resistance from colonized peoples – than in the values of the empire. While most of the pieces of this analysis are familiar, the sum total is a significant contribution to understanding empire formation. A key point, clearly and strongly stated, is that, “... territorial expansion was a fundamentally racialized process” (53). It is intrinsic to empire, not simply a nasty side effect.

The second substantive chapter examines strategies and tactics of colonial rule in both empires. It uncovers many more similarities than differences, a major one being the range of variation in both empires with respect to colonial administration. Key differences are that India

was somewhat unrepresentative with regard to colonial administration for Britain and that for the United States, local conditions of colonies were often quite different than those faced by Britain. Consistently, it was local conditions, rather than home country values, that shaped variations in colonial administration. Both had serious concerns with legitimacy, within the home country and in the world at large. In short, arguments for exceptionalism do not fare well.

The next chapter carefully delineates the differences between hegemony – being the most powerful economic actor on the global stage – and holding of colonies. It is the nexus of the two that is at issue here. These analytic distinctions inform a detailed comparison of both empires in the phase of hegemonic maturity. Both empires contracted relatively and preferred informal control, at times using economic influence rather than control of territory. Both underplayed their empires. As Go puts it, “It may well be that *all* hegemons, whether of the British or American variety, prefer not to inscribe the sign empire on their flags or foreheads” (116-117).

The fourth substantive chapter examines how forms of empire are shaped by the global field, or context, within which they operate. Go establishes in detail that values have little to do with how empires operate. Rather, it is the global context of those operations, which importantly include how colonized peoples, whether formal or informal, react to and struggle against empire. Here we learn why many seeming opportunities for enlarging empire are eschewed. Often it is a combination of cost-benefit analysis of the return from colonization and global reaction to colonization in general. A major difference is that Britain, for the most part, operated during times in which holding colonies was tolerated by other large states. The United States on the other hand operated during eras when decolonization was much more common, and so more often relied on indirect forms of control.

The fifth chapter, “Weary Titans: Declining Powers, New Imperialism,” is for this reader the heart of the book. This is where the close parallels between the two empires are seen most starkly: more formalized control, more military intervention, more threats of force. Somewhat implicit in this chapter are the suggestions for the current global situation based on what went before. Go is careful to explain that hegemonic decline does **not** mean falling into obscurity. Rather, it is relative, meaning that an empire can no longer demand that the world follow its dictates. It also means that the overall world-system is in a multipolar situation with strong competition among states. He notes that many other studies have demonstrated that this is a situation when extended war is most likely.

The penultimate chapter reassembles the three phases of empire to explore the dynamics of empires. Findings, not surprisingly, are that both empires followed much the same pattern or trajectory, and for many of the same reasons. Chief among these was the global context within which imperial activities occurred, especially relative to competition among various states. What has at times been labeled new imperialism was only a phase of a larger dynamic. In short, wider patterns of competition and inter-relations go much further in explaining the course of empire than do national character or values.

The brief conclusion summarizes the findings and makes many implicit or sketchy findings much more explicit. Go also raises issues in need of further examination. The overall argument is convincing (but as a reader I was not a “tough sell”): structure is more important than values, agency among the colonized is far more important than often credited, and the future is ominous. Go notes that as of 2010 the United States exhibits all the markers of a “...persistent if not stubborn empire. It also marks an enduring exceptionalism upon which the sun has not yet set” (244). The final paragraph continues:

This is frightening. If the story in this book tells us something, it is that empires that insist on their exceptionality do not behave well. And self-fashioned exceptional empires that are falling behave worse still. In this sense, our affair in Iraq and Afghanistan may just be a portent. Something more is coming (245).

This glum conclusion should, it is to be hoped, serve as a call to action, not to hopeless depression.

Patterns of Empire is a strong, well-argued book. I doubt it will convince anyone ideologically committed to American exceptionalism. It may, however, help others to reconsider the issue and its gruesome implications. Still, there are a few weaknesses, or areas that might have been more fully developed. While there are occasional mentions of Ireland, it is not examined as England's first large attempt at empire. This probably would not alter the argument much, but would be interesting. More could have been said about how empire building is fundamentally racialized, though that might take another book. Finally, some of the conclusions might have been developed more fully, both at the end of each chapter and at the end of the book. Certainly the style of detailed exegesis of historical statements, supported by useful statistical evidence, does not readily lend itself to explicit theorizing. Still, more would have been helpful.

These relatively minor weaknesses notwithstanding, this is an important contribution to our understanding of empires. It will be most palatable to scholars conversant with world-systems analysis since it draws heavily on major world-system findings. For others it may serve as a useful enticement to world-systems analysis. It is clearly and smoothly written. The detailed exegeses may be tedious to some, but are the meat of the argument. With careful guidance *Patterns of Empire* would be a useful addition to any course on macrosociology. It should become required reading for graduate courses. It is an important contribution to and extension of our understanding of the dynamics of empire.

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Emigh, Rebecca Jean. 2009. *The Undevelopment of Capitalism: Sectors and Markets in Fifteenth-Century Tuscany*. Philadelphia: Temple University Press. 286 pages, ISBN 978-1592136193 Paper (\$31.95); 978-1592136186 Cloth (\$91.50)

From the very beginning of her *The Undevelopment of Capitalism: Sectors and Markets in Fifteenth-Century Tuscany*, Rebecca Jean Emigh makes clear the subject-matter of her inquiry: “the classic social science question of why capitalist development occurs by asking where it does not occur,” that is,

a paradoxical case of capitalist development—or more appropriately “undevelopment”—in the Italian region of Tuscany. In the Middle Ages, this region had a highly advanced economy and was a center for finance, trade, and manufacturing. It is, in fact, sometimes considered to be fully capitalist, mature,

or even, perhaps, industrializing. Yet, despite this early development, the transition to full-scale industrial capitalism occurred relatively late there (1).

The resulting analysis takes the form of a vivid and persuasive description of the dynamic relations between city and countryside in fifteenth-century Tuscany.

A great strength of this superbly researched book lies in its insistence on a relational framework—not just cities, but the relationship between, the co-determinative character of, urban and rural developments. Markets are treated as structures that are inherently economic, cultural, and political; they consist of both resources (for instance land, money, goods) and schemas shaping individual decision-making (such as partibility of inheritance, honor, patriarchy, fairness, gender); and they develop in relation to other markets. Emigh will then apply a combination of theories of markets and sectors to the Tuscan “case.” According to the author,

the possibility that sectoral relations interact with markets as structures to create—or prevent—a dual dynamic of shrinking agricultural size and increasing productivity has not been explored. I do so explicitly, by considering how sectoral difference in economic interests, manifest in markets as structures composed of schemas and resources, created patterns of sectoral interaction that eroded Tuscan markets (58).

The analysis, using negative case methodology, proceeds through archival research and considers three diverse types of communities: smallholding, where production was relatively more subsistence-oriented (using as examples two small communes in the Val de Cecina in the Florentine *distretto* of south-western Tuscany, Montecatini and Castelnuovo); sharecropping, where production was relatively more market-oriented (in the Mugello north of Florence in the Florentine *contado*, the parishes of San Pietro a Sieve and Santa Maria a Spugnole); and landlords resident in Florence. A meticulous reading of the surviving records leads Emigh to a careful exploration and elaboration of her statement that during the critical period of “roughly 1350 to 1500 ... the transition to capitalism could have but did not occur” (14).

In the smallholder regions of the *distretto* land-holding patterns were characterized by the circulation of property, a vibrant local market, with the frequent buying and selling of generally small parcels used to match the extent of holdings to family size. These smallholders thus tended to hold more land during midlife and give land as a dowry rather than use cash as was more common for Florentines. The direct management of such transactions required a certain level of numeracy and literacy.

Florentine investors held land in the *contado*, which was nearer to the city (easier to manage and with lower transaction costs) than the *distretto*, as a hedge against losses in urban commerce, and leased it on either a share-term or fixed-term basis. Here Emigh’s analysis is particularly nuanced and speaks directly to the question of the transition to capitalism:

The urban and rural ventures of urban protocapitalist merchants were shaped by the same profit motive. Thus, contrary to previous arguments that sharecropping was a feudal form of land tenure or that it did not represent a substantial change in productive relations, in this context, sharecropping did represent a fundamental change in rural regions and was driven by the capitalist, not feudal, elements of

the economy. However ... sharecropping also erased institutional supports for rural markets as it spread and decreased rural autonomy. Therefore, even though sharecropping was a capitalist tenurial form because it was embedded with this particular Tuscan pattern of sectoral differences, economic interests, and sectoral transfers, it did not support a transition to capitalism (128-29).

Florentine acquisitions transformed the countryside of the *contado* by consolidating holdings and displacing the organization of agricultural production—indeed much of everyday life in general—to Florentines, and given the asymmetry of resources “it was not so much that markets did not exist because they were incompatible with sharecropping as a tenurial form ... but that local markets structures were eliminated by the inequality in capitalist markets. ... Sharecropping unlinked property devolution, agricultural production, and local markets; these were mutually reinforcing in smallholding regions” (166). Again, writing of the Mugello: “Agricultural investment and innovation were therefore tied tightly to urban business practices. Rural regions had little autonomy and rural interests were represented only when they coincided with urban ones. This pattern of sectoral relationships—along with the tendency of the capitalist market to undermine local market institutions—was unlikely to produce a transition to capitalism” (195).

Nonetheless, in the end the central question remains the “transition to capitalism,” which according to the book, did not occur in the fifteenth century, but sometime much later. But this would be a transition to what—“full-scale industrial capitalism” as the author often suggests, or the “private property” and “wage labor” that already existed to different degrees throughout the region? Or should we be thinking of the problem in terms of a larger system of relations? The author does, even often, suggest the larger systemic nature of the localized patterns of development under consideration; for instance:

urban control of sharecropping—especially when it was a capitalist response by urban merchants to Florentine market conditions—limited rural inhabitants’ involvement in markets, by reducing their needs and opportunities to buy and sell land and agricultural commodities. Sometimes, the intensification of market activities turns local markets into capitalist ones. In Tuscany, however, the intensification of capitalist markets undermined local markets, inhibiting the growth of a widespread, domestic market (202-3).

But to answer “what” immediately becomes a question of “where,” and this question of location should not be taken as an unexamined given. Indeed, this is the question that the book puts in high relief for this reviewer.

Emigh is well familiar with the “transition” debates and in her review of this literature she asserts: “There is an increased tendency ... to use the plural forms ‘transitions’ and ‘capitalisms’ to emphasize their variability and complexity” (2005: 362). There is, however, an alternative to conceptualizing the point of arrival of the transition(s) to capitalism(s) as either the observed heterogeneity of social structures or an unattained homogeneity of social relations. These are the two possible outcomes if we are talking about sets of social relations compared across a somehow subdivided space. The alternative emerged from the debates in *Science and Society* (and their follow-on) in the early 1950s following the publication of Maurice Dobb’s *Studies in the Development of Capitalism*. It was in the context of these exchanges that Paul

Sweezy made the initial breakthrough that led to a conceptualization of capitalism not as simply a set of coincident social relations but rather as an evolving historical system of relations and eventually to the idea that development itself was actually dependent on hierarchical diversity across the system. He did this by concentrating on the unit of analysis, the question of “where.”

Historical forces which are external with respect to one set of social relations are internal with respect to a more comprehensive set of social relations. And so it was in the case of Western European feudalism. The expansion of trade, with the concomitant growth of towns and markets, was external to the feudal mode of production, but it was internal as far as the whole European-Mediterranean economy was concerned (1976: 105).

We are thus faced with the importance of the problem of bounding; how we decide to draw the line between what is “inside” and what is “outside” will fundamentally shape the analysis. Interestingly, Emigh does recognize the issue:

not only was there no domestic market, there was no other internal dynamic that supported independent rural growth in the absence of ... urban investment and therefore, no stimuli to the urban economy other than international trade. External changes, therefore, such as competition by English and Dutch manufacturing during the late medieval and early modern periods, strongly affected the entire Tuscan economy (205).

She does not, however, in this highly circumscribed version of “The Case that Doesn’t Fit” take the final step that Maurice Aymard took: to situate his unit of observation in the larger European world-economy, or unit of analysis, where centers of development have moved around over time—the observable shifts in core-periphery relations—within a single, large-scale, axial (hierarchical) division of labor (see Aymard 1982). Emigh limits her analysis to the “Tuscan case” and it “reinforces the point that capitalism is not a self-sustaining system” (223); indeed, it is only from this optic that such a statement seems to this reviewer sustainable.

Sweezy opened the way for rethinking (world-systemically) a whole category of apparently intractable or paradoxical questions in terms of long-distance relations; they include, for instance, whether the U.S. ante bellum South should be considered capitalist or not, how production based on slave labor could be highly industrialized—and not insignificantly, as Emigh argues, how sharecroppers could be engaged in a “largely capitalist system” (221)—and how the ascendancy of an initially very poor New England can now be understood in terms of a relationship, a division of labor, with the slave plantations of the Caribbean (see, for instance, Tomich and Zeuske 2008a and 2008b, and Solow 1991). Thus, the models of agrarian capitalism that Emigh enumerates (209) also take on new tonalities for the reader willing to think on a larger, and systemic, scale.

So then the salient issue remains whether we can treat the Tuscan “case” (thus by definition, or “presupposition,” one among others) as an independent and autonomous episode of non-development only to become “capitalist” late in the game. The way that we come to grips with this question will be fundamental to how we conceptualize our own future. Thus, although this is not, in the end, an empirical question about Tuscany, nevertheless we must agree with the author that: “To know the present, scholars need empirical knowledge, not presuppositions, of

the past ... my use of primary, archival evidence work is an explicit attempt to fill this gap” (10). And here Emigh’s attempt is most successful and satisfying. The strengths of the book include not only the integrity of the scholarship exhibited in the careful archival research and appropriate statistical elaborations usefully and readably presented, but beyond that the author allows us to meet some of the real people who populated this region in the fifteenth century. This is certainly a large component of what makes this such a fascinating read. One can almost hear the particular Tuscan accent. We are allowed to share in family decisions and observe them over several generations; after all, real people do have a say in making their own history.

In sum, this is a rich and rewarding work, highly recommended, that poses serious questions seriously.

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Bair, Jennifer (ed.) 2009. *Frontiers of Commodity Chain Research*. Stanford: Stanford University Press. 296 Pages, ISBN 978-0804759243 Paper (\$24.95); 978-0804759236 Cloth (\$70.00)

The varied uses of chain metaphors for describing the linked processes of transforming raw materials into finished products have generated divergent terminology, concepts, and research foci. Jennifer Bair’s edited volume provides a major service in organizing and explaining the relationship between different perspectives on chain analysis. The introductory chapter charts the

genealogies of the global commodity chain (GCC) and global value chain (GVC) frameworks from their origins in the world-system paradigm and elsewhere. Bair illuminates the theoretical and empirical debates around the terms “value” and “commodity” chains—a distinction that is often murky. While Bair never explicitly demarcates the “frontiers” of chain research, she organizes the chapters around three areas of debate: operationalization of chain concepts, chain governance, and the study of activism and labor in chain analysis. This organizational structure works, though it becomes apparent that these are not the only important debates within the field. Indeed, there are many frontiers to pursue and the chapters bring them into view.

Steven Topik’s chapter leads the first section, thematically organized around methodological issues in chain research. Topik demonstrates how the governance of coffee chains is historically dynamic, reflecting changes on the “production side”, but also cultural constructions of coffee that fueled expanded consumption. He draws attention to the conceptual problems of understanding variation within chain governance over time and space, the importance of contextualizing chains, and the social construction of economic activities, themes also pursued by other contributors.

David Smith and Matt Mahutga draw inspiration from Stephen Bunker’s research on raw material extraction to emphasize the implications of extractive economies for unequal exchange. Through a network analysis of trade data, they demonstrate that between 1965 and 2000 strong semi-peripheral countries become more “core” while weak semi-peripheral and strong peripheral countries moved towards the weak periphery. This polarization is driven by the declining mobility of countries whose growth of extractive exports is similar to those in manufacturing, contributing to further peripheralization.

Immanuel Wallerstein’s brief essay argues for the value of a broader contextualization of chain studies, particularly in the influence of state policy. His overarching methodological advice: “the only thing we have to fear is looking too narrowly” (89). Together, the chapters in the first section raise important questions about how to conceptualize and contextualize chains, and to account for how they change over time.

The middle section covers debates around chain governance. John Talbot describes advantages derived from studying tropical commodities, including the ability to “root” chains in processes of raw material extraction. Tropical commodities are often complete chains with relatively simple structures, but with multiple modes of governance and so offer an opportune site for advancing chain research. Talbot suggests that empirical work would benefit from comparative chain studies and on refining terminology.

Timothy Sturgeon’s chapter traces the origins of the GVC perspective. Drawing on economic sociology’s debate with transaction cost economics, the GVC perspective offers five ideal types of chain governance, including three types of network governance between markets and hierarchies. The GVC governance typologies provide firm-level tools for understanding the governance of particular nodes within larger chains but do not appear to fully replace the buyer-driven (BDCC) or producer-driven (PDCC) commodity chain categories developed in the GCC framework. Work remains to discern whether the GVC categories may be aggregated to capture the governance of entire chains.

Gary Hamilton and Gary Gereffi demonstrate the continued tractability of the BDCC/PDCC categories in their account of the rise of East Asian economies. Challenging the conventional emphasis on developmental states, they argue that the retail revolution in the United States and the development of retail-dominated chains sought suppliers abroad and, through a process of “iterative matching,” fostered demand-responsive economies in East Asia.

This chapter characterizes a divergence between GCC and economic sociology centered on the privileging of institutional explanations by conventional economic sociologists and their tendency to view the global economy as an agglomeration of national economies. This constitutes “sociological imperialism” that ignores “industry variables” and denies “that global processes matter in explaining economic organization” (142-3). While suggesting that chain studies and economic sociology could find common ground, they do not return to this argument and so how to achieve this remains less than clear. Still, this chapter and the one by Sturgeon rightly raise questions about the relationship between chain studies and economic sociology, as well as the continued divergence between the GVC and GCC frameworks on chain governance.

The third section moves away from describing the structures of chains to focus on workers and activism. Kate Raworth and Thalia Kidder analyze an impressively large number of interviews conducted in numerous countries with workers and unions (among others), and representatives of lead firms in the apparel and fruit and vegetables chains. The authors show how just-in-time production deteriorates work conditions for the low-wage workers. Unfortunately, the chapter is largely silent on the sizable literature that situates low-wage work regimes in chain frameworks (e.g. Bonacich and Appelbaum 2000; Collins 2003) or the extensive literature on gender, labor and globalization (e.g. Ong 1991). Some findings – such as the role of gender-stereotypes in low wage labor regimes – are presented as novel when they are not. More seriously, the lack of engagement with prior research makes it difficult to know where the “frontier” of research on chain analysis and labor actually sits. Still, the chapter raises interesting issues, such as the reputational concerns of suppliers and how value is created and dominated by particular actors in chains.

Julie Guthman addresses the question of value in her chapter on voluntary ethical labels. Ethical labels “unveil” the commodity by making transparent its production, thus shifting the location of value generation and capture between nodes in the chain. Such redistribution is the normative core of chain analysis to the degree that it is concerned with industrial upgrading to capture more value. Yet, ethical labels can themselves operate as a kind of rent-creating “fetish.” Moral concerns operating as economic rents raises the question of the distinction between the cultural and the economic, and the relative weight to be given to each when explaining outcomes of chain structure and process.

The final chapter by William Munro and Rachel Schurman explains the success of the anti-GMO movement in Britain and its failure in the United States through the structure of seed and retail grocery chains. In the U.K., they highlight the structure and transnational character of the seed commodity chain and a strong culture of popular distrust. This created a retail grocery sector vulnerable to activist pressure when combined with the politicization of the GMO issue and its framing as a question of “American food imperialism” (213). In the U.S., the structure of the seed chain consolidated power at the “producer end” while blocking activists’ efforts at the “retail end.” Finally, a “trusting consumer culture” consolidated support for GMOs. The political openings or closures created by chains are not just structural but are “informed by cultures of consumption, production, and competition” (209). Culture is theorized as *embedded* with economic activities and strategies of firms, suggesting that neat divisions between the two are difficult to maintain. Still, the causal weight placed on trust in regulatory authority is dubious since trust is not independent of perceptions of risk (Poortinga and Pidgeon 2005). The strength of the argument is in linking the structure of the chain to strategies of activists. Studies of chains and activism may benefit from a deeper engagement with the concepts from social movements literature, such as framing, to better capture the dynamics of culture within chains.

Bair's volume captures many frontiers of chain analysis. In addition to debates that frame the chapters, several other themes emerged from the collection: what are the relationships between chain studies and economic sociology? How can chain studies build on the insights of the social movements literature? What should be the explanatory weight given to institutional context versus industry variables, and to what degree can they be empirically distinguished from each other? How can chain analyses better link consumption to production and reproduction? And, how can a focus on extractive processes enhance the understanding of chains and economic development? These themes illustrate how the collection speaks to new questions being posed by chain scholars. It will serve as an excellent primer for scholars wanting to be quickly brought up to date with the chain literature and push it forward.

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Chorev, Nitsan. 2007. *Remaking U.S. Trade Policy: From Protectionism to Globalization*. Ithaca: Cornell University. ISBN 978-0801445750 Cloth (\$47.50)

Trade liberalization – the reduction of tariffs and other barriers to trade – has played a central role in economic globalization, by enabling goods and capital to move more freely across borders. In *Remaking U.S. Trade Policy: From Protectionism to Globalization*, Nitsan Chorev makes trade policy a central object of study in trying to understand the process of globalization. She looks specifically at the trade policies of the U.S., which, as the dominant global political and economic power since the end of the Second World War, has been a central actor in this process. Prior to the 1930s, the U.S. government was strongly protectionist and maintained high tariffs to protect its domestic market. Yet, in the period since then, the U.S. has become one of the world's leading advocates of trade liberalization and a key driver of economic globalization. The book sets out to explain this significant change in U.S. economic policy: Why did the U.S. government shift from trade protectionism to supporting trade liberalization?

Chorev shows that the answer lies in domestic political struggles: ultimately, economic actors advocating trade liberalization ("internationalists," including internationally competitive corporations, financiers, investors, and importers) prevailed over protectionist industries and

workers. Interestingly, Chorev argues that the most consequential struggles centered not on the substance of specific policies – such as lowering high tariffs or abolishing import quotas – but on institutions – the rules and procedures governing trade policy formulation and implementation. Chorev demonstrates that supporters of internationalist policies managed to defeat protectionist opposition by changing the locus of authority for trade policy-making: they moved the battlefield to sites that were more favorable to their free trade agenda and limited the room for protectionist interests to maneuver. Specifically, internationalist business successfully drove a shift in such authority from a protectionist Congress to agencies in the executive branch supporting free trade; and later from the administration to the World Trade Organization (WTO).

Chorev identifies three major eras of U.S. trade policy since the 1930s, each marked by an institutional shift that made trade policies progressively more liberal: (1) “selective protectionism,” beginning in 1934, when Congress for the first time delegated authority for setting tariffs to the executive, which resulted in dramatically lower tariffs and the creation of a regime in which “liberal principles prevailed” but “protectionist exceptions” were still allowed (66); (2) “conditional protectionism,” beginning in 1974, with a further transferring of authority over nontariff trade measures and trade remedies from Congress to the executive, which limited the scope for protectionist measures by making them subject to strict legal and bureaucratic rules; and (3) “legalized multilateralism,” beginning in 1994, when protectionist measures became disciplined by binding international rules with the creation of the WTO.

According to Chorev, each new set of institutional arrangements put in place stricter rules biased towards free trade and further limited the scope for protectionist policies. These institutional shifts gradually restricted the political influence of protectionist forces, as the voices of those opposed to trade liberalization became increasingly excluded from the process of decision-making. The book thus provides a fascinating study of how institutional transformations constrained the political opportunities for opposition to neoliberal globalization. Chorev convincingly argues that “the essence of the institutional project of globalization has been a project of shifting authority, both at the national and the international levels” (202), away from explicitly political sites to bureaucratic or judicial sites of decision-making that are out of the realm of public debate and democratic political deliberation. As she states, “the institutional project of globalization entails a process of *depoliticization*.”(12) What Chorev calls the “bureaucratization/judicialization of political processes” (18) has politically weakened opposition to trade liberalization, and by extension, neoliberal globalization. (While the prospects for social movements or other actors seeking to challenge the current trajectory of neoliberal globalization may thus appear bleak, Chorev leaves room for a glimmer of hope by indicating that “globalization is an *ongoing* institutional project” (208) and existing institutional arrangements continue to be subject to change and contestation.)

Existing studies of the political processes and struggles involved in the making of globalization have tended to focus on the international level, examining how the U.S. created the current neoliberal global economic order, spreading market-oriented policies and propelling countries to open and liberalize their markets. In doing so, however, they have tended to treat the U.S. as a black box, assumed to be an actor with unified and coherent national interests that it pursued in international politics and global economic governance. Chorev’s analysis is distinct in that it shines the spotlight on the domestic political struggles that took place *within* the U.S. and ultimately drove its external policies. She deconstructs the notion of “the U.S.” as a unitary actor with coherent interests in the realm of trade, and instead shows the conflict between protectionist and internationalist elements in the U.S. economy and within the U.S. state itself.

As a result, the book offers important insight into the inconsistencies and tensions in U.S. trade policy (which often lead to charges of hypocrisy) between liberalism and protectionism. Chorev's rich and detailed use of archival materials and interviews allows for a fine-grained analysis that adds much needed nuance to our understanding of the roles of different actors – and the battles among them – in the process of globalization. In shedding light on the institutional and political underpinnings of the process of trade liberalization, Chorev provides a means of understanding the contradictions of globalization and their origins, including the tension between liberalism and protectionism built into the WTO. The globalization project as we know it is the impure result of ongoing political conflicts.

The book makes an important contribution to the literature on globalization, by examining a critical area – trade policy – which sociologists have too often been willing to cede to political scientists and economists. Through her analysis of U.S. trade policy, Chorev challenges traditional accounts of the relationship between the state and globalization and provides a valuable corrective to accounts that erase the agency of states – and therefore the importance of domestic political struggles – in the making of globalization. However, it is possible that in seeking to debunk the myth of globalization as an autonomous force that emerged independent of states, she goes too far in the opposite direction of emphasizing the latter's agency. Chorev situates the origins of globalization in domestic political and institutional struggles: globalization, she argues, “started as a domestic affair” (x). While her analysis of the U.S. case makes this claim extremely compelling, the degree to which it applies to other states is less clear.

As the global hegemon, the U.S. has been a key driver of the globalization project, frequently imposing neoliberal laws and globalizing practices on others. However, the U.S. is unique in the extent to which it has been a rule-maker, rather than a rule-taker, in the global economic order. Chorev skillfully uses her analysis of the U.S. case to contest the traditional conception of globalization as a “structural condition imposed from above” (5), but for many states, this may still be a fairly accurate depiction. For developing countries, in particular (though not exclusively), it may not be inaccurate to characterize the state and domestic political struggles as primarily reactive to external economic and political pressures, whether, for example, the Third World debt crisis of the 1980s, IMF structural adjustment programs, or the Uruguay Round WTO agreements. But Chorev acknowledges that the U.S. case likely overstates the agency of states and the role of domestic political struggles in shaping globalization; the relative importance of domestic and international factors could be quite different for other countries. In the end, this is not a flaw in the argument of the book but rather an indication of the value for future scholarship of going beyond the U.S. case. The book makes a path-breaking contribution by drawing attention to the important but under-explored issue of the role of domestic political and institutional struggles in shaping contemporary globalization. As such, it provides a rich new terrain for future research.

Exhaustively researched and compellingly argued, this is a masterful work, which should become a key text in the canons of political sociology, economic sociology, and international political economy.

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Searle, John R. 2011. *Making the Social World: The Structure of Human Civilization*. Oxford: Oxford University Press. 224 Pages, ISBN: 978-0199829527 Paper (\$17.95); 978-0195396170 Cloth (\$24.95)

Making the Social World is a restatement and a (rather slight) revision of John Searle's argument for the process through which institutional facts are constructed as laid out in his landmark 1995 book *The Construction of Social Reality*. In this more recent (and rather pithy but always demanding) monograph, Searle restates the basics of the theory, responds to various criticisms that have cropped up over the years, tidies up some terminology and tightens up some logical holes in the argument. Readers who are familiar with the original 1995 argument will find little that is particularly new or groundbreaking in this book. However, for readers that are new to Searle, this book represents a very effective introduction to one of the most ambitious and provocative attempts to provide a workable, non-idealist foundation for institutional analysis currently on offer. Searle's argument is complex and wide-ranging, but once the reader makes the effort to master the relevant terminology it also has the advantage—characteristic of writers in the analytic-philosophical tradition—of being well-constructed, logically consistent and clear in its implications.

Searle's primary goal is to develop a workable "social ontology" of institutions in particular and social reality in general. Searle's point of departure is resolutely materialist and anti-dualist. The key problematic is how is it that such institutional creations as schools, presidents, money, citizenship, private property, marriage and contracts, come to seem as natural as run of the mill physical objects. For Searle the key feature of institutional reality is that it does not fit neatly into the standard category of the "subjective/mental" versus the "objective/material" because institutions appear to be mind-dependent yet, objective features of the "furniture" of the world. To shed light on this issue, Searle makes several preliminary distinctions. First, he distinguishes between *mind independent* and *mind dependent* phenomena. Examples of the former include the atomic weight of Plutonium or the distance between the Earth and the Sun; one example of the latter would be the fact of experiencing a toothache at a given moment. All mind-dependent phenomena are what he calls *intentionality relative*; that is they exist only insofar as they can figure as the "content" of our mental states (thus a "belief" in something is intentionality-relative). However, not all intentionality relative phenomena are mind-dependent; instead, when intentionality relative phenomena are established by acts of *collective intentionality* they give rise to mind-independent but intentionality relative phenomena, such as the fact that a given individual is a citizen of the United States. All of institutional reality, according to Searle, consists of collections of such facts. In that respect the "I-intentions" accounting for run-of-the-mill statements of intent must be distinguished from the "we-intentions" that lie behind the creation of institutional facts.

For Searle, what distinguishes human societies from animal societies is the fact that humans, via acts of collective intentionality can assign *status functions* to objects, such that these objects can perform functions that go beyond anything that we would expect from their physical structure alone. The prototypical case is money; here pieces of paper, metal or even electronic signatures can play the role of currency. This function is independent of the material constitution of currency. Money is only money when its function is *recognized* as such by a given collectivity. Humans thus have the capacity to *institute* new functions of physical objects (including human persons) simply by agreeing to act as if the object performs that function in the designated context. This allows human collectivities to transcend the functional limitations of the

physical object world, opening up an entirely new realm of collectively instituted (social) realities.

The primary tool used to publicly represent this realm of institutional reality is language. For Searle, understanding the functions and structure of language as a social institution is crucial, since no other institution can exist without some public system of symbolic representation. The primitive operation in the creation of institutional facts is the public statement of a particular type of speech act, what Searle refers to as *declarations*. All institutional facts depend (explicitly or implicitly) on such declarations. While other speech acts are designed with the purpose of either saying something about the world or stating an intention to change the world, declarations *generate the very state of affairs that constitute their "content" by the very act of enunciation* (e.g. "I now declare you husband and wife"); they are thus the only ones that can produce new institutional realities. Declarations assign collectively recognized status functions to objects or persons by the enunciation of a *constitutive rule*. Constitutive rules differ from regulative rules (which simply specify which actions are and are not allowed) by declaring the status function of an object, action or person in a particular context. Thus, they have the abstract structure "X counts as Y in context C". For instance, in chess the checkmate rule is a constitutive rule because it tells us the particular set of actions that counts as checkmate in that context. In the same way, once a particular piece of paper has been branded a "dollar bill" it counts as "money" in the relevant context.

In this respect, the main role that the assignment of status functions plays in social life is *deontic*. That is, status functions are the primary mechanisms through which *normative regulation* occurs in human societies. For Searle, institutional reality is primarily concerned with the assignment and management of *power relations*; they are the principal "vehicles for power." The reason for why the central role of institutional facts is the regulation of power relations is that for all members of a given collectivity, the active acceptance of a given assignment of status function by an authoritative body constitutes an *acceptance* of the various rights, obligations, responsibilities, permissions, requirements, duties, entitlements, prohibitions and authorizations that come with that function for the persons that fall under the jurisdiction of the status assignment in question. Institutional facts thus become primarily a way to regulate deontic relationships among members of a collectivity. Acts of institutional creation therefore can be thought of as the collective creation and imposition of *deontic powers* over persons. For Searle, the reason why deontic powers are important is not only that they produce "social order" where there otherwise would not be any, but also because they serve to provide *desire-independent reasons for action*, thus coupling we-intentional production of institutions with the pursuit of private aims and goals. That is, once a particular status assignment is made, persons have a collective duty to perform the actions specified by the status regardless of whether they have a desire to perform the action or not. Social order *requires* a disjunction between the ability to create desire-independent reasons for action as institutional facts and private beliefs and desires for action.

It is hard not to overstate Searle's intellectual accomplishment. As it stands, Searle's conceptual apparatus represents the most sophisticated attempt to theorize the problematic of institutional reality in contemporary social theory. It does however, have some predictable weaknesses. One of them is his rather a-sociological treatment of power. While acknowledging that institutional reality depends on acceptance, and even while acknowledging that "acceptance" is sometimes imposed on others, he fails to properly integrate mechanisms of coercion, collective imposition and cultural hegemony into his framework. Too often, we-intentions for the

generation of novel status functions emerge unproblematically and the role of social conflict in their production is thereby muted. The scope and range of Searle's explanatory framework would be greatly enhanced if it were coupled with a conflict-theoretic account of the role of language and ritual in the production of institutional facts and of group competition for the control of those societal institutions to which the assignment of status functions (e.g. the state, schools, religious institutions) is delegated.

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Smith, Jackie, Marina Karides, Marc Becker, Dorval Brunelle, Christopher Chase-Dunn, Donatella della Porta, Rosalba Icaza Garza, Jeffrey Juris, Lorenzo Mosca, Ellen Reese, Peter Smith, and Rolando Vazquez. 2008. *Global Democracy and the World Social Forums*. Boulder, CO: Paradigm Publishers. 177 pages, ISBN 978-1594514200 Paper (\$29.95); 978-1594514203 Cloth (\$108.00)

In this era of financial crisis, prolonged warfare, and ecological peril, it is unsurprising that analysts, activists, and citizens around the world are demanding new pathways into the future. The vibrancy of social unrest has impressed many movement leaders and scholars, and posed challenges for political and corporate leaders. But can multi-faceted forms of protest coalesce into a coherent movement capable of pressing effectively for greater global democracy, equality, and sustainability? In this period of crisis, when the world could potentially shift toward a path of greater collective rationality or continue a process of unraveling, this question has become vitally important.

Global Democracy and the World Social Forums by Jackie Smith et al. is a particularly useful book for shedding light on the possibilities and challenges facing this "movement of movements" that is trying to create an alternative path for our collective future. Co-authored by an impressive roster of researchers, this book provides a clearly-written, empirically rich, and insightful analysis of a uniquely important space – the World Social Forum process – within which alternative visions are being discussed and refined. The book is written partly for an audience that is unfamiliar with the history and characteristics of the WSF, and so it can be used in undergraduate courses with great success. At the same time, the book describes findings from surveys that were gathered at the World Social Forum, and so it will be of interest to more experienced students and researchers as well.

Indeed, one of the unique strengths of *Global Democracy and the World Social Forums* is the data that is used to illuminate key questions. After presenting a short but comprehensive history of the World Social Forum, the authors turn to a detailed analysis of the results of a survey that was conducted at the 2005 World Social Forum in Porto Alegre, Brazil. Their survey data shows, for instance, that close to 60% of respondents favor abolishing rather than reforming global capitalism and institutions such as the IMF and the World Bank. At the same time, when asked whether it made sense to try to create a democratic world government, 29% of their respondents said that creating such a government would be a good and plausible idea, 39% said it was a good idea but not plausible, and 32% responded that it would be a bad idea to even try (89). The book is filled with other interesting empirical data on tactical debates, the

characteristics of those who attend the meeting, and what kinds of alternatives are favored by participants.

Global Democracy and the World Social Forums also provides useful discussions of challenges that face those who engage in the Social Forum process. The authors describe how the costs of travel impact who is able to participate in WSF meetings, and they then discuss efforts that have been made to create city and regional forums in order to broaden opportunities for participation. They also describe instances in which gender and race inequalities have emerged within the WSFs, and how these issues have been addressed by participants. Overall, the book presents a sympathetic but also critical analysis of one of the most important spaces for global activism in our age. Activists, students, and researchers will certainly find a great deal of value in this book.

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Karotzogianni, Athina and Andrew Robinson. 2010. *Power, Resistance and Conflict in the Contemporary World: Social Movements, Networks and Hierarchies*. New York: Routledge. 324 pages, ISBN 978-0415452984 Cloth (\$140.00)

What is theory for? Many of us resort to old-school definitions when we teach introductory or even some upper level sociology students. Theory, we explain to our students, is useful in its ability to describe, explain, and predict the social world. Of course, we are less likely to be able to predict the social world, but we maintain that element of the definition, perhaps due to our ongoing contentious comparison to scientific theory.

Wallerstein's rethinking of social science (1991) provides a different entry into the discussion of theory, even as he militates against the perception of world-systems analysis as a theory. Wallerstein suggests that the purpose of analysis/theory is "open(ing) up many of the most important or most interesting questions" in the effort "to present rationally the real, historical alternatives that lie before us" (237). Here Wallerstein provides an entry into another purpose of theory: emancipation.

The emancipatory capacity of theory is one endorsed by a variety of theoretical sources, from feminism, to liberation theology, to anti-colonial theory, let alone forebears like Marx and Gramsci. The expectation is that the more we know about structures of oppression, the more we can find ways to resist and even overturn them. It is in this spirit that Athina Karotzogianni and Andrew Robinson attempt to synthesize a number of disparate contributions. Yet their adherence to a Deleuzian and Guattarian philosophy forces me to question the reconcilability of theories that describe and explain different forms of dominance with a political philosophy they describe this way: "...the main purpose of philosophy is the invention of concepts. The philosopher is the concept's friend" (7).

I do not mean to build a straw person. Karotzogianni and Robinson clearly see political change as a goal of Deleuzian philosophy. According to this view, change is accomplished by an 'affirmation of difference' that will foster alternative understandings that will, in turn, challenge hierarchical world-systemic power. Yet in the effort to bring in so many different theoretical strands, this book reads like stone soup, with readers given enormous portions of theory,

punctuated by few empirical referents, and fewer ways to tie the different conceptual contributions together.

Karotzogianni and Robinson take the reader through a long and painful unpacking of Deleuze and Guattari. We are forewarned in the introduction, but the unwillingness to move beyond high levels of abstraction quickly turns tiresome. The chapter on world-system ‘theory’ is certainly clearer, in large part due to the sources Karotzogianni and Robinson summarize. Because of its summary nature, JWSR readers will find little new in this chapter. Indeed, the long list of world-systems inspired topics, with little transition between them, and none to other chapters, reinforces the perception of this book as an extended literature review. Here, Karotzogianni and Robinson mix together research discussing very different moments of hegemony and crisis, without noting the historical specificity of the contributions, and focus on theoretical debates without recognizing how the different topics of historical research led researchers to different positions.

Throughout the book, the occasional use of empirical examples suggests two things: First, Karotzogianni and Robinson’s arguments might be made in somewhat more accessible ways. Second, the very precise use of examples throughout the book smacks of empirical cherry-picking. In several chapters, these examples are only sentence-long, derived from their reading of others; elsewhere they are several paragraphs of case-explication crafted to make their theoretical points. The Zapatistas re-appear consistently as one of their examples of choice, yet Karotzogianni and Robinson fail to recognize the limited amount of medium-term political impact this movement has had within Mexico, focusing instead on the theoretical contributions that can be derived from their struggle. By the time this reader reached the chapter on reactive networks – the chapter with the greatest amount of empirical reference – I was convinced that the rationale by which Karotzogianni and Robinson chose their examples was either to exemplify their argument or to contradict those they oppose. This, of course, is in great contradiction to the kind of world-systemic analysis that prioritizes careful historical method.

The synthetic contribution of this book is found in the discussion of networks that have the potential to contest U.S. dominance and global neoliberalism. Ethno-religious movements, anti-globalization movements, movements of those living in shantytowns and slums all “constitute a fundamental structural challenge to the logic of hierarchy” endemic to world-system domination (130). In this chapter and in the conclusion, Karotzogianni and Robinson tout the way such networks have obstructed the space of domineering states and economies. In many ways, this analysis harkens back to the early discussions of new social movements, which also privileged the celebration of difference and the system-confounding characteristic of different structures of resistance, but with less far-reaching claims than this book makes. Yet Karotzogianni and Robinson’s focus on informal networks ignores many of the institutional and linked efforts (although within hierarchical powers) that Smith and Wiest (2011) document.

The power of networks, Karotzogianni and Robinson tell us in the book’s conclusion, is found in the incapacity of U.S. foreign policy to address network resistance. This reasonably coherent articulation of the book’s position and intent is not argued prior, with the exception of a brief mention in the introduction. By the time this argument is made, unfortunately, it has been lost in a maze of high conceptualization, scarce theoretical linkage, and questionable empirical detail.

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Starr, Amory, Luis Fernandez and Christian Scholl. 2011. *Shutting Down the Streets: Political Violence and Social Control in the Global Era*. New York: New York University Press. 216 pages, ISBN 978-0814741009 Paper (\$23.00); 978-0814740996 Cloth (\$67.84)

In 2011, ‘The Protester’ was named *Time Magazine’s* “Person of the Year.” Protests across the Middle East, dubbed the ‘Arab Spring,’ had led to the downfalls of governments in Tunisia, Egypt, and Libya. In the case of Libya, the government fell as a result of open warfare. Governments in Syria and Yemen, amongst other Arab states, are still being openly confronted by the populace. Syria is currently in the grips of what can only be described as a civil war. Also in 2011, protest movements emerged throughout North America, Western Europe, and Russia, in response to the perceived collusion of corporate and state interests at the expense of the citizenry. While each of these movements, from Tunisia to Toronto, has been motivated by very different factors, there is a common thread running throughout: namely, the shared sentiment that the existing ordering of things has become intolerable.

It is against this backdrop that *Shutting Down the Streets: Political Violence and Social Control in the Global Era* was published. *Shutting Down the Streets* is Amory Starr, Luis Fernandez, and Christian Scholl’s thorough and insightful analysis of the state control of social movements, specifically protest movements. They choose as their primary focus the predominantly North American and European ‘alter-globalization’ movements and the means through which various state actors attempt to control, and in many cases suppress them. While they certainly describe in great detail the ways in which these state actors *physically* control protests, they are also keen to point out that there is a certain theatrical aspect to these acts of control and suppression that have repercussions which extend far beyond the immediate interactions between protester and policeman. In other words, the acts of control serve as warnings to *would-be protesters*, and lead to a certain amount of *self-policing* amongst the general populace. This is, perhaps, their most profound point, and what I take to be one of the central theses of this work. Starr, Fernandez, and Christian provide an insightful analysis of this point through the lens of the work of theorists such as Gilles Deleuze, Félix Guattari, and Michel Foucault, to name a few.

Some of the key concepts discussed in *Shutting Down the Streets* are 1) the spatial dynamics of social control; 2) the political economy of social control and dissent; 3) a taxonomy of political violence; and, 4) how to resist social control of legitimate behavior. In their discussion of the spatial/geographical aspects of social control, Starr, Fernandez, and Christian go over everything from the choice of summit venue to the immediate ways in which policing

forces will channel the physical movements of protest demonstrations. In the chapter on the political economy of social control, Starr, Fernandez, and Christian outline the monetary costs of social control and ensuing tension with regard to who is responsible for footing the bill. In the chapter discussing the taxonomy of political violence, Starr, Fernandez, and Christian discuss what they take to be “a series of concepts that capture the dynamic effects of social control on dissent” (91). In other words, it is a catalogue and analysis of the consequences of the state control of social dissent. The chapter on the resistance of social control examines the methods through which activists defend themselves from the political violence of social control.

The book opens with the description of a security wall built in East Germany to protect a three day G8 summit. They describe its physical composition (“metal fencing with concrete foundations . . . designed to cradle a curlicue of razor and barbed wire”), its cost (“1 million euros per kilometer”), and its purpose (“to keep out terrorists” and protesters) (1). They write that “the fence imposed an exclusionary geography . . . on a purportedly democratic nation and landscape” (1). With this imagery, they describe what they take to be a prominent symbol of the state control of dissent. An enormous metal and concrete wall, built to exclude the masses from a conversation of sweeping implications held by global elites. However, it is not just the wall which is significant. Once the meeting (and protest) commences, images of violent engagements between police and protesters circulate throughout the global media. This, for Starr, Fernandez, and Scholl, is where the real social control takes place: in the violent imagery. Images of militarized police clashing with protesters quell any idea of protesting in all but the most dedicated. The wall surrounding the summit ends up casting a shadow far beyond the physical protest itself.

Another important issue that Starr, Fernandez, and Scholl bring up in this book is the effect that social control has on the self-perception of the protester/activist. They write that “a powerful indirect effect of protest policing is the marginalization of political activists” (94). By having their behavior in effect criminalized, protesters get pushed out of mainstream discourse. Their behavior comes to be seen not as “crucial to their society’s well-being but . . . instead [as] incomprehensible, bizarre, and unsafe” (94). This is a message, according to Starr, Fernandez, and Scholl, that comes to be *internalized* by protesters and (perhaps more importantly) *would-be* protesters. When protesters are subjected to constant surveillance and other policing tactics (including the use of highly militarized riot police), the very act of protest itself becomes criminalized. It becomes criminalized not only in the public space, but also within the psyche of the protester her/himself. S/he comes to see her/his own behavior as criminal.

Starr, Fernandez, and Scholl provide an exceptional analysis of the methods, monetary costs, effects, and responses to social control. This analysis is more or less strictly in the context of ‘alter-globalization’ protests of G (insert number here) summits and state responses. Numerous references are made to notable protests of the late 1990’s and early-mid 2000’s (such as the Seattle WTO protest of 1999). This is very fortunate, as it allows us to view many of the protest movements taking place today across North America and Europe through a historical lens. The protest movements playing out in the Middle East, on the other hand, may require a somewhat different analytical toolkit as they are subject to much higher levels of explicit violence and repression. Perhaps we can look forward to an analysis of these protests by Starr, Fernandez, and Scholl sometime in the near future.

Countries that claim to value human rights, on the other hand, have had to resort to subtler techniques to attempt to suppress protest movements within their borders. That their techniques have not resulted in thousands of deaths (like nations such as Syria and Libya) does

not negate Starr, Fernandez, and Christian's claim: that these techniques are still violations of basic human rights. Any action taken which prevents a person from effectively voicing his/her concerns in an open forum is a violation of his/her basic human rights as they are understood by nearly every liberal democratic nation on the planet. The fact that actions such as these do, in fact, take place fairly regularly in liberal democracies smacks of hypocrisy. These states, which were in many cases founded through protest of the monarchical and authoritarian systems that predated them, now deny those with grievances to air the opportunity to do so *effectively*. Any protest that is more than a mere show at protest is seen as dangerous; yet the stymying of actual effective protest seems to come into conflict with the basic ideals of a liberal democracy. It may very well be the case that the liberal democratic nations around the world have forgotten their roots.

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