

© Red Quill Books Ltd. 2013
Ottawa

www.redquillbooks.com

ISBN 978-1-926958-24-8



Printed on acid-free paper. The paper used in this book incorporates post-consumer waste and has not been sourced from endangered old growth forests, forests of exceptional conservation value or the Amazon Basin. Red Quill Books subscribes to a one-book-at-a-time manufacturing process that substantially lessens supply chain waste, reduces greenhouse emissions, and conserves valuable natural resources.

Includes bibliographical references.

“Alternate Routes”
ISSN 1923-7081 (online)

ISSN 0702-8865 (print)



Red Quill Books is an alternative publishing house. Proceeds from the sale of this book will support future critical scholarship.



Alternate Routes: A Journal of Critical Social Research Volume 25, 2014

EDITORS: Carlo Fanelli and Bryan Evans

INTERVENTIONS EDITOR: Jordy Cummings

BOOK REVIEW EDITORS: Priscillia Lefebvre and Nicolas Carrier

EDITORIAL BOARD: Nahla Abdo, Pat Armstrong, David Camfield, Nicolas Carrier, Wallace Clement, Simten Cosar, Simon Dalby, Aaron Doyle, Ann Duffy, Bryan Mitchell Evans, Luis Fernandez, Randall Germain, Peter Gose, Alan Hunt, Paul Kellogg, Jacqueline Kennelly, Mark Neocleous, Mi Park, Georgios Papanicolaou, Justin Paulson, Garry Potter, Stephanie Ross, Herman Rosenfeld, George S. Rigakos, Heidi Rimke, Arne Christoph Ruckert, Alan Sears, Mitu Sengupta, Donald Swartz, Ingo Schmidt, Toby Sanger, Janet Lee Siltanen, Susan Jane Spronk, Mark P. Thomas, Rosemary Warskett.

JOURNAL MANDATE

Established in 1977 at the Department of Sociology and Anthropology, Carleton University, Alternate Routes is committed to creating outlets for critical social research and interdisciplinary inquiry. Although Alternate Routes is now an independent peer-reviewed annual, the journal continues to work closely with labour and social justice researchers to promote the publication of non-traditional, provocative and progressive analyses that may not find a forum in conventional academic venues. AR seeks to be a public academic journal and encourages submissions that advance or challenge theoretical, historical and contemporary socio-political, economic and cultural issues. In addition to full-length articles, we welcome review essays sparked by previously published material, interviews, short commentaries, as well as poetry, drawings and photographic essays. AR publishes primarily special-themed issues and therefore requests that submissions be related to the current call for papers. Submissions must be free of racist or sexist language, have limited technical or specialized terms and be written in a style that is accessible to our diverse readership."

Table of Contents

Editorial Introduction	9
<i>Carlo Fanelli and Bryan Evans</i>	

Articles

Introduction: Climate Change: ‘The Greatest Challenge of Our Time’	15
- <i>Carlo Fanelli</i>	
Capitalism, the Climate Crisis and Canada’s ‘Relations of Mobility’	33
- <i>Ryan Katz-Rosene</i>	
Gendered Emissions: Counting Greenhouse Gas Emissions by Gender and Why it Matters	55
- <i>Marjorie Griffin Cohen</i>	
Overcoming Systemic Barriers to ‘Greening’ the Construction Industry	81
- <i>John Calvert</i>	
Approaches and Responses to Climate Change: Challenges for the Pantanal and the Upper Paraguay River Basin	119
- <i>Antonio Augusto Rosotto Ioris</i>	
Brazilian Dystopia: Development and Climate Change Mitigation	147
- <i>Garry Potter, Jun Mian Chen and Nazar Hilal</i>	
Can You Build an Open-Pit Mine in an Urban Centre? Big Copper Versus a Small City and the Urban Environment in a B.C. Interior Community	181
- <i>Terry Kading and Elisabeth Bass</i>	
‘Greening Work’ in Lean Times: The Amalgamated Transit Union and Public Transit.	207
- <i>Jeffrey Carey and Steven Tufts</i>	

Interoventions

The Contradictions of Localism:
 An Interview with Greg Sharzer 237
 - *Jordy Cummings*

Urban Space in Perspective:
 An Interview with Matthew Gandy 253
 - *Aaron Henry*

Indigenous Takes On Environmentalism: An Interview
 on the Front Lines of Indigenous Land Defense 259
 - *Megan Kinch*

The Geopolitical Ecology of Empire’s Ally: An Interview
 with Greg Albo and Jerome Klassen. 267
 - *Jordy Cummings*

Working in a Warming World: On Climate Change
 and Union Renewal with Carla Lipsig-Mummé 283
 - *Christina Rousseau*

Climate Change and Socialism:
 An interview with John Bellamy Foster. 293
 - *Steve da Silva*

Reviews

John Bellamy Foster, Brett Clark and Richard York.
The Ecological Rift Capitalism’s War on the Earth;
 Anthony Giddens. *The Politics of Climate Change* 303
 - *Samantha Wilson*

Silvia Federici. *Revolution at Point Zero: Housework,*
Reproduction, and Feminist Struggle 307
 - *Danielle DiNovelli-Lang*

Ross Sutherland. *False Positive: Private Profit in*
Canada’s Medical Laboratories 310
 - *Deborah Komarnisky*

Ernesto Che Guevara. *El diario del Che en Bolivia*. 313
 - *Gabrielle Etcheverry*

Victoria Law and China Martens. *Don’t Leave Your Friends Behind:*
Concrete Ways to Support Families in
Social Justice Movements and Communities. 316
 - *Kevin Partridge*

Victoria Law. *Resistance Behind Bars: The Struggles of*
Incarcerated Women 319
 - *Rebecca Jaremko Bromwich*

Babak Fozooni. <i>What is Critical Social Research?</i>	322
- Mahnam A. Malamiry	
Harry E. Vanden and Marc Becker. <i>José Carlos Mariátegui:</i> <i>An Anthology.</i>	326
- Matthew Hawkins	
C.L.R. James. <i>A New Notion: Two Works by C.L.R. James</i>	329
- Paul Whiteley	
Holly Gibbs, Belinda Leach, and Charlotte A.B. Yates. <i>Negotiating Risk, Seeking Security, Eroding Solidarity:</i> <i>Life and Work on the Border</i>	332
- Madalena Santos	
Richard Swift. <i>The Great Revenue Robbery: How to</i> <i>Stop the Tax Cut Scam and Save Canada</i>	335
- Matt Fodor	

Editorial Introduction

Climate Change and Its Discontents

Carlo Fanelli¹ and Bryan Evans²

In “Capitalism, the Climate Crisis and Canada’s ‘Relations of Mobility’”, Ryan Katz-Rosene explains how the material and subjective systems governing transport infrastructure are ecologically unsustainable and largely undemocratic. Rather than challenging market forces, the Canadian state has played a central role in deepening and extending these practices. In his view, confronting these challenges requires a genuinely democratic, anti-capitalist politics aimed at transforming state power across all scales of public administration. Next, Marjorie Griffin Cohen shows why counting “Gendered Emissions” matters. While many of the gendered analyses exploring climate change focus on the implications for women and their work in the Global South, less attention has been devoted to exploring how climate change differentially effects women in the North. Cohen’s analysis breaks new ground in understanding how paid and unpaid labour as well as consumption issues vary by gender in the developed world, and explains why knowing the gendered distinctions in GHG emissions can inform radical ways to think about public policy and its relation to climate change.

Moving forward, in “Overcoming Systemic Barriers to ‘Greening’ the Construction Industry” John Calvert argues that reducing GHG emissions and energy consumption of the built environment is central to mitigating climate change. He explores how building trades workers can adopt low carbon construction policies. To do this, he argues, means challenging the pervasive use of sub-contracting and precarious employment, as well as largely unregulated construction markets. A ‘green’ construction culture, boosted by enhanced training and apprenticeship programs and improved job security through unionization, could go a long way in implementing climate objectives at the workplace. The following article by Antonio Augusto Rosotto Ioris, “Approaches and Responses to Climate Change: Challenges for the Pantanal and the Upper Paraguay River Basin”, draws on original empirical research that explores a range

1 Carlo Fanelli is an Instructor and SSHRC Post-Doctoral Research Fellow at the Department of Politics and Public Administration, Ryerson University. Thanks are due to the Social Sciences and Humanities Research Council for their financial support.

2 Bryan Evans is Associate Professor in the Department of Politics and Public Administration at Ryerson University and a member of the Yeates School of Graduate Studies.

of responses that are being developed in order to cope with the negative impacts of climate change. Loris shows how the influence of the agribusiness sector, coupled with few national and trilateral environmental policies, have focused on principles of systematic adaptation, climate skepticism and/or marketization.

In “Brazilian Dystopia: Development and Climate Change Mitigation”, Potter et al., stress the ecological importance of the Amazonian Rainforest to the rest of the world. They argue that deforestation, rather than the carbonized energy and transport sectors, disproportionately accounts for Brazil’s GHG emissions. They explore the “dystopia thesis” concretizing their arguments through an examination of the complex relationships between the Brazilian economy and practices aimed at mitigating climate change. Kading and Bass ask “Can you Build an Open-Pit Mine in an Urban Centre?” They explore how residents of the city of Kamloops found themselves at the centre of a controversial debate over a foreign-domestic investment proposal: the establishment of an open-pit copper and gold mine in a B.C. interior community. They argue that environmental and community concerns have been overshadowed by the rhetoric of job creation, low taxes, balanced budgets and economic growth at all costs. Should this proposal go unchallenged, they argue, it could set a Canada-wide precedent with dire implications for the livability, economic future and democracy for residents of Kamloops and beyond. The final article by Jeffrey Carey and Steven Tufts, “‘Greening Work’ in Lean Times: The Amalgamated Transit Union and Public Transit”, explores the trialectic relationship between capital, labour and nature in Canada’s public transit unions. They review union documents and Canadian newspapers finding that the state uses the environment as a wedge issue in its ‘war of position’ with unions: workers’ strike actions are characterized as harmful to the environment and community. Their article concludes with an examination of a recent campaign strategy by Toronto’s ATU Local 113 wherein they call for more community based approaches to resistance.

Our Interventions section brings together leading thinkers and community organizers in the pursuit of ecological, political, economic and social justice. Starting us off, Jordy Cummings interviews Greg Sharzer, author of *No Local*, on the issue of localism. Their discussion explores the limitations of ethical shopping, community initiatives like gardens and farmers’ markets and local economic development. Sharzer suggests that these initiatives will not change the world, but that challenging market priorities will. Next, Aaron Henry and Matthew Gandy discuss

new critical methodological tools with which scholars and activists can get a handle on the conjuncture, encompassing a range of issues connected with Gandy's theory of 'partial modernity'. Following this up, Megan Kinch delves into conversation with Indigenous Anishinaabe and Haudenosaunee land defenders, exploring land occupation, cultural revitalization, and their perspectives on both Marxism and environmentalism

In what follows, Christina Rousseau discusses the impact of climate change on labour markets with Carla Lipsig-Mumme, incorporating a discussion of her most recent work titled *Work in a Warming World*. The following interview with *Empire's Ally* editors Greg Albo and Jerome Klassen discusses a range of issues surrounding Canadian Imperialism in general and the war in Afghanistan in particular. In their discussion with Jordy Cummings, Albo and Klassen challenge the humanitarian aspects of the Afghanistan war, drawing attention to the ecological, social and political consequences of war without end. The section is capped with an interview between John Bellamy Foster, editor of *Monthly Review*, and Steve da Silva. They discuss the frightening prospects that we face as a species, incorporating discussions of recent IPCC reports as well as Foster's highly original reading of Marx and Engels' writings on nature and the metabolic rift.

Concluding *Alternate Routes'* thirty-seventh year of publication and twenty-fifth issue are eleven reviews examining everything from climate change to progressive taxation, healthcare, revolutionary social and political thought and cross-border solidarity. We would like to thank all contributors for working under extremely tight publishing deadlines, carefully addressing reviewers' concerns and contributing their time and energy to put together this volume. Special thanks are also due to our editorial advisory board, as well as a number of external reviewers, who graciously volunteered their time and expertise to see this project through. This collection would not have been possible without your steadfast support.

The concerns raised in this issue cross-cut racial, ethnic, gender and class lines; the actions or inactions taken to mitigate and adapt to climate change will effect all living systems on earth now and well into the future. In 2000, Perry Anderson remarked: "The only starting-point for a realistic Left today is a lucid registration of historical defeat. Capital has comprehensively beaten back all threats to its rule, the bases of whose power – above all, the pressures of competition – were persistently under-estimated by the socialist movement...For the Left, the lesson of

the past century is one taught by Marx. Its first task is to attend to the actual development of capitalism as a complex machinery of production and profit, in constant motion.”³ Fourteen years later Anderson’s words are perhaps more revealing now than when they were first written. We hope that the contributions in this volume, along with those of socialists, feminists, anti-racists, indigenous communities and ecologically-inspired authors and activists from around the world, assist readers in interpreting the consequences of climate change and inspire them to do something about it.

3 Anderson, P. (2000). Renewals. *New Left Review*, <http://newleftreview.org/II/1/perry-anderson-renewals>

Articles

Introduction

Climate Change: 'The Greatest Challenge of Our Time'

Carlo Fanelli¹

"Climate change is life or death. It is the new global battlefield. It is being presented as if it is the problem of the developed world. But it's the developed world that has precipitated global warming."

Noble Peace Prizewinner Wangari Maathai

This volume came together as the Intergovernmental Panel on Climate Change (IPCC) released its fifth report in Stockholm, Sweden. Founded in 1988 by the United Nations (UN) and the World Meteorological Organization, the most recent IPCC report brings together over 600 climate scientists from over 130 countries. Because every last word of the IPCC reports must be signed off by all UN members, the reports are among the world's most comprehensively vetted and exhaustively reviewed scientific publications. As a result of this wide-ranging consensus, however, it is by design conservative, drawing attention only to the most expansively agreed upon scientific consensus. Despite the conservatism, however, 2013 IPCC co-chair Thomas F. Stocker made clear that "Climate change is the greatest challenge of our time...In short, it threatens our planet, our only home." (Gillis, 2013).

Since the publication of the IPCC's first assessment report in 1990, the scientific evidence demonstrating that anthropogenic climate change is intensifying around the world has been strengthened. In 1995, the IPCC estimated that it was "more likely than not" (which translates to a 50 percent probability) that human-produced greenhouse gases (GHG) – as opposed to natural variability – were the main causes of climate

1 Carlo Fanelli is an Instructor and SSHRC Post-Doctoral Research Fellow at the Department of Politics & Public Administration, Ryerson University, with interests in critical political economy, labour studies, Canadian public policy, climate change, social movements, urban sociology and education. Thanks are due to the Social Sciences and Humanities Research Council, which made this research possible.

change. This certainty rose to “likely” (66 percent) in 2001, “very likely” (90 percent) in 2007 and now stands at “extremely likely” (95 percent). The 2013 report puts an exclamation point on what is already known about anthropogenic climate change, refining our understandings and deepening interconnections among them. It is perhaps not a stretch of the imagination to suggest that if present trends continue the next report slated for publication sometime in 2019-2020 will increase this probability of occurrence to “virtually certain” (99 percent). When it comes to the science of anthropogenic climate change, like evolution, the debate is over: It is no longer a matter of debate whether or not human activity is influencing climate change, but the speed and scope of such change and its potential consequences for all life systems. Indeed, more than 97 percent of peer-reviewed climate scientists argue that the globe is warming as a result of anthropogenic GHG emissions. Put differently, of some 33,700 peer-reviewed climate change papers published between 1991 and 2012, only 34 rejected that climate change was caused by human activities (Powell, n.d.; 2012).²

UNDERSTANDING CLIMATE CHANGE AS A POLITICAL PROCESS

And yet, despite the overwhelming scientific consensus, climate change continues largely unabated. In light of the overwhelming scientific consensus how is it that nearly half of Britons and Americans, and some 42 percent of Canadians, believe that human activities are not affecting climate change? Despite the consensus or perhaps precisely because of it, it is a mistake to assume that valid science will communicate itself (Dembicki, 2013). Rather, because people are not inherently radical or conservative but adapt to the structured conditions they encounter, a multiplicity of factors from diverse interests and levels of class consciousness to personal experiences, socio-economic status, race, gender, culture and political ideology play a central role in the acceptance or rejection of climate change science. These deeply ingrained sentiments, mediated by competing narratives jostling for hegemony, obscure our understanding of climate change as an inherently political process. It is little wonder, then, that white elites, in particular men, overwhelmingly deny climate change. While just over 7 percent of non-white U.S. men believe that the potential impacts of climate change are exaggerated or unlikely to happen, this number jumps to nearly 30 percent of white males and increases in tandem as perceived understanding of climate

² See also Richard, 2012; Oreskes, 2004

change rises (McCright and Dunlap, 2011; Pyper, 2011). “A position on climate change has become almost like a tribal totem...I am conservative, therefore, I cannot believe in climate change.” (Lewandowski in Mooney, 2013).

Conservatives tend to question climate change not only on the validity of its scientific conclusions, but equate understanding with broader political and ideological factors such as a skepticism of government or university funded research, liberal conspirational theories, perceived misrepresentations of the data, a belief in the infallibility of markets and technology, media biases, distrust of scientists’ alleged political leanings, and perceived injustices against individual liberties and profit-making freedoms (Washington and Cook, 2011; Oreskes and Conway, 2012; Dunlap and Jacques, 2013). Of course, ideological and identificational factors span the political spectrum, but climate change denialism tends to overwhelmingly be the refuge of conservatism. While some 3 percent of climate scientists deny that human activities are directly associated with climate change, skeptics and denialists tend to make up 34 percent of U.S. media coverage (Cook et al., 2013). And climate change coverage by the media is diminishing across the U.S. and Canada having dropped 20 percent in 2011 over 2010, and more than 40 percent since 2009. This is evident in fewer reporters covering stories, fewer outlets publishing articles and, perhaps most strikingly, a particular silence (and 50 percent decline) from the nation’s editorial boards denouncing the lack of action on climate change (Zerbisias, 2012). The growing import of climate change denialists in the popular press and, subsequently, society at large, has risen despite increasing scientific agreement among scientists to the contrary. This is in no small part explained by vast clandestine networks of climate change denial – from media personalities to think-tanks, academics and politicians – that have spent more than \$120 million between 2002-2010 to discredit climate change science (Goldenberg, 2013; Greenpeace, 2013).

Interest in climate change decreased just as the economic turbulence, political instability and social insecurity of the Great Recession made its way around the world. But as Angel Gurría, secretary general of the Organization for Economic Cooperation and Development reminded: “This [climate change] is worse than a debt because there is no bailout and if you have two or three good budget years a debt can be reduced, but emissions hang around for 100 years.” (CBC, 2013). In fact, the 2013 IPCC report emphasizes that things are getting worse more rapidly than the best previous models could predict. From global temperature

increases to melting ice sheets, retreat of glaciers, rising and acidifying oceans, deforestation, shifts in weather patterns, food chains, plant and animal life, water shortages and massive species extinctions, socio-ecological crises are escalating across the biosphere. For example, the 2013 report estimates that global temperatures will increase somewhere between 1.8 and 4 degrees Celsius by the midway point of this century; sea levels could rise between 18 and 59 centimeters, especially if recent melting in Greenland and Antarctica continues, by the end of this century; Arctic sea ice could disappear by the summer of 2050; and extreme rainfall and heat waves are expected to increase in frequency. What's more, even if emissions were stabilized today these trends would continue well into the future as some 60 percent of CO₂ emissions remain in the atmosphere for 20 years, 45 percent remains for 100 years and 20 percent remains 1,000 years after which they are emitted.

It is important to emphasize that for the past five-hundred thousand years GHG's have fluctuated in a narrow band of between 260 and 280 parts per million (ppm). Today, however, they are over 400ppm CO₂, which is roughly 30 percent higher than previous peaks in volume during interglacial periods. The report stresses that beyond a 2 degree Celsius temperature rise, humans could lose the ability to take actions that would substantially remedy or mitigate climate change, after which a "danger zone" would be entered in which the climate could become unpredictable and the consequences largely unforeseen. It has been estimated that if present trends continue two-thirds of the world population could suffer from water shortages, 12 percent of bird species and 25 percent of mammals are threatened with extinction and over 70 percent of the earth's fisheries could become depleted, fully-fished and/or over-exploited (Woodin & Lucas, 2004; Gupta, 2001). Climate scientists predict that food production could be cut in half, having already risen 140 percent in cost between 2002-2008, and threatening some 2 billion food insecure and impoverished persons around the world. What's more, the Amazon rainforest – dubbed the lungs of the world – could turn to a dry savannah, while melting icecaps could raise sea levels by more than 30 percent worldwide engulfing land presently occupied by more than 1 billion people (Lean, 2007; Walsh, 2013).

The 2013 IPCC report does not take into account worst case or supposed scenarios such as the releasing of terrestrial and oceanic methane (a GHG thirty times more potent than CO₂) as a result of thawing permafrost and undersea reserves. But threatening messages about climate change have their limitations (for a snapshot of the debate see, Lilley et

al., 2012; Angus, 2013). Thus while there is certainty about the severity of climate change, the IPCC reports remain moderate reflecting only what are “extremely likely” projections. As one well known phrase puts it: ‘Trying to predict climate change is like trying to predict where the next bubble will pop in a pot of boiling water. We understand how the process works but can’t pin-point exactly where the next stream of bubbles will be’.

The IPCC report uses the baseline year 1750 to distinguish between pre-industrial and industrial concentrations of GHG emissions, showing a marked increase in the role of human activities in regards to climate change over the period ever since. Despite some 200,000 years of human activity on earth, however, it is only in the last 250 years (and 150 years in particular) that the long-term viability of the earth as a sustainable place for inhabitation has been called into question. In this regard, it is important to stress that the broad frame of human activity masks what is specifically *capitalist activity*: a historically unique form of social relations based on the exploitation of labour, which alters humankind’s historic relationship with nature creating deep fissures, i.e., a ‘metabolic rift’. In historical terms, then, destructive anthropogenic climate change is of recent vintage. What, then, lies at the root of climate change?

Grappling with such a question must inevitably reflect on the ways in which climate change and capitalism are symbiotic – that is to say, how the underlying social relations and forces of (re)production (historically unique and dominant since, say, 1750) are in actuality an instituted compulsion. One where the requirements of life are embedded in a political and economic framework that obscures class exploitation through a complex web of market dependence in which cut-throat competition, labour rationality and profit maximization permeate all aspects of social life. This class exploitation which lies at the root of capitalism, at once gendered, racialized and informed by a host of cross-cutting identificational markers, must be central to our understanding of climate change as socio-ecological crises intersect in myriad non-linear and cascading ways.

Since orthodox economists assume that everything has a price and that the market will inherently sort out all problems, mainstream approaches to climate change suffer from an inherent inability to deal adequately with the climate crisis. The assumption that everything, no matter how ecologically destructive, socially unhealthy or politically unjust has profit-making potential and can be solved by technological or market means must inevitably come to terms with the biophysical

impossibility of unlimited economic growth. Said differently, if solutions to the climate crisis are to be found they must be radicalized (i.e. get to the root of the problem) and move away from so-called market based solutions to what are ineradicably market based problems: the capitalist system is inherently incompatible with the goal of sustaining the earth for future generations.

The systemic imperatives of capitalism run counter to any socio-ecological notions of natural limits, critical thresholds and limitations on conspicuous consumption, let alone social justice, since all relations are subordinated to profit maximization. In this sense, it is important to recall the words of Engels (1934) who reminds: “[Nature] is the foundation upon which we human beings, ourselves products of nature, have grown up...at every step we are reminded that we by no means rule over nature like a conqueror over a foreign people, like someone standing outside nature – but that we, with flesh, blood and brain, belong to nature, and exist in its midst.” In other words, “Man lives from nature, i.e. nature is his body, and he must maintain a continuous dialogue with it if he is not to die. To say that man’s physical and mental life is linked to nature simply means that nature is linked to itself, for man is a part of nature” (Marx, 1964, p.112).

It is perhaps not a coincidence that such a large segment of conservative and other groups are adamantly opposed to the science of climate change for substantive solutions require a radical reversal of business as usual – that is to say, a critique of political economy that explicitly rejects capitalist growth as an end in itself and proposes alternative means of organizing society. There are no limitedly scientific, technological or market-based solutions to climate change, only social and political ones that challenge the power of capital to exploit workers, the unwaged, those denied a chance to work and the natural environment upon which all life on earth is based³. Countering climate change denialism, then, is a process of politicization as information is rarely neutral and scientific evidence seldom speaks for itself. In this regard, the reputation of Canada as an international pariah is especially disconcerting as even the mildest talk of environmental regulation, especially in a recession, sends captains of industry and their political backers into a tailspin threatening further job cuts.

3 Carbon markets have done next to nothing to reduce the consumption of fossil fuels, often precipitating more problems than they have solved. Consider the failure of the European Union’s Emissions Trading Scheme which, far from reducing carbon emissions, are actually set to cancel out over 700m tonnes of emissions saved through renewable energy and energy efficiency effort (Carrington, 2013; Lohman, 2011).

CANADA AND CLIMATE CHANGE INACTION

Among the first acts of business by the Stephen Harper Conservatives was to, in the iconic words of the Prime Minister, pull out of the “socialist scheme” that is the Kyoto protocol, which in his view was designed to suck money out of rich countries. Since 2006, environmental monitoring, legislation and protective agencies have been steadily gutted. This includes the elimination, reduction and curtailment of over forty environmental programs related to air, water, transport, oil and gas monitoring, agriculture, hazardous waste management, species at risk, weather services and research funding. The most notable of these include over \$222 million being cut from Environment Canada, the elimination of over one thousand scientists and over \$100 million in funding at the Department of Fisheries and Oceans and Parks Canada, the repeal of the Environmental Assessment Act, Elimination of the Experimental Lakes Area program, changes to the Navigable Waters Protection Act in order to ease transport restrictions on crude oil, and a host of closures to arms-length government agencies as a result of cuts to funding (Nikiforuk, 2013; 2010; CAW, 2013). What’s more, as part of this strategy to delegitimize climate change and social justice activists, Conservative Ministers have gone to great lengths to publically threaten, cajole and intimidate environmental groups characterizing them as anti-Canadian, radical ideologues and foreign saboteurs hijacking the political process (Oliver, 2012; Payton, 2012).

In an effort to turn Canada into an “energy superpower” the Conservatives have pledged to triple tar sands production by 2035, have eased environmental regulations in order to allow mining and oil companies to explore Canada’s Arctic, and have established the “Oil Sands Advocacy Strategy” in the Department of Foreign Affairs. This is on top of subsidies in excess of \$1.4 billion to the oil, mining and gas industry, and Herculean efforts to ensure that the Enbridge Northern Gateway and Keystone XL are implemented despite broad-ranging resistance. Part of this strategy has resorted to preventing public scientists from speaking out about Canada’s abysmal environmental record. Indeed, a recent survey of government scientists found that 90 percent of respondents felt as though they could not speak freely about their work; 86 percent feared retaliation if they went public about their research on public health or environmental science; 71 percent felt that political interference compromised policy development based on scientific evidence; nearly half said they were aware of cases in which their department or agency suppressed information for political reasons; and 25 percent responded

to having been asked to directly exclude or alter information for “non-scientific” purposes (Chung, 2013; Cheadle, 2013).⁴ Furthermore, 86 percent (along with four former federal fisheries ministers) said they felt changes to the Fisheries Act would drastically hamper Canada’s ability to protect fish and habitat provisions as only those deemed economically viable would now be covered (Galloway, 2012; Barlow, 2012; Paris, 2012). The chasm between public servants conducting research and elected officials propagating party lines speaks volumes about the political nature of climate change science and the underlying political efforts to stem serious environmental reforms (for a recent example, see, De Souza, 2013).

The federal Conservatives have also been working diligently to undermine stiffer environmental protocols in other countries, such as California’s Low-Carbon Fuel Standard and the European Union’s Fuel Quality Directive. This adds to a growing list of federal international inaction illustrated by Canada’s unwillingness to sign onto a global treaty reining in carbon emissions in Copenhagen in 2009, as well as stifling of plans to implement an international financial transactions tax at the 2010 Toronto G20 meetings. In fact, Canada’s carbon emissions will be 20 percent higher than the Harper government’s own promised reductions under the 2009 Copenhagen Accord; in actuality some 66 and 107 percent higher than what is needed to meet Canada’s international obligation to prevent global temperatures from rising 2 degrees Celsius. Not only will the federal Conservatives miss their own emission reduction target cut of 17 percent below 2005 levels by 2020, they will actually be 2 percent higher by the end of the decade. Actual emissions in 2011 were twenty-four times higher than 1990 (Environment Canada, 2013).

Canada now stands alone among the G8 as the only nation to not only lack a national housing, transit and infrastructure strategy, but also a national renewable energy program, the last incarnation having been eliminated in 2011. Even the U.S., hardly a bastion of renewable energy investment, spends eighteen times more per capita in federal investments in renewable energy than Canada (Climate Action Network Canada, n.d.). It is plain to see that the federal Conservatives lack any serious plans to deal with climate change. Since 2006 not only has busi-

4 Among the 4,000 respondents included scientists from Environment Canada, Health Canada, Department of Defence, Department of Fisheries and Oceans, Food Inspection Agency, Agriculture Canada and Natural Resources Canada. Even Maclean’s (Gatehouse, 2013), a bastion of all things conservative, criticized the Harper government’s muzzling of climate scientists as bordering on Orwellian.

ness as usual continued, it has been expanded in scale and scope registering hardly a blip on the federal policy front.⁵

Indeed in policy terms, not only has this exacerbated the class dimensions of climate change as rich nations globally exploit the labour power of the Third World and poor and working class communities cope with decreased access to public services, transportation, decent work, rising food prices and general social insecurity, but also its simultaneously gendered and racialized implications. Across the Global South, for example, women are overwhelmingly responsible for subsistence agriculture and ecosystems services. Climate change-induced reductions to food crop production, shifting weather patterns, forced migration, war, water shortages and increases in communicable diseases, coupled with women's generally lower socio-economic status, levels of education, ownership and access to resources, means that although women are largely under-represented in decision-making capacities they must bare the brunt of its consequences.

Though varying in form and intensity, even in the Global North the gendered implications of climate change are significant as women remain responsible for the majority of unpaid domestic labour and are thus often expected to make up for reductions to public services and programs as well as child and elder care, which face added pressures in light of natural disasters, climate displacement, housing, food and water insecurity. Racialized communities, (im)migrants, refugees and those denied status often fare far worse as instances of poverty and malnutrition are intensified by exploitative labour market conditions and higher instances of precarious work. In both North and South, increasing concentration in urban centres without the social and physical infrastructure needed to meet the challenges of climate change threatens to intensify urban air pollution, traffic congestion, water contamination, sanitation issues and the health and well-being of all living systems. Automobile-dependent urban sprawl wipes out farmland reinforcing a sub/urban growth dynamic and expensive low-density infrastructure, while pushing working class and racialized communities, in particular women and single-parent households, to the margins (UNEP, 2011; Global Gender and Climate Alliance, 2009).

5 The New Democrats, supported by the Bloc Quebecois and Liberals, put forward a private member's bill titled the Climate Change Accountability Act (Bill C-311) that called for the government to establish five-year plans outlining how it would reduce GHG emissions. Bill C-311 aimed to set regulations that would bring emissions down 25 percent below 1990 levels by 2020, and 80 percent below 1990 levels by 2050. Despite being passed by a majority of members of parliament, the unelected Conservative majority in the senate used their power to defeat Bill C-311 without debate or study (Galloway, 2010).

Breaking the cycle of climate change inaction means recognizing the relationship between climate change and capitalism. In an era of unprecedented and growing income inequality, climate change threatens to exacerbate health problems, social injustices and violent conflicts around the world. It has been estimated that capitalist-impelled climate change causes some 300,000 deaths and 5 million illnesses annually. And this is expected to double by 2030. What's more, inaction is already estimated to cost \$125 billion annually and is expected to rise to \$600 billion by 2030 (Vidal, 2009). The class composition of climate change is such that those most vulnerable, exploited and degraded will suffer the most as the capitalist class thrives on disaster recognizing them as opportunities (Semeniuk, 2013; CBC, 2013c). As is evidenced from the global tumult of the Great Recession, neoliberal capitalism has emerged stronger and more consolidated than ever despite a temporary, if short-lived, crisis of legitimacy. Never letting a crisis go to waste means using those opportunities as moments to do things that were seemingly unlikely or impossible beforehand.

In Canada, this has meant an emboldened radicalism from conservatives and segments of capital as so-called right-to-work laws, new pressures on privatizing public services, in particular healthcare, pensions and post-secondary education, the removal of public sector collective bargaining rights, the implementation of a free trade agreement with Europe that trumps NAFTA, work for welfare initiatives, attacks against social assistance, the weakening of employment standards legislation, reductions to old age security and the erosion of progressive taxation, once deemed central to the social fabric of Canada, are now destined for the proverbial dustbin of history (Fanelli and Evans, 2012; Banting and Myles, 2013; Himelfarb and Himelfarb, 2013; Swift, 2013; Braedley and Luxton, 2010). Climate change, then, far from necessarily compelling any progressive changes may provide opportunities for capitalism to assert itself as the only alternative regardless of the social, environmental and human costs. As such, dealing with climate change is among the most pressing social and political, that is, class struggles of our time.

TAKING CLIMATE CHANGE SERIOUSLY

Despite a crisis of capitalism with few historical parallels, anti-capitalist activists have rarely been as isolated and marginalized as they are today.⁶ While the economic crisis should have put labour and social justice activ-

6 Pantich and Gindin (2012) have characterized the Great Recession of 2008 as the fourth major structural crisis of capitalism. The first occurred in the last quarter of the 19th century, the second – introduced by the stock market crash in 1929 – ran through the Great Depression of the 1930s, and the third emerged in the late 1960s and into the 1970s.

ists on the offensive, it has been capital that has determined the agenda ushering in a series of regressive reforms that has made life more insecure and precarious for most, while ironically enhancing the lives of those that caused the Great Recession in the first place (Rexrode, 2013; Goodway, 2012). Unfortunately, despite sporadic and localized battles, there has been no subsequent radicalization of labour unions, social movements and anti-capitalist groups in a coordinated and structured way. Developing a movement that challenges austerity and climate change will need to experiment with new forms of organizing that more effectively breaks out of labour and activist subcultures and builds on the heterogeneity of the working class. One of the few exceptions have been First Nations communities, long subjected to British and later Canadian colonialism, and Idle No More protesters that have defended the rights of the earth against unbridled capitalist exploitation (CBC, 2013b; Barrera, 2013; Dobbin, 2013). While this is not the place for an overview of debates about Left regroupment, the challenge facing trade union, environmental and social justice activists is to move to the anti-capitalist Left or risk increasingly becoming an impediment to rather than an instrument of a renewed working class politics. The failure to do so may regrettably amount to an historic class defeat.

If climate change and overlapping crises – from air, ocean and water pollution to displacement, disease and labour degradation – are to be comprehensively challenged, it will mean addressing not only its effects but its causes: the capitalist system which degrades the earth and alienates labour. This means integrating rather limited but important individual behaviours, lifestyle and consumptive habits into a broader social justice framework that addresses the structural and systemic roots (i.e. exploitative relations and forces of [re]production) of labour and environmental degradation (Albo, 2007). Far from grand-theorizing or proselytizing, foresight, not hindsight, is the only realistic starting point from which to move forward. The challenge is for the working classes to develop the confidence and capacities to think as ambitiously and radical as capital, the ruling class, has done since the onset of the recession. Taking climate change seriously means rethinking living and working arrangements, leaving fossil fuels in the ground and retooling manufacturing industries to develop an array of renewable energies (e.g. wind, solar, tidal, geothermal), massively expanding public transportation in order to reduce a dependence on individual modes of transportation, renewing local polycultural farming practices, reversing the erosion of progressive taxation, retrofitting homes and industries and, most importantly, moving away from a reliance on the private sector as the engine of economic growth in favour of the expansion of the public sector.

Socializing and democratizing the banking and finance sectors would mean placing social and environmental priorities ahead of board members, stock owners and corporations' profitability. Reigning in corporate power means recapturing decision-making capacities as part of a larger class project to reclaim and strengthen social and political justice across all facets of life. Additionally, this means dispensing with opaque notions of more or less state and instead emphasizing the need to build a different kind of state – a different kind of society. Unfortunately, social democracy has demonstrated a recurring inability to stand up to austerity, often deepening and extending market forces rather than challenging its central tenets. In order to challenge market forces, rebuilding the political capacities of organized labour is crucial, but so too is organizing the unorganized, unwaged and swaths of workers engaged in low-wage, insecure and precarious forms of work and labour. Rooted in struggles for racial and gender equality, new political formations will need to come to terms with the limitations of militancy alone which, in the absence of a transformative project, has been incapable of countering the drumbeats of austerity and neoliberalism. In the absence of an anti-capitalist politics, then, we risk hampering rather than facilitating political change if we settle for anything less (Williams, 2010; MacKay, 2009; Foster, 2009; Boggs, 2012; Rowbotham et al., 2013; Salleh, 2009)

While redistribution is important, a focus on what happens pre-distribution (i.e. extraction, production, social reproduction) raises a set of demands for non-commodified labour. Putting the needs of the earth's inhabitants first means that food and water sovereignty, along with housing, healthcare and education, are prioritized as human rights. Universal social programs, from child and elder care to pensions, public spaces, art and cultural centres are crucial to developing a socio-ecological praxis that seeks to deepen and extend collective civic engagement rather than an individualized social policy arena. In light of historically low interest rates, major public works investments in housing, transit, renewable energy, infrastructure and denser development would lessen a reliance on private capital, decarbonizing the economy, encouraging more locally rooted and regionally coordinated production, and socializing access to basic services. Meeting the social and political challenges of climate change within an explicitly anti-capitalist framework is not utopian or impractical, far from it, the real utopians are the ones who think business can

continue as usual. Decades of governmental inaction, subterfuge and capitalist class war have shown that the radical is now the only thing that is practical.⁷

REFERENCES

- Albo, G. (2007). The Limits of Eco-Localism: Scale, Strategy, Socialism. *Socialist Register*, 43 1-27
- Angus, I. (2013). The Myth of Environmental Catastrophism. *Monthly Review*,
<http://monthlyreview.org/2013/09/01/myth-environmental-catastrophism>
- Banting, K. and J. Myles, eds. (2013). *Inequality and the Fading of Redistributive Politics*. Vancouver: University of British Columbia Press.
- Barlow, M. (2012, May 19). Harper and the Environment are Like Oil and Water. *Rabble*, <http://rabble.ca/blogs/bloggers/maude-barlow/2012/05/harper-and-environment-are-oil-and-water>
- Barrera, J. (2013, March 18). Idle No More, Defenders of the Land Form Alliance, Call for "Sovereignty Summer". *APTN News*, <http://aptn.ca/pages/news/2013/03/18/idle-no-more-defenders-of-the-land-form-alliance-call-for-sovereignty-summer/>
- Boggs, C.E. (2012). *Ecology and Revolution: Global Crisis and the Political Challenge*. New York: Palgrave Macmillan.
- Braedley, S. and M. Luxten, eds. (2010). *Neoliberalism and Everyday Life*. Montreal and Kingston: McGill-Queens University Press.
- Carrington, D. (2013, June 25). EU Trading Scheme 'Set to Cancel Out Renewable Energy Gains'. *The Guardian*, <http://www.theguardian.com/environment/2013/jun/25/eu-emissions-trading-scheme-energy>
- Canadian Auto Workers. (2013). *Comment: International Joint Commission*. http://www.ijc.org/en/_air_quality_2012/Comments
- CBC (2013, March 20). First Nations Say They Will Fight Oilsands, Pipelines. <http://www.cbc.ca/news/canada/first-nations-say-they-will-fight-oilsands-pipeline-1.1348611>
- CBC (2013, October 9). Fossil Fuel Emissions Must Be Eliminated, OECD Chief Says. *Toronto Star*, <http://www.cbc.ca/news/technology/fossil-fuel-emissions-must-be-eliminated-oecd-chief-says-1.1931443>
- CBC. (2013, November 3). Climate Change Draft Report Predicts War, Heat Waves, Starvation. *CBC News*, <http://www.cbc.ca/news/technology/climate-change-draft-report-predicts-war-heat-waves-starvation-1.2350352>

7 For an expansion of the view that the radical is now the only thing that is practical, see Gindin, 2012.

- Cheadle, B. (2013, October 21). 90% of Government Scientists Say They Can't Speak Freely: Union Survey. *CTV News*, <http://www.ctvnews.ca/politics/90-of-government-scientists-feel-they-can-t-speak-freely-union-survey-1.1506580>
- Chung, E. (2013, October 21). Muzzling of Federal Scientists Widespread, Survey Suggests. *CBC News*, <http://www.cbc.ca/news/technology/muzzling-of-federal-scientists-widespread-survey-suggests-1.2128859>
- Climate Action Network Canada. (n.d.). *Federal Government: Canada's Record on Climate Change*. <http://climateactionnetwork.ca/issues/government-inaction/learning-center/federal-government/>
- Cook, J., D. Nuccitelli, S.A. Green, M. Richardson, B. Winkler, R. Painting, R. Way, P. Jacobs and A. Skuce. (2013). Quantifying the Consensus on Anthropogenic Global Warming in the Scientific Literature. *Environmental Research Letters*, 8, 1-7.
- De Souza, M. (2013, November 4). Joe Oliver's Office Edited Answers from Department on Climate Change Report. *O.Canada.com*, <http://o.canada.com/technology/environment/joe-olivers-office-edited-answers-from-department-on-climate-change-report/#.UngLDaOTK9Y.twitter>
- Dembicki, J. (2013, July 29). How to Talk to a Conservative About Climate Change. *The Tyee*, <http://thetyee.ca/News/2013/07/29/Conservatives-and-Climate-Change/>
- Dobbin, M. (2013, January 21). The Power of Idle No More's Resurgent Radicalism. *Canadian Dimension*, <http://canadiandimension.com/articles/5160/>
- Dunlap, R.E. and P.J. Jacques. (2013). Climate Change Denial Books and Conservative Think Tanks: Exploring the Connection. *American Behavioral Scientist*, 57(6), 699-731.
- Engels, F. (1934). *The Part Played by Labour in the Transition from Ape to Man*. <http://www.marxists.org/archive/marx/works/1876/part-played-labour/index.htm>
- Environment Canada. (October 2013). *Canada's Emission's Trends*. http://www.ec.gc.ca/ges-ghg/985F05FB-4744-4269-8C1A-D443F8A86814/1001-Canada's%20Emissions%20Trends%202013_e.pdf
- Fanelli, C. and B. Evans, eds. (2012). *Great Recession-Proof? Shattering the Myth of Canadian Exceptionalism, Alternate Routes 2013*. Ottawa: Red Quill Books.
- Foster, J.B. (2009). *The Ecological Revolution: Making Peace With the Planet*. New York: Monthly Review Press.
- Galloway, G. (2010, November 17). Tory Senators Kill Climate Bill Passed By House. *Globe and Mail*, <http://www.theglobeandmail.com/news/politics/ottawa-notebook/tory-senators-kill-climate-bill-passed-by-house/article4348505/>
- Galloway, G. (2012, June 22). Ex-Fisheries Directors Urge Harper to

- Reverse Freshwater-Research Cuts. *Globe and Mail*, <http://www.theglobeandmail.com/news/politics/ottawa-notebook/ex-fisheries-directors-urge-harper-to-reverse-freshwater-research-cuts/article4363349/>
- Gatehouse, J. (2013, May 3). When Science Goes Silent. *Maclean's Magazine*, <http://www2.macleans.ca/2013/05/03/when-science-goes-silent/>
- Gindin, S. Beyond the Economic Crisis. The Crisis in Trade Unionism. *Alternate Routes: A Journal of Critical Social Research*, 24, 236-245.
- Gilis, J. (2013, September 27) U.N. Climate Panel Endorses Ceiling on Global Emissions. *New York Times*, http://www.nytimes.com/2013/09/28/science/global-climate-change-report.html?_r=0
- Global Gender and Climate Alliance. (2009). *Training Manual on Gender and Climate Change*. <http://data.iucn.org/dbtw-wpd/edocs/2009-012.pdf>
- Goldenberg, S. (2013, February 14). Secret Funding Helped Build Vast Network of Climate Denial Thinktanks. *The Guardian*, <http://www.theguardian.com/environment/2013/feb/14/funding-climate-change-denial-thinktanks-network>
- Goodway, N. (2012, August 18). What Recession? Top Bosses' Pay Rockets. *The Independent*, <http://www.independent.co.uk/news/business/news/what-recession-top-bosses-pay-rockets-8057359.html>
- Greenpeace. (2013). *Dealing in Doubt: The Climate Denial Machine vs. Climate Science*. <http://www.greenpeace.org/usa/en/campaigns/global-warming-and-energy/polluterwatch/Dealing-in-Doubt---the-Climate-Denial-Machine-vs-Climate-Science/>
- Gupta, J. (2001). *Our Simmering Planet: What To Do About Global Warming?* New York: Zed Books.
- Himelfard, A. and J. Himelfarb, eds. (2013). *Tax Is Not a Four-Letter Word: A Different Take on Taxes in Canada*. Waterloo, ON: Wilfred Laurier University.
- Intergovernmental Panel on Climate Change (IPCC). (2013). Fifth Assessment Report (AR5), <http://www.ipcc.ch/>
- Lean, G. (2007, November 18). A World Dying But Can We Unite To Save It? *The Independent*, <https://www.commondreams.org/archive/2007/11/18/5308>
- Lilley, S., D. McNally, E. Yuen and J. Davis. (2012). *Catastrophism: The Apocalyptic Politics of Collapse and Rebirth*. Oakland: PM Press.
- Lohman, L. (2011). Financialization, Commodification, and Carbon: The Contradictions Neoliberal Climate Policy. *Socialist Register*, 48, 85-107
- Mackay, D.J.C. (2009). *Sustainable Energy: Without the Hot Air*. <http://www.withouthotair.com/Electronic.html>
- Marx, K. (1964). *The Economic and Philosophic Manuscripts of 1844*. New York: International Publishers.

- McCright, A.M. and R.E. Dunlap. (2011). Cool dudes: The denial of climate change among conservative white males in the United States. *Global Environmental Change*, 21(4), 1163-1172
- Mooney, C. (2013, October 18). How Do You Get People to Give a Damn About Climate Change? *Mother Jones*, <http://www.motherjones.com/environment/2013/10/inquiring-minds-kahan-lewandowsky-communicate-climate>
- Nikiforuk, A. (2010). *Tar Sands: Dirty Oil and the Future of a Continent*. Vancouver: Greystone Books.
- Nikiforuk, A. (2013, October 31). What Happened to Canada? Harper Has Made Us Into a Right-Wing Petro-State. *Rabble*, <http://rabble.ca/news/2013/10/what-happened-to-canada-harper-has-made-us-right-wing-petro-state>
- Oliver, Joe. (2012, January 9). *An open letter from the Honourable Joe Oliver, Minister of Natural Resources, on Canada's commitment to diversify our energy markets and the need to further streamline the regulatory process in order to advance Canada's national economic interest*. <http://www.nrcan.gc.ca/media-room/news-release/2012/1/3520>
- Oreskes, N. (2004). The Scientific Consensus on Climate Change. *Science*, 306, 1686.
- Oreskes, N. and E.M. Conway. (2012). *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. New York: Bloomsbury.
- Payton, L. (2012, January 9). Radicals working against oilsands, Ottawa says. *CBC News*, <http://www.cbc.ca/news/politics/radicals-working-against-oilsands-ottawa-says-1.1148310>
- Panitch, L. and S. Gindin. (2012). *The Making of Global Capitalism: The Political Economy of American Empire*. New York: Verso.
- Paris, M. (2012, May 29). Fisheries Act Changes Questioned by Former Ministers. *CBC News*, <http://www.cbc.ca/news/politics/fisheries-act-changes-questioned-by-former-ministers-1.1208106>
- Powell, J.L. (2012). *Climate Change Is Real. But Are Humans Causing It?* Retrieved October 14, 2013, from <http://www.jamespowell.org/index.html>
- Powell, J.L. (2012). *The Inquisition of Climate Science*. New York: Columbia University Press.
- Pyper, j. (2011, October 9). Why Conservative White Males Are More Likely to be Climate Skeptics. *New York Times*, <http://www.nytimes.com/cwire/2011/10/05/05climatewire-why-conservative-white-males-are-more-likely-11613.html?pagewanted=all>
- Rexrode, C. (2013, May 26). Median CEO Pay Rises to \$9.7 Million in 2012. *USA Today*, <http://www.usatoday.com/story/money/business/2013/05/26/ceo-pay-rises-in-2012/2350545/>

- Richard, M.G. (2012, November 26). *Most Important Pie-Chart You'll See Today: 13, 950 Peer-Reviewed Scientist Articles on Earth's Climate*. <http://www.treehugger.com/climate-change/pie-chart-13950-peer-reviewed-scientific-articles-earths-climate-finds-24-rejecting-global-warming.html>
- Rowbotham, S., L. Segall and H. Wainwright. (2013). *Beyond the Fragments: Feminism and the Making of Socialism*. Halifax: Fernwood.
- Salleh, A, ed. (2009). *Eco-Sufficiency and Global Justice: Women Write Political Ecology*. New York: Pluto Press.
- Semeniuk, I. (2013, October, 9). Science Team Identifies Tipping Point in Climate Change: 2047. *Globe and Mail*, <http://www.theglobeandmail.com/technology/science/science-team-pinpoints-time-when-climate-will-shift-to-unnatural-state/article14774332/>
- Swift, R, ed. (2013). *The Great Revenue Robbery: How to Stop the Tax Cut Scam and Save Canada*. Toronto: Between the Lines.
- United National Environmental Program. (2011). *Women at the Forefront of Climate Change: Gender Risks and Hopes*. http://www.unep.org/pdf/rra_gender_screen.pdf
- Vidal, J. (2009, May 29). Global Warming Causes 300,000 Deaths a Year, Says Kofi Annan Thinktank. *The Guardian*, <http://www.theguardian.com/environment/2009/may/29/1>
- Walsh, B. (2013, November 1). Oceans Warming Faster Than They Have Over Past 10,000 Years. *Time Magazine*, <http://science.time.com/2013/11/01/oceans-warming-faster-than-they-have-over-past-10000-years/>
- Washington, H. and J. Cook. (2011). *Climate Change Denial: Heads in the Sand*. New York: Earthscan
- Williams, C. (2010). *Socialism and Ecology: Solutions to Capitalist Ecological Crisis*. Chicago: Haymarket.
- Wooding, M. and C. Lucas. (2004), *Green Alternatives To Globalization: A Manifesto*. London: Pluto.
- Zerbisias, A. (2012, January 13). Climate Change Coverage by the Media Diminishing as Earth Continues to Heat Up. *Toronto Star*, http://www.thestar.com/news/insight/2012/01/13/climate_change_coverage_by_the_media_diminishing_as_earth_continues_to_heat_up.html

Capitalism, the Climate Crisis, and Canada's 'Relations of Mobility': Theoretical Interventions in Ecological Political Economy

Ryan Katz-Rosene¹

ABSTRACT: This paper approaches the intertwining crises of capitalism and climate change from an ecological political economy (EPE) perspective in order to highlight the fundamentally unsustainable character of Canada's contemporary relations of mobility and the possibilities for socio-ecological change. An important component of the nation's broader social relations, the 'relations of mobility' refer to the material and subjective systems governing how Canadian transport infrastructure is produced and how and why people and things move from one place to another. Unfortunately, the capitalist state has played a pivotal role in structuring these relations and as such it has little interest in significantly changing them. This highlights the need for a genuinely democratic, anti-capitalist politics aimed at obtaining power at the level of the 'state' – municipally, provincially, and federally – in order to change the relations of mobility for the better. This paper thus has three objectives falling under the rubric of EPE: First, it demonstrates how Canada's contemporary relations of mobility negatively impact the natural environment. Second, it historicizes the unsustainable origins of such relations within Canada's political economic structure, showing how the neoliberal capitalist state in particular is 'uninterested', 'unwilling' or 'incapable' of altering them. Finally, it makes a normative argument for the mobilization of a democratic, anti-capitalist politics as a means of confronting the unsustainable character of Canada's present relations of mobility and social relations more broadly.

1 Ryan Katz-Rosene is a PhD candidate in the Department of Geography and Environmental Studies with a specialization in Political Economy at Carleton University, as well as a board member of the Environmental Studies Association of Canada. His current research focuses on the ecological political economy of high-speed rail development in Canada. The author would like to thank reviewers for their comments and suggestions. In addition, thanks are due to the Social Sciences and Humanities Research Council of Canada for the financial support which made this research possible.

INTRODUCTION

Given the concurrent and interrelated crises of global capitalism and climate change, Canada's contemporary 'relations of mobility' – a component of the nation's broader social relations – are unequivocally unsustainable. This is to say that the material and subjective systems governing how Canadian transport infrastructure is produced and how and why people and things move from one place to another will not be able to continue in their present form for much longer. Change is required to avoid serious social and ecological upheaval. The instability of both domestic and global energy markets in recent years has manifested in rising costs for basic human needs like food, home heating, and transportation. The problems associated with anthropogenic climate change are all the more challenging for communities already threatened by rising living costs, as they become additionally vulnerable to the wrath of a planet attempting to recalibrate the biogeochemical cycles being altered by human activities. Add to this the growing disparity in wealth and power and the culture of austerity brought about from years of neoliberal capitalism, and the perversity of our present reality becomes frighteningly clear: This situation cannot go on.

Unfortunately, the capitalist state has played a pivotal role in structuring these relations, and has little interest in significantly changing them. This highlights the need for a genuinely democratic, anti-capitalist politics aimed at obtaining power at the level of state governance – in municipalities, provincial governments and federally – in order to change the relations of mobility for the better. With this in mind, this paper makes three interventions to the study of ecological political economy (EPE): First, it demonstrates how Canada's contemporary relations of mobility, as embodied within a complex web of social and politico-economic practices relating to transportation and conditioned by global capitalist productive processes, negatively impact the natural environment. Second, it attempts to situate the unsustainable origins of such relations within Canada's political economic structure by historicizing them alongside the development of both the Keynesian and subsequent neoliberal periods, showing how both of these iterations of capitalism brought about socio-ecological degradation. The paper goes on to examine how present neoliberal forms of the state in particular tend to be either uninterested, unwilling or incapable of altering the relations of mobility for the sake of ameliorating society-nature interactions. Finally, I draw some normative conclusions for EPE about the need to mobilize a democratic anti-capitalist politics as a means to con-

front the unsustainable nature of Canada's present relations of mobility (and social relations more broadly). Arguably, a nuanced understanding of the socio-ecological implications of a market-based transport sector could play an important role in generating new political expressions in Canada, advocating a shift toward critical EPE ideals – such as the de-commodification of transport services, or the re-empowerment of public ownership within the transport and related sectors – as a means of addressing the twin crises of capitalism and climate change.

CANADA'S RELATIONS OF MOBILITY AND THE ENVIRONMENT

The Canadian transportation sector has an enormous environmental impact, which, by extension, affects human wellbeing. In this sense, such impacts are 'socio-ecological' (Castree, 2001). In 'downstream' service provision alone, the transportation of freight and passengers is responsible for 27 percent of Canada's emissions of greenhouse gases (GHGs). That percentage is in fact immeasurably larger when the 'upstream' production supply chain of transport vehicles and related 'accessories' (such as fuel and infrastructure) are also included. As Environment Canada (2010) has noted, one of the main reasons why Canada's GHG emissions *grew* by 24 percent between 1990 and 2008 – when, according to original Kyoto Protocol commitments made by the federal state they should have *decreased* by 5 percent – is that there has been a large increase in the number of motor vehicles, in particular sport utility vehicles and heavy transport trucks. It is no wonder then that the sector, a voracious consumer of fossil fuels, is responsible for nearly a third of the country's energy consumption. Unfortunately, despite the existence of low carbon transport technologies more than 99 percent of the energy used in Canadian transport is derived from oil, a non-renewable resource whose production and use places a severe toll on the environment and the earth's climate (National Energy Board, 2009).

In addition to being a large contributor to climate change and the decline of non-renewable energy resources, the transportation of goods and people is also one of the largest sources of air pollution in Canada, leading to related problems such as acid rain, smog, and respiratory health problems (Environment Canada, 2004). The heavy reliance on motor vehicles in Canada's urban areas is also largely responsible for traffic congestion and the high costs of building and maintaining roads (Turcotte, 2008). Canada now holds the unenviable distinction of playing host to North America's busiest highway – the part of Highway 401 which stretches across the Greater Toronto Area – traversed by over half a million vehicles every day (Thün

and Velikov, 2008). These are just some of the socio-ecological impacts of transportation that have been documented by governmental agencies and transport analysts, mostly relating to the overuse of the dominant petroleum based modes – automobiles and airplanes. Less understood is the way that high rates of mobility and related production processes (including the construction of highways and road infrastructure) exacerbate the contamination and depletion of fresh water, the destruction of wildlife habitat and migration routes, the erosion and degradation of arable land, and so on. These often-overlooked impacts are important, as cumulatively such problems can undermine the ecological foundation of social life.

In light of the dire state of 21st century society-nature relations and of the negative contribution of Canada's existing transportation practices, a rather obvious course of action is required: *Canada must reduce its overall use of private automobiles, airplanes, and heavy-duty transport trucks (the three biggest culprits in terms of per capita use of petroleum), while building capacity for urban mass transit, more efficient inter-city passenger rail, and electric rail for freight shipping.* Less obvious is how to make this happen in a just, equitable and efficient manner. The task at hand is further complicated by the broader context of global capitalism and economic interdependency in which Canada's energy and transport sectors are situated. The economic and legal ties Canada shares with its trading partners places external limitations upon the likelihood and possibilities of political economic change. Nevertheless, a good place to start domestically is to use the powers of the state to support more ecologically friendly transport modes and discourage the use of less ecologically sensitive modes. Investing in public transit and more efficient transport technologies is essential in order to provide Canadians with affordable, energy efficient transport alternatives, but it alone is not enough. The harsh reality is that it is the very social relations which define mobility practices that are unsustainable (not to mention highly unequal²) in the first place. As such, the introduction of new energy-efficient transport vehicles on their own will fail to address these socio-ecological problems unless paired with hard cap restrictions on unsustainable transport practices or major changes to our collective social behaviour (which suggests changes to our political economic structure). This is why the state and various scales of

2 Put simply, the rich can and do travel much more than the poor. Affluent families in Canada have much higher *access* to the means of mobility, while lower income families pay a higher proportion of household revenue on transportation. In effect, the market imposes a *de facto* restriction of access to mobility upon lower income families and individuals. Statistically, the prototypical high-use car driver in Canada is male, between the ages of 45 and 54, and lives in a low-density suburban neighbourhood. There is a clear relationship between the indicators of gender, race and class, and access to mobility (Turcotte, 2008).

government will inevitably need to get involved and mobilize the range of tools at their disposal. The difficulty lies in transforming awareness of this problem into action towards social change, and more importantly, ensuring that such action occurs in a just, democratic manner while guaranteeing a decent quality of life for all Canadians.

NEOLIBERALISM, ENVIRONMENTAL COMMON SENSE AND THE TRANSPORT SECTOR

To trace the origins of unsustainability within Canada's relations of mobility one must delve into the material and subjective structures of the nation's political economy. The neoliberal turn in Canada and corresponding understandings of society-nature relations have reshaped the country's transport sector and reconstituted the scope of what is perceived of as 'feasible' governmental recourse to reform mobility relations or reduce fossil fuel consumption. In part this is due to the emergence in recent decades of a neoliberal variant of what can be called 'environmental common sense'. Neoliberal beliefs on the merits of private property rights, market competition and free trade have played a crucial role in shaping how Canadian policy-makers confront socio-ecological problems. As McCarthy and Prudham (2004, p. 275) have written, "neoliberalism and modern environmentalism have together emerged as the most serious political and ideological foundations of post-Fordist social regulation." While this relationship has given rise to an extensive literature on 'neoliberal nature' – that is, the way nature has fared under the intensification of market relations (see Bakker, 2009; or Heynen, McCarthy, Prudham, and Robbins, 2007) – very little attention has actually been paid to the ways that popular environmentalist beliefs amongst the polity and within civil society are pervaded by neoliberal logic as well, and the processes involved in this formation. The existence in Canada of what Bakker (2009) calls 'green neoliberalism' or what Albo (2007) calls 'market ecology' has thus brought ideological limitations to the types of policies, programs and actions that can 'fea-

sibly' be taken by neoliberal authorities at various scales of government to confront socio-ecological problems.

Due to prevailing neoliberal common sense 'wisdom(s)', the 'self-regulating market' is not only seen as a democratic arbiter of prices, it is also interpreted as a social tool to address environmental problems such as resource scarcity and pollution. A poignant example is the belief that the best way to reduce emissions of carbon dioxide is to create a market for the gas, which would theoretically enable private firms to profit from improving their greenhouse gas intensity. Within neoliberal conceptions of environmental common sense, the idea of the state imposing fixed limitations on resource use or pollution by firmly restricting usage or by setting pre-determined prices in order to influence citizen or corporate behaviour is often considered anathema to the current suite of policies. There are exceptions to this rule, but as demonstrated below this phenomenon is particularly pervasive within the Canadian transportation sector.

Neoliberal common sense was subsumed into Canadian transport policy throughout the late 1980s and 1990s. Strongly held beliefs in the benefits of privatizing formerly state-owned transport corporations and 'opening' the sector to the market are showcased in a 1995 compilation of essays on Canadian surface transportation published by the Fraser Institute. Within, the editor (Palda, 1995, p. xi) writes the following:

"Transportation policy is a unique topic among academics. Unlike experts who debate welfare, education, and the debt, transport researchers seem to have a united outlook: the best prescription for the transport industry is fewer regulations, lower subsidies, and less government ownership."

Certainly not all transport researchers are as unified as Palda suggests, but the majority of commentators, influenced by the new neoliberal common sense, have indeed advocated a market path. Most importantly, those in political power have tended to share this viewpoint. As the federal government expressed in a policy paper regarding sustainable transportation, "the government of Canada believes that the transportation system of tomorrow should remain largely market-driven" (Transport Canada, 2003, p. 6). For decision-makers, this means ensuring a largely 'deregulated' and privatized transport sector, wherein state authorities use a minimal amount of influence to guarantee competition between privately owned firms vying for clients and a share of the mobility market. It means catering to those modes that are furthest

from state control (i.e. automobiles, airplanes, freight trucking), where questions of access, distribution and usage are most often determined by the wealth of producers and consumers, supply and demand. Further, neoliberal common sense compels authorities at various scales of government to pursue the sale of assets from the public sector to the private sector, supposedly as a means of fostering growth and reducing state spending, thereby tackling deficits and the debt (Cameron, 1997).

This contradictory common sense wisdom has found expression throughout the neoliberal world, not just Canada. As Docherty, Shaw and Gather (2004, p. 258) have plainly put it:

“[During the 1980s and 90s] transport was profoundly affected by the desire to reduce state involvement in the planning and delivery of public services. State provision of transport services was reduced in favour of the market, competition restrictions were reduced or removed altogether, and the procurement and financing of infrastructure became more dependent on the private sector as governments sought to reduce their spending and debt liabilities.”

These authors, however, argue that the transport sector has seen some level of retrenchment in recent years. They point to scholars Charlton and Gibb as perhaps the first to note the mediated nature of transport neoliberalization. As the latter have written, “[Despite the] undeniable prominence of liberalised transport systems, there is an apparent contradiction between the broad policy support for deregulation and privatization and the continued, and even enhanced, regulatory environment affecting many transport systems” (Charlton and Gibb, 1998). Nevertheless, the contradictory relationship between the professed theory of neoliberalism and the material actions of the state in practice (regulation, policy, security, etc.) does not necessarily suggest any scaling back of neoliberalism. As neo-Polanyist Hannes Lacher has pointed out, the pursuit of an orthodox form of market liberalism is practically impossible without creating widespread social and environmental havoc (Lacher, 2011), and with this in mind, the neoliberal state *must* engage in some basic forms of regulation and policy setting in order to set out a basic framework for capital accumulation and to secure private property rights. It is thus inevitable that transport neoliberalization would be accompanied by new regulatory frameworks that guarantee the sector's role in growing domestic product.

REGULATION AS A FRAMEWORK FOR CAPITAL ACCUMULATION

To further flush out these different types of regulation, let us consider the example of the Canadian freight trucking industry. It would be inaccurate to describe this industry as ‘deregulated’. The opposite is true – in literal terms it is highly regulated: the provinces regulate truck weights, dimensions, and even speeds indirectly through the control of highways and roads; the federal government regulates safety practices of the trucking industry through the Motor Vehicle Safety Act and closely oversees cross-border flows of freight. Nevertheless, this “patchwork quilt of regulations across the country”, as the Canadian Trucking Alliance calls it (Canada Transportation Act Review Panel, 2001), is better interpreted as a set of ‘rules’ to outline a framework of optimal efficiency, competition and profitability. Despite this ‘regulatory framework’, the trucking industry *does* exist in a highly neoliberalized setting: all trucking firms are private and compete for a share of the market with other private firms; these private firms are allowed to set their own rates and prices without government interference; foreign capital is welcome to invest in the industry; further, the industry plays an essential role in reinforcing existing systems of free trade with the rest of North America. From a neoliberal standpoint, the provincial and federal governments have no interest in imposing ‘hard cap’ regulations that genuinely intervene in the freight trucking market, nor are they willing to restrict the role of the sector in facilitating capital accumulation – as doing so would severely hamper a key component of Canada’s economic growth engine. As one government report acknowledges, the commercial trucking industry produces revenues in the area of \$20 billion annually – 40 percent of the transportation component of Canada’s GDP (Ibid.).

It is in this light that ‘soft’ regulations – such as those described above – are actually *required* in a neoliberal political economy in order to set up a framework for capital accumulation. In fact, the Canadian Trucking Alliance has lobbied for *more* comprehensive regulations, precisely because it believes the present lack of a definitive framework of rules “hampers trucking industry productivity, competitiveness and profitability, and impedes optimization of the industry’s safety and environmental performance.” (Ibid.). As the example shows, a neoliberal environmental common sense has delimited the scope of possible interventions that can be taken by state institutions: ‘Soft’ regulations are allowable, if not necessary, while radical forms of state intervention (such as the nationalization of the entire industry or specific firms, capping firms’ usage of fossil fuels, setting shipping prices, etc.), are simply not considered ‘feasible’. And yet, thinking

socio-ecologically, the latter interventions are the types of regulations needed to confront the damaging contribution of the trucking industry to fossil fuel use and anthropogenic climate change.

The Janus-faced character of regulation in the Canadian transport industry (and the problematic nature of these terms in general) has been identified by Keil and Young (2008, p.743), who note with irony how “since the 1980s the federal government, which has constitutional authority over transportation, has moved generally towards deregulation while remaining strategically interventionist.” On the one hand, the state has moved towards privatizing former Crown corporations involved in transportation and transferring ownership of the major airports in the country to private (albeit non-profit) agencies, while on the other hand the state has continued to play a regulatory role in terms of securitizing (in the case of airports) and expanding (in the case of highways) transport infrastructure. Again, these so-called ‘market interventions’ have actually *helped* to set up a framework for accumulation, further reified the federal state’s primary interest in economic growth, and guaranteed its role as an enabler of entrepreneurial activity.

DE FACTO PRIVATIZATION AND CAPITAL ACCUMULATION

The neoliberalization of Canada’s transport sector is perhaps most noticeable in successive waves of privatization. Privatization has not only transformed the role of the state from ‘provider’ (of goods and services) to ‘enabler’ (of competition, consumerism, productivity, efficiency, etc.), it has also worked at limiting the capacity of the federal state to use publicly owned assets as policy tools. Neoliberal common sense has not only advocated the privatization of transport service providers such as Canadian National Railways and Air Canada; it has also aimed at privatizing former public manufacturers such as Ontario Bus Industries and Canadair, as well as former public enterprises involved in the provision of transport accessories and infrastructure (such as Petro Canada, a producer of the fuels required by transport vehicles – see Table 1).

Interestingly, although many privatizations occurred during the neoliberal era, there were in fact two prior historical moments during the Keynesian period that helped pave the way for privatization within and across various inter-regional transport modes. The first occurred in 1957, when a newly formed Conservative government “expressed itself in favour of competition, and allowed Canadian Pacific Airlines to break the trans-continental monopoly” hitherto held by the Crown-owned Trans-Canada

Airlines (Ashley and Smalls, 1965, p. 259). The second moment is marked by a similar phenomenon with respect to freight, which came about through the 1967 National Transportation Act (the first act of this kind in Canada).

Table 1: Transport-Related Crown Corporations: A History of Privatization and Commercialization

Name of Corporation	Brief History of Ownership	Status in 2013
Transport Service Provision		
Trans-Canada Air Lines/ Air Canada	Founded in 1937, and given a monopoly over trans-continental services; Privatized in 1988.	Private Corporation
Canadian National Railways	Incorporated through a parliamentary Act in 1919, taking over an agglomeration of formerly public and private railways. Privatized in 1995.	Private Corporation
VIA Rail	Officially incorporated as a Crown corporation in 1978 after CN began to rid itself of passenger rail. Now operates like a commercial enterprise.	Federal Crown Corporation (Commercialized)
Canadian National (West Indies) Steamships Company	A passenger steamship company founded in 1928, owned by the Canadian National Railway Company, and dissolved in 1958.	Obsolete
Northern Transportation Company	Became Crown company in 1944 through expropriation. Purchased in 1985 by the Inuvialuit and Nunasi Corporations.	Private Aboriginal Owned Company
Metrolinx/GO Transit	GO Transit started in 1967 as regional inter-city service. Merged with Metrolinx in 2009. Board is directed by both public and private sector.	Provincial Crown Corporation (Commercialized)
Transport Vehicle and Craft Production		
Canadair	Founded in 1944 to manufacture aircraft; nationalized in 1976; privatized in 1986.	Obsolete
Canadian Government Maritime Marine Limited	Incorporated in 1918 to build and operate merchant marine ships. Purchased in 1936 by three private British companies.	Obsolete
Ontario Bus Industries/ Orion International	Formed by the Ontario Government in 1975; privatized in 1993.	Private Corporation
Transport Accessory Provision and Management		
Petro-Canada	Founded as Crown corporation in 1975; privatized in 1991. Bought by Suncor in 2009.	Private Corporation
St. Lawrence Seaway Authority / St. Lawrence Seaway Mgmt Corporation	Established as Crown corporation in 1954 to plan, construct, and operate seaway. Re-established as a non-profit in 1998.	Crown Corporation

As Gratwick (2001, p. 3) notes, the Act “introduced the idea of competition between the modes as the cornerstone of the new (or more correctly, the first) clearly enunciated transport policy, together with a multimodal regulatory commission that would apply the new policy consistently across the whole transport spectrum.” These two moments in federal transportation policy are pivotal in the way they secured the rights of private enterprises to compete with nationally owned corporations.

Internationally, as a result of the neoliberal turn in the 1980s in Great Britain and the U.S. at the hands of Thatcher and Reagan, new global norms were developed in which it was believed that entire sectors of industrialized economies – in particular the transportation and energy sectors – would be best off in the hands of private enterprises (Harvey, 2005). By the time Brian Mulroney's Progressive Conservatives came to power in Canada in 1984, the groundwork had already been laid for the wholesale neoliberalization of the transport (and related) sectors.

There are two main ways in which forcing Canadian Crown corporations into competition with the private sector during the Keynesian era sowed the seeds of neoliberalization and limited the capacity of the state. First, although the ownership of some transport firms remained in the hands of the state, those firms were now operating within an open market; they had to compete with private firms for customers; they had to focus their efforts on ensuring profitability (as opposed to serving the public); and they had to match their private competitors in ‘contributing’ to growth in domestic product. As such, they could no longer be used as policy tools to shape citizen behaviour (rather, they in turn were influenced by new market relations where supply and demand reigned supreme). Second, once a Crown corporation lost its monopoly over a subsector, it was only a matter of time before private lobbying emerged calling for the sale of said Crown assets, now easily justified on the premise that public subsidies were being ‘unfairly’ allocated to some firms while their competitors were left without public funding. At this time a rhetoric of government's role in ‘maintaining a level playing field’ for competing firms became commonplace.³

In some cases, privatization took place in spirit if not in law – a phenomenon referred to as ‘commercialization’ or ‘privatization by stealth’ (Whiteside, 2012). This outcome (in which a public enterprise

3 For example, a 1998 parliamentary review on passenger rail services in Canada strongly recommends “that the government ensure that, with regard to competition in the passenger rail sector, no undue hardship be placed on the private passenger rail operator by a passenger rail subsidy, thus ensuring a level playing field” (House of Commons Standing Committee on Transport, 1998).

is forced to behave like a private corporation due to the neoliberalization of the sector at large) is exemplified today by VIA Rail – Canada’s last remaining Crown corporation involved in national-level passenger transportation. As the company notes on its website, over the last two decades VIA has “focused on reducing overhead, administrative and operating costs, while improving the quality of service to attract more customers and increase revenues” (VIA Rail, 2011). This is a mandate mired in neoliberal rationality that prioritizes profit and competitiveness over serving the public interest. VIA’s managers consider those who ride the train as ‘customers’, not the citizen ‘owners’ that a truly democratic conception of the public sector would imply. VIA was founded in 1977 as a concession to Canadian National and Canadian Pacific, as the latter corporations had no interest in owning passenger rail services facing decreasing profitability in the face of growing automobile and air travel. To this day VIA remains a fledgling, undercapitalized Crown corporation forced to rent track time from the (now private) rail freight companies. Without any considerable government support, it must compete in the free market against other modes of intercity passenger transport which (thanks to the present artificially low price of fossil fuels) are cheaper, faster, and more convenient.

Important to note here is the way that the neoliberalization of the inter-city passenger transport sector has reconstituted the way the Canadian state views this particular Crown corporation. Despite having a relative modal monopoly in passenger rail, the Canadian government shows no interest in using VIA as a tool to get passengers out of automobiles and airplanes, even though VIA has itself identified a role it could play in transporting passengers more efficiently (VIA Rail, 2007). Following a neoliberalized environmental common sense, the federal government believes that VIA’s role as an ecologically-friendly mode should depend on its corporate ability to compete with the other modes, that its role as a provider of more energy efficient inter-city travel should be decided by questions of competitive pricing and consumer choice. Even though the inter-city passenger transport industry is mediated by ‘soft’ regulations as well as some remaining subsidies and even in a limited sense ownership, the sector nevertheless exists in a neoliberalized setting where the primary motivation is to contribute to growth in domestic product through the generation of profit. Again, from a socio-ecological viewpoint, this is bad news as this fuel-efficient passenger mode is underutilized while more profitable (and polluting) modes continue to see growth.

A similar situation (in which the control of publicly owned transport enterprises is constrained by the neoliberal setting in which said enterprises are situated) can be witnessed at the municipal scale. Most Canadian cities still own systems of public transit. However, under the existing relations of mobility, public transit must compete against privately owned automobiles. Neoliberal common sense often leads citizens, urban planners, city councilors, regional newspapers, business improvement associations, etc., to protect the rights of private, individual commuters in automobiles from 'unnecessary infringements' upon their mobility. Policies aiming to make public transit and alternative transportation more attractive to commuters which might have the consequent effect of making automobile transportation more costly or inconvenient (or which require an increase in the rate of municipal taxes) are met with a tirade of criticisms about governmental infringements on consumer freedoms.

In Ottawa, for example, the city's recent proposal to build a dedicated bike lane on one cross-town street prompted an influx of criticisms regarding the supposed negative effect the bike lane would have on available parking spaces, and thus the profitability of local businesses which rely on automobile patrons (CBC News, 2011a). In another example, Ottawa's public transit service recently announced a major overhaul of its services, not for the purpose of increasing service hours (in fact, it significantly reduced them), but rather because it needed to 'optimize costly inefficiencies' by cutting \$22 million from its annual budget (in order for the city to avoid imposing a 5 per cent municipal tax hike). Neoliberal common sense made the former option an obvious choice for local officials (CBC News, 2011b). As the examples indicate, despite public ownership of the transit system, municipal governments typically hesitate to enact policies which might inconvenience automobile commuters or result in an increase of public spending, or require an increase in the municipal tax rate; such 'hard cap' regulations would supposedly hamper the localized processes of capital accumulation. This puzzle revolving around the centrality of automobility in Canada's contemporary relations of mobility leaves those concerned about the socio-ecological impacts of urban transportation in a tough situation: If restricting unsustainable forms of mobility is not 'feasible' under neoliberalism, how will such impacts ever be tackled given the present political economic setting?

ON ENVIRONMENTAL POLITICAL ECONOMY

In these final pages I draw some conclusions about the need to transcend existing mobility relations by mobilizing an anti-capitalist politics at the level of the state. All three scales of political governance in the Canadian federal system – municipalities, provinces, and the federal government – play a role in structuring transport regulations and as such play a role in (re)producing Canadian mobility relations. Such relations have undergone significant change during the neoliberal period; such state entities no longer have the willingness, interest or capacity to genuinely alter the relations of mobility for the sake of the public good. This is not to suggest that the state has weakened its grasp on power, but rather that the powers of the state have been reconstituted; State intervention has largely been limited at an ideological level while its ultimate legal claim and sovereignty remains largely intact (see Held, 1999 for a discussion on state transformation). From the above analysis it would seem that neoliberal states are largely incapable of genuinely altering existing relations of mobility. I briefly summarize three ways in which this is the case.

Primary Interest in Capital Accumulation

A comparison of Keynesian and neoliberal political economies highlights the extent to which the capitalist state, in its present form, tends to prioritize economic growth above all else. Interestingly, the histories of capitalism, fossil fuel consumption, and economic growth are closely intertwined (Huber, 2008; McKibben, 2007). The combustion of fossil fuels has provided the foundation for high rates of production and consumption, leading to a cycle of capital accumulation which in turn has had drastic socio-ecological consequences. It was, however, during the Keynesian era that these relations began to intensify to such a degree that the ways in which people transported themselves and their goods became fundamentally unsustainable. In the post-war years, a ‘treadmill of production’ emerged in which the imperative for growth fed an ongoing process requiring an ever-increasing supply of ‘goods’, which in turn required more inputs of raw materials, chemicals and energy resources (Gould, Pellow, and Schnaiberg, 2008). This further intensified the relations of mobility, fueled by a seemingly endless supply of cheap crude oil. In short, this political economic system saw incredible growth in the socio-ecological impacts of transportation, perhaps most notably during the ‘Great Acceleration’ of anthropogenic climate change which occurred in the post-war Fordist decades (Steffen, Crutzen, and McNeill, 2007).

Despite this, it is worth considering the extent to which the Keynesian state was more willing than the subsequent neoliberal state to pursue broad societal goals that mediated the impacts of growth. Arguably, this stemmed from the way in which the Keynesian state had a more reflexive ontology of the market. To be sure, the Keynesian political economy was firmly capitalist – and yet, the existence of welfare-statist common sense at the time allowed for some venues of restrictive intervention. For example, in Canada this was a time of increased centralization and planning, expansion of the public service and spending, widespread government intervention in market processes (including even determining 'made in Canada' prices for the oil sector and rail freight shipping), as well as the nationalization of enterprises into Crown corporations. While this political economic model undoubtedly contributed to socio-ecological problems, it nevertheless presented some limited opportunities for state agencies to prioritize collective goals over economic growth. Unfortunately, reducing the use of fossil fuels and restricting mobility were not political priorities at the time; in fact, these were both seen as positive developments contributing to a higher quality of life.

Arguably, one main contributing factor to a higher willingness to prioritize collective goals over capital accumulation during this period was the existence of a different political economic ideology, where market capitalism was ontologically understood as a force that could bring about a better quality of life, but which nevertheless had to be 'controlled' so as to prevent its worst and most insidious effects. In the neoliberal era that cautionary view of relentless growth has dissipated. Today the leading ideology always prioritizes capital accumulation over collective goals, because capital accumulation has itself become the means to the end. Neoliberal states may have a willingness to reduce the socio-ecological impacts of transportation, but this is continually trumped by an unwillingness to intervene in the processes of economic growth. Thus, there is something to be gained from trying to disarticulate the progressive elements of the Keynesian political economy (the state's increased capacities to pursue public policy and control markets), from the negative reactionary elements inherent to that system (the socio-ecological damage wrought by the capitalist mode of production).

The Myth of Non-Intervention and Deregulation

As the examples explored above suggest, there is an important distinction between two types of state 'intervention' in market processes. The 'soft' forms of regulation described above work at liberating the

processes of capital accumulation by setting the ‘rules of the game’; they are not ‘hard cap’ regulatory interventions that limit capitalist relations of production. The notion that the capitalist state is ‘non-interventionist’, or that it has an interest in ‘deregulating’ sectors is a myth (a concept Miliband identified long ago, see Miliband, 1969) – but it is important to recognize the form of intervention and regulations that are being employed. The neoliberal turn in Canada has worked at limiting the interest of federal, provincial and municipal governments to implement ‘hard cap’ regulations in the transportation sector (policies that restrict the most wasteful forms of mobility). Put differently, the historical experiences of neoliberalization in Canada (across various jurisdictional scales) have tended to diminish the willingness of various levels of government to use transportation policy and regulation as tools to confront socio-ecological problems by restricting unsustainable mobility practices. However, such restrictions are required if the Canadian polity has any hope of addressing the severe socio-ecological impacts of transportation.

The Loss of Assets and Ownership

Throughout the neoliberal era the logic of privatization has been pursued as a solution to public debt problems, with the irony of short-term capitalization juxtaposed with long-term asset value loss being lost on policy-makers.⁴ As Cameron (1997) has written, the privatization of public assets is akin to an absurd situation in which a homeowner sells their house in order to afford mortgage payments. Despite the absurdity of privatization at this level of theoretical abstraction, it has found salience in contemporary common sense, and most of Canada’s transport related Crown corporations have either been sold, commercialized or dismantled altogether. A key problem, as Cameron’s analogy implies, is that in selling these assets the public has lost a considerable amount of control, not only over the corporations in question, but across the whole sector. It is worth considering the increased capacity that the state would have in confronting existing relations of mobility if it had maintained ownership throughout the transport sector. If the sector was still publicly owned, governmental agencies (at multiple scales of jurisdiction) would have the ability to coordinate inter-modal shift, moving passengers and goods from more polluting modes to more efficient ones, without having to worry about guaranteeing the rights of private firms to compete on a ‘level playing field’.

4 In a recent example, finance minister Jim Flaherty announced that “there are some opportunities for some privatization of businesses that one questions why the government is in them anymore... So we’ll look at those and I expect that in the next year we’ll be able to make some announcements” (CBC News, 2010).

Democratic institutions would make transport planning and management decisions based on the needs of citizens, not the private interests of profit-driven firms. Yet this is not the case, and presently the private sector is known to lobby government against environmental action whenever its ability to profit is put at risk (McGregor, 2010).

WORKING TOWARDS AN ANTI-CAPITALIST POLITICS

Environmental implications have rarely been prioritized within Canadian political economic debates about the transport sector, whether relating to questions of production, ownership, use, or service allocation. This is a problem – the prevailing view of socio-ecological impacts as mere 'externalities' is dangerous, as it fails to consider the dialectical relationship between forms of human organization (modes of production) and the experience of the 'natural world'.

As argued above, neoliberalization in Canada has worked at limiting the capacity of various levels of government to truly regulate markets if such interventions restrict the processes of capital accumulation. Herein lies an integral problem of ecological political economy: Without relying on restrictive policies aiming to influence citizen or corporate behaviour, how are governments possibly going to enforce much needed changes in social relations (which we know are responsible for causing socio-ecological problems)? Of all the transport examples showcased above – in the freight trucking industry, inter-city passenger rail, and even localized public transit – government institutions are compelled to rely upon the market as a tool to address social policy, because setting a framework for accumulation has become the very purpose of regulation under neoliberalism.

To deal with this puzzle, EPE must work towards the articulation of 'good sense' conceptions of regulation and policy by recognizing the inbuilt structural flaws of neoliberal capitalism. While neoliberalized environmental common sense finds surface level 'solutions' to ecological problems *within* existing systems of production, good sense environmentalism calls the very mode of production into question as the source of the problem. The task of a critical EPE is thus to challenge and question existing structures of political economy and normalized solutions to socio-environmental problems, in part by interrogating the structural and social origins of such problems.

As explained above, the Keynesian era saw incredible growth in the socio-ecological impacts of transportation, but it also provided a more

reflexive ontology of capitalism, which in turn afforded the state some additional capacities to restrict capital accumulation when the public interest was at stake. This is by no means a call for a return to a Keynesian political economy. Rather, the claim here is that there may be lessons to learn from the relative capacities, strengths and weaknesses of state entities facing different political economic contexts. Arguably, Canadian municipal, provincial and federal governments would have a higher capacity to deal with the socio-ecological impacts of transportation if a) they had wide-ranging ownership and control over the sector; and b) the prevailing conceptions of environmental common sense considered ‘hard cap’ regulations a valid method of influencing the behavior and actions of citizens (as opposed to neoliberal common sense, which relies upon market fundamentalist notions of self-regulating, rational utility maximizing consumers). Theoretically, these two factors could furnish in the state a willingness to intervene in market processes for the purposes of socio-ecological protection. Yet such ideas are unlikely to be entertained without the mobilization of an anti-capitalist politics.

Good sense conceptions of EPE have a role to play in advocating new forms of state capacity. In a recent interview, Leo Panitch characterized the type of mobilization required in such anti-capitalist political formations: “[We need] organizations that are prepared, not just to make proposals to the state, but to risk going into the state. Maybe at first at the municipal level... we need to be prepared to say – ‘look, we will at some point be putting the question of state power on our strategic agenda’” (as quoted in Lewis, 2011). Such movements would do well to consider the socio-ecological implications of neoliberalism and recognize how socio-ecological problems are in fact best addressed by changing social relations. This can be done by more closely managing, coordinating, and in some cases restricting the processes of production and consumption.

To offer a few examples drawing from the discussion above and delving into the realm of the ‘ideal’, states (municipalities in particular) should take bolder steps in restricting the excessive use of single-occupancy vehicles; Major expansions to public transit systems certainly help, but the problem in full will not be addressed without more active interventionist steps to actually manage transport demand in urban areas (Winters, 2000). Similarly, the nationalization, centralization, integration, and de-commodification of transport services within provincial and federal states would go a long way towards furnishing these state authorities with the interest, willingness and capacity to implement more sustainable public transport practices while restricting wasteful

behaviours by private firms and individuals. For instance, such structural changes would enable the introduction of electrified inter-city rail infrastructure (for both passengers and freight) without raising the ire of the fossil fuel, automobile and airline lobbies, as the latter subsectors would be integrated into the state-owned transport-energy complex. But there is also room to think outside the box in terms of altering broader social relations which compel us to travel in the first place: This could include work-from-home legislation which offers no-unnecessary-commuting rights to workers (to save on unnecessary work trips across town during rush hour); new suburban rezoning laws which forbid the development of sprawling residential neighbourhoods that are fundamentally dependent on the services, resources and employment opportunities found elsewhere; public education and public health campaigns which foster new subjectivities about the merits of alternative forms of transportation, etc.

The lack of state capacity, as explained above, exists largely at an ideological level – at the level of common sense. There is no doubt that radical ideas of nationalizing (or reclaiming public ownership over) various firms within and across the transport modes, increasing the willingness to intervene in market processes, decommodifying public services, and ditching economic growth as the foremost political priority all run counter to contemporary neoliberal common sense beliefs. Yet as argued above, movement in this direction would significantly enhance the capacity of governmental institutions to implement the programming and policies needed to engender truly sustainable relations of mobility in Canada.

REFERENCES

- Albo, G. (2007). The Limits of Eco-Localism: Scale, Strategy, Socialism. In L. Panitch and C. Leys (Eds.), *Socialist Register 2007* (pp. 337–363). London: Merlin Press.
- Ashley, C. A., and Smails, R. G. H. (1965). *Canadian Crown Corporations; Some Aspects of Their Administration and Control*. Toronto: Macmillan.
- Bakker, K. (2009). Neoliberal nature, ecological fixes, and the pitfalls of comparative research. *Environment and Planning A*, 41, 1781–1787.
- Cameron, D. (1997). Selling the house to pay the mortgage: What is behind privatization? *Studies in Political Economy*, 53, 11–36.
- Canada Transportation Act Review Panel. (2001). *Vision and Balance: Report of the Canada Transportation Act Review Panel*. Ottawa: Minister of Public Works and Government Services Canada.
- Castree, N. (2001). Marxism, Capitalism, and the Production of Nature. In *Social Nature: Theory, Practice, and Politics* (pp. 189–207). Malden, Mass. ; Oxford: Blackwell Publishers.
- CBC News. (2010, March 5). Crown asset sales coming this year: Flaherty. *CBC.ca*. Retrieved February 7, 2013, from <http://www.cbc.ca/news/canada/story/2010/03/05/flaherty-crown-assets.html?ref=rss>
- CBC News. (2011a, February 2). Laurier bike lanes approved by Ottawa committee. *CBC.ca*. Retrieved February 7, 2013, from <http://www.cbc.ca/news/canada/ottawa/story/2011/02/01/ottawa-laurier-lanes-202.html>
- CBC News. (2011b, March 23). Proposed OC Transpo bus-route changes unveiled. *CBC.ca*. Retrieved February 7, 2013, from <http://www.cbc.ca/news/canada/ottawa/story/2011/03/23/ott-octranspo-bus-route954.html>
- Charlton, C., and Gibb, R. (1998). Transport deregulation and privatisation. *Journal of Transport Geography*, 6.
- Docherty, I., Shaw, J., and Gather, M. (2004). State intervention in contemporary transport. *Journal of Transport Geography*, 12, 257–64.
- Environment Canada. (2004, June 1). Transportation. Retrieved February 1, 2013, from <http://www.ec.gc.ca/air/default.asp?lang=En&ndn=800CCAF9-1>
- Environment Canada. (2010). *Canada's 2008 Greenhouse Gas Inventory: A Summary of Trends 1990-2008*. Ottawa: Environment Canada.
- Gould, K. A., Pellow, D. N., and Schnaiberg, A. (2008). *The Treadmill of Production: Injustice and Unsustainability in the Global Economy*. Boulder: Paradigm Publishers.
- Gratwick, J. (2001). *The Evolution of Canadian Transport Policy* (Reserach conducted for the Canada Transportation Act Review). Ottawa: Canada Transportation Act Review Panel.

- Harvey, D. (2005). *A Brief History of Neoliberalism*. Oxford ; New York: Oxford University Press.
- Held, D. (Ed.). (1999). *Global transformations: politics, economics and culture*. Stanford: Stanford University Press.
- Heynen, N., McCarthy, J., Prudham, S., and Robbins, P. (Eds.). (2007). *Neoliberal environments: false promises and unnatural consequences*. London ; New York: Routledge.
- House of Commons Standing Committee on Transport. (1998). *The Renaissance of Passenger Rail in Canada*. Ottawa: Canada House of Commons. Retrieved from <http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=1031514&Language=E&Mode=1&Parl=36&Ses=1&File=132>
- Huber, M. T. (2008). Energizing historical materialism: Fossil fuels, space and the capitalist mode of production. *Geoforum*, 40, 105–115.
- Keil, R., and Young, D. (2008). Transportation: The Bottleneck of Regional Competitiveness in Toronto. *Environment and Planning C: Government and Policy*, 26, 728–51.
- Lacher, H. (2011, February 10). *Will the real Karl Polanyi please stand up? Evidence from the archives*. Ottawa: Carleton University.
- Lewis, E. (2011). Rebuilding the Left in a Time of Crisis: Interview with Leo Panitch. *The Bulletin*, 492.
- McCarthy, J., and Prudham, S. (2004). Neoliberal Nature and the Nature of Neoliberalism. *Geoforum*, 35, 275–283.
- McGregor, G. (2010, January 10). Prentice leads way in contact with lobbyists. *The Ottawa Citizen*.
- McKibben, B. (2007). *Deep Economy*. New York: Times Books/Henry Holt and Company.
- Miliband, R. (1969). *The state in capitalist society*. London: Weidenfeld and Nicolson.
- National Energy Board. (2009). *Canadian Energy Demand: Passenger Transportation*. Calgary: National Energy Board.
- Palda, F. (1995). *Essays in Canadian Surface Transportation*. Vancouver: The Fraser Institute.
- Steffen, W., Crutzen, P., and McNeill, J. R. (2007). The Anthropocene: Are humans now overwhelming the great forces of nature? *Ambio*, 36(8), 614–21.
- Thün, G., and Velikov, K. (2008). The Post-Carbon Highway. In J. Knetchel (Ed.), *Fuel*. Toronto: Alphabet City/ The MIT Press. Retrieved from <http://alphabet-city.org/issues/fuel/articles/the-post-carbon-highway>
- Transport Canada. (2003). *Toward Sustainable Transportation*. Ottawa: Transport Canada.

- Turcotte, M. (2008). *Dependence on cars in urban neighbourhoods: Life in Metropolitan Areas*. Ottawa: Statistics Canada.
- VIA Rail. (2007). *A Green Choice [Environment Policy]*. VIA Rail Canada.
- VIA Rail. (2011, March 25). About VIA Rail: Our Company, Overview, Corporate Performance. *ViaRail.ca*. Retrieved February 7, 2013, from <http://www.viarail.ca/en/about-via-rail>
- Whiteside, H. (2012). Crises of Capital and the Logic of Dispossession and Repossession. *Studies in Political Economy*, 89(Spring), 59–78.
- Winters, P. L. (2000). Transportation Demand Management. *Transportation in the New Millenium*.

Gendered Emissions: Counting Greenhouse Gas Emissions by Gender and Why it Matters

Marjorie Griffin Cohen¹

ABSTRACT: In recent years, as a result of women’s concerted efforts, more attention has been paid to gendered distinctions related to climate change. Most of this literature focuses on the implications for women and their work in developing nations. In contrast, the gendered discussion that is focused on developed countries tends to be more concentrated on the distinctions in attitudes toward climate change and the implications this has for public policy initiatives. While this is an important step toward understanding the gendered distinctions at the household level, still relatively unexplored are the implications of the gendered distinctions in contributions toward greenhouse gas (GHG) emissions. This paper will focus on gendered distinctions relating to climate change for both paid and unpaid labour, as well as consumption issues in developed nations. Specifically it attempts to measure the greenhouse gas emissions by gender through work and the aspects of consumption that can be separated by gender. It then attempts to understand the significance of this in relation to both climate justice issues and public policy strategies to mitigate climate change. The paper will argue that knowing the gendered distinctions in GHG emissions can be informative for creating ideas about green jobs and a green economy that could provide a radical way to think about public policy and climate change.

1 Marjorie Griffin Cohen is an economist and Professor of Political Science and Gender, Sexuality and Women’s Studies at Simon Fraser University. Her research focuses on energy, labour, political economy, and gender issues. She has been on the Board of Directors of BC Hydro, BC Power Exchange, and NewGrade Energy in Saskatchewan. She was one of the founders of the Canadian Centre for Policy Alternatives – BC and is currently on its Board. This study is part of the Work in a Warming World Project (W3). The author appreciates the financial support received for this project through a Social Sciences and Humanities Research Council Community-University Research Alliance (SSHRC-CURA) research grant. W3 is a five-year research project to address the challenge of climate change for Canadian employment and work with Carla Lipsig-Mumme at York University as the principal investigator. An earlier version of this paper appeared on the W3 website. The author would also like to thank the following for their research assistance on this project: Heather Whiteside, Matt Pelling, and Greg O’Brien.

INTRODUCTION

Both climate disasters and incremental climate changes have an enormous impact on the way people live and work and these physical changes are not confined to the most marginal areas of the world's surface, but impinge upon the developed world as well. It is also fairly clear that public policy to deal with climate change in too many places is woefully inadequate to deal with the magnitude of the problem (Victor, 2011).² Public policy to deal with climate change has gendered implications both for its effectiveness in mitigating greenhouse gas emissions and for what it means for different aspects of work, play and consumption.

Feminists have not ignored the gendered effects of climate change but, unsurprisingly, gender issues have a fairly low profile in policy discussions. At the international level there is discussion of procedural justice, as more recognition is given to the need for a variety of interests to be part of the discussion and decision making process (IPCC, 2007; Agarwal, B., 2001). But any formal way to facilitate procedural justice has been absent from most concrete policy making (Klinsky and Dowlatabadi, 2009; Dankelman, 2002). Even popular sector movements that recognize the need for inclusivity in the discussion of alternatives tend to ignore women and the distinctions by gender (Riddell, 2011; Stahl, Rees and Byers, 2011).

This void is explained by some as a result of several things: one relates to the need to focus on "universal" issues, given limited resources, and the other stresses the prominence of technology and science solutions in policy discussions, as opposed to the 'soft' policies that look at social differences, particularly as they relate to incomes and opportunities (Lambrou and Piana, 2006). These are the kinds of factors that frequently inhibit a gender analysis of any social issues, but climate change has a specific disadvantage that contributes to the gender blindness that occurs in research and policy, particularly in developed nations. This is the lack of visibility of gendered environmental differences or injustices and a lack of imagination about how a gender analysis could be applied in research. Gender issues are more visible in developing countries or among aboriginal societies and the literature about the effects of climate change and gender related to these areas constitutes the bulk of the information available on gender and

2 Canada reduced its GHG emissions between 2007 and 2010, but much of this can be attributed to the decreased production associated with the economic recession, although the shift away from using coal from electricity production in some provinces also contributed to the improvement. But, the long-term trajectory shows the pattern of reduction is not expected to continue to decline (Environment Canada, 2011; 2013).

climate change.³ Because of the less developed nature of the economies, and the close proximity women have to agriculture and the resource sectors, climate change's effect on women's work in these countries is visible and dramatic (Brownhill, 2007; Agarwal, 2001; Beaumier and Ford, 2010; Nelson and Stathers, 2009).

The issue of invisibility of gender issues for such a long time in the climate-justice literature and action in developed countries is also explained by some as a result of the dominance of males in the environmental movement's senior posts and the general gender blindness of the movement (Buckingham and Kulcar, 2009, p. 673). The actions of the state on environmental issues are conditioned by the ways it is contested by activist organizations and the kinds of issues they highlight. The fact that these organizations usually are male dominant means that gendered issues are not explored in either identifying environmental justice issues, or in seeking policy solutions.

As most groups dealing with inequality know, identifying the distinctions of experience itself is crucial for being included in policy discussions. But when the differential experiences are less visible through being diffuse as a community or income group, unpacking the implications is not straightforward. While academics are increasingly interested in environmental injustices, particularly as they relate to public policy, they tend to focus on inequalities in income and/or race and neglect gender (Buckingham and Kulcar, 2009). The most common understanding of environmental justice as it applies to individuals is exemplified in the definition used by the US Environmental Protection Agency: "Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." (<http://www.epa.gov/environmentaljustice/>). For the most part gender (and age and disability) issues have been subsumed under class or income issues with the assumption that women's issues will be covered under the treatment of low-income and poverty groups.

Many of the methods that have been used to talk about gender and climate change tend to conflate the material related to developing nations with conditions associated with developed nations. While some studies are careful with regard to how examples are being used in specific references, there is an assumption (based primarily on experiences in developing regions) that in general, women are more vulnerable to climate change than men, have fewer resources to deal with it, and have

3 For a bibliography related to gender and climate change see Whiteside and Cohen, 2012.

greater work burdens as a result (Haight and Valley, 2010; Johnsson-Latham, 2007, Bjonberg and Hansson, 2013).

The primary method that is used to span the national divides is the assumption that since everywhere women on average are poorer than men in general, they will, as a result, be disproportionately disadvantaged by climate change. While it is true that women in developed nations have lower incomes on average than men, gender distinctions are not confined to income distribution alone, but also relate to the entire gendered experiences of our societies. One particular gap in knowledge pertains the relationship between climate change and gender in developed nations.

The intention in this study is to try to understand how men and women contribute to climate change through both work and consumption. The first part of the paper will specifically examine the gendered nature of paid work-related contributions to climate change by quantifying emissions associated with major GHG emitters in Canada. It will also discuss the gendered nature of consumption as it relates to work with a particular focus on the problems of unpacking gendered work/consumption within the household. One area of work/consumption that is easily quantifiable by gender is consumption related to vehicle transportation, one of the major sources of GHG emissions in Canada. The findings will then be analyzed in light of two categories of understandings of their significance. One will be how the gendered distinctions in GHG emissions through work and consumption can be understood in relation to climate justice. The other will be an exploration of the significance of gender in expanding our ideas about both green jobs and a green economy.

EFFECTS OF WORK ON CLIMATE CHANGE

Almost nothing has been written about the impact of work in developed nations on climate change with distinctions made by the gendered nature of paid work. Most of the interest in work has been on creating “green jobs,” as a positive way of ensuring that government programs to reduce GHG emissions do not result in actions that increase unemployment rates.⁴ The assumption is that with correctly designed policy, jobs can be created that have a low impact on the environment and that are well paid (Lee and Carlaw, 2010). This argument has been advanced to counteract the slow move of many developed nations to enact effective legislation to reduce GHG emissions. North American governments’ rationale for inaction either

4 For example, Blue/Green Canada, the alliance between environmentalists, civil society, and trade unions describes on its website its work to “advocate for working people and the environment by promoting solutions to environmental issues that have positive employment and economic impacts.” (<http://bluegreencanada.ca/>).

explicitly stated, or at least implied, is that unless all countries in the world adopt similar climate change policies, those countries that do so will be punished with poorer economic performance and rising unemployment rates as corporations readjust their production process to those jurisdictions that have no or few restrictions on emissions. This is the argument that Canada uses, for example, for not highly regulating the emissions from the tar sands in Alberta (Clarke, 2008) and why the US government did not sign on to the Kyoto Agreement (Biermann and Brohm, 2005).

In broad terms some jobs are dirty jobs that add a great deal to GHG emissions, while others have a more benign effect on the economy. This can be calculated in a variety of ways, with different types of measures of damage. While studies that look at these measures tend to talk in very broad terms, and not with reference to who does what type of jobs, it is possible to get an idea of where gender distinctions occur.

While there are methodological (and justice) problems associated with attributing GHG emissions to specific groups of labour, counting something seems to be the primary way that gender issues get noticed. In virtually anything related to distributional impacts (such as wage inequality, occupational distribution, poverty levels) calculating gender differences is the major way to have an issue recognized as significant. In the case of labour and GHG emission policies, bringing the gendered dimension into the discussion necessitates showing both the unequal contributions by gender and the gendered nature of mitigation or adaptation policies.

The method I have used for calculating gendered GHG emissions through work is to use the known major contributors to GHG emissions in a variety of different ways. The two most important contributors are through the industrial output by sector and the numbers of hours at work. In dealing with these issues, I first examine the major sectors of the economy in Canada that contribute to GHG emissions and, through a simple weighting of the gendered composition of the labour force in that sector, calculate the gendered contribution in each sector.

PAID EMPLOYMENT: GHG EMISSIONS BY INDUSTRIAL SECTOR

The energy sector is the biggest source of GHG emissions, accounting for 81 percent of the total in Canada. It should be noted that this includes all energy and heat generation and consumption in households, business, and transportation (Environment Canada, 2011). The rest of the GHG comes primarily from the agricultural sector (8 percent) and the industrial process sector (8 percent).

Energy production itself (from electricity, and oil and gas) accounts for 37 percent of total GHG emissions. While electricity production in Canada is largely hydro based and accounts for only 16 percent of total GHG emissions, this country is the source of a particularly dirty form of oil that is derived from the tar sands in Alberta. Production in the oil and gas sector alone accounts for 21 percent of total GHG emissions. Below is an example of the gender breakdown of those employed in the energy sector compared to the gender breakdown in the labour force as a whole.

Table I. Labour Characteristics of the Energy Sector – Canada
(% of total employed)

	Cdn. Labour Force	Oil & Gas	Electricity
Men	52%	72%	75%
Women	48%	28%	25%

Source: Statistics Canada, *Labour Force Survey*, 2007.

In what follows I calculate the gendered distinctions in production of GHG emissions by focusing on the categories of Industrial production, Transportation, and Residential contributions to GHG. Industrial production accounts for 66 percent (455,000 MT) of the total, transportation 28 percent (195,000 MT) and residential use 6 percent (41,000 MT). These calculations come from the National Inventory Report 1990-2011 prepared by Environment Canada.

Table II shows the major sources of GHG emissions by industry in Canada. Transportation, the largest single sector contributing to GHG emissions, is omitted from this table. It will be dealt with in the subsequent section because the method used for calculating the gender share in transportation is slightly different from that used below.⁵

As Table II shows, industrial production in Canada is highly gendered with females dominant in industries that have lower GHG emissions than those dominated by males. So, for example, the commercial and institutional industries account for only 4 percent of total industrial GHG emissions and are sectors that are dominated by females. The

5 The calculations of the gendered share, (e.g. Female share) of GHG emissions from major industrial emitters (GHG female major industrials = GHGfmi) is as follows: GHGfmi = I1-12(F1-12). I1 = GHG emissions from electricity and heat generation; I2 = fossil fuel production and refining; I3 = mining and oil and gas extraction; I4-8 = manufacturing heavy emitters (iron, steel, and non-metals; chemical; paper and pulp; cement; other manufacturing); I9 = Construction; I10 = Commercial & Institutional; I11 = Agriculture; I12 = waste; F1-12 = % of women working in these industrial sectors.

industries with the highest GHG emissions are the energy sector whose gender breakdown was presented in Table I, and agriculture where women comprise 30 percent of the labour force. Within manufacturing and industrial processes males again dominate in most of the heavy emitters (iron, steel and metal production), cement and mineral products, and 'other' sectors. The only sector in this category with high emissions and where women's employment is a large proportion of the total is the chemical sector where women account 41 percent of the labour force.

Altogether the gendered breakdown of GHG emissions in the manufacturing and industrial processes is highly skewed. The male share of GHG emissions in the industrial and manufacturing sector is 76 percent and the female share is 24 percent.

Table II. Gender Share (%) of GHG Emissions by Industry

Canada 2010 in Megatons (MT)

GHG Categories	Total GHG Emissions in MT	% of total Labour Force	Female % of total labour in industry	Male % of total labour in industry	Female Emissions in MT	Male Emissions in MT
GHG Emissions Total MT	692,000					
Major Industrials						
Electricity and Heat	101,000	15%	24%	76%	24,240	76,760
Fossil Fuel Production	53,000	8%	10%	90%	5,300	47,700
Mining, Oil and Gas ¹	96,800	14%	18%	82%	17,424	79,376
Mfg Industries and Industrial Processes ²	93,100	13%	28%	72%	26,068	67,032
Iron and Steel	22,890	3%	11%	88%	2,518	20,143
Chemical	16,500	2%	41%	59%	6,765	9,735
Pulp and Paper	6,460	1%	23%	77%	1,486	4,974
Cement, Lime, Mineral	12,070	2%	8%	92%	966	11,104
Other Manufacturing	35,700	5%	28%	72%	9,996	25,704
Construction	1,490	0%	11%	89%	164	1,326
Commercial and Institutional	28,400	4%	56%	44%	15,904	12,486
Agriculture	59,260	8%	30%	70%	16,800	39,200
Waste	22,000	3%	19%	81%	1,480	17,820
Total Major Industrial Emitters	455,050	65%	24%	76%	111,058	343,992

¹Mining, oil and gas extraction and fugitive sources

² Mfg. industries and Industrial Processes are combined

Sources: Environment Canada, *National Inventory Report 1990-2010* Table A12-2 Canada's 1990-2010 GHG Emissions by Sector; Statistics Canada, Labour Force Survey, Table 282-0008; NAICs; Custom Data for *Labour Force Survey* 2012

TRANSPORTATION

Generally when issues of consumption are examined, the main focus tends to be on gender differences with regard to transportation, primarily because this form of consumption looms so large in GHG emissions. In Canada, transportation accounts for about 28 percent of total GHG emissions, the single largest category, and within this group road transportation accounts for 69 percent of total emissions for all transportation (or 19 percent of total GHG emission).⁶

In the US men are more likely than women to drive long distances to work⁷: about 3.5 million people have a travel time of four hours per day and two-thirds of these are men. In Sweden it is estimated that men account for at least about 75 per cent of all driving, expressed as person kilometers. About 6.9 million cars are registered in the country, of which women own only 1.7, or 25 percent, and women represent about two-thirds of all households where no one has a driving license (Johnsson-Latham, 2007 p. 53).

My calculations for Canada show clearly that males dominate in the number of miles driven and account for most of the vehicle emissions. As can be seen from Table III, females account for about 34 percent of the miles driven and almost all of these occur in passenger vehicles. Passenger vehicles emit fewer GHGs than do trucks, especially very big trucks, which are almost exclusively driven by males. In calculating women's proportion of the driving by vehicle type (Table III), and applying that to the emissions by vehicle type (Table IV), it is possible to show that women as a group contribute about 11 percent of GHG emissions from driving vehicles. I have calculated this in the following way: $GHG_{ft} = V1 (f1) + V2 (f2) + V3(f3)$.

GHG_{ft} = GHG emissions for female vehicle owners; $V1$ = GHG emissions from vehicles up to 4.5 tonnes; $V2$ = Trucks 4.5 – 14.9 tonnes; $V3$ = Trucks over 15 tonnes. $f1,2,3$ = % of women driving each class of vehicle.

6 Calculated from Environment Canada 2011, Table S-1.

7 It should be noted that information available is not consistent across countries. In Canada the information about vehicle use is available by vehicle type and mileage, but not by the division between work and other activities.

Table III

Vehicle-Kilometers by Gender, Canada 2009 (Million km)				
Type of vehicle	Total	Males	Females	Females %
Total, all vehicles	332432	236908	95524	29%
Vehicles up to 4.5 tonnes	302959	208083	94877	31%
Trucks 4.5 tonnes to 14.9 tonnes	8242	8153	89	1%
Trucks 15 tonnes and over	21231	20673	558	3%

Table IV. Gender Share of GHG emissions for Road Transportation

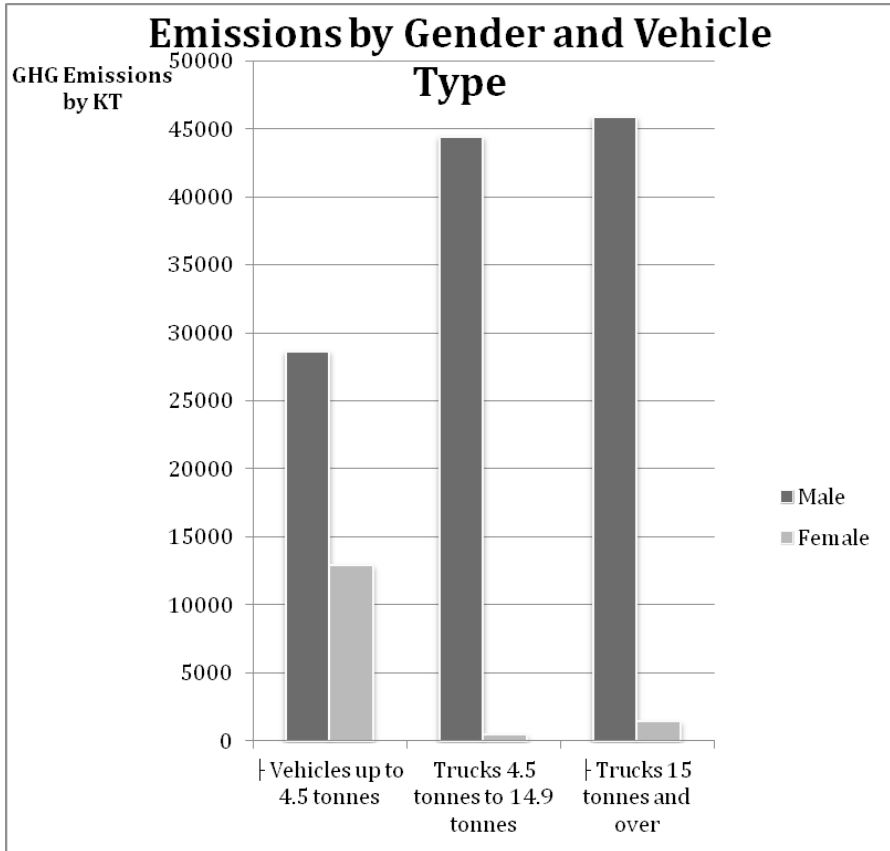
	Total GHG MT	female% miles	male % miles	F GHG	M GHG
Vehicles up to 4.5 tonnes ***	41,701	31	69	12927	28774
Trucks 4.5 tonnes to 14.9 tonnes ****	44,890	1	99	449	44407
Trucks 15 tonnes and over *****	47,110	3	97	1413	45697
All Road Vehicles	133,701*			14,789	118,878
% Total Vehicle Emissions				11%	89%

Note: The total for emissions from vehicle type differs slightly from the total GHG from Road Transportation on table S-5.

Source: Calculated from Table A12-2 Canada's 1990-2010 GHG Emissions by Sector, National Industry Report; data by gender calculated from Table 405-0073 Canadian vehicle survey

Graph I visually shows the large discrepancy in the gender of vehicles driven and the GHG associated with these vehicles. Graph II shows the total proportion of GHG emissions by gender in Canada

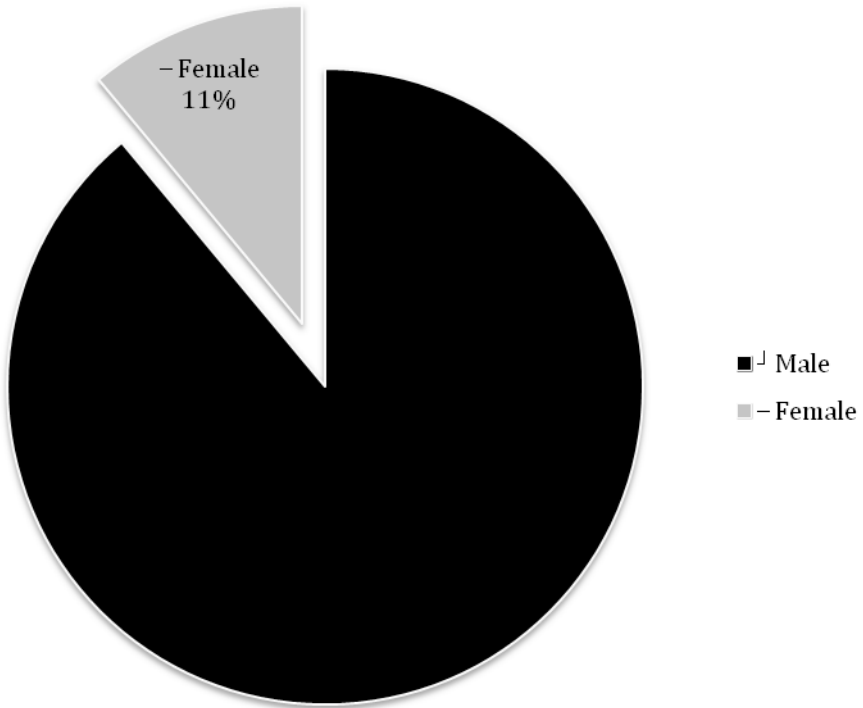
Graph I



Sources: *Canada's GHG Emissions 1990-2010*, Table S-2,

Graph II

Emissions from All Road Vehicles by Gender



Calculated from Table A12–2 Canada’s 1990–2010 GHG Emissions by Sector, National Industry Report; data by gender calculated from Table 405-0073 Canadian vehicle survey

The gender breakdown is also available for domestic civil aviation, but not for railways, navigation and other forms of transportation. The total GHG emission from civil aviation is 6,200 MT. According to the Commercial Aircraft Travel Survey of Residents of Canada 2010, females account for 54 percent of air travel and men 45 percent. Through air travel then, women would be responsible for 3,370 MT and males 2,829 megatons. (Statistics Canada, Travel Survey 2010)

HOUSEHOLD GENDER/WORK AND CONSUMPTION-RELATED ISSUES

One major difficulty in discussing the gendered distinctions in the impact of work on the climate is the problem of separating the act of consumption from activities that constitute work. Consumption is integral to concepts of work (such as gasoline consumption) and is especially relevant in places like the household. Dealing with what constitutes work within the household is a conceptual problem that separates it from work that is marketized. Certain kinds of household related consumption have gendered patterns that relate to the work roles within or for the household. In this paper I am primarily concerned with the gendered division of labour within the household because it has important implications for public policy responses to climate change.

In broad sweeps the literature tends to find that virtually everywhere throughout the world males account for greater consumption and greater carbon dioxide emissions than females (Johnsson-Latham, 2007). This consumption pattern is primarily associated with greater mobility for a larger proportion of men. Analysis of gendered consumption in Sweden, for example, shows that males' consumption of transport is double that of females. Other areas where male consumption is higher than females in Sweden is in dining out, alcohol and tobacco consumption, and leisure activities related to sports. The areas where female consumption is greater than males is in household related consumption, where women make the majority of purchases for consumer goods, clothing and shoes, health and medical care, and books, newspapers and media (see Appendix I). The Swedish study does not show the energy content of the gendered consumption baskets, so for areas other than transport, the GHG emissions impact of consumption by gender is not clear.

Getting a clear picture of gendered consumption in the household is not straightforward. In Canada there is no attempt to understand these distinctions by Statistics Canada, our major data collection body. In the US there is an interest in the subject, but the lack of data that includes observations of consumption for men and women separately does not permit understanding of spending by gender in households with both males and females. In one attempt to get at this issue the US Consumer Expenditure Survey examines gender differences between single men and single women. Because the survey does not collect data on which member of households consisting of both men and women purchased an item, this is the only data so far to show gender differences in household

spending. Of course, the spending patterns of single men and women may be very different from households where joint decisions are made (Shipp, 1987).

Class or income level is the issue that is usually found to affect the level of consumption in any country (OECD, 2008). The more wealthy the country, the higher the level of consumption, and within countries the wealthier the household, the higher the consumption level. Measures of consumption for climate change purposes usually invoke the 'carbon footprint,' a measurement of quantities of carbon dioxide emissions associated with an activity (Kitzes and Wackernagel, 2009).⁸ Sweden, for example, has a considerably higher level of energy consumption than the EU average, with the average Swedish consumer driving a more energy intensive car, living in more space, and eating more meat than other EU citizens (Johnsson-Latham, 2007, p. 38). Similarly, the average person in the US consumes a great deal more than most people in the world and those in Canada have among the highest per capita energy consumption.⁹ In Canada the high energy use is usually explained by the cold climate and massive size of the country.

Within nations, consumption usually is correlated with income levels, which in turn can be associated with marital status and paid employment by gender (McKenzie, Messinsger and Smith, 2008). However, information on this varies from country to country. A Netherlands study shows that two-income families, or families where women have paying jobs, tend to have higher consumption levels as a result of higher incomes and the increased time pressures from having both paid and unpaid work. The two-income household uses more energy than a household where either the female partner did not work or a woman was living alone (Clancy and Roehi, 2003).

A UK study showed somewhat different results. As elsewhere, energy and transport are the biggest contributors to the 'footprint' of households. Rural and adult households with few members had significantly larger energy use than did urban/suburban households and households with many members. The direct household energy use relates to heating,

8 The carbon footprint is a component of the ecological footprint. The ecological footprint is a concept in resource accounting that measures how much productive land and sea is used, either by an individual, nation, or type of activity, and relates this to the total available. According to William Rees, 'a complete eco footprint analysis would quantify the total ecosystem area that the population effectively 'appropriates' to meet its final demand for economic goods and services.' (Rees 2006).

9 The US and Canada are among the highest energy users in the world. According to World Bank statistics Canada used 7,243 kg of oil equivalents per person in 2012 and the US used 6,793. (<http://data.worldbank.org/indicator/EG.USE.PCAP.KG.OE>)

cooking, fueling cars, but also considered was the indirect energy use in consumption associated with production, processing, and distribution of food. This study also found that a higher household income affects energy use, most notably for travel (Caird and Roy, 2006). In Canada, evidence shows that the ecological footprint of high-income households is substantially greater than other households and that with the exception of expenditures on food, consumption in every category increases steadily as incomes increase (Mackenzie, Messinger and Smith, 2008). At least one study in the US, however, finds little evidence to indicate differences between male and female-headed households, and in countries where more equal economic conditions exist, women tend to adopt male-type lifestyles and consumption patterns (Lambrou and Piana, 2006).

In lieu of a method for calculating the gendered nature of GHG within a household I have divided these equally so that females and males each account for 50 percent of the residential GHG emissions, or 20,500 MT.

GENDER TOTALS AND SHARES

By aggregating the GHG emissions by gender from three main categories, Industrial Sectors, Transportation, and Residential use, one is able to arrive at an approximate sense of the gendered nature of GHG emissions in Canada.

Table V. GHG Emissions by Gender in Canada

Categories	Total GHG Emissions	Female GHG	Male GHG
Industrial	455,050	111,058	343,992
Transportation			
Road	133,701	14,789	118,878
Air	6,200	3,370	2,829
Residential	41,000	20,500	20,500
Total	635,951	149,717	486,199
Share		23.5%	76.5%

*Note: The total GHG emissions in Canada = 692,000. I have only included categories in my total where it was possible to ascertain gender differences. So, for example, I did not include transportation other than road and air.

DISCUSSION

The major question is whether knowing the gendered contributions to climate change matters in any way. There are several ways to examine the significance in this sense, but I will focus on three issues that may be significant. One relates to issues of climate justice, where it is often understood that those responsible for GHG emissions have a greater responsibility and thus greater obligations than those who do not. The second framework relates to public policy initiatives to reduce GHG. Knowing the gendered impact of these policies can be important for climate justice. The third major framework that ultimately may be most significant relates to climate change initiatives that are broader than those currently envisioned. As you will see as the discussion proceeds, my sense is that the climate justice implications are less significant than what the implications of gendered distinctions in GHG emissions can indicate about the economy itself. I hope to show that expanding the notions of what constitutes a 'green job' or a 'green economy' can be accelerated if issues of gender are taken into account. This could ultimately be crucial for moving toward a cleaner, fairer economy altogether.

CLIMATE JUSTICE

Academic discussions of climate change and issues of ethics focus almost exclusively on distributive and procedural justice as it pertains to climate reduction policy of nations (e.g. Klinsky and Dowlatabadi, 2009; Posner and Sunstein, 2008; Adger, 2006).¹⁰ Some international groups have posited principles for climate justice that go beyond ethical issues between nations and recognize the significance of identifying certain identifiable populations as crucial for consideration in public policy issues. The Environmental Justice movement in the US, for example, cites ten principles for climate justice policies in the US and specifically mentions "low-income workers, people of color, Indigenous Peoples," and future generations. It also calls for community participation in decisions related to climate change (Environmental Justice Movement, n.d.). The Bali Principles of Climate Justice has a more extensive list of twenty principles and includes various types of justice that focus on the poor, women, rural, and indigenous peoples (International Climate Justice Network, 2002).

¹⁰ Distributive justice refers to the ways that both the burden of climate change and its solutions are ethically part of public policy. Procedural justice refers to the inclusion of all who are affected by climate change in designing public policy to deal with it.

One academic study that is useful for dealing with the applied ethics involved in climate policy is by Sonja Klinsky and Hadi Dowlatabadi (2009). In this review of the literature on climate change justice, five basic principles emerge as a guide to the ethics of climate change policy. These are as follows:

- Causal responsibility (polluter pays)
- Preferential treatment based on need (related to both the ability to pay for emission reductions and to recover from climate change impacts with a focus on the most vulnerable)
- Equal entitlements (to protection from climate impacts)
- Equal burdens (to climate policy costs). The assumption is that all people have equal moral responsibility and there is no reason why some should have a heavier burden than others.
- Procedural justice (i.e., representation by all who have a stake in the outcomes of climate policy)

Clearly, some of these principles can be at odds with others: causal responsibility is at odds with the equal burden principle and equal entitlements can be at odds with preferential treatment. These are the types of ethical issues that are common in discussions about crafting public policy and have been addressed in various types of human rights legislation.

I will focus my analysis on causal responsibility and what this might mean for certain kinds of policy initiatives. The main point of causal responsibility is that “the mismatch between beneficiaries of fossil energy and victims of climate impacts gives the beneficiaries special obligations” (Klinsky and Dowlatabadi, 2009, p. 90). Normally this is associated with the pain experienced in less developed nations and the benefits conferred upon developed nations. The climate justice message is that it is not justifiable that those who have benefited and those who have not benefited bear equal obligations. However, the idea of identifying who is responsible for climate change is problematic, particularly when people individually benefit from increased GHG emissions in different ways, either through their work, consumption, or profits.

The major problem with assigning a gendered position to causal responsibility is that the beneficiaries, by gender, are not easily determined. While males benefit, often because of higher rates of employment and wages when working in ‘dirty industries,’ our economic reality is that what is produced is diffuse throughout the population and often is

essential to maintain life or a standard of living. Also, men and women live together and share material goods within the household. While this may not be equal sharing, as discussed above, until consumption patterns reveal that males do consume in ways that are more detrimental to the environment than females, for most purposes the assumption of equal benefit from male employment in 'dirty industries' makes sense.

Because the household is shared space, assigning gendered weight for consumption intensity is problematic. So while males may have a larger carbon footprint because they drive more and further, with more gas-guzzling machines, the social gendered nature of the division of labour, rather than consumption decisions, largely conditions these work-related aspects of consumption. All consumption practices are embedded in a social context and households are collective entities where some consumption practices do relate to individual preference, but most household consumption decisions relate to collective use and are subject to the usual processes of organizing household behaviour. The structural nature of the economy greatly affects how closely households shape their consumption patterns according to income distribution, employment levels, and the gendered division of labour (Schultz and Steib, 2009). The important point to be taken from this is that gendered consumption intensity may in some respects reflect individual choices, but for the most part is shaped by larger economic and social issues. This does not, however, mean that the impact on public policy decisions relating to household consumption will not have significant gendered impacts.

SOME PUBLIC POLICY CONSIDERATIONS

Having different information about the gendered nature of climate change issues could be very important for understanding the impact of various types of public policy designed to reduce GHG emissions. I will use as examples two of the most frequently used policy instruments that are designed to change people's behaviour in order to reduce GHG emissions. These are time-of-use electricity metering and carbon-taxes on gasoline. Because of the gendered division of labour and different consumption habits, the respective policies may have different impacts.

Smart Meters and Time-of-Use Electricity Policy

Time of use electricity metering is gaining popularity, particularly in jurisdictions that rely on fossil fuel for electricity generation. In order to save the electricity company expensive building for new generation,

several different types of strategies are used to reduce energy use. One important one that would smooth out energy use (to avoid building for peak periods) is to encourage people to reduce their household concentration of energy use at specific times (e.g. from 7-9 a.m. and from 5-10 p.m.) to other times of the day. Usually this is done by providing reduced rates for off-peak periods. The impact this could have on certain types of household labour could be substantial. The most often cited example of how this could reduce a household's electricity bill would be by shifting activities like laundry to late-night hours when the demand for electricity drops dramatically.

Many new daily housework and caring responsibilities are incurred through public policy on climate change without any understanding of what this means for work within the household. As one analyst has noted, "with the rise of public campaigns for environmental awareness, those who manage households...are expected to be more diligent in adopting time consuming green practices like recycling and precycling" (MacGregor, 2006, p.69). All of these issues become even more significant in a neoliberal climate where appropriate public services are being reduced without new ones being created to meet the additional needs of families at a time when two incomes are the norm.

This is not to imply that government environmental policy should not apply to the realm of the household, but that there needs to be an increased understanding of the work burdens these changes imply. The method to be used here would be time/use studies of gendered work within the household. With knowledge of these gendered impacts different kinds of public policy initiatives might be considered. What I have in mind are policies related to paid work that affect the gendered division of labour within the home. It has long been recognized that the higher demands of male work-force participation by hours worked have contributed to a negative effect on contributions to household labour. The policy implications, then, would not only have environmental, but also market oriented as well as social implications. Reducing hours of work, hourly productivity and the employment to population ratio is thought to be a solution to the environmental problem posed by long hours of work (Hayden and Standra, 2009, p. 592). Reduction of hours of work through productivity gains would shift remuneration to 'time affluence' and could have a marked impact on household workloads by gender.

So far, the examination of household behaviour seems to be of interest to climate change researchers less because of the justice issues involved than because of the ways different consumer behaviours can

be affected by public policy. Public policy makers or analysts are interested in knowing what affects people's attitudes and decisions and how households respond to environmental policies (OECD, 2008). So, while certain kinds of policies, such as user charges for waste disposal, can be identified as being regressive with poorer households assuming a greater proportional impact of the policy, little is known about the increase in household work and who does it when policy initiatives result in more work intensive processes.

Carbon taxes

The literature on the effects of carbon taxes tends to focus on differential impacts based on class. A carbon tax is a tax on the purchase of fuels, including gasoline, diesel, natural gas, and coal – all fuels emitting carbon. In the body of literature on this subject, households are treated as undifferentiated units and gender distinctions are not usually considered (Metcalf, 2008). The usual interest is whether the poor are unjustly treated through a disproportional tax burden. When this is understood, there are attempts to encourage the government to design the tax to correct the regressive nature of its incidence (Lee and Carlaw, 2010).

One exception in the approach in the academic literature is the work done by Nathalie Chalifour. Her study examines carbon taxes as they were instituted in two provinces in Canada, namely British Columbia and Quebec. In B.C., the government sought popular approval by making the carbon tax 'revenue neutral,' meaning that it was not going to be instituted as a tax gatherer, but rather was designed to change consumer behaviour. This meant that many tax reductions and rebates were a feature of the design as were the promises for using any surplus revenues. Chalifour uses the causal responsibility principle of social justice as her framework for understanding gender distinctions: "just as it would be inequitable to expect the same level of emissions reductions from countries that have contributed little to creating the climate change problem, it would be inequitable to design policy responses to climate change that place a greater burden on women than on men" (Chalifour, 2010, p. 186). She also makes the point that any analysis of environmental tax policy must include an examination of not only the tax but also of any complementary policies (that is, income tax deductions) and decisions pertaining to the use of the revenue generated by the tax. The "purpose of this goal is to ensure, at a minimum, that inequality between women and men is not perpetuated by the policy and, ideally, to seek out carbon tax policies that are capable of promoting gender equality"

(Chalifour, 2010, p. 191). Chalifour's conclusion is that women are disproportionately affected because they are, on average, poorer than men and, therefore, pay a great proportion of their income on the tax than would men. This may well be the case and is an important contribution to the understanding of the complexities of climate change policy.

My intention is to build on this approach by urging greater research into gendered distinctions in both the contribution to climate change and the impact of public policy to either mitigate or adapt to climate change. So, for example, if we assume that the household is shared space with equal responsibilities for climate change, the impact of a carbon tax on individuals by gender may be on vehicle drivers. If this is true (and it is by no means certain), the heaviest impact would be on males who drive considerably more than females. Figuring out who, in this case, would be most affected by gender is complex and new ways of looking at disparities besides income distribution need to be considered. So, for example, information about the incidence of the tax would also benefit from clear understandings pertaining to the kinds of households (male headed or female headed, age of person within the household, etc.) and energy use.

WIDER IMPLICATIONS FOR GREEN JOBS AND A GREEN ECONOMY

Ultimately, knowing the gender contribution to GHG emissions lends weight to the argument that including gender considerations in public policy decisions about climate change could be a significant dynamic for a very different policy approach to the economy. Currently most ideas about 'green jobs' and a 'green economy' focus fairly narrowly on reducing the GHG emissions from the dirtiest industries. This includes substantial subsidies to 'dirty industries' in order to 'green' them and creating entirely new industries in the energy sector to displace the reliance on fossil fuels. When gender issues are considered at all in this framework, it is on how to get women into the typically male-dominated jobs in these sectors. In the instances when training for 'green jobs' occur, for example, this is usually in the building trades, transportation, or in the energy sector. The push, then, is to include women in the training initiatives that are normally the purview of men with the hope that ultimately women will receive jobs through green initiatives in this sector. What tends to be ignored is the daunting task of not only training, but getting women accepted in non-traditional jobs in skilled trades (McFarland, 2013). The strug-

gles with this over the years has been the object of much feminist activity and while there are significant initiatives from time to time, the over-all tendency is for little to change (Cohen, 2003). Within the new 'green' industries that are created (such as wind, solar, bio-mass) the overwhelming tendency is for the labour distribution by gender to continue the same pattern as in the energy industry at large (Cohen and Calvert, 2013).

The initiatives related to continue to dominate the discussion of 'green jobs,' but there is increasingly an interest in expanding the concept so that a wider range of occupations can be included in policy initiatives. Often this is referred to as 'greening jobs,' and includes ideas about how all existing jobs can be less environmentally damaging (Lipsig-Mumme, 2013).

This is a considerable shift from the current way of treating employment that is not only environmentally damaging, but also largely segregated by gender. In addition, there are beginning to be some serious discussions, even in more traditional arenas like the UN, for a more expansive concept of a 'green economy' as a way of rethinking traditional ideas about how economies are structured and oriented primarily toward economic growth. The United Nations Environment Programme has gone so far as to state (in its Green Economy Initiative, 2011) that there is 'disillusionment with our prevailing economic paradigm,' and the sense that the economic and ecological crisis can be overcome by fostering a green economy. In many respects it may appear utopian to envision an economy that is light on the environment, but is able to provide the crucial materials and services that people need. Clearly moving in this direction would be almost impossible with the vested interests of the current economic structures so firmly in place. But if governments could be convinced that promoting areas where there are real needs, primarily among the caring sector, and reducing all of the government support that goes toward the energy and material goods sectors, the beginnings of a shift in economic emphasis could occur. My main point in this regard is that by making caring work more visible by recognizing its significance to the general economic health of a nation, a shift in the structure of an economy could begin to occur. Identifying sectors of the economy that are already 'green,' that is, sectors where women are concentrated, and giving jobs in these sectors as much prominence in the discussion of what is 'green' would be a first step in rethinking economic priorities.

CONCLUSION

There are gendered differences in the work associated with climate change. Men, as a group, are more involved with work that contributes to GHG emissions than are women. This is evident by their direct work in industries that are identified as the major sources of GHG emissions in Canada. It is also evident by the much greater contribution of males to GHG emissions through vehicle use. Less clear is the division of responsibility for GHG emissions from labour within the household. This paper argued that until significant time/use studies within the household associated with GHG emissions is undertaken, the assumption of shared responsibility for this source of emissions needs to be taken. This does not mean, however, that labour within the household is unaffected by public policy related to GHG emissions. Public policies frequently impose increased labour burdens on households, that without appropriate offsets could have significantly unequal impacts by gender.

But the most significant implications of understanding gender contributions to GHG emissions will be the shifts that could occur in dealing with issues of climate change. While the production of clean energy and energy efficiency and the reduction in emissions from 'dirty industries' and vehicle use are all clearly essential, more attention must be given to boosting those areas of the economy that are inherently less damaging to it, but provide essential human needs. Such a shift would have the most positive gender implications.

Appendix I

Consumption Expenditure in Swedish krona/capita 2004			
Type	Male	Female	Men's consumption as a share of women's
Eating out	2 010	1 370	3/2
Alcohol	360	160	2.5/1
Tobacco	620	380	2/1
Consumer goods	190	820	1/4
- (incl. hygiene)	40	800	1/20
Household services	620	1 220	1/2
Clothing and shoes	3 010	4720	2/3
Health and medical care	1 470	2450	2/3
Transport	1 350	740	3/2

-of which car repairs and maintenance	670	380	2/1
Leisure-time activities	2 800	2 650	1/1
- of which sport	1 350	970	3/2
- books, newspapers, TV licence	430	690	2/3

Source: Johnsson-Latham, 2007, p. 39.

REFERENCES

- Adger, W. Neil, ed. (2006). *Fairness in adaptation to climate change*. Boston: MIT Press.
- Agarwal, B. (2001). "Participatory Exclusions, Community Forestry, and Gender: An Analysis for South Asia and a Conceptual Framework," *World Development*, 29(10), 1623-1648.
- Anderson, Deb. (2009). "Enduring drought then coping with climate change: Live experience and local resolve in rural mental health," *Rural Society* 19(4), 340-352.
- Beaumier, M.C. and Ford, J.D. (2010). "Food insecurity among Inuit women exacerbated by socioeconomic stresses and climate change," *Canadian Journal of Public Health*, 101(3), 196-201.
- Biermann, Frank and Brohm, Rainer. (2005). "Implementing the Kyoto Protocol without the USA: the strategic role of energy tax adjustments at the border," *Climate Policy*, 4, 289-302.
- Bjornberg, Karin Edvardsson and Sven Ove Hansson. (2013). "Gendering local climate adaptation," *Local Environment*, 18(2), 217-232, <http://dx.doi.org/10.1080/13549839.2012.729571>
- Brownhill, L.S. (2007). "Gendered struggles for the commons: Food sovereignty, tree-planting and climate change. *Women & Environments International Magazine*, 4, 34-37.
- Buckingham, S. and Kulcur, R. (2009). "Gendered Geographies of Environmental Justice," *Antipode* 41(4), 659-683.
- Caird, S. and Roy, R. (2006). "Household Ecological Footprints – Demographics and Sustainability. *Journal of Environmental Assessment Policy & Management*, 8(4), 407-429.
- Canada, *Census 2006*, Industry – North American Industry Classification System, Class of Worker and Sex for the Labour Force.
- CERI (Canadian Energy Research Institute). (2009). *The Impacts of Canadian Oil Sands Development on the United States' Economy. Final Report*. October

- Chalifour, N. (2010). "A Feminist Perspective on Carbon Taxes," *Canadian Journal of Women and the Law*, 21(2), 169-212.
- Clancy, Joy and Ulrike Roehi. (2003). "Gender and Energy: is there a northern perspective?" *Energy for Sustainable Development*. 7(3), September, 44-49.
- Clark, Tony. (2008). *Tar Sands Showdown: Canada and the New Politics of Oil in an Age of Climate Change*. Toronto: James Lorimer.
- Cohen, Marjorie Griffin, ed. (2003). *Training the Excluded for Work: Access and Equity for Women, Immigrants, First Nations, Youth and People with Low Income* Vancouver: UBC Press.
- Cohen, Marjorie and John Calvert. (2013). "Climate Change and Labour in the Energy Sector." In Lipsig-Mummé, C. ed., *Climate @ Work* (pp.76-104). Halifax & Winnipeg: Fernwood.
- Dankelman, I. (2002). "Climate change: Learning from gender analysis and women's experiences of organizing for sustainable development," *Gender and Development*. 10(2), 21-29.
- Environment Canada 2011. National Inventory Report 1990–2009: Greenhouse Gas Sources and Sinks in Canada. <http://www.ec.gc.ca/ges-ghg/>
- Environment Canada 2013. National Inventory Report 1990-2011 : Greenhouse Gas Sources and Sinks in Canada. <http://www.ec.gc.ca/ges/ghg/>
- Environmental Justice Movement (nd). "10 Principles for Just Climate Change Policies in the U.S." <http://www.google.ca/url?sa=t&rct=j&q=environmental%20justice%20movement>
- Haigh, Christine and Bernadette Valley. (2010). *Gender and the Climate Change Agenda: The Impacts of Climate Change on Women and Public Policy*. UK: Women's Environmental Network.
- Hayden, A., and Shandra, J.M. (2009). "Hours of Work and the Ecological Footprint of Nations: An Exploratory Analysis," *Local Environment* 14(6), 575-600.
- Intergovernmental Panel on Climate Change (IPCC) 2007. "Summary for Policymakers." In Parry, M.L., Canziani, O.F., Palutikof, J., van der Linden, J.P. and Hanson, C.E., eds., *Climate Change 2007: Impacts, Adaptation and Vulnerability: Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 7-22). Cambridge: Cambridge University Press.
- International Climate Justice Network. (2002). *Bali Principles of Climate Justice*. <http://www.indiaresource.org/issues/energycc/2003/baliprinciples.html>
- Johnsson-Latham, Gerd. (2007). *A study in Gender Equality as a Prerequisite for Sustainable Development: What we know about the Extent to which Women Globally Live in a More Sustainable Way than Men, Leave a*

- Smaller Ecological Footprint and Cause Less Climate Change.* Report to the Environment Advisory Council, Ministry of the Environment. Sweden.
- Kitzes, J. and Wackernagel, M. (2009). "Answers to common questions in Ecological Footprint Accounting," *Ecological Indicators* 9(4), pp 812-817.
- Klinsky, Sonja and Dowlatabadi, Hadi. (2009). "Conceptualization of Justice in Climate Policy," *Climate Policy* 9(1), 88-108.
- Lambrou, Y. and Piana, G. (2006). "Gender: The Missing Component of the Response to Climate Change," USA: Food and Agriculture Organization (FAO). http://www.fao.org/sd/dim_pe1/docs/pe1_051001d1_en.pdf
- Lee, Marc and Kenneth L. Carlaw. (2010). *Climate Justice, Green Jobs and Sustainable Production in BC.* Vancouver: Canadian Centre for Policy Alternatives.
- Lipsig-Mummé, C. (2013). "Climate, Work and Labour: The International Context." In Lipsig-Mummé, C. ed., *Climate @ Work* (pp.21-40). Halifax & Winnipeg: Fernwood.
- Mackenzie, H, Messinger, H. and Smith, R. (2008). *Size Matters: Canada's Ecological Footprint, By Income.* Ottawa: Canadian Centre for Policy Alternatives. http://www.policyalternatives.ca/documents/National_Office_Pubs/2008/Size_Matters_Canadas_Ecological_Footprint_By_Income.Pd
- McFarland, Joan. (2013). "The Gender Impact of Green Job Creation." Toronto: Work in a Warming World, forthcoming.
- Metcalfe, Gilbert E. 2008. "Protecting the Poor with a Carbon Tax." Presented to the Financing for Development Office. UN Department of Economic and Social Affairs, June 17.
- Nelson, V. and Stathers, T. (2009). "Resilience, power, culture and climate: A case study from semi-arid Tanzania, and new research directions," *Gender & Development* 17(1), 81-94.
- OECD 2008. *Household Behaviour and the Environment: Reviewing the Evidence.* <http://www.oecd.org/dataoecd/19/22/42183878.pdf>
- Posner, Eric A. and Cass R. Sunstein. (2008). "Global Warming and Social Justice," *Regulation*, 14-20.
- Riddell, John. (2011). "Montreal Meeting Shows Growing Support for Climate Justice," *The Bullet*, E-Bulletin No. 493, April 25.
- Irmgard Schultz and Immanuel Steib. (2009). *Gender Aspects of sustainable Consumption Strategies and Instruments.* Frankfurt/Main: Institute for Social-Ecological Research.
- Rees, W.A. (2006). "Ecological Footprints and Bio-Capacity: Essential Elements in Sustainability Assessment." In Jo Dewulf and Herman Van Langenhove, eds., *Renewables-Based Technology: Sustainability Assessment* (pp. 143-158). Chichester, UK: John Wiley and Sons.

- Sasvari, A.A. (2010). "Changes in climate negotiations: Gender Equality Towards Copenhagen, *Global Social Policy* 10(1), 15-18.
- Sequeria, N. (2001). "Risk Management: an alternative perspective in gender analysis." United Nations Division for the Advancement of Women.
- Stephanie Shipp. (1987). "Spending Patterns of Men and Women - Consumer Expenditure Survey conference paper summaries." Proceedings of the American Statistical Association, Business and Economics Section.
- Stahl, E. Rees, W. and Blyers, M. (2011). *Achieving Climate Justice: A Framework for Action in a Climate of Chaos*. Vancouver: Canadian Centre for Policy Alternatives
- Statistics Canada. 2010. *Labour Force Historical Review 2009* (Table 028). Ottawa: Statistics Canada (Cat. No. 71F0004XVB)
- Statistics Canada 2009. *Canadian Vehicle Survey: Annual*. (Cat. No. 53-223-X) Ottawa: Statistics Canada.
- Statistics Canada 2011. *Women in Canada: A Gender-based Statistical Report*. Cat. No. 89-503-XWE. Ottawa: Statistics Canada.
- Stevens, C. (2009). *Green Jobs and Women Workers: Employment, Equity, Equality*. Madrid: International Labour Foundation for sustainable Development.
- Victor, D. (2011). *Global Warming Gridlock: Creating More Effective Strategies for Protecting the Planet*. Cambridge: Cambridge University Press.
- Whiteside, Heather and Marjorie Griffin Cohen. (2012). *Gender and Climate Change Bibliography (1990-2011)*, <http://warming.apps01.yorku.ca/wp-content/uploads/Gender-and-Climate-Change-Bibliography.pdf>
- World Bank. *Energy Use (kg of oil equivalent per capita)*. <http://data.worldbank.org/indicator/EG.USE.PCAP.KG.OE>

Overcoming Systemic Barriers to 'Greening' the Construction Industry: The Important Role of Building Workers in Implementing Climate Objectives at the Workplace

John Calvert¹

ABSTRACT: There is a broad consensus among climate scientists and policy makers that reducing the GHG emissions and energy consumption of the built environment is critical to mitigating the impact of global warming. This means adopting policies that will dramatically accelerate the introduction of low carbon construction, both in new structures and in retrofitting the existing building stock. An important, but often overlooked, component of this process is how to ensure that climate objectives are properly implemented at the workplace by building trades workers. This paper argues that for this to happen, there must be major changes in how the industry is organized – changes that challenge the unregulated market with its pervasive reliance on labour sub-contracting and precarious employment and its negative impact on building standards. The industry must transform its inadequate training and apprenticeship system to give workers the additional skills needed for low carbon construction. It must reduce the loss of qualified workers and their skills, by providing greater job security and a long term career in the industry. And it must incorporate a greater role for the workforce – and the unions that represent it – in creating a 'green' construction culture at the workplace.

¹ John Calvert is a political scientist and Associate Professor in the Faculty of Health Sciences at Simon Fraser University. This article is a component of a larger SSHRC funded project titled Work in a Warming World.

INTRODUCTION: THE SIGNIFICANCE OF THE CONSTRUCTION INDUSTRY IN COMBATING GLOBAL WARMING

Year by year it becomes ever clearer that global warming presents the greatest challenge to the future of our species. The massive amount of scientific evidence is increasingly being reinforced by the growing number of disruptive climate events – unprecedented storms, disappearing arctic ice, receding Greenland glaciers, measurable increases in sea levels and numerous other worrisome indicators. The prospect of a four degree Celsius increase in global temperatures is no longer an extreme estimate – it is becoming increasingly probable by the end of the century (Hansen, 1988; McKibben, 1989; Intergovernmental Panel on Climate Change (IPCC), 2007; Stern, 2006; UNEP, 2009; World Bank, 2012; World Meteorological Association; 2013; IEA, 2013; IPCC, 2013).

In light of these developments, the need to curb - and then reduce – greenhouse gas (GHG) emissions and energy consumption is now imperative. While there are many areas of our economy that require urgent attention, the built environment is, arguably, at the top of the list. Buildings produce an estimated 30-35 percent of GHG emissions and account for almost 40 percent of energy use. In its 2007 examination of the building sector, the IPCC noted that: “Over the whole building stock the largest portion of carbon savings by 2030 is in retrofitting existing buildings and replacing energy – using equipment due to the slow turnover of the stock.” (IPCC, 2007, p. 389). A more recent study by the International Labour Organization (ILO, 2012, p.127) examined the potential for GHG and energy reductions in the world’s major economies and concluded that:

“Of all the elements that constitute society, buildings are the biggest consumers of energy and the largest emitters of greenhouse gases. Yet, the building sector also has the highest potential for improving energy efficiency and reducing emissions. Many investments in resource-efficient buildings are cost effective and the large stocks of older and inefficient buildings, notably in industrialized countries, mean that placing greater emphasis on renovation could yield substantial environmental benefits.”

Conserving energy in the built environment involves designing and introducing new energy conservation systems in buildings under construction and retrofitting the existing building stock. As new construction represents only about 1 ½ percent of the existing stock of buildings, retrofitting existing buildings is clearly critical to achieving effective

climate change mitigation, given the relatively small share of the total building stock that new construction will represent over the next several decades (UNEP 2009).

Progress in addressing climate change in the built environment requires the transformation of Canada's building industry to give it and its workers the capacity to implement low carbon construction in all the areas in which it operates. This transformation must entail every step in the supply chain, from the decisions by those who commission and purchase construction services, through the work of architects, planners and engineers who design the buildings, to the general contractors and sub-contractors who oversee projects and, finally, to the trades and labourers who actually carry out the work on the building site.² At each stage of this process the industry needs to implement the most effective and technologically advanced low carbon construction innovations. And all those who work in the industry must be trained and committed to the same objective. In the words of the 2007 IPCC report noted above, it will require "...very significant efforts to enhance programs and policies... well beyond what is happening today..." (IPCC, 2007, p.390)

CHARACTERISTICS OF CANADA'S BUILDING INDUSTRY IMPEDING THE TRANSITION TO LOW CARBON CONSTRUCTION

Canada's construction industry accounted for approximately 7.4 percent of the country's workforce at the beginning of 2013 (CANSIM Table 282-0088). While its contribution to Canada's GDP fluctuates significantly with the ups and downs of the business cycle, it has averaged about 6 percent in recent years (Canada Year Book, 2012). Construction is almost exclusively a private sector activity, in which the economic interests of the owners and developers who commission construction services and the contractors that deliver these services shape virtually all aspects of its operation. Market forces influence what gets built (or renovated), who builds it and the development priorities adopted by the industry. Even where government is the purchaser of construction services, private firms carry out the actual work.

Admittedly, there is extensive public regulation of many aspects of construction, such as building codes that address fire safety, electrical systems, plumbing, engineering standards, structural integrity and the use of specific construction materials. There is also public oversight of

2 The terminology for describing general contractors varies somewhat in the industry. Another term commonly used is prime contractor.

planning and development through provincial and municipal government regulations that influence – at least to some degree - what gets built and where it gets built. However, in practice, the industry exercises enormous influence over much of the public regulation that exists. Moreover, the economic and political influence of the industry ensures that most regulation is 'industry friendly' in that it accommodates the industry's focus on maximizing profits and minimizing regulations that would challenge this basic objective.

Progress towards low carbon construction and renovation has been painfully slow in Canada to date. It is the contention of this paper that the explanation for this poor performance is to be found in the way the industry is currently organized. The industry's predominantly market based approach – an approach which is strongly resistant to public planning and public regulation - impedes the adoption of effective climate change measures in the built environment.³

And the industry's influence over much of the public policy debate - and related decision making - further compounds this problem. For it minimizes the scope of the challenge we now face and reinforces the view that we can address climate change without major changes to the way the industry currently functions. This is not to deny that certain parts of the industry are attempting to introduce innovative greener building practices or establish more climate friendly standards through the adoption of voluntary initiatives such as LEED, BOMA, Built Green, Green Globes, ISO-14001 and Passive House. But these initiatives are not mainstream and do not reflect the prevailing approach of the industry.

There is an enormous gap between what needs to be done to meet the challenge of climate change and what the construction industry, as currently organized, can deliver. The determining factor in what gets built and how it gets built, or renovated, is price. Climate considerations take second place. Competition, based almost exclusively on low bid, results in a race to the bottom as firms strive to obtain work through cutting corners on design, materials, technology and labour. Rather than upward pressure encouraging adoption of the highest environmental standards, unregulated price competition results in the opposite: pressure to adopt the minimum standards that will prove acceptable in the competitive market (Barrett, 1998; Bosch and Phillips, 2003; Prism Ana-

3 The focus of this article is on construction in English Canada. As will be noted in various parts of the text, the situation in Quebec differs quite substantially from the rest of Canada. Many of the problems identified in the paper are far less pronounced in that province due to its much more extensive public regulation of the industry. See Charest, 2003 for a good analysis of the Quebec industry.

lytics, 2010). While this focus may satisfy the economic interests of the industry as presently constituted, it does not provide the basis for low carbon construction.

This is compounded by the fact that most purchasers of construction services are not knowledgeable about the details of the work and are not in a position to evaluate matters such as quality of design, materials, installation methods or workmanship. Too often they are not aware of the options available to reduce the carbon footprint of their buildings or the potential long term financial benefits of reduced energy use. The classic principal – agent dilemma is characteristic of much of the industry’s operation reinforced by asymmetry of information between purchaser and contractor (O’Grady, 2010; Hamilton-Smith, 2012; BCIT, 2012). Additionally, where landlords do not pay the cost of heat and electricity, they often see little benefit in paying for improved energy conservation in their buildings, while tenants have no reason – or capacity - to invest in improved insulation or other energy conservation initiatives in buildings they do not own and in which they may not rent long enough to reap the benefits (IPCC, 2007; UNEP, 2009).

These factors are further impacted by the conservative, highly risk averse attitude of many in the industry. While the industry is accustomed to ongoing change as new technologies and building methods are introduced, it sees change primarily in terms of lowering the costs of meeting prevailing building standards and norms, rather than a vehicle for a major ‘green’ transformation of the industry. Fundamentally new approaches, such as those entailed in much low carbon construction, can be more challenging to implement and hence raise the risk of lawsuits if purchasers are dissatisfied with the outcome (O’Grady, 2010; BC Construction Association, 2011). In contrast, standard construction methods minimize risk and ensure predictable, that is, profitable outcomes.

This conservative tendency is reinforced by a culture in English Canada that strongly resists attempts by governments to introduce more directive public regulation, whether in terms of planning, design requirements, engineering standards, tougher building codes, demolition protocols, new technologies or mandated workforce training and

skills qualifications.⁴ It is normally willing to accept such changes only where they do not impose major costs, can be introduced with minimal disruption to its activities and do not otherwise interfere with its profit maximizing objectives (Bosch and Phillips, 2003). Much of the industry views government efforts to impose new regulatory standards as an unwarranted interference in the market. While it is not averse to government support, such as tax concessions, training subsidies, or public funding of research and technological innovation, it sees such support in terms of the government assisting it with its commercial objectives. Government direction to change the way it currently operates is a different matter entirely.

The industry has many characteristics that present major challenges to resolving the widely recognized weakness in its labour regime. Fluctuations in the business cycle, as well as seasonal weather changes, result in a 'boom and bust' pattern of building activity. These changes are much more dramatic than in most other sectors of Canada's economy. The industry does not control – and often cannot easily predict – these larger economic factors that affect the level of building activity. But the construction industry is strongly affected by them. This makes much construction work risky. The way the industry deals with risk is largely through sub-contracting (Bosch and Phillips, 2003). This practice enables developers and prime contractors to reduce their exposure to cyclical fluctuations by being able to ramp their use of sub-contractors up and down as demand fluctuates. It also enables them to reduce the risk of major capital investment in equipment and facilities being idle. For sub-contracting enables them to shift responsibility for much of this investment to smaller operators. And, because they are not employers of the workers of the sub-contractors, developers and general contractors reduce their employment obligations, shifting the costs of downturns to sub-contractors and workers.⁵

4 One of the most egregious examples of this is in the demolition of existing buildings. Because it is normally far cheaper to bulldoze an old structure than to dismantle it so that its materials can be re-used, massive volumes of used materials end up in landfills. The industry prefers this option as it minimizes labour expenditures, which are the major cost in taking apart a building. Industry influence has largely undermined efforts by municipal governments to implement effective materials recycling as this would require extensive public regulation of demolition practices and the creation of new markets for used materials.

5 In recent years there has been a great deal of interest in how global supply chains now involve extensive sub-contracting of much of the world's manufacturing to developing countries with low wages, minimal taxes and little worker protection. But, in reality, this pattern has been part of the construction industry in Canada for generations. Sub-contracting is the norm with consequences that parallel what has been happening more recently in the extensive outsourcing by corporations in the developed world to sub-contractors in the developing world.

However, labour market ‘flexibility’ is achieved largely at the expense of the workers who face periodic unemployment, whether directly as employees, or indirectly as self-employed ‘owner operators’. One of the consequences of this precarious employment system is that it prevents a long term attachment to the industry. Instead of a career, many workers abandon the industry during downturns to seek work in other sectors of the economy. High labour turnover means the industry loses valuable skills and squanders a significant part of its investments in training.

The extensive use of sub-contracting also results in a very fragmented industry structure. While there are a number of very large contractors, especially in the Industrial, Commercial and Institutional (ICI) sector, overwhelmingly the industry is composed of very small firms or individual owner operators. Fully 89 percent of employers have 20 or fewer workers and 61 percent have less than 5 workers (O’Grady, 2005; Hamilton-Smith, 2010). Extensive sub-contracting is the norm. Historically, contractors have also used sub-contracting to circumvent unionization and union collective agreement obligations.⁶

The fragmented industry structure makes it very difficult to provide an effective training system. Small contractors normally do not have the qualified journeypersons or other resources to support apprentices. As we shall discuss further in this paper, unions can address this problem through multi-employer agreements. But this is an option that most of the industry opposes. And governments have not been prepared to address this issue through establishing a much more directive approach that would require contractors to support training both financially and by accepting apprentices. Given this situation, it is perhaps not surprising that Canada’s construction industry has not been very successful in developing a workforce capable of achieving the scope of the transition that is now required to cope with global warming.

THREE MAJOR BARRIERS TO INDUSTRY TRANSFORMATION

Identifying all the challenges to ‘greening’ the industry is clearly a task beyond the scope of a single article. As noted, the basic organization

6 The demarcation lines between various trades is, arguably, also a contributor to industry fragmentation, as it reinforces a proprietary approach to work in which control over skill sets (and the unions representing workers with these skill sets) results in occupational silos. This can impede broader worker solidarity, as well as more effective integration of all work on a building site, particularly as there are significant differences in wages among various trades. In countries such as Denmark, where the wage structure is very flat, unions have been able to overcome these divisions more effectively than in Canada as demarcation issues do not impact wages significantly.

of the industry, with its focus on price competition to the exclusion of other concerns – and its opposition to public regulation – lies at the root of the problem. A fundamental reorganization of the industry will be required to address these issues. Assuming such a re-organization were to be implemented, the bulk of the process will draw upon the expertise of planners, architects, engineers and other professionals. It is these professionals who will be in a position to re-design the industry's approach to implementing low carbon construction.

The focus of this article is considerably narrower. It is to examine some of the key changes needed to facilitate the development of a construction labour force capable of implementing green construction at the building site. While transforming the industry will require far larger changes than those discussed in this article, a restructured industry will still require workers with the capacity and training to implement progressive climate objectives. Consequently, examining the barriers that are currently impeding this from happening and outlining some of the possibilities for overcoming these barriers constitutes one – admittedly modest – component of this larger climate change project.

It is possible to highlight three key barriers. The first is the impact of the underground economy in driving down standards and impeding introduction of more energy efficient building techniques. The industry's extensive reliance on sub-contracting encourages underground activity by facilitating small-scale, 'under the radar' building work. Government reluctance to address its negative impacts compounds the problem. The second is the inadequacy of the current training and apprenticeship system, an issue that is widely acknowledged in the industry, but which it has failed to address effectively, in part due to its fragmented structure. And the third is the widespread neglect of the potential role that workers and the unions that represent them can – and should - play in the process of greening the built environment, a neglect based on a lack of interest in – or hostility to - the role of organized labour in the industry by many of those advocating the 'greening' of the industry.

THE NEGATIVE IMPACT OF UNDERGROUND CONSTRUCTION ACTIVITY

Canada's underground construction economy consists of a variety of economic activities that its participants keep hidden from public view to avoid taxes, regulations and, in some cases, conceal illegal activities. Its characteristics have been extensively documented in a variety of studies in recent years by both academics and government agencies (Mirus,

1994; Gervais, 1994; Lippert and Walker, 1997; Barrett, 1998; Giles and Tedds, 2002; Armstrong and O'Grady, 2004; Gilbert, 2010; Hamilton-Smith, 2010; Ontario Construction Secretariat, 2010; Dean, 2010; Terefe et. al., 2011; Drummond, 2012; Statistics Canada, 2012). Statistics Canada estimated that in 2009, underground activity in the entire Canadian economy amounted to \$36 billion. The construction industry accounted for about 29 percent of this total.

There are a number of interrelated factors that facilitate the operation of underground construction activity. One is the extensively documented practice of tax avoidance (Auditor General of Canada, 1999; Pigeon, 2004; Prism Analytics, 2010a; Statistics Canada, 2011; 2012) Employers, small contractors and self-employed workers avoid taxes either by not divulging that they are receiving income from those purchasing construction services or by disclosing only part of it. By not charging customers HST (or GST in some provinces), they gain a major cost advantage over legitimate contractors. They also reduce costs by avoiding Canada Pension Plan (CPP) contributions, Employment Insurance (EI) payments, workers' compensation premiums and other employment related deductions (Armstrong and O'Grady, 2004). Additionally, they may not declare their work to the relevant municipal authorities, thus avoiding the costs of building permits (and the oversight of building inspectors). While workers may share in some of the immediate cost savings of underground activity because they avoid paying statutory contributions such as CPP and EI, they also lose the significant benefits that flow from these programs.

Because many of their customers – particularly in the residential construction and renovations sector – do not have the expertise to assess if work is being done properly, underground firms can also cut corners on materials and workmanship. Aside from the negative impact on building standards and on the employment conditions of workers in this sector (whether employed, or in some cases, described, misleadingly, as self-employed 'owner operators'), competition from underground suppliers pressures legitimate contractors to cut corners to remain competitive, including using less skilled or unskilled workers wherever feasible. It encourages deskilling rather than up skilling. These practices enable them to under-bid legitimate employers and contractors by a substantial margin – normally in the range of 20-30 percent, but in some cases as much as 50 percent (Armstrong and O'Grady, 2004; Hamilton-Smith, 2010). In an environment

where price is normally the dominant factor in determining who gets work, underground operators have an enormous advantage.

While the underground economy adversely affects much of the construction industry, from the perspective of this paper its impact in undermining 'green' construction is of particular importance. Ruthless cost cutting makes it difficult to implement new green technologies or use more environmentally responsible working practices because these tend to be more expensive – at least in the short run - than other options. Confusion over the right technology, or standards, in the context of conflicting claims by different contractors or manufacturers, makes this even more challenging for those who purchase construction services, a problem often exacerbated by the absence of clear guidelines from government. Even when low carbon innovations are commissioned by customers wishing to support good environmental practices, these may not be properly installed due to poor installer training and the absence of proper inspections (Gleeson, 2010).

The underground economy poses a major barrier to the development of the skills needed to implement green construction. Workers get little or no formal training and only rarely are able to obtain recognized qualifications such as a journeyperson's ticket (O'Grady, 2004; Hamilton-Smith, 2010). Underground employers do not want to support apprentices partly because the insecurity of their contracts, partly because of the costs, partly because of the need to permit release time for classroom study and partly because of the administration associated with participating in a formal training program. Many want to avoid publicly acknowledging that they even have employees, as this may raise the visibility of their construction activities not only to the apprenticeship authorities, but also to other government agencies and may expose them to unwanted inspections or tax audits.

Consequently, most workers in the underground sector have no pathway to formalized training, because they do not 'exist' from the perspective of the regulatory and training authorities. At the same time, workers are normally not in a position to invest in their own training, given their precarious job security and fluctuating incomes due to frequent lay-offs. The result is that this large segment of the industry fails to train its workforce. This failure most clearly impacts the conventional training and apprenticeship of construction workers. But it also means there is little opportunity for a large portion of construction workers to acquire the advanced skill sets that are so necessary for implementing low carbon construction.

The underground economy not only drives down standards by providing a cost advantage to contractors that work ‘under the radar’: it also pressures legitimate firms to cut corners on design, materials, equipment and staffing. It thus undermines the capacity of the industry to implement high quality construction. From the perspective of ‘greening’ the construction industry and reducing the carbon footprint of the built environment, failure to address the problems of the underground economy results in failure to implement many of the innovations necessary for the green transformation of the industry. This is particularly important because so much of the underground economy is involved in renovation, repairs and maintenance work where green retrofitting needs to be widely implemented.

While some of the remedies for addressing the underground economy are well known, and while governments have taken some limited steps to deal with issue like tax evasion, overall they have not moved aggressively to implement many of the obviously relevant regulatory changes (Drummond, 2012). Moreover, in some provinces, such as BC, governments have actually abandoned some of the policy tools formerly used to support training and apprenticeship programs for the construction workforce. This has been done to placate industry opposition to alleged government regulatory and spending excesses. In BC, for example, the provincial government terminated the Industry Training and Apprenticeship Authority (ITAC), replacing it with the more narrowly focused and employer dominated BC Industry Training Authority (ITA), a decision that effectively excluded labour participation in the province’s training programs (BC Federation of Labour, 2012).

Aside from the impact of lobbying by affected developers and contractors, government reluctance to regulate the underground economy reflects a broader commitment to neoliberal principles. To a large degree, governments accept the view that the regulatory ‘cure’ – tough government measures - for the problems identified in the underground economy is worse than the ‘disease’ of unregulated market functioning. Despite the obvious problems, supporters of the status quo, such as the Independent Contractors and Business Association (ICBA) of BC, maintain that there is no pressing need to regulate it more extensively because government intervention inevitably leads to greater inefficiency and undermines economic progress.⁷

7 See, for example, the anti-government focus of the publications of the Independent Contractors and Business Association of BC for the most extreme version of this view.

ADDRESSING THE IMPACT OF THE UNDERGROUND ECONOMY ON CONSTRUCTION STANDARDS

While a fundamental restructuring of the construction industry involves much more than simply curbing the abuses of the underground economy, there is no question that this needs to be part of the process. Governments have a variety of policy options to address some of its worst excesses. The key point is to recognize the need for a comprehensive approach that utilizes a wide range of these tools simultaneously and in a coordinated manner. Within Canada, only Quebec, with its Commission de la construction du Québec (CCQ) has adopted this wide ranging approach (Charest, 2003).

Government options include rigorous enforcement of the existing tax laws through comprehensive auditing of contractors, including self-employed 'owner operators'. In addition to capturing unpaid income tax, auditors can ensure that CCP, EI and other statutory payments are also collected. Both federal and provincial governments need to cooperate in this endeavour. Provincial governments can provide additional resources to their workers' compensation boards to ensure that contractors register the workers they employ and pay their assessments. They can increase the frequency of workplace inspections to curb unsafe working practices. They can also enforce employment standards and human rights codes more vigorously (Prism Economics, 2010). And they can increase penalties for violators to a level that acts as a real deterrent, something which Quebec, uniquely, has been considerably more successful at doing. By providing significant funding to the CCQ, the province claims to have recovered \$1.9 billion in unpaid taxes and levies during the 1997 to 2008 period. The volume of 'declared' work has also increased much more rapidly than the growth of construction investment in the industry, indicating that more of the underground contractors and independent operators are now complying with the law (CCQ web site, Oct. 4, 2013). Quebec also requires all construction workers to be registered as a condition of working in the industry and to ensure that they are enrolled in the industry's pension and welfare plans.

Another approach is for governments to license all contractors working in the sector (Armstrong and O'Grady, 2004). Currently, anyone can set up shop and provide construction services. However, there is no quality control, no protection for purchasers and no guarantee that employers are following employment standards, health and safety legislation or meeting their statutory contributions to EI, CPP and

other programs. Licensing would force many underground operators to acknowledge that they are providing construction services and make tax and regulatory avoidance more difficult. It would establish a data base on which the performance of contractors could be monitored, both by public authorities (tax auditors, workers' compensation officials, etc.) and by customers of their services (Hamilton-Smith, 2012). Requiring employers to be members of employer associations, as in Quebec, would also facilitate greater co-ordination of the sector, particularly with respect to training (Charest, 2003). Government procurement contracts can also level the playing field by again including fair wage requirements.

Quebec is now requiring that all construction workers register and provide a current resume of their training and skill sets on a government managed web site. The intention is both to enable workers to advertise their availability and to make it more difficult for workers in the underground economy to continue to operate. Registration will also make it easier to address some of the other problems of the underground economy such as tax evasion as workers will have to identify themselves as working in the industry.

Provincial and municipal governments can also enforce building codes more rigorously – including hiring sufficient numbers of building inspectors - to guarantee that the work being performed meets existing standards. One reason underground contractors continue to function is that they avoid building inspections, particularly in the residential renovations sector where work is often easy to conceal. Their ability to do so is a consequence of the limited resources governments have been allocating to inspections.

Provinces such as BC could also expand the number of 'compulsory' trades and take measures to ensure that only those with the appropriate qualifications are able to perform key components of construction work (Armstrong, 2008). This approach to labour regulation is standard practice in a number of European countries such as Germany. More stringent licensing of the trades would also provide a major incentive for workers to take formal training or apprenticeships, given that, once completed, these qualifications would provide greater job opportunities.

To address the failure of underground contractors to support training, governments can require all firms operating in the industry to contribute to the cost of training through compulsory levies such as have been implemented in some states in Australia, California, numerous European countries and Quebec which has a compulsory 1.5 percent of payroll levy (Charest, 2003; Calvert, 2011; Hamilton-Smith, 2012).

Another major policy tool is labour legislation (which will be discussed more extensively later in this paper). Unionized sectors of the industry have been far more successful in achieving good training outcomes than the unorganized sectors. Minimally, as in Quebec, public policy should encourage, rather than limit the ability of workers to unionize. This would make a major difference in the construction industry in the rest of Canada and would also make it much easier to implement an effective training and apprenticeship regime.

THE INDUSTRY'S TRAINING CHALLENGES

A second key area where the construction industry fails to meet the challenge of climate change is in training its workers. Successful 'green' construction requires a highly trained workforce. Much of the work involves very tight tolerances and careful installation of components (Gleeson, 2010; Goodland 2012). It also involves introducing new technologies and new building methods. In the area of retrofitting, where the largest energy savings are possible, the skilled trades must be able to implement low carbon construction in a wide variety of different building types, erected at different times with different technologies and different materials. To do this work well, the construction trades must have a comprehensive knowledge of many different building methods so that they are able to apply the most effective approach to each specific project. Successful 'green' construction requires the development of higher skill levels and this requires a significant, ongoing, investment in workforce training.

As noted earlier, Canada's construction market is characterized by a 'boom and bust' pattern that exaggerates the ups and downs of the business cycle and the related property market. The wide variations in demand lead to periods of intense building activity followed by periods of unemployment (Bosch and Phillips, 2003). The cyclical and seasonal economic forces shaping the industry make it particularly difficult to develop and maintain a qualified workforce - arguably much more difficult than in most other areas of the Canadian economy where more stable employment provides a stronger base for both employers and workers to invest in training, because both sides of industry can reasonably expect to accrue the benefits of this investment.

The training and apprenticeship system involves a number of players. In addition to the trainees, it includes contractors who provide employment and on the job experience, training providers - predominantly public colleges and/or unions - to provide the classroom and the-

oretical components of the trade and governments to fund and regulate the training system, usually through arm's length agencies, although sometimes directly through ministries of education, post-secondary education or their equivalents.

Apprenticeship is the core approach to training construction workers. In most trades approximately eighty percent of the time is spent on the job and the remainder in formal classroom training. The periods of formal education are normally scheduled for part of each year to correspond to the increasing on-the-job experience of workers. Apprentices need employment to complete their training program and graduate as qualified journeypersons. However, as noted, the industry is characterized by wide swings in employment that reflect the business cycle, seasonal factors and the state of the local property market. In some provinces this is exacerbated by boom and bust employment patterns in major infrastructure or resource projects. When the economy is booming, construction contractors are desperate for workers. When it is in recession, workers are regularly laid off for months or even years at a time (Sharpe and Gibson, 2005; Hamilton-Smith, 2010; Coe, 2011). These factors lead to high labour turnover and the corresponding loss of the skills and experience that workers have acquired.

Rather than a national, comprehensive approach to training the construction workforce, Canada has a patchwork quilt of apprenticeship and trades training arrangements, reflecting the Constitutional jurisdiction of provinces/territories (Sharpe and Gibson, 2005; Morissette, 2008; Armstrong, 2008; Laporte and Muller, 2010). The federal government provides funding through a package of training agreements with the provinces. But outside Quebec, the training system is fragmented, inadequately funded and poorly regulated, shifting most of the costs and risks to workers. Instead of supporting training in low carbon construction, the current federal government's main interest in trades training is in response to demands from the oil, gas and mining sectors. This approach ignores both the need for training in green construction methods and the much larger potential gains achievable in the built environment where reductions in GHG emissions and energy can be most effectively implemented.⁸

8 While provinces have made significant efforts to establish national standards that are recognized across the country through the Red Seal program, there are still significant variations in provincial approaches. This is highlighted by the differences in the number of designated 'compulsory' trades in which practitioners must have a certificate of trades' qualification (TQ) as a legal condition of performing a particular type of construction work. While some provinces have several dozen such trades others have as few as three.

The volatile nature of construction means that workers take significant risks when they commit to the long term training associated with a full three to five year apprenticeship. Most have no guarantee that they will obtain steady employment – employment which they need to fulfil the on-the-job component of their apprenticeship program. Given that most are from working class backgrounds, they normally do not have significant financial resources to carry them over during prolonged periods of unemployment, an issue compounded by the fact that in the initial years, apprentices' wage rates start at half or less of that of a journey person. Absent adequate financial resources they can be – and often are – forced to abandon their training program to seek work in other parts of the economy. The drop-out rate in many trades is well over half of those who commence an apprenticeship (Laporte and Muller, 2010; Hamilton-Smith, 2010; Coe, 2011).

The paradox is that when there is ample work, apprentices may not wish to go back to school due to the loss of income, but also because they may fear not getting work when they are finished their classroom studies each year. This means losing their investment in acquiring building skills (Bosch and Phillips, 2003). At the same time, the industry loses the potential benefits of future skilled workers. These problems are inherent in how the largely unregulated construction labour market functions. They pose an ongoing challenge to establishing and maintaining a qualified workforce.

In practice, larger employers and/or unionized employers tend to be more supportive of the training system and their apprentices have a much higher than average completion rate. For some of these employers, the benefits of having a well trained workforce are so substantial, and the costs of poorly performed work so significant, that investment in workforce skills makes economic sense. In some sectors of the economy, such as oil, gas and other resources, profit margins are high and the pay offs from having a skilled workforce are substantial, so they support apprenticeships. In addition, where employers are party to a collective agreement, they are also likely to support training as a result of contract provisions stipulating the ratio of apprentices to journey persons and as a result of negotiated contributions to training funds – normally cents per hour - to supporting apprenticeship programs (O'Grady, 2005; Prism, 2010)

However, most construction employers are very small and do not conform to this pattern. Overall, the industry's training performance is very poor, with alarmingly high rates of non-completion. (Gunderson

2010) Efforts by the federal and some provincial governments to encourage more workers to take apprenticeships over the past fifteen years have largely failed (Hamilton-Smith, 2010).

According to Coe and Emery (2012, p.95):

“...(T)he large expansion in apprenticeship training registrations since 1991 has not produced a substantial increase in the number of persons completing apprenticeship programs in the building trades. In 2007, there were only 3900 completions of apprenticeship programs in the building trades, up only 300 from 3600 completed in 1991. Moreover the ratio of completed apprenticeships to the number of individuals registered in building trades apprenticeship programs fell from 7.7 percent in 1991 to 4.9 percent in 2007.”

Desjardans and Paquin of Statistics Canada carried out a detailed examination of the completion rates of the 1994 and 1995 cohorts of starting apprenticeships using Canada’s Registered Apprentice Information System (RIAS) ten years later. They found that the completion rates for the construction trades were, on average, much lower than for non-construction trades. Some building trades did much better than others, with construction electricians (62 percent), plumbers (58 percent) and sheet metal workers (56 percent) doing relatively better. But others, such as steamfitter-pipefitter (38 percent) and carpenters (34 percent), did relatively poorly (Desjardans and Paquin, 2010).⁹ BC’s Industry Training Authority (ITA) noted that the completion rate for apprenticeships after 6 years in its provincial program was only 40 percent in 2011 (ITA website).

BC’s ITA does not provide a break-down between union and non-union apprentices. But there is evidence that the average completion rates it cites would be considerably lower if the relatively high success rates of apprenticeships with unionized employers were excluded. The BC and Yukon Territory Building and Construction Trades Council (BC BCTC) claims that the training programs run by its member unions have a success rate averaging about 90 percent over the past 5 years (BC BCTC web site). In his study of factors influencing apprenticeship completion rates, Coe (2011) noted that the rate was 10 percent higher for compulsory trades and concluded that a shift towards increasing the number of compulsory trades would likely increase this rate. Unions have been strong supporters of expanding the number of compulsory trades.

9 While Statistics Canada’s data for 2011 indicate an increase in completions to 55,422, the number of apprentices registered in the system is also up to 426,283 (Cansim Table 4770054).

Small contractors and contractors working in residential and low rise apartment construction, as well as non-union employers, have a particularly poor track record in supporting apprenticeships, while those in the underground economy provide almost no formal apprenticeship training, despite the significant size of this part of the industry (O'Grady, 2010; Hamilton-Smith, 2012). Even among larger employers, unionization is a key factor in apprenticeship. A 2013 survey by Katherine Jacobs (2013) of the Ontario Construction Secretariat found that 83 percent of unionized contractors supported apprentices, compared with only 42 percent of their non-union counterparts.

These problems are exacerbated by free-ridership, where employers who do not train benefit from those who do by poaching the latter's newly qualified journeypersons (Bosch and Phillips, 2003). It is also exacerbated by the absence of a system - with the notable exception of Quebec - that would require all construction employers and/or contractors to contribute to the costs of training the industry's workforce. Such arrangements are common in much of Europe, California and parts of Australia, to cite examples where such cost sharing is in place. One of the advantages of an industry-wide levy on employers is that having paid into it, many employers then choose to take advantage of the funds it makes available by supporting trainees or apprentices. If you are paying for training, why not take advantage of it yourself by claiming some of the available training money?

GREENING THE BUILT ENVIRONMENT REQUIRES ENHANCED TRAINING AND SKILLS

While the construction industry might simply continue with its somewhat dysfunctional approach to training and apprenticeship, the problem now is that we need to 'green' the built environment and hence need a training system that prepares construction workers properly for this task.¹⁰ Numerous studies indicate that low carbon construction requires considerably higher levels of training and skills than currently possessed by Canada's construction workforce (Leeson, 2010; Goodland, 2012; Aitkenhead, 2012). A recent ILO (2012, p.127) study concluded that:

"Experience in a growing number of countries, both industrialized and developing, demonstrates that the construction of energy- and

¹⁰ This is not to imply that the industry will automatically provide jobs to workers who have acquired green skills. The economics of the labour market will determine employment, absent much tougher government requirements forcing industry to adopt low carbon construction. However, if there are fundamental changes in the industry's support for green building techniques, then a qualified workforce will be essential.

resource-efficient buildings requires competent enterprises and a skilled workforce. Poorly installed equipment and materials do not yield expected gains in efficiency and emissions reduction. Targeted investments in skills upgrading and certification of building firms, formalization – notably of small and medium-sized enterprises (SMEs) which dominate the sector – and improvements in working conditions to retain qualified workers are therefore essential components of a successful strategy.”

Indeed, much of the literature indicates that trades workers require significant additional training beyond what they have received in a conventional apprenticeship (Goodland, 2012). The building industry’s overall lack of support – both policy and financial - for a comprehensive, industry-wide training and apprenticeship system results in large segments of the workforce that lack both the basic skills and the enhanced ‘green’ skills needed to meet the challenges of implementing low carbon construction competently.

While the need for a high level of skills may seem apparent in new construction, as noted earlier the need for such skills is even greater in retrofitting. New construction only accounts for about 1 ½ percent of Canada’s total building stock. So the impact of low carbon construction in new building is relatively small and will take generations to have a significant impact. Retrofitting the existing built environment is thus critical to implementing an effective climate change program. The existing building stock is characterized by a wide diversity of building types, materials, technologies, dates of construction, and many other factors. The approach to construction at the turn of the nineteenth century, or in the 1920s or 1930s – and many of these buildings still exist – is significantly different from that of buildings constructed in the 1980s or 1990s. Each building has its own particular challenges with respect to retrofitting. There is no general ‘cookie cutter’ for much of what has to be done to reduce its carbon footprint.

Decisions about what needs to be done to ‘green’ the existing building stock require both an understanding of the particular attributes of individual buildings and a knowledge of the options now available to reduce energy consumption. These options must also be assessed in light of their cost effectiveness, installation complexity, skill requirements/skills availability and a variety of other factors. They require an understanding of the fundamentals of building construction and the possibilities arising from the new ‘green’ technologies, materials, and

systems now available. This requires knowledge, judgement and a clear understanding of the challenges that have to be overcome.¹¹

Construction workers are constantly involved in problem solving on the work site. They normally do this without close supervision. Often on smaller projects only one or two members of a trade are responsible for handling the work and they are expected to do it to on their own in a way that meets the professional standards mandated by the architects, engineers or prime contractors. While there are tasks on building sites that can be performed by workers with little or no training or skills, retrofitting does not readily fit in to this pattern. In reality every project is different and every project has its unique challenges, many of which are not predictable in advance. Consequently, the trades have to be able to analyze the characteristics of a wide variety of building projects and make judgements about how best to implement the objectives of these projects in a cost effective, safe and efficient way.

It is true that those further up the supply chain, and particularly architects and engineers, are positioned to make many of the 'big picture' decisions about the selection of appropriate technologies or changes to building design or building systems. But the practical challenges facing retrofitting are ones that must be addressed on the job site by those actually doing the work. It is they who, for the most part, are able to see the details of what is

11 The negative consequences of relying on a deregulated approach to implementing green retrofit programs was starkly illustrated in the experience of Australia with its Energy Efficiency Homes Package (EEHP) normally referred to as the Home Insulation Program (HIP). This was part of the federal government's response to the 2008 global economic meltdown. This program, announced at the beginning of 2009, was part of a larger \$42 billion *nation building jobs plan*. The insulation component was targeted to reduce energy consumption by as much as 40 percent in 2.7 million Australian homes, although the number actually ended up being only a small fraction of this target. While the overall GHG reduction approach of the Australian federal government to the fiscal meltdown was, arguably, far more thoughtful than what the Canadian government did in its comparable, but reluctantly implemented, infrastructure program, the actual implementation of the HIP was characterized by a number of major installation problems. Large numbers of unskilled workers with little understanding of the potential dangers associated with electrical fires resulting from careless installation of insulation in attics were commissioned to do the bulk of the work. However, their work quickly resulted in a numerous fires, and a small number of fatal electrical accidents among the poorly trained installers. This led to a major public reaction to the program, a number of high profile government investigations at both state and federal levels and a rapid shift to other less dangerous conservation options such as heat pumps. Alan Hawke noted that a subsequent audit performed in Queensland and cited in the Commonwealth Parliamentary debates revealed the following: "Over 14,600 roof inspections have been undertaken, and 1000 targeted audits of electrical safety issues in Queensland have also been carried out as at the end of the program. The results of roof inspections have shown significant levels of work that did not fully meet quality and safety standards (16 percent of inspections revealing quality issues and 7.6 percent of inspections revealing safety issues) (Hawke, 2010, p. 55).

currently in place and it is they who are often in the best position to assess the right choices for implementing low carbon construction. Introducing new materials, new technology, and new working practices is contingent on construction workers - and particularly the skilled trades - knowing how to install these innovations correctly. Thus while the role of labour is only one component of the broader package of changes needed to 'green' the construction industry, it is nevertheless a critical one. And the failure to address this area significantly limits the ability of the industry to implement many of the climate innovations that architects, engineers, project managers and policy makers wish to achieve.

Similarly, the establishment of more stringent energy conservation requirements in building codes is contingent not only on having an effective and adequately resourced enforcement system to ensure that builders comply with these requirements, but also in having a workforce that knows what the codes require and is capable of implementing them on the building site. Knowledge of building codes is a key part of building work. It requires extensive training.

All of this underlines the need to strive for much higher levels of training and skills within the industry. Yet, as noted, the economic characteristics of the industry make the achievement of this objective difficult. The extensive underground economy, the large number of very small employers and independent operators with no training capacity, the extensive reliance on sub-contracting which encourages use of the least qualified labour, the prioritization of low bid over quality, the difficulty in costing the long term benefits of lowering energy consumption, the split between owners and tenants which encourages the former to minimize spending on conservation and numerous other factors push the industry in the opposite direction. Rather than recognizing that effective climate change programs will require a major commitment to training and upgrading the skills of the workforce and major changes to the fundamentals of how the construction industry is organized, both government and industry participants remain wedded to an unregulated market model based on narrowly conceived price competitiveness and opposition to government regulation.

THE ROLE OF WORKERS AND THEIR UNIONS IN IMPLEMENTING GREEN CONSTRUCTION

A third barrier to the greening of the construction industry is the limited role that building trades' workers and their unions currently

play in this process.¹² Outside Quebec, less than a third of the industry is organized. Union representation is concentrated in the ICI sector and primarily with large contractors. It is also uneven, varying considerably among the trades and between the trades and semi-skilled or unskilled construction workers. Although average union density in construction has remained fairly constant at just under a third of the workforce during the past fifteen years in Canada, after falling significantly during the 1980s and early 1990s, this figure conceals major shifts in the pattern of unionization, with increases in Quebec offsetting declines in English Canada. (Charest 2003, Statistics Canada Labour Force Survey, Table 282-0078)

Construction Collective Agreement Coverage in Canada 1997 – 2012

(Percent of Workforce)

Province	1997	2000	2003	2006	2009	2012
Newfoundland & Labrador	25.71	27.27	20.78	27.10	26.62	31.95
Prince Edward Island	20.59	13.79	19.35	13.95	17.95	23.68
Nova Scotia	38.16	26.97	22.78	26.40	23.98	28.99
New Brunswick	27.78	29.41	20.00	21.74	29.72	25.13
Quebec	48.48	50.11	56.25	57.69	57.80	59.30
Ontario	32.62	32.42	32.99	29.52	30.51	31.51
Manitoba	22.56	21.47	17.34	27.83	22.48	22.22
Saskatchewan	22.86	24.66	23.31	22.01	17.67	21.60
Alberta	17.19	21.04	21.67	18.78	19.29	19.38
British Columbia	31.31	31.77	30.51	25.02	20.35	21.89
All Canada Union Coverage	32.39	32.53	34.19	31.67	31.23	32.76

Source: Statistics Canada Table 282-0078 Labour force survey estimates

12 This section should not be misinterpreted as saying that unions in all sectors of construction are in decline. For example, unions with specific skills in certain sectors, such as UA which represents pipeline workers, enrol virtually all workers involved in laying large diameter pipelines, an economic activity that is expanding. Individual unions in other sub-sectors of construction, such as the IBEW in certain provinces have also maintained or increased union density in areas such as hydroelectric utilities. However, the point is that when all sectors of the industry are examined, the overall influence of unions has been weakening, at least outside Quebec.

Overall, the influence of the building trades unions - like the larger Canadian labour movement - has been on the decline (Charest, 2003). Despite these setbacks, some unionized trades, such as the International Brotherhood of Electrical Workers (IBEW) continue to play a major role in establishing and enforcing the qualifications for their trade through its role in the National Electrical Trades Council (NETCO) (MacLeod, 2012). Construction unions in Ontario have persuaded the government to give them a role as board members overseeing the construction component of the newly established College of Trades. And building trade unions in certain regions, such as the greater Toronto area, continue to organize significant numbers of workers in major commercial and industrial projects (although the residential sector remains largely unorganized).

Nevertheless, some unions continue to play a significant role in training and apprenticeship. In Ontario, for example, they operate over 200 trades training facilities, normally in co-operation with unionized employers (O'Grady, 2005). The building trades unions have collective agreement provisions requiring their employers to contribute part of the wage package - normally about 1 percent of payroll (in the form of a specified number of cents per hour) - to Training Trust Funds (TTFs). TTFs are jointly managed by a union and a group of contributing employers with which the union has collective agreements. They provide part, or all, of the classroom training that apprentices require, in some cases supplemented by provincial government purchases of training 'seats'. They may also share some of the classroom training with publicly funded community colleges or purchase classroom capacity from them.

In an industry characterized by numerous small employers, where few have the capacity to guarantee apprenticeships, individually, or provide the classroom component of training, the TTFs fulfil an important industry need. Most apprentices work for a number of employers during their training and their union affiliation provides employment continuity during this period. Because they are based in multi-employer collective agreements, TTFs tend to have stable funding over time which facilitates long term planning of courses and programs. O'Grady estimates that in Ontario fully 25 percent of building union members receive some training each year from TTFs. They also have an excellent track record in terms of the percentage of apprentices who actually complete their apprenticeships - a rate that is far higher than in the non-union sector (O'Grady, 2005) This contrasts sharply with a number of federal and provincial government policy initiatives, such

as providing training tax credits to employers, which have simply failed to achieve better apprenticeship outcomes despite large outlays of public funds on these programs (Hamilton-Smith, 2012).

The major exception is Quebec where the building trades have significantly expanded their role in training and apprenticeship, a development that reflects the provincial government's very different approach to construction labour relations and its willingness to require employers to take more responsibility for training through its payroll levy system. The government's 1968 legislation - an Act Respecting Labour Relations, Vocational Training and Manpower Management in the Construction Industry (Bill R-20) - has encouraged collective bargaining in the construction sector and resulted in relatively high union density.¹³ Quebec unions have been able to establish a wide network of TTFs through negotiations with unionized employers and these continue to play a central role in trades training in the province (Charest, 2003; O'Grady, 2005). According to the Commission de la Construction du Quebec, its \$150 million training fund supports 20,000 trainees, annually, for apprenticeship and continuing trades training. Minimally, as in Quebec, public policy in English Canada should recognize and support a much greater role for unions in trades training.

Another way governments can work with unions in supporting training is through the use of project agreements such as BC's Vancouver Island Highway Project. This was the largest construction project in western Canada during the mid-1990s. The provincial government created a public corporation to act as the employer of all the construction labour on the project. It then negotiated a blanket agreement with the 13 highway construction unions which included commitments to local hire, local training and a major focus on training for members of BC's four equity groups. In an industry in which equity group participation was about 2 percent overall, the Vancouver Island Highway achieved equity participation of just over 20 percent of all hours worked during the 8 years of the project. Union training facilities played an important role in this process (Cohen and Braid, 2003; Calvert and Redlin, 2003).

13 In the fall of 2013, new Quebec legislation entitled an *Act to Eliminate Union Placement and Improve the Operation of the Construction Industry* established the Carnet Reference Construction, a body that registers all construction workers covered by the R-20 law and acts as a clearing house that employers must now use when they hire workers. Workers must post a resume outlining their skills and training on the Carnet's web site in order to be hired. There is considerable dissatisfaction among unions about the new limits it places on their earlier role in dispatching workers to employers. Approximately 85 percent of workers were already directly hired by employers before the new law was enacted, but those who were dispatched by the unions normally went to the larger work sites. Whether this new law will have a significant impact on union density is not yet clear. See: <http://carnet.cq.org/en/>

SUPPORTING A GREATER ROLE FOR CONSTRUCTION UNIONS

Despite the evidence that unionized workplaces have a much higher success rate in apprenticeship completions and that unions have been consistent advocates of the maintenance of a high quality training system, most policy makers do not see them as major players in the green transformation of the industry. In much of the literature on greening the construction industry, unions simply do not exist. In fact, a number of provincial governments, such as BC's, have taken steps to exclude them from provincial training authorities while enacting changes to labour codes and procurement policies designed deliberately to weaken the role of organized labour in the industry and, not insignificantly, to deny construction workers a voice in this process.

Similarly, outside the specific organizations that unions and unionized employers have jointly created to promote training and workplace skills, such as the National Electrical Trade Council (NETCO), government policy makers and many advocates of 'greening' the built environment generally ignore the potential role of unions in this process. The assumption is that low carbon construction will be introduced successfully without the active involvement of workers – other than by doing what they are assigned to do.¹⁴

One reason why policy makers have not been more interested in viewing unions as major players in 'greening' the industry is that there has been a more general shift in Canada towards a neoliberal labour relations paradigm, in which the role of all unions is marginalized. The labour climate has become increasingly hostile to unions at both federal and provincial levels, as evidenced by regressive changes to labour leg-

14 The Federal Government's trades training initiatives have focused on providing skills for its favoured resource extraction industries where it needs the training expertise of a number of the construction unions. The goal is to get unions to address industry needs in the absence of other apprenticeship and training options the Federal Government might otherwise prefer. Arguably, it is courting some of the major building trades unions not because it supports unionization but because it – and resource industry employers – needs them, at least for the immediate future. However, its policies are designed to enable employers, not unions or workers, to have a greater say about where public money for training will be allocated. For example, its controversial Canada Jobs Grant program provides no new money. Rather it will shift \$300 million, annually, from existing Canada Labour Market Agreement training programs to its more employer-focused approach. The Federal Government will provide employers with up to \$5,000 per trainee to be matched by an equal contribution by provinces and, in theory, employers. However, these initiatives to meet the needs of employers have not been accompanied by any policies designed to expand union representation. Significantly, there is virtually no mention of unions in the Federal Government's outline of its various employment and training initiatives in its Canada Action Plan 2013 with the exception of its Helmets to Hardhats program for veterans (<http://actionplan.gc.ca/en/initiative/canada-job-grant>).

isolation and the increasing tendency of governments to impose back to work legislation whenever unions take strike action. In the context of an overall anti-labour shift by the current federal and most provincial governments, arguments about the potential benefits of a greater union role in training, apprenticeship and climate change initiatives go against the tide. Yet the evidence is clear: a highly skilled construction workforce is now needed to implement climate objectives and unions have demonstrated that they can contribute to this process.

That there is significant potential for unions to play a greater role in climate initiatives as is evidenced by a number of promising initiatives in the built environment. One example is the work of the BC Insulators union which has developed a comprehensive package of new building code measures and government procurement requirements explicitly designed to significantly reduce GHG emissions and energy consumption (Lee Loftus, President, BC Insulators, interview June 7, 2012). It has made numerous presentations to BC municipalities and to the provincial government advocating implementation of these policy changes. It has also worked closely with the BC Institute of Technology (BCIT) in modifying the classroom training program for apprentices in the insulating trade to include new climate modules. And it has worked extensively with both the environment committee of the BC Federation of Labour and the BC Green Jobs Coalition to advocate tougher climate policies.

Similarly, at the national level, the IBEW has worked closely with industry through the NETCO to develop new standards and training modules for the installation of solar PV equipment and related renewable electric vehicle technology. Qualified electricians can now add a certification in these areas to their trades' qualifications (Carol MacLeod, NETCO interview Aug. 12, 2013; Andy Cleven, IBEW interview July 12, 2012; MacLeod, 2012).

The implementation of low carbon construction on the job site aligns well with the building trades unions' goal of maintaining high standards of skills and supporting the apprenticeship and training system (Lowe, 2009; Loftus *op. cit.*; Cleven, *op. cit.*). True, their goal of a high skill, high wage industry reflects their self-interest in maintaining, or improving, the wages of their members and reflects a desire to exercise control over the labour process. At the same time, most skilled trades take pride in the exercise of their skills and in their ability to adapt to a wide range of problem solving situations – a key feature of effective climate retrofitting.

The interests of building trades unions also correspond to the need to have a more stable and permanent workforce, with a long term attach-

ment to the industry. Their members want a career, not just a job. This too, is a precondition for expanding and maintaining the knowledge base essential to implementing low carbon construction. High turnover in the industry, especially among trainees who fail to complete their apprenticeships, is not conducive to effective climate programs.

But the final aspect of this is the role of unions in contributing to a change in the culture of the workplace – a culture that values work well done and takes pride in learning and exercising demanding skills (Sennett, 2009). The challenge of incorporating climate issues into a stable workplace culture that already supports these values is far less than one of attempting to do so in the context of a workforce that is poorly skilled, precarious, low paid and with little or no long term attachment to the industry.

CONCLUSION

This article has identified three major problems that are impeding the ability of the Canadian construction industry to meet the challenge of global warming: the extensive and largely unregulated underground economy, fundamental weaknesses in the training and apprenticeship system and the failure to include workers - and the unions that represent them - in the process of greening the built environment. It has not claimed that these are the only, or indeed the most important, impediments.¹⁵ But it does assert that addressing these three problems is an essential part of what needs to be done. And it also recognizes that there is no single (or simple) answer to resolving these problems. Rather, a combination of different policy changes is needed that, together, can fundamentally shift the focus of the industry in a more environmentally responsible direction.

Provincial and federal governments must take a co-ordinated approach to dealing with the underground economy. This means enforcing tax, WCB, EI, CCP and other statutory obligations. Provinces and municipalities can enforce building codes vigorously and ensure that contractors meet health and safety and employment standards regulations. A comprehensive contractor licensing system, coupled with registration of workers, can also facilitate more extensive oversight of the sector, making it easier to monitor tax evasion, protect worker interests and provide more effective consumer protection.

¹⁵ Thus, we have not discussed issues such as the major role that publicly funded trades training colleges can play, a greater emphasis on climate issues in the education of architects and engineers, the comprehensive 'greening' of municipal planning and building codes and direct government financial support for training and apprenticeships, to cite a few of the more obvious areas where major climate initiatives are also needed.

Governments need to require all employers, contractors and self-employed owner operators to contribute to workforce training by paying a compulsory training levy and hosting apprentices. This will address the 'free rider' problem and provide funds for employers and unions who support training, eliminating one of the major financial barriers to successful apprenticeships. Governments in some provinces can also expand the scope of compulsory trades to ensure that workers performing skilled jobs are actually qualified to do this work. More stringent licensing of the trades would also provide a major incentive for workers to take formal training or apprenticeships, given that, once completed, these qualifications would provide greater job opportunities (Armstrong, 2008). This should be accompanied by the introduction of major 'green' components to the curriculum of the trades training institutions. Governments can also condition their purchase of construction services by requiring contractors to employ apprentices on publicly funded projects. And they can restore, or expand, apprenticeship and training in their own operations.

Turning to unionization, changes to labour legislation can play a role in industry transformation by supporting, rather than undermining union representation. As the example of Quebec illustrates, supportive labour law and extensive industry regulation does make a difference (Charest, 2003). Governments can support union training centres through training seat purchases and through dedicating payroll training levies to them.

The work of some unions, such as BCs insulators and the IBEW in pushing for better climate policies was noted earlier. Unions outside the building trades, both nationally, and internationally, have developed policies that focus on what they describe as a just transition to a low carbon economy (SustainLabour, 2008; CEP, 2009; ITUC, 2013). Investing in major retrofitting of the existing built environment is an extremely effective way to create employment. There is an enormous potential to create new construction jobs in energy conservation and retrofitting, given the size of the existing stock of buildings and the urgency of reducing GHG emissions and energy use.¹⁶

As was indicated at the beginning of this paper, there are a variety of other measures needed to 'green' the built environment in addition

¹⁶ An example of this is found in the approach of the Danish construction unions to the economic crisis of 2008. Recognizing that a stimulus package was needed to address the crisis, they lobbied the government (successfully) to bring forward a number of major building retrofitting programs which they argued would both create jobs and reduce the country's carbon footprint (Calvert, 2011).

to the three discussed above. Clearly, effective action requires a comprehensive approach that includes a wide range of initiatives affecting many different components of construction. Moreover, as noted, many of the major planning, technological and organizational changes are beyond the scope of the construction workforce itself. Innovations currently being promoted by progressive climate scientists, architects, planners, engineers and developers, as well as proponents of various regulatory and building code amendments are essential to reducing Canada's GHG emissions and energy use.

However, the present policy framework supports the status quo in English Canada and undermines efforts in a variety of areas to restructure the construction industry. The industry is failing, by a wide margin, to achieve sufficient progress on climate issues. Its commitment to free market policies effectively precludes the kinds of major policy measures now required. Hostility to public regulation, failure to tackle the abuses of the underground economy and industry's unwillingness to support fundamental changes to the current training and apprenticeship system – including a larger role for unions - are all major barriers to achieving a workforce capable of implementing low carbon construction successfully. Absent significant changes to the basic organization of the construction industry, it will not have the capacity to implement the kinds of climate measures that are now so urgently needed.¹⁷

REFERENCES

- Act R-20: An Act Respecting Labour Relations, Vocational Training and Manpower Management in the Construction Industry RRQ, c R-20, r 1 (1968) Government of Quebec. Retrieved from: <http://canlii.ca/t/hp8x>
- Aitkenhead, S. (2012). Report from the 2nd Greening the Trades Consultation Feb. 8, 2012. Ladysmith: S4S Solutions. (Report commissioned by Jennie Moore of the British Columbia Institute of Technology).
- Ankrah, N. A., & P.A. Manu. (2012). Organisational Culture and Climate Change Driven Construction. In C. A. Booth et. al., (Eds.), *Solutions to Climate Change Challenges in the Built Environment* (pp. 251 – 268). Oxford: Wiley-Blackwell.

17 In addition to the economic and environmental arguments in support of major change, there is a strong moral case that workers, like other citizens in a democratic society, have the right to a voice in shaping the development of our future climate policies, whether in construction, or in other parts of the Canadian economy. Policy should recognize this right (Regan, 2010).

- Armstrong, T. E. & J. O'Grady. (2004). *Attacking the Underground Economy in the ICI Sector of Ontario's Construction Industry*. Toronto: Ontario Construction Secretariat. (158 pp.) Retrieved from: http://www.iciconstruction.com/resources/industry_publications/underground_economy_issues.cfm
- Armstrong, T. E. (Consulting). (2008, April). *Compulsory Certification Project*. (Report to the Minister of Training, Colleges and Universities commissioned by Ontario. Orders in Council 1771-2007 and 86-2008) Toronto.
- Auditor General of Canada. (1999, April). *Report of the Auditor General of Canada: Chapter 2 – Revenue Canada – Underground Economy Initiative*. Ottawa. Retrieved from: <http://www.oag-bvg.gc.ca/internet/docs/9902ce.pdf>.
- Auditor General of British Columbia. (2009). *Report 10: A Major Renovation: Trades Training in British Columbia - 2008/2009*. Victoria, BC.
- Barrett, D. (1998, June). *The Renewal of Trust in Residential Construction*. Victoria: Commission of Inquiry into the Quality of Condominium Construction in British Columbia. June. Retrieved from: <http://www.qp.gov.bc.ca/condo/>
- Booth, C., F. Hammond et. al. (2012). *Solutions for Climate Change in the Built Environment*. Oxford: Wiley.
- Bosch, G. & P. Phillips. (Eds.) (2003). *Building Chaos: An International Comparison of Deregulation in the Construction Industry*. London: Routledge.
- British Columbia Construction Association. (2011, September). *A Study on the Risks and Liabilities of Green Building*. Victoria: (61 pp). Retrieved from: <http://www.bccassn.com/page/the%20risks%20%20liabilities%20of%20green%20building.aspx>
- British Columbia Construction Association. (2012, September). *A Study on the Risks and Liabilities of Green Building*. Victoria: (64 pp). Retrieved from: <http://www.bccassn.com/page/thepercent20riskspercent20percent20liabilitiespercent20ofpercent20greenpercent20building.aspx>
- British Columbia Employment Standards Branch. (2001). *The Underground Economy Initiative in BC Residential Construction*. Victoria.
- Building Owners and Managers Association of Canada (BOMA). (2011). *Building Environmental Standards: BOMA BEST Guide to the BEST Practices*. (14 pp.) Retrieved from: <http://www.bomabest.com/>
- British Columbia Federation of Labour. (2012, Spring). *Good Jobs: Trades Training and Rebuilding BC's Apprenticeship System*. Vancouver.
- Built Green Canada (2012). *2011 Program and Guide for Single Family New Construction*. (Revised January 1, 2012). Retrieved from: <http://www.builtgreencanada.ca/uploads/files/BUILT%20GREEN%202012%20>

Single%20Family%20Checklist%20Guide.pdf

- Calvert, J. & B. Redlin. (2003). Achieving Public Policy Objectives Through Collective Agreements: The Project Agreement Model for Public Construction in British Columbia's Transportation Sector. *Just Labour* (2), 1-13.
- Calvert, J., D. Fairey & W. Peppard. (2008). *Innovation in Worker Safety Representation Systems: An Examination of Worker Involvement in Britain, Australia and New Zealand, and the Potential Benefits for British Columbia's Construction Workers*. Vancouver: WorkSafe BC. Innovation at Work Research Project 2006-IG08 Nov. 109 pp.
- Calvert, J., D. Fairey & W. Peppard. (2009). *Building a Safer Work Environment for BC Construction Workers*. Vancouver: Canadian Centre for Policy Alternatives January. 25 pp.
- Calvert, J. & M. Cohen. (2011). *Climate Change and the Canadian Energy Sector: Implications for Labour and Trade Unions*. Ottawa: Canadian Centre for Policy Alternatives. Ottawa: October. 79 pp.
- Calvert, J. (2011). "Climate Change, Construction and Labour in Europe: A Study of the Contribution of Building Workers and their Unions to Greening the Built Environment in Germany, the United Kingdom and Denmark." York University: Work in a Warming World (W3) Working Paper #2011-04.
- Canada Revenue Agency (n.d). *The Underground Economy* Retrieved From: <http://www.cra-arc.gc.ca/gncy/lrt/ndrgrndeng.html>
- Canadian Apprenticeship Forum (CAF). (2008). *Apprenticeship Labour Market Outcomes in Canada Since 2000: An Assessment of the Resources for Research*. Ottawa. (32 pp) Retrieved from: caf-fca.org/.../WebsiteReports/CAF2008_ApprenticeshipLabourMarket.pdf
- Canadian Apprenticeship Forum (CAF). (2011, April). *Investigating Apprenticeship Completion in Canada: Reasons for Non Completion and Suggestions for Improving Completion*. Ottawa. (48 pp) Retrieved from: www.itabc.ca/sites/.../CAF%202011%20Investigating%20Completion_0.pdf
- Charest, J. (2003). Canada Labour Market Regulation and Labour Relations in the Construction Industry: The Special Case of Quebec in the Canadian Context. In G. Bosh & P. Philips. (Eds.) *Building Chaos: In International Comparison of Deregulation in the Construction Industry*. (pp. 95-136) London: Routledge.
- Coe, P. (2011). *Apprenticeship Program Requests and Apprenticeship Completion Rates in Canada*. CLMRS Working Paper 71. Ottawa: Canadian Labour Market and Skills Training Centre. (52 pp.) Retrieved from: <http://www.clsrn.econ.ubc.ca/workingpapers/CLSRN%20Working%20Paper%20no.%2071%20-%20Patrick%20Coe.pdf>
- Coe, P. & J.C. Herbert-Emery. (2012). Accreditation Requirements and the Speed of Labour Market Adjustment. *Canadian Public Policy*. 38 (1), 91-111.

- Cohen, M. & K. Braid. (2000). Training and Equity Initiatives on the British Columbia Vancouver Island Highway Project: A Model for Large-Scale Construction Projects. *Labor Studies Journal*, 25 (3), 70-103.
- Cole, R. J. (2005). Building Green: Moving Beyond Regulation and Voluntary Initiatives *Policy Options*. July-August, pp. 53 – 60.
- Communications, Energy and Paperworkers Union of Canada (CEP). (2009). *Energy Policy # 917*. Ottawa: CEP. Retrieved from <http://www.cep.ca/docs/en/policy-917-e.pdf>
- Commission on the Reform of Ontario's Public Services. (2012). *Public Services for Ontarians: A Path to Sustainability and Excellence*. Ontario: Queen's Printer. (usually referred to as the Drummond report) Retrieved from: <http://www.fin.gov.on.ca/en/reformcommission/chapters/report.pdf>
- Construction Sector Council (CSC). (nd.) *Training Capacity in the Canadian Construction Industry: Meeting the Industry's Needs*. Ottawa. Retrieved from: http://www.csc-ca.org/pdf/LMI_Training_E.pdf
- Construction Sector Council (CSC). (2007). *Measuring Skills in Construction*. Ottawa. Retrieved from: <http://www.buildforce.ca/en/products/measuring-skills-construction>
- Construction Sector Council (CSC). (2009). *Training Capacity in the Canadian Construction Industry*. Ottawa. November. <http://www.buildforce.ca/en/products/training-capacity-canadian-construction-industry>
- Dupressoir, S. (2007). *Climate Change and Employment: Impact on employment in the European Union-25 of climate change and CO2 emission reduction measures by 2030*. Brussels: European Trade Union Confederation (ETUC).
- Desjardins, L. & N. Paquin (2010) Registered Apprentices: The Cohorts of 1994 and 1995, One Decade Later. Ottawa: Statistics Canada. Catalogue no. 81-595-M – No. 080.
- Easton, S. (2001). The Size Of The Underground Economy: A Review Of The Estimates. *Simon Fraser University*. Retrieved from: academic.research.microsoft.com/Paper/5067792.aspx
- Ference Weicker and Co. (2011, September). *Survey of Employers in the Construction Sector*. (A Report Prepared for the BC Construction Industry Training Association). Vancouver. (49 pp.) Retrieved From: <http://www.bccito.ca/reports>
- Foley, J. R. & M. Polanyi. (2006). Workplace Democracy: Why Bother? *Economic and Industrial Democracy*. Arbetslivinstitutet. 27 (1) pp. 173-191.
- Fortin, N. & D. Paront. (2008). Employee Training in Canada. *CLSRC Working Paper #3*. Ottawa: Canadian Labour Market and Skills Training Centre. (51 pp.) Retrieved from: www.clsrn.econ.ubc.ca/workingpapers/CLSRN%20Working%20Paper%20no

- Gleeson, C., Yang, J. & Lloyd-Jones, T. (2011). *European Retrofit Network: Retrofitting Evaluation Methodology Report*, London: University of Westminster.
- Goodland, H. (2012, February). *BCIT: Greening the Trades*. Victoria: Brantwood Consulting. Revision 4. 105 pp.
- Gunderson, M. & H. Krashinsky. (2012, April) Returns to Apprenticeship: Analysis Based on the 2006 Census: CLSRN Working Paper 99. Ottawa: Canadian Labour Market and Skills Training Centre. 22 pp.
- Gunderson, M. (2009). Review of Canadian and International Literature on Apprenticeships. Ottawa: Human Resources Development Canada.
- Hamilton-Smith, E. (2010, December). *Deterring the Underground Economy in BC's Residential Construction Sector Demand-Side Policy Directions*. (Simon Fraser University MPP Paper 827 – G100 Submitted to Rod Quiney).
- Hamilton-Smith, E. (2012). *Increasing Skilled Trades Employer Participation in Apprenticeship Training in British Columbia*. Vancouver: Simon Fraser University School of Public Policy. (A Thesis submitted for the Partial Fulfilment of the Master of Public Policy Degree). 88 pp.
- Hansen, J. (1988). *The Greenhouse Effect: Impacts of Global Temperature and Regional Heat Waves* United States Senate Committee on Energy and Natural Resources. Washington. June 23.
- Hawke, A. (2010). Review of the Administration of the Home Insulation Program. Government of Australia. April 6. Retrieved from: <http://resources.news.com.au/files/2010/04/22/1225856/915739-hawkereport.pdf>
- International Labour Office (ILO). 2011. *Greening of the building sector is held back by skill shortages. Skills-led strategies can drive green building forward*. ILO. Geneva.
- International Labour Office (ILO). 2011, *Skills and Occupational Needs in Green Building*, ILO Skills and Employability Department. Geneva.
- International Labour Office (ILO). 2012. *Working Towards Sustainable Development: Opportunities for Decent Work and Social Inclusion*. Geneva.
- Intergovernmental Panel on Climate Change (IPCC). (2007). *Residential and Commercial Buildings: Contribution of Working Group III to the Fourth Assessment Report*. Cambridge. Retrieved from: <http://www.ipcc.ch/>
- Intergovernmental Panel on Climate Change (IPCC). (2013) Fifth Assessment Report (AR5) Cambridge. Retrieved from: <http://www.ipcc.ch/>
- International Energy Agency. (2013). *Redrawing the Energy-Climate Map: World Energy Outlook Special Report*. Paris: June 10. <http://www.worldenergyoutlook.org/media/weowebiste/2013/energyclimatemap/RdrawingEnergyClimateMap.pdf>
- International Trades Union Confederation (ITUC). (2013). Sustainable Development, Decent Work and Green Jobs (102nd Session of the International Labour Conference), June.

- Jacobs, C. (2013). State of the Industry Outlook Conference 2013: Ontario's Construction Outlook Strengthens. Toronto: Ontario Construction Secretariat. Retrieved from: www.iciconstruction.com
- Laporte, C. & R. Mueller. (2010). *The Persistence of Registered Apprentices: Who Continues, Quits or Completes Programs*. Canadian Labour Market and Skills Researcher Network. Working Paper 62. May.
- Levine, M., D. Üрге-Vorsatz, et. al. (2007). Residential and Commercial Buildings. In *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. B. Metz, O.R. Davidson, et. al. (ed.), Cambridge University Press, Cambridge.
- Lowe, G. S. (2009). People and Performance: Building Alberta's Future Construction Workforce. Building Trades of Alberta. Calgary: January.
- Meredith, J. (2010). Crucial Contributors? Re-examining Labour Market Impact and Workplace-training Intensity in Canadian Trades Apprenticeship. CLSRN. Retrieved from: www.clsrn.econ.ubc.ca/workingpapers/CLSRN%20Working%20Paper%20n
- McGibbon, B. (1989). *The End of Nature*. New York: Random House (Anchor).
- MacLeod, C. (2012). Red Seal Electrical Trades in Canada: A Policy Framework on National Standards, Apprenticeship and Journey-person Skills Training. Ottawa: National Electrical Trade Council. Retrieved from: www.clsrn.econ.ubc.ca/workingpapers/CLSRN%20Working%20Paper%20n
- Morissette, D. (2008). Registered Apprentices: The Cohort of 1993, a Decade Later, Comparisons with the 1992 Cohort. Ottawa: Statistics Canada: Culture, Tourism and the Centre for Education Statistics. April.
- National Roundtable on the Economy and the Environment. (2007) *Geared for Change: Energy Efficiency in Canada's Commercial Building Sector*. Ottawa.
- National Electrical Trades Council (NETCO). (2011). Summary Report National Occupational Analysis: Construction Electrician-Solar Photovoltaic (PV) Systems Certification. Toronto: May.
- O'Grady, J. & G. Lampert (1998). The underground Economy in Ontario's construction industry: Estimates of its size and the revenue losses to government and the WSIB. Toronto, Canada: ARA Consulting Group, Inc. Retrieved from: [www.ogradyn.on.ca/Downloads/Papers/The%20Underground%20Economy%](http://www.ogradyn.on.ca/Downloads/Papers/The%20Underground%20Economy%20)
- O'Grady, J. (2004). When the Playing Field isn't Level: The Underground Economy in Ontario. Retrieved from: [www.ogradyn.on.ca/Downloads/Papers/When%20the%20Playing%20Field%](http://www.ogradyn.on.ca/Downloads/Papers/When%20the%20Playing%20Field%20)
- O'Grady, J. (2005). Training Trust Funds: A Review of their History, Legal Foundations, and Implications for Trade Union Training Strategy

– Final Report. Prism Economics. (A report Commissioned by the Canadian Labour Congress). August. Retrieved from: www.ogrady.on.ca/Downloads/Papers/Training%20Trust%20Funds.pdf

O’Grady, J. (2010, December). The Impact of Climate Change on Employment and Skills Requirements in the Construction Industry. *Work in a Warming World: What Do We Know? What Do We Need to Know: The State of Research on Work, Employment and Climate Change in Canada*. Retrieved from: <http://warming.apps01.yorku.ca/wp-content/uploads/2011/08/What-do-we-know-full-report-final.pdf>

Ontario Construction Secretariat. (2013). Survey of Ontario’s ICI Construction Industry. Toronto: March. Retrieved from: www.iciconstruction.com

Ontario Construction Secretariat. (2010, July). *Underground Economy in Construction: It Costs Us All*. Toronto: Prism Analytics. (26 pp.) Retrieved from: http://www.iciconstruction.com/admin/contentEngine/contentDocuments/2010_O_CS_Underground_Economy_Report_FULL_BOOK_for_web.pdf

Ontario. (2010, December). Expert Advisory Panel on the Underground Economy: Report and Recommendations to the Ministry of Labour. (Tony Dean, Chair.) Toronto.

Pigeon, M. (2004, November). The Underground Economy: Measures and Consequences. Ottawa: Library of Parliament.

Prism Analytics (2001, August). Estimates of Revenue Losses to Governments as a Result of Underground Practices in the Ontario Construction Industry – Updated Estimates. Toronto. (41 pp.) Retrieved from: http://www.iciconstruction.com/admin/contentEngine/contentDocuments/2010_OCS_Underground_Economy_Report_FULL_BOOK_for_web.pdf

Prism Analytics (2010). The Underground Economy in Ontario’s Construction Industry. Retrieved from: <http://prismeconomics.com/category/construction-industry/>

Pauwels, F., Den Kamp, H. & Ramioul, M. (2011). *Greening in construction and the impact on work: New challenges or more of the same?*, Walqing, Leuven, Belgium.

Rapf, A. (2012). *A review of European Policy for Sustainable Construction*. Amsterdam: Buildings Performance Institute, Europe.

Rexe, D. (2012, May). *The trades education pipeline in Canada: a critical review of the retention and completion literature on apprenticeship*. Simon Fraser University, (A paper for the 2012 CSSHE Annual Meeting, Waterloo, Ontario.)

Regan, K. H. (2010). The Case for Enhancing Climate Change Negotiations with a Labor Rights Perspective.” *Columbia Journal of Environmental Law*. Vol. 35, No. 1 March. pp. 249-284.

- Rohinton, E. & K. Baker. (2012). *Carbon Management in the Built Environment*. Oxford: Routledge.
- Sennett, Richard. (2009). *The Craftsman*. London: Penguin Books.
- Sharpe, Andrew and James Gibson. (2005, September). The Apprenticeship System in Canada: Trends and Issues. Ottawa: Centre for the Study of Living Standards: CSLS Research Report 2005-04.
- Statistics Canada. (2012). Revisions to its 2011 study: Estimating the Underground Economy in Canada 1992 – 2008. (Eds.) Terefe, B., C. Barber-Dueck & Marie-Josée Lamontagne. Ottawa: Income and Expenditure Accounts Division. June. Retrieved from: <http://www.cra-arc.gc.ca/nwsrm/fctshts/2012/m09/fs120927-eng.html>
- Stern, N. (2006). *Review on the Economics of Climate Change*. London: HM Treasury. Retrieved from: http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/sternreview_index.htm
- Thompson, D. (nd.) *Green Jobs: Its Time to Build Alberta's Future*. Alberta Federation of Labour, Greenpeace and Sierra Club Alberta.
- United Nations Environment Program (UNEP). (2008). *Green Jobs: Towards Decent Work in a Sustainable, Low Carbon World*. Washington: Worldwatch Institute. Retrieved from: www.unep.org/civil_society/Publications/index.asp
- United Nations Environment Program (UNEP). (2009) *Buildings and Climate Change: A Summary for Decision Makers*. Paris: UNEP Sustainable Buildings and Climate Initiative. Retrieved from: <http://www.unep.org/SBCI/pdfs/SBCI-BCCSummary.pdf>
- International Foundation for Sustainable Labour Development (Sustainlabour) and UNEP (2008) *Climate Change, Its Consequences on Employment and Trade Union Action: A Training Manual for Workers and Trade Unions*. Madrid and Nairobi. http://www.unep.org/labour_environment/PDFs/training/CC-FULL-EN.pdf
- Vancouver. (2012) *Greenest City 2020 Action Plan (2012-2013 Implementation Update)* Retrieved from www.vancouver.ca/GreenestCityActionPlan
- Vilasini, N., T. R. Neitzert, J. O. B Rotimi & A O. Windapo. (2012). A Framework for Sub-contractor Integration in Alliance Contracts. *International Journal of Construction Supply Chain Management*. 2 (1).
- World Bank (2012, November). *Turn Down the Heat: Why a 4° World Must Be Avoided*. Washington: Potsdam Institute for Climate Impact Research and Climate Analytics. Retrieved from: <http://documents.worldbank.org/curated/en/2012/11/17097815/turn-down-heat-4%C2%B0c-warmer-world-must-avoided>
- World Meteorological Association (2013, March). *A Summary of Current Climate Change Findings and Figures*. Retrieved from: <http://www.wmo.int/pages/mediacentre/factsheet/documents/ClimateChangeInfoSheet2013-03final.pdf>

Approaches and Responses to Climate Change: Challenges for the Pantanal and the Upper Paraguay River Basin

Antonio Augusto Rosotto Ioris¹

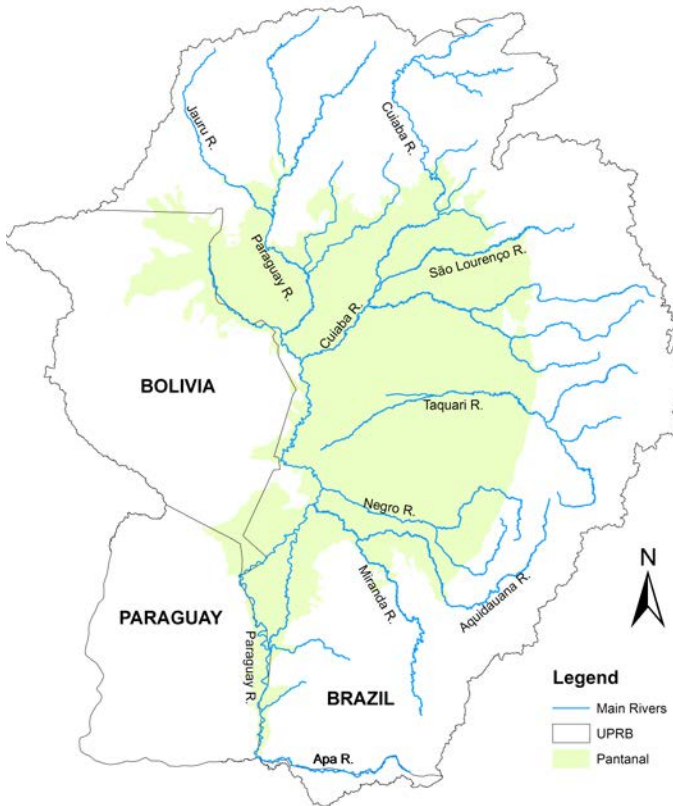
ABSTRACT: Anthropogenic climate change is expected to have serious socioecological consequences around the globe, in particular for wetland areas. That is the case of the Pantanal, a large tropical wetland located in the Upper Paraguay River Basin (UPRB), in the centre of South America, where a range of responses are being devised to cope with the negative impacts of climate change. After a review of the most common approaches discussed in the literature, the results of an empirical study conducted in Brazil, Bolivia and Paraguay are presented. The research attested that most responses have so far evolved around the principles of systematic adaptation (e.g. technology amelioration) and climate scepticism (e.g. postponement of responses) and, more recently, under the influence of marketisation measures (e.g. carbon trading). However, there is also growing enthusiasm, particularly in Bolivia, for the inclusion of initiatives associated with the architecture of entitlements (e.g. improved access to resources) and climate justice (e.g. compensation for the negative impacts of conventional development). Two important factors that seem to undermine the efficacy of the responses to climate change in the region: the hegemonic influence of the agribusiness sector and the relatively low importance of the UPRB for national and trilateral environmental policy-making.

1 Antonio A.R. Ioris is a human geography lecturer at the University of Edinburgh. He can be reached at a.ioris@ed.ac.uk. This research was supported by the Brazilian Research Council (CNPq) through the Sinergia Project coordinated by the Pantanal Research Centre (CPP); Ioris was directly responsible for its sub-project 3.1 'Politico-Institutional Vulnerabilities to Climate Change'. The author wishes to thank Dr. Carlos Padovani (Embrapa-Pantanal) for allowing the reproduction of the river basin image (Figure 1), three anonymous referees for their helpful comments on a previous version of this paper, Ms. Isabel Kirsten for her dedicated assistance during the research project, Prof. Pierre Girard (CPP and UFMT, Cuiabá) for the opportunity to take part in the Sinergia Project and, in particular, the many stakeholders in Brazil, Bolivia and Paraguay who kindly agreed to take part in the interviews.

Anthropogenic climate change represents one of the most challenging, complex and contested problems faced by the international community today. The contemporary concerns about human made climate change also offer a unique entry point into the preparedness of public and private responses to global environmental problems. For instance, the multilateral negotiations on the United Nations Framework Convention on Climate Change (UNFCCC) reflect the failures of technical assessments, the intricacy of international relations and the shortcomings of conventional environmental management. Particularly the embeddedness of the carbon economy in contemporary society means that the climate change controversy is at once a problem of environment, economy and human rights (Haines & Reichman, 2008).

The global interlinkages of the climate mean that no region in the planet is likely to be spared of the consequences of anthropogenic global warming, even areas that are located relatively distant from the main economic and industrial centres, such as the South American Pantanal. The Pantanal is a large floodplain wetland in the centre of the Upper Paraguay River Basin (UPRB), which has a total area of around 360,000 km² (see Figure 1). The Pantanal spreads for about 140,000 km² is shared between Brazil (80 percent of the Pantanal area), Bolivia (19 percent) and Paraguay (1 percent). The rainy season in the region begins between September and December, increases between January and March, and then promotes a flood wave movement from the north through the south Pantanal that inundates as much as 70 percent of the floodplain until July (Hamilton *et al.*, 2002). Significant portions of the Pantanal floodplain are submerged from four to eight months each year by water depths from a few centimetres to more than two meters (PCBAP, 1997). The Pantanal functions as a large reservoir that stores water from the surrounding plateaus during the rainy season and then delivers it slowly to the lower sections of the Paraguay River. As a result, any significant change in the rainfall pattern is likely to have major impacts on the local ecology and socioeconomic relations.

Figure 1 - The Upper Paraguay River Basin (UPRB) and the location of the Pantanal wetland



At the 8th INTECOL (International Wetlands Conference), which was held in the Pantanal region in July 2008 – more exactly, in the city of Cuiabá – it became clear that, although wetlands (including marshes, peat bogs, swamps, river deltas, mangroves, tundra, lagoons and river floodplains) only cover a relatively small percentage of the planet’s surface, they actually contain a large proportion of the world’s carbon stored in terrestrial soil reservoirs (Kayranli *et al.*, 2010). That means a major contribution regarding the balance of greenhouse gases (GHGs) in the atmosphere and underscores the importance of wetland conser-

vation. Beyond carbon storage, wetlands provide a range of environmental services, including water filtration and storage, erosion control, buffer against flooding, nutrient recycling, biodiversity maintenance, and nursery for fisheries. In the same event, the Pantanal has been recognised as one of the most important tropical wetlands in the world and it had been officially designated a Biosphere Reserve by UNESCO in 2000. The local ecosystems comprise a complex biodiversity mosaic with influences from the Amazon, Cerrado and Chaco biomes (PCBAP, 1997). Nonetheless, the Pantanal is also one of the most threatened socio-ecological systems in the planet, especially due to pollution, loss of biodiversity, high sedimentation, modification of natural cycles, large-scale projects, the lack of conservation units and the impacts of anthropogenic climate change (Swarts, 2000). The tension between available resources and economic growth has resulted in recurrent calls for ecological protection and the conservation of ecological systems (Ioris, 2004), but there are major disagreements about the most adequate environmental management and regional development policies (Neves, 2009).

The majority of the economic pressures and development conflicts have occurred in the Brazilian section of the Pantanal region, where the ecosystems have been impacted by uncontrolled urban and agro-industrial expansion in the surrounding plateaus, as well as to the intensification of agriculture production, tourism and recreation activities, and the use of agrochemicals within the floodplain itself (Alho *et al.*, 1988). Native vegetation has been increasingly removed to make space for artificial pastures, which occurred together with other problems such as illegal hunting, unsustainable tourism and the use of fire as an (unlawful) land management technique. Due to the introduction of exotic pastures, the Pantanal floodplain has lost already 17 percent of its original vegetation (Harris *et al.*, 2005) and between 2002 and 2008 the rate of deforestation (713 km²/year) was proportionally higher than in the Amazon region (statistics from Deter/INPE, published by Brasil, 2010). In addition, around 115 new hydropower schemes are under construction or being planned in the Brazilian side of the UPRB, though the local and the cumulative impacts of such structures are still not properly understood. However, there are some preliminary evidences of serious disruption caused by the operation of hydropower dams (Zeilhofer & Moura, 2009). All those pressures lead Junk & Cunha (2005, p. 392) to declare the Pantanal at a crossroads, in the sense that "increasing economic and political pressure requires fundamental decisions to be made in the near future."

The above challenges have been magnified by the likelihood of disturbances in the regional climate due to global warming. The scientific community has actually identified a series of potential consequences that are going to follow climate change in South America, which includes the salinisation and desertification of agriculture land, the savanisation of forested areas and a reduced availability of water (IPCC, 2007). Marengo *et al.* (2010) produced future scenarios of climatic change with the use of three regional climate models (HadRM3P, Eta CCS and RegCM3) and indicate a trend of reduction in precipitation (according to one model) and high probability of increase in temperature through the whole year (according to the three models) in the central region of Brazil. Marengo *et al.* (2012) have also estimated likely changes to the La Plata River Basin (which contains the UPRB) between 2011-2040 and an increase of 1.8oC in the annual temperature (1.2oC in the summer and 1.8oC in the winter) and a reduction in annual rainfall of 2.1 percent (-0.7 percent in the summer and -11.9 percent in the winter, which is the dry season). However, these results seem to contradict the tendency of higher flows in the Paraguay basin since the 1970s (Collischonn *et al.*, 2001), and the expected increase in soil erosion in some areas of the Pantanal due to rainfall changes (Querner *et al.*, 2005).

More important than the disagreement among hydrologists and climatologists about the course of environmental impacts, climate change is expected to aggravate existing shortcomings in the access, use and conservation of natural resources, as well as to further challenge the already hesitant environmental policies and regulatory enforcement in the three countries. To understand these even more perverse consequences of climate change, it is important to briefly revisit recent economic development and the evolving relations of production in the region (Barkin, 2009). The conversion of the uplands into large plantation farms in the Brazilian section of the UPRB commenced in the 1960s with the expansion of the agriculture frontier, which was fuelled by heavy subsidies and federal government investments in technology and infrastructure (railways, roads and grain storage capacity). Government agencies were responsible for providing credit, conducting agronomic research and disseminating technologies through rural extension. Large landowners were the main beneficiaries of economic development, at the expense of the demands of low-income, disenfranchised social groups (Ioris, 2012). Such an expansionist process continued in the following decades, but since the neoliberal reforms of the Brazilian State in the 1990s it observed a more market-oriented approach and the consolidation of the agribusi-

ness sector in the plateaus that surround the Pantanal. The growth of agribusiness has reinforced a dualistic model of development that favours plantation farmers and modern cattle ranchers and discriminates against the majority of the rural and urban population (Rossetto, 2004). The adoption of capital intensive agriculture in recent years never affected the overarching pattern of inequality, but has merely led to the fragmentation of the old farms and the reconcentration of land in the hands of newcomers (Araújo, 2006).

What is important for the purpose of this paper is that, without fundamental reforms in the structure of production and without more inclusive public policies, there is a serious risk that the impending consequences of climate change will unevenly affect different social groups, both aggravating the hardship already experienced by low-income sectors and siphoning the results of adaptation and mitigation measures to those who benefit more from current economic trends. In order to go beyond narrow development and conservation debates, it is necessary to account for a range of highly politicised issues at the intersection between interpersonal relations and socioeconomic pressures (Ioris, 2013). Whenever the responses to climate change are formulated according to the demands of agribusiness and other hegemonic sectors, these may help to mitigate climate change at the regional scale, but are also expected to produce socioeconomic distortions and result in additional socioecological risks. For instance, deprived communities are more likely to live in unsafe areas along the river courses, have more difficulty to adapt to a changing environment and fewer opportunities to influence governmental decisions (even when formal channels of consultation and participation exist, such as catchment committees and park advisory councils). Despite the obvious complexity of climate change issues, so far most of the public debate in the region has remained too focused on the physical consequences of climatic alterations and has dedicated less attention to the underlying social inequalities that magnify negative impacts and prevent the formulation of fair mitigation measures. Official publications in particular tend to concentrate on legal, administrative and technological issues, but fail to acknowledge the profound, politicised interconnections between development pressures and socio-natural relations (e.g. in Paraguay by the Secretariat of the Environment [SEAM], n/d, and in Brazil by the Strategic Issues Nucleus [NAE], 2005).

Ostrom (2012) observes that the conventional explanation of the sources of climate change is largely confined to the uncontrolled outcomes of economic development, lack of scientific information and

an inadequate environmental regulation, but without sufficiently addressing the also important socio-political and institutional issues. Following her advice, this paper aims to review, from a critical social sciences perspective, the pillars of main responses to climate change and the concrete experience in the UPRB. The next pages will contend that most of the current approaches have combined, not always in a coherent fashion, different elements of the international policy framework. The different responses identified through the research reflect contrasting rationalities of environmental conservation, social inclusion and the mitigation of climatic risks. Our discussion is based on research carried out in 2010-2012, which included 45 interviews with government officials (8 interviews), civil society representatives (12), academics (10) and business sectors (15), as well as the analysis of policies and documentation and the attendance of public events, meetings and workshops. Interviews were transcribed, coded and analysed in Portuguese and Spanish and only the extracts reproduced in this paper were translated into English. Before examining the achievements and weaknesses of the various responses to climate change – to be honest, still in an embryonic stage of development in the UPRB – a review of ideal-type approaches or paradigms within contemporary climate debates will be first introduced.

APPROACHES AND RESPONSES TO CLIMATE CHANGE

Because of the number of sectors and issues involved, the policy arrangements developed for dealing with climate change in any country are prone to be complex and multifaceted. Normally, the approaches of governments and civil society organisations combine a range of interpretations of climate change scenarios, which are influenced by the specific socio-political and ecological circumstances. Therefore, a clear appreciation of interactions, uncertainty and contested knowledge, as well as the interdependency among diverse and unequal interests, is required (Fish *et al.*, 2010). Policy responses are not restricted to the economic and legal domains, but represent adjustments in a range of social institutions. Institutions are here understood as legislation, norms, cognitive frames and meaning systems that guide human action and structure social interactions (Hall & Soskice, 1996). In sociological terms, institutions are “the formative products of an amalgamation of factors, just as they themselves can and do influence such factors” (Thynne, 2008, p. 239). Institutional responses must be seen as norms that shape action, frame identities, affect the realisation of problems and influence decisions

and solutions. Such responses are not purely rational or technical, but include a range of actions that are culturally determined and constantly renegotiated between groups of interest.

In the context of the climate change debate, O’Riordan & Jordan (1999) describe institutions as the multitude of means for holding society together. The rationale behind the different reactions to the threats of climate change are both informed by the institutional arrangements and materialised through modifications in social institutions. Therefore, institutional responses go beyond the simple dichotomy between ‘adaptation’ and ‘mitigation’, but it is necessary to consider the wider variety of interpretations and reactions to climate change (Füssel & Klein, 2006). The first approach to be mentioned is the scepticism about the origins and possible consequences of climatic change as discussed under the UNFCCC. On the one hand, the Intergovernmental Panel on Climate Change [IPCC] and other international organisations have presented compelling data, within the margin of errors of the established scientific methods that indicate the existence of anthropogenic causes behind contemporary climate change. For instance, hydrological changes seem unequivocal, as well as the reduction in glaciers and in the rate of snow cover due to human-made global warming (as included in the IPCC’s Fifth Assessment Report published in 2013). On the other hand, despite of such mounting scientific evidence and concerted international efforts, there is still significant scepticism, particularly among radical right-wing political groups, about the actual causes of climatic change.

Climate scepticism refers to a sense of climate ‘denialism’ or ‘contrarianism’ that has recently been very much in the media spotlight, especially because of the unauthorised publication, November 2009, of emails exchanged between scientists that exposed their doubts climate change evidence (Nerlich, 2010). Sceptics argue that it is not possible to demonstrate, beyond doubt, that the progressive warming of the planet does not have natural causes (Poortinga *et al.*, 2011). In practice, climate scepticism has been a convenient and prominent institutional response to the climate change demands. This argument has been particularly useful for lobbyists representing the interests of those sectors that are directly responsible for large emissions of GHGs (e.g. oil industry, timber producers, energy generation, etc.), particularly after the 2008 global financial crisis that has put extra pressure on tight national budgets. It is important to realise that, although the number of sceptical scientists and opinion-makers is small, their presence in the international discussion gives a misleading impression that the debate is evenly split between

those that believe and those that dispute the anthropogenic causes of climatic change. The perverse result is that climate sceptics have had a growing influence on governments unwilling to spend resources and political capital on the adjustments required to cope with climate change.

The second approach discussed here includes measures associated with market or market-like transactions. In order to achieve the stabilisation of GHG concentrations, economists have recommended the allocation of appropriate emission reduction responsibilities among nations or administrative units that should be implemented through market-based mechanisms (Jepma & Munasinghe, 1998). Such an approach is based on the claims that a global optimisation of GHG emissions can only secure techno-economic efficiency through market or market-like transactions (Bühns, 2010). In theory, the abatement of emissions must be pursued up to the level where the margin benefit of reducing emissions of GHGs by one additional unit is equal to the marginal cost of curbing such emissions (Davoudpour & Ahadi, 2006). This sort of institutional response – that constitutes a main inspiration for public policies and is indeed the main driver of the climate change diplomacy nowadays – is directly influenced by the application of the neoclassical economic theory to the study of environmental degradation (Ioris, 2010). According to environmental economists, monetary valuation can guide the choice among numerous potential methods of improving the quantity and the reliability of environmental management. For instance, global wetlands are redefined as providers of ecosystem services, which can be quantified in monetary terms at as much as US\$ 20,000 per hectare (Keddy *et al.*, 2009).

However, it must also be observed that the reduction of wider socio-economic and environmental processes to a set of independent utility functions has become an important source of criticism levied against environmental economists. Anthoff & Tol (2010) specifically argue that the standard calculation of the costs of emissions and impacts is inadequate, because it presumes a global welfare function that ignores the differences between poor and rich countries. These authors recommend that the national government should value impacts in other regions of the world when computing a social cost of carbon that could be used in domestic cost benefit analysis. This sort of methodological adjustment, nonetheless, still fails to remove the reductionist basis of environmental economics. Methodologies adopted by environmental economists tend to restrict the reaction to climate change to the narrow determination of economic costs, benefits and effects. Economic-centred measures fall short of addressing the mounting conflicts and negative impacts associated with the emission of GHGs, as

well as the recognition of differential responsibilities. Bromley (1991) submits that, instead of focusing on the economic use of resources only, the solution to environmental problems requires first of all the determination of collective standards of performance that can reward individual initiative, experimentation and efficiency, as discussed next.

Another common response – third in our list – that has attracted great attention is systematic adaptation based on ‘experimentation’, that is, through a constant reassessment of initiatives and results (Arvai *et al.*, 2006). Systematic adaptation, at the regional and global scales, is posited as an interactive process that aims to transform social relations by creating new knowledge, networks and partnership among interdependent actors. It is described as essentially a form of learning-by-doing, a mechanism by which responses are negotiated, implemented and jointly evaluated by those involved. The process is often initiated as a result of several factors, such as a perceived environmental threat or crisis (e.g. climate change), a new regulatory demand or the availability of financial incentives. At this point, stakeholders begin to appreciate their interdependence, the need to act together and the importance of redesigning social institutions (Gupta *et al.*, 2010). Subsequently, the participating organisations focus on desirable future conditions as well as the underlying values, beliefs and principles that will guide them towards their joint ambitions and aspirations. This tends to be followed by a structuring phase in which specific goals and objectives are established, programmes of activities are designed, and roles and responsibilities are assigned to the various participating organisations and groups (Glaas *et al.*, 2010).

Systematic adaptation (or adaptive management) is essentially part of the broader agenda of environmental governance that permeates contemporary policy-making (Mitchell & Breen, 2007). Governance represents a means of describing and analysing new regulatory arrangements and institutional configurations whereby roles and responsibilities for governing are shared among state-based entities and actors operating beyond the boundaries of formal government. Governance, instead of conventional government, is described as the pursuit of more flexible strategies and mechanisms of public administration to accomplish policy goals, realise values and manage environmental risks and impacts (Howlett and Rayner, 2006). It includes different ‘modes of governance’ aiming at raising awareness, influencing personal and group behaviour and involving social actors in decision-making (Treib *et al.*, 2007). Conventional distinctions and boundaries that previously defined state-market-civil society relations have become blurred as different combi-

nations of actors have become engaged in the pursue of environmental governance and, ultimately, adaptive management (Dengler, 2007; Engle and Lemos, 2010). Huitema *et al.* (2009) even recommend that the theory of adaptive management can be even reconceptualised as 'adaptive co-management', which is based on collaboration in a polycentric governance system. Notwithstanding the appealing discourse, the argument of adaptive management (and the related endorsement of environmental governance type of solutions) has the serious weakness of diluting the accountability for the causes of climatic change and the uneven distribution of impacts. For instance, government initiatives in the UK have stimulated a further set of actions at other scales in public agencies, regulatory agencies and regional government (and the devolved administrations), though with little real evidence of climate change adaptation initiatives trickling down to local government level (Tompkins *et al.*, 2010). That has seriously undermined the ability of systematic adaptation to face the challenging and contested nature of climate change challenges, which gives room for the next two institutional responses.

The fourth main paradigm to be analysed is the architecture of entitlements. Most of the responses formulated today by governments and multilateral organisations have tried to overcome climate change scepticism, but have been largely trapped in the narrow debate between, on the one side, a management discourse based on a technocratic worldview and neo-Malthusian prejudices against poor populations, and, on the other side, a populist argument portraying local actors as the victims of external interventions (who should be somehow incorporated into the formulation of mitigation approaches) but without much consideration of the historical inequalities in the access to resources (Adger *et al.*, 2001). Therefore, Adger & Kelly (1999) suggest that responses to climate change should follow the lens of entitlements, an approach based on the argument that deprived conditions, such as famine, are caused by the lack of access to food rather than a lack of food availability (Sen, 1981). The line of reasoning is that the extent to which groups and communities are entitled to use resources determines their ability to cope with and adapt to climatic stress. Consequently, the focus should shift towards the determination of entitlements and obligations among the parties involved in the use and conservation of natural resources.

This fourth approach brings attention to how entitlements are defined and contested, and also the wider political and socioeconomic aspects of environmental management. "The factors which deter-

mine levels of social vulnerability define how the pattern of access to resources is constructed; this construction can be termed the ‘architecture of entitlements’” (Adger and Kelly, 1999, p. 256). Instead of the exogenous preferences and costless social contracting claimed by neo-classical environmental economists, the institutional structure of entitlements (i.e. property or liabilities) directly influences the nature of the bargaining process between two or more parties. In spite of the more comprehensive understanding of the climate change dilemmas, the formulation of responses based on the theory of entitlements seems still to miss the deeper connections between local exchanges and globalised scales of interaction. Devereux (2001) directly condemns the architecture of entitlements approach for its methodological individualism and its privileging of economic aspects above socio-political determinants. Without recognising such associations between local and global politics, there is the risk of atomistic and technocratic solutions that normally end up falling under the hegemonic influence of environmental economics and environmental governance.

Finally, this schematic review needs to include a fifth institutional response to the threats of climate change that is more closely associated with grassroots activists and the campaigners of environmental justice. The emerging climate justice movement focuses on the politicised interactions between climate change threats and the erosion of social and economic rights. Haines & Reichman (2008) argue that fair approaches to climate change require understanding the strengths and limitations of conventional environmental policy-making. For those authors it is necessary to tease apart the intricacies of international law and governance to find ways to turn economic, legal, and cultural norms toward creating climate justice. The basic claim is that the creation and funding of international institutions for adaptation or mitigation to climate change inescapably involve questions of justice (Harris and Symons, 2010). Because of the perceived discrimination and injustices that are maintained or aggravated by the responses to climate change, the global movement on climate justice has criticised the ineffectiveness of top-down responses, as well as the new spaces for capital accumulation created by the expansion of ‘green capitalism’, that is, the accumulation of capital that benefits from the environmental crisis itself (Dawson, 2010).

The fairness element of the fifth area of institutional response implies that climate change should be related, in a transformative way, with the problems of poverty and marginalisation in the South and over-consumption and fuel dependence in the North. According to such line

of argument, the lack of effective responses to the risks posed by climate change grew almost inevitably from global inequalities, which has perpetuated highly inconsistent ways of thinking and dealing with shared risks (Parks and Roberts, 2010). Consequently, it is contended by climate justice authors that the reaction to anthropogenic global warming should target human welfare rather than provide compensation to states (seen as the primary responsible for unchecked GHG emissions) and should be funded through measures that impose similar emission costs on affluent people in both developed and developing countries. Also inequalities within the same groups reinforce the importance of finding common ground between the development and climate justice agendas, as well as to reconcile the conflicting messages and objectives of civil society (Parks and Roberts, 2010).

The above overview of the five main approaches or institutional responses to the challenges related to climate change – see Table 1 – will now inform our examination of the institutional context in the three countries that contain the UPRB and the Pantanal in South America.

Table 1: Approaches to Climate Change: A Schematic Overview of the Bibliography

Approach or Institutional Response	Main reasoning	Claims and approaches	Examples of responses and policy implications
Climate scepticism	Denial of the anthropogenic causes of climate change	Major scientific uncertainty remaining and the disproportionate cost of precautionary measures	No change in existing environmental and economic policies; 'wait and see'; maintain carbon intensive economic development
Marketisation measures	Neoclassical economics principles; solutions through the market	Assessment of the monetary value of ecosystem services and the costs of GHG reduction	Market-based responses; carbon trading and carbon taxes; adoption of schemes such as REDD and other forms of payment for ecosystem services
Systematic adaptation	Continuous reevaluation of initiatives and technologies	Search for better environmental governance and technological improvements	Interactive responses; tentative initiatives and heuristic examination of results; constant adjustments and improvements

Architecture of entitlements	Equity between countries, groups and individuals	Acknowledgement of the social construction of resource scarcity and vulnerability	Clarification of entitlements and obligations of all parties involved in terms of access to natural resources and the distribution of impacts
Climate justice	Criticism of unfair production and distribution patterns	Denunciation of the exploitation of society and the rest of nature	Struggle for a compensation for past and present inequalities; fulfilment of the demands of the more vulnerable social groups

ASSESSING APPROACHES TO CLIMATE CHANGE IN THE UPRB

The preceding review of the literature on the approaches and responses to the risks posed by anthropogenic climate change should help to understand the socio-political context and the institutional dilemmas currently affecting the management of the UPRB and the Pantanal region. Our analysis should first recognise that the UPRB does not figure very high in the list of climate change priorities of Brazil, Bolivia or Paraguay. On the contrary, in those three countries scientists and policy-makers have mostly concentrated their attention to other biomes (such as the Amazon, the Andes and the Chaco, respectively). As observed in some of our interviews:

“As a matter of fact, there is no specific legislation for the UPRB [concerning climate change], because the priority has been the Amazon. Most national policies are focused on monitoring and deforestation, which means that there are no local policies [for the UPRB] either.” (Environmental regulator, Brazil, Jul 2011)

“I think that the main obstacle is the lack of financial resources, but also the difficulty to establish alliances with other organisations due to the bureaucracy that characterises public agencies. Also there are no clear guidelines to inform the cooperation between organisations and how these can help the implementation of existing policies.” (Ecologist, Bolivia, Sep 2011)

It means that the institutional framework for dealing with climate change in the Pantanal region are mainly the residue of the public policies primarily intended for some other geographical areas in the three countries. That situation represents a considerable ‘policy-making gap’

that, in the end, has tended to undermine the advance of climate change policies within each country and between countries. The marginalisation of the region in the structures of policy-making also brings us a particular analytical difficulty, given that the current research had to deal with subtle evidences and limited information

Likewise, it is also important to acknowledge the existence of strong elements of climate scepticism in the region, which still permeate many development strategies of governments and the stronger socioeconomic sectors. Although the ecological value of the Pantanal wetlands and its surrounding plateaus are mentioned in official discourses and corporate publications, there has been significant hesitation to effectively tackle the prospects of climate change in the UPRB. That is clearly demonstrated by the delay to organise formal state regulation and to engage civil society in the aspects of the public debate that are specific relevant for coping with climate change risks.

After recognising the secondary importance of the region for national policy-making purposes and the persistence of climate change scepticism, it should be possible to analyse the institutional responses actually considered for the UPRB. Referring back to the literature review in the preceding pages, we can verify that the climate change action in the three countries has been essentially a hybrid combination of different approaches (hence the importance of the description of those five approaches). We can start our examination with Brazil, the country that includes most of the Pantanal and the UPRB territory. It is worth remembering, at least in symbolic terms, that the signature of the Climate Change Convention happened in Brazil during the United Nations Conference on Environment and Development, which took place in Rio de Janeiro in 1992. Two years later, in 1994, the Convention was ratified by the Brazilian Congress and allowed its implementation by the national state. Because of its federal configuration, the reactions to climate change had to be shared between the central government and the state (provincial) administrations, as well as by thousands of municipal authorities (Cole, 2009).

The two states that contain the Brazilian section of the river basin (Mato Grosso and Mato Grosso do Sul) have followed the example of the national government and instituted a preliminary structure of policy-making for dealing with climate change, although the approval of state legislation has proven controversial. For instance, Mato Grosso has a climate change forum since 2009, but the activities have produced limited results and serious disagreements led to the departure of some key organisations from the forum (such as the Amazon Environmental

Research Institute, IPAM, in June 2010, which published an 'open letter' denouncing the hesitation to effectively face up to the challenges related to climate change in Mato Grosso).

Based on our interviews and on the analysis of the documentation, it was possible to ascertain that most of the institutional responses formulated in the Brazilian section of the UPRB seem to gravitate around systematic adaptation measures, particularly related to new agriculture production technologies and the expansion of hydropower energy. Probably the most relevant element of adaptive management is the improvement of agriculture practices as a strategy to reduce GHG emissions. Techniques such as no-tillage, crop rotation and perennial crops have the potential to store more carbon in the soil and help to mitigate the risks of climate change; at the same time, those practices can also contribute to conserve soil and water resources at the catchment level (Tollefson, 2010). In Mato Grosso do Sul, a new law passed in 2010 (No. 3,951) introduced green certification of products as means to induce carbon capture in the soil through new agriculture practices.

Also in 2010, the federal government launched the programme 'Low Carbon Agriculture' (ABC), which provides financial incentives for the adoption of techniques such as no-tillage, reforestation and cattle-crop-forest integration. Because of the scale of the agribusiness sector, both Mato Grosso and Mato Grosso do Sul are important areas for the ABC programme and farmers in those states have expressed their satisfaction with the funds already made available by the national government (Valor Econômico, 2011). Similar reductions in terms of GHG emissions are supposed to be obtained from the operation of additional hydropower plants in the UPRB (although in this case localised impacts are typically associated with the construction and operation of hydroelectric schemes). Historically, most of the electricity generation in Brazil has come from hydropower plants, but until lately the UPRB had not been a priority area for the construction of energy schemes (Ioris, 2012).

In addition to those initiatives, the last decade, there has been a concerted emphasis in translating environmental economic principles into policy-making in Brazil. The main goal is to assess the monetary value of the impacts of climate change and formulate financial incentives to reduce the emission of GHGs. That follows what was described above as 'marketisation measures', that is, the application of solutions to environmental problems to foster economic rationality and promote management efficiency. In December 2009 a new legislation was passed in the country instituting the national policy on climate change, which

included, among many other clauses, the creation of the 'Brazilian emission reduction market' (MBRE). This initiative is aimed to manage carbon emission trade in the country and is supposed to operate through the normal stock market channels. Likewise, the National Climate Change Fund (FNMC) was also established in 2009 to raise funds to be applied in the concession of loans and in the financial support (non-reimbursable) to projects aimed at climate change mitigation and adaptation. The pursuit of economic instruments became the new face of the policy-making related to climate change in Brazil. For instance, Viglizzo & Frank (2006) calculate that the ecosystem services in Pantanal has the highest gross annual value of ecosystem services in the Plata Basin (US\$ 5,726.9/ha/year), which would serve as justification for the conversion of such services into monetary payments to those involved in their conservation. Initiatives related to emission trading have increasingly encouraged the production of biofuel, such as ethanol and biodiesel, in the agriculture areas the surround the Pantanal. An association of the biofuel Producers of Mato Grosso do Sul, known as BioSul, was already organised to represent the sector at the local and national levels.

Despite the technological advances achieved under institutional responses that follow the rationale of systematic adaptation and marketisation, it is also important to observe the narrowness of those initiatives, especially in terms of the unevenness of the actual beneficiaries. Considering together, the above institutional responses to climate change in Brazil can be blamed for having followed the same pattern of public subsidies being channelled to the stronger and better organised economic sectors, at the expense of more inclusive and publicly accessible strategies. Not surprisingly, both systematic adaptation and marketisation measures were repeatedly criticised in our interviews with by Brazilian academics and NGO activists. The main criticism is that technological improvements alone are likely to reinforce the same pattern of socioeconomic inequalities and concentrated land tenure, which in itself constitutes a serious contradiction in policies that are supposed to deal with a universal problem (i.e. the effects of climate change). In addition, there are serious suspicions of corruption related to the granting of environmental licences to new hydropower schemes, which motivated the creation of a parliamentary enquire commission in the state assembly of Mato Grosso in March 2011. As pointed out in one interview, the consequences of climate change in the region are becoming increasingly evident (although that is yet difficult to demonstrate with the scant climatological data available), but it has mainly penalised the less well off in society:

“The most vulnerable populations in the UPRB, like fishermen and collectors are already suffering the negative impacts of climatic changes. Extreme events, such as years with serious droughts and also floods have really impacted the life of local communities, particularly in terms of their infrastructure and social organisation.” (Member of a local NGO, Brazil, Jun 2011)

If in Brazilian the institutional responses to climate change have largely operated within a technocratic and business-friendly framework, the comparable initiatives in Bolivia have followed a different pattern under the government of President Evo Morales. Until his election in 2005, Bolivia used to adhere to the recommendations of the mainstream climate change community, essentially in favour of mitigation measures influenced by the principles of environmental economics. Similarly to the Brazilian experience in the period, the 1990s were a decade of intense institutional reform in Bolivia, which attempted to restructure the economy along neoliberal lines. Even a few months before the unexpected electoral result, the previous national government passed a Hydrocarbon Law and other pieces of legislation aimed to regulate the activity of national and international private operators, mainly interested in exploring the abundant gas reserves of Bolivia. With the victory of Morales, however, Bolivia took a more independent, and confrontational, attitude regarding the implementation of the Climate Change Convention. The main tone of the institutional responses to climate change under Morales has been the affirmation of the architecture of the entitlements, but in a way that realign that architecture to better distribute resource entitlements amongst the population according to climate justice concerns. In the last few years, the government has passed a series of laws that established large reserve areas for the settlement of indigenous groups and poor peasants, which contradicts the interests of agribusiness and other dominant economic groups. Furthermore, Bolivia has become a vocal opponent of the dominant framework for climate change negotiations, as its diplomatic interventions have constantly denounced mainstream climate change negotiations as neo-colonial practices (De Angelis, 2011).

In the end, the institutional responses advanced by the Bolivian government have increasingly incorporated elements of climate justice. For example, at the climate change Summit in 2009, the Bolivian government joined a coalition of smaller state and non-state actors that push for main concessions from the central economic countries. Morales

went to COP-15 in Copenhagen and proposed that northern capitalist economies should fund mitigation and adaptation mechanisms in other countries to pay for their “ecological debt with future generations and the rest of the world” (published at www.presidencia.gob.bo/discursos.php). Bolivia declined to endorse the final agreement and called for an alternative summit “to defend Mother Earth, which is under attack from the irrational politics of industrialisation of the developed nations.” That was named the World People’s Conference on Climate Change and the Rights of Mother Earth, which took place in Cochabamba in April 2010 and was attended by around thirty thousand activists from dozens of countries. At the end of the conference, the “Agreement of Peoples” on Earth Day was signed, which exhorted the major powers to join the Kyoto Protocol, called for a global referendum on climate change and pushed for the creation of an International Climate Change Court. Later in the same year, Morales was one of the most critical voices during the COP-16 in Mexico, when Bolivia was the only country that refused to sign the Cancun Accord and denounced its vagueness.

The result is that the Bolivian government has raised a distinct voice in the international arena and galvanised the dissatisfaction of traditionally marginalised groups not only in South America, but also around the world. Morales derives legitimacy for his autonomous stance on climate change partly from his recent re-election in 2009 and partly from the input of the Bolivian Platform against Climate Change, a network of over 180 organised groups. The change of discourse by the national government under Morales has had repercussions for the mobilisation and intervention of civil society organisations, which have directly called for a combination of alternative technologies and the fulfilment of civil rights (e.g. Centre of Investigation and Peasantry Promotion [CIPCA], 2009).

Interestingly, despite its confrontational policy, the Bolivian government has also paradoxically welcomed initiatives more closely associated with the creation of carbon markets and other forms of payments for ecosystem services. In particular, Bolivia is one of the priority countries for the implementation of REDD, the UN programme on the Reduction of Emissions from Deforestation and Degradation in developing countries. The signature of an agreement with REDD by the Morales government in September 2010 – it is a pilot project which aims to strengthen institutional capacities and test the REDD framework; the project involves US\$ 4.7 million in financing and support from the World Bank and German international cooperation – was inescapably seen by many climate justice activists as a form of political betrayal to the very political platforms

advanced by Morales (Benton-Connell, 2011). Such institutional complexity and apparent inconsistency of the Bolivian responses to climate change was mentioned in an interview:

“The main obstacle for dealing with climate change is still the lack of political will, and the harmful influence of the business sector. There are strong economic interests involved in this whole debate.” (Environmental NGO activist, Bolivia, Sep 2011).

The situation of Paraguay is at an intermediate position between the approaches taken by Brazil and Bolivia in recent years (and probably closer to marketisation measures than climate justice). Paraguay translated the Climate Change Convention into national legislation in 1993 and in the year 2000 a regulatory system was introduced under the coordination of SEAM. Also in 2000 a national GHG inventory was published and identified the main emission sectors (despite the limited amount of data available). Although the Pantanal wetland only occupies a small percentage of the country, most of its economic activity depends heavily on navigation along the Paraguay River and the impacts of climate change are likely to pose a significant threat to the operation of international waterways (what was mentioned in various interviews and seems to be one of the main areas of concern among Paraguayans). Despite those serious consequences of climate change, in practical terms, the institutional framework developed so far in Paraguay has proven very feeble and inadequate to deal with major politico-economic pressures that insist on the maintenance of conventional forms of production and natural resource exploitation.

At the same time that various initiatives have been advanced in terms of alternative agriculture, forestry and energy technologies (Programa de las Naciones Unidas para el Desarrollo [PNUD], 2007), the agribusiness sector continues to expand due to the rising prices of agriculture commodities in global markets. Furthermore, the country has most of its electric energy generated from hydropower (i.e. the massive Itaipu dam on the border with Brazil), but the demand for oil and the high rates of deforestation remain a serious challenge in terms of GHG emission reduction. The institutional contradictions of the climate change responses formulated in Paraguay are demonstrated in the following statement:

“There is a need to revise and consolidate the institutional approaches in the whole river basin [i.e. UPRB]. There is an agency responsible for

climate change in Paraguay, but the dissemination of information is very poor. (...) The large agribusiness firms are able to use new technologies that help them to cope with climate change, but the small farmers don't have any access." (Academic, Paraguay, Sep 2011).

It is relevant to mention also that the treaty which established MERCOSUL (or MERCOSUR) was signed in Asuncion, Paraguay, in 1991. MERCOSUL is the new economic block between South American countries that intended to eliminate tariff and non-tariff restrictions on imports. The agreement included a series of legal instruments on environmental regulation and policy-making, which have the primary goal of harmonising environmental legislation. One of its administrative units is the Common Market Group (GMC), which passed resolutions on various environmental matters (for example, the Resolution 9/91 on gas emissions and acceptable levels of pollution). Negotiation between member states on environmental issues have in fact represented an important element of the cross-country cooperation, but have also revealed the weaknesses of the MERCOSUL environmental policies (Morosini, 2010).

In addition to the domestic difficulties to coordinate the different levels of government and engage the non-governmental sectors in a sustainable management of the Pantanal region, the achievement of genuine trans-boundary integration has also proved very problematic. Despite a reiterated commitment for cooperation at the high level of South American geopolitics, on the ground there have been frequent clashes between nation states, such as the increase in the price of the natural gas exported from Bolivia to Brazil (through pipelines that cross the Pantanal). Likewise, changes in land use impact the river flow regime and has harmful consequences for Paraguay, located downstream of Brazil and Bolivia. International negotiators insist on a convergence of institutional responses, but in practice economic disputes and a weak civil society seem to largely undermine the efforts of dealing with climate change in the region.

CONCLUSION

This brief assessment on the responses to climate change risks in the UPRB shows the fragility of the institutional framework that currently deals with the conservation and sustainable use of the Pantanal wetland and its surrounding, upland areas. The timid measures taken so far to deal with the consequences of climate change have clearly reflected

hegemonic economic and political influences in the three countries that share the river basin, especially from the agribusiness sector. It is possible to verify that most government initiatives in Brazil and Paraguay have combined systematic adaptation (particularly in terms of technology amelioration) and, more recently, the influence of marketisation approaches (e.g. carbon trading and REDD). The Bolivian government has tried to implement a more autonomous and critical programme of measures associated with climate justice, but the experience has not prevented the adhesion to mainstream initiatives such as the REDD project.

In addition, the UPRB continues to occupy only a secondary position in the national climate change priorities of the three countries and local political leaders have been unable to influence the formulation of legislation and policies. This situation represents not only a significant obstacle for doing social sciences research on climate change responses, but the slow implementation of those measures in the region also suggests that the Pantanal wetland and the UPRB remain relatively marginalised in the formulation of environmental policies and even in the environmental diplomacy between Brazil, Bolivia and Paraguay. The threats of climate change for the UPRB have failed to capture the imagination of most environmental policy-maker and politicians, while the mobilisation of the private sector has also been reluctant or opportunistic. The demand for energy, natural resources and commodity production represent major pressure over biological processes and have been pursued with little consideration of the needs of the low-income population and the opinion of grassroots groups.

The regional experience is a case in point of the inherent limitations of the institutional reforms and the contradictory influences of neoclassical economics on the ongoing reorganisation of the environmental sector. Instead of promoting a genuine change in public policies, the new approaches have largely preserved the hegemonic interests of landowners, industrialists, construction companies and real estate investors, at the expense of the majority of the population and the recovery of ecological systems. The crux of the matter has been the persistent inability of governments and of the representative of the hegemonic sectors to formulate more inclusive and sound climate change policies. Centralised, conventional approaches have ultimately perpetuated a situation of high socio-ecological vulnerability and institutional unpreparedness to cope with climate change.

The more recent attitude of the Bolivian government has represented a contrasting voice in the international arena, but the same government has also accepted other mainstream mechanisms that are based on the

monetisation of costs and benefits. At the same time, formal public participation forums created in the Brazilian section of the UPRB have been a little more than a formality and have not avoided internal political friction. The climate change debate in Paraguay is still in its infancy, despite the risks posed to the navigation and socio-economy, and the country has systematically lagged behind the developments in the other two upstream nations. Taking together the current situation in the three countries, it is possible to identify only modest signs of institutional improvement in the UPRB region and many questions are left unanswered. The perverse irony is that climate change in the UPRB seems still a very abstract and cumbersome issue, although the severe consequences of global warming may be felt much earlier than most expect.

REFERENCES

- Adger, W.N., & Kelly, P.M. (1999). Social vulnerability to climate change and the architecture of entitlements. *Mitigation and Adaptation Strategies for Global Change*, 4(3-4), 253-266.
- Adger, W.N., Benjaminsen, T.A., Brown, K., & Svarstad, H. (2001). Advancing a political ecology of global environmental discourses. *Development and Change*, 32(4), 681-715.
- Alho, C.J.R., Lacher, T.E., & Gonçalves, H.C. (1988). Environmental degradation in the Pantanal ecosystem. *BioScience*, 38(3), 164-171.
- Anthoff, D., & Tol, R.S.J. (2010). On international equity weights and national decision making on climate change. *Journal of Environmental Economics and Management*, 60(1), 14-20.
- Araújo, A.P.C. (2006). *Pantanal: Um espaço em transformação*. PhD thesis, PPGG, Instituto de Geociências, UFRJ, Rio de Janeiro.
- Arvai, J., Bridge, G., Dolsak, N., Franzese, R., Koontz, T., Luginbuhl, A., Robbins, P., Richards, K., Korfmacher, K.S., Sohngen, B., Tansey, J., & Thompson, A. (2006). Adaptive management of the global climate problem: Bridging the gap between climate research and climate policy. *Climatic Change*, 78(1), 217-225.
- Barkin, D. (2009). The construction of mega-projects and the reconstruction of the world. *Capitalism Nature Socialism*, 20(3), 6-11.
- Benton-Connell, K. (2011). *Off the market: Bolivian forests and struggles over climate change*. San Francisco: The Democracy Center.
- Brasil (2010, June 08). Desmatamento na Amazônia cai 48% entre agosto de 2009 e abril de 2010. <http://www.brasil.gov.br>
- Bromley, D.W. (1991). *Environment and economy: Property rights and public policy*. Oxford and Cambridge, Mass.: Blackwell,

- Bühns, T. (2010). Emissions trading, equity, and sustainability: The case for allocating entitlements to "individuals-in-community". *Local Environment*, 15(9), 817-830.
- CIPCA. (2009). *Propuestas de acción y políticas de respuesta frente a los efectos del cambio climático*. La Paz: CIPCA.
- Cole, J.C. (2009). *The clean development mechanism and the legal geographies of climate policy in Brazil*. DPhil thesis, Oxford University, UK.
- Collischonn, W., Tucci, C.E.M., & Clarke, R.T. (2001) Further evidence of changes in the hydrological regime of the River Paraguay: Part of a wider phenomenon of climate change? *Journal of Hydrology*, 245(1-4), 218-238.
- Davoudpour, H., & Ahadi, M.S. (2006). The potential for greenhouse gases mitigation in household sector of Iran: Cases of price reform/efficiency improvement and scenario for 2000-2010. *Energy Policy*, 34(1), 40-49.
- Dawson, A. (2010). Climate justice: The emerging movement against green capitalism. *South Atlantic Quarterly*, 109(2), 313-338.
- De Angelis, M. (2011). Climate change, mother earth and the commons: Reflections on El Cumbre. *Development*, 54(2), 183-189.
- Dengler, M. (2007). Spaces of Power for Action: Governance of the Everglades Restudy Process (1992-2000). *Political Geography*, 26(4), 423-454.
- Devereux, S. (2001). Sen's entitlement approach: Critiques and counter-critiques. *Oxford Development Studies*, 29(3), 245-263.
- Engle, N.L., & Lemos, M.C. (2010). Unpacking governance: Building adaptive capacity to climate change of River Basins in Brazil. *Global Environmental Change*, 20(1), 4-13.
- Fish, R.D., Ioris, A.A.R., & Watson, N.M. (2010). Integrating water and agricultural management: Collaborative governance for a complex policy problem. *Science of the Total Environment*, 408(23), 5623-5630.
- Füssel, H-M., & Klein, R.J. (2006). Climate change vulnerability assessments: An evolution of conceptual thinking. *Climatic Change*, 75(3), 301-329.
- Glaas, E., Jonsson, A., Hjerpe, M., & Andersson-Sköld, Y. (2010). Managing climate change vulnerabilities: Formal institutions and knowledge as determinants of adaptive capacity at the local level in Sweden. *Local Environment*, 15(6), 525-539.
- Gupta, J., Termeer, C., Klostermann, J., Meijerink, S., van den Brink, M., Jong, P., Nooteboom, S., & Bergsma, E. (2010). 'The adaptive capacity wheel: A method to assess the inherent characteristics of institutions to enable the adaptive capacity of society. *Environmental Science and Policy*, 13(6), 459-471.
- Haines, F., & Reichman, N. (2008). The problem that is global warming: Introduction. *Law and Policy*, 30(4), 385-393.

- Hall, P. and Soskice, D. (1996). Political science and the three new institutionalisms. *Political Studies*, 44(5), 936-957.
- Hamilton, S.K., Sippel, S.J., & Melack, J.M. (2002). Comparison of inundation patterns among major South American floodplains. *Journal of Geophysical Research D: Atmospheres*, 107(20), 5-1 to 5-14.
- Harris, P.G., and Symons, J. (2010). Justice in adaptation to climate change: Cosmopolitan implications for international institutions. *Environmental Politics*, 19(4), 617-636.
- Harris, M.B., Arcangelo, C., Pinto, E.C.T., Camargo, G., Ramos Neto, M.B., & Silva, S. M. (2005). *Estimativas de perda da área natural da bacia do Alto Paraguai e Pantanal Brasileiro*. Campo Grande: Conservação Internacional.
- Howlett, M., & Rayner, J. (2006). Convergence and divergence in 'new governance' arrangements: Evidence from European integrated natural resource strategies. *Journal of Public Policy*, 26(2), 167-189.
- Huitema, D., Mostert, E., Egas, W., Moellenkamp, S., Pahl-Wostl, C., & Yalcin, R. (2009). Adaptive Water Governance: Assessing the Institutional Prescriptions of Adaptive (co-) Management from a Governance Perspective and Defining a Research Agenda. *Ecology and Society*, 14, 26.
- Ioris, A.A.R. (2004). Conflicts and contradictions on the occupation of the Pantanal space. In D. Tazik, A.A.R. Ioris, & S.R. Collinsworth (Eds.), *The Pantanal: Scientific and institutional challenges in management of a large and complex wetland ecosystem* (pp. 26-38). Washington DC: USACE.
- Ioris, A.A.R. (2010). The political nexus between water and economics in Brazil: A critique of recent policy reforms. *Review of Radical Political Economics*, 42(2), 231-250.
- Ioris, A.A.R. (Ed.). (2012). *Tropical wetland management: The South-American Pantanal and the international experience*. Farnham, Surrey: Ashgate.
- Ioris, A.A.R. (2013). Rethinking Brazil's Pantanal wetland: Beyond narrow development and conservation debates. *The Journal of Environment & Development*, 22(3), 239-260.
- IPCC. (2007). *Climate change: Impacts, adaptation and vulnerability*. Working Group II Contribution to the IPCC Fourth Assessment Report. Geneva: IPCC Secretariat.
- Jepma, C.J., & Munasinghe, M. (1998). *Climate change policy: Facts, issues, and analyses*. Cambridge: Cambridge University Press.
- Junk, W.J., & Cunha, C.N. (2005). Pantanal: A large South American wetland at a crossroads. *Ecological Engineering*, 24(4), 391-401.
- Kayranli, B., Scholz, M., Mustafa, A., & Hedmark, Å. (2010). Carbon storage and fluxes within freshwater wetlands: A critical review. *Wetlands*, 30(1), 111-124.
- Keddy, P.A., Fraser, L.H., Solomeshch, A.I., Junk, W.J., Campbell, D.R.,

- Arroyo, M.T.K., & Alho, C.J.R. (2009). Wet and wonderful: The world's largest wetlands are conservation priorities. *BioScience*, 59(1), 39-51.
- Marengo, J.A., Ambrizzi, T., da Rocha, R.P., Alves, L.M., Cuadra, S.V., Valverde, M.C., Torres, R.R., Santos, D.C., & Ferraz, S.E.T. (2010). Future change of climate in South America in the late twenty-first century: Intercomparison of scenarios from three regional climate models. *Climate Dynamics*, 35(6), 1089-1113.
- Marengo, J.A., Chou, S.C., Kay, G., Alves, L.M., Pesquero, J.F., Soares, W.R., Santos, D.C., Lyra, A.A., Sueiro, G., Betts, R., Chagas, D.J., Gomes, J.L., Bustamante, J.F., & Tavares, P. (2012). Development of regional future climate change scenarios in South America using the Eta CPTEC/HadCM3 climate change projections: Climatology and regional analyses for the Amazon, São Francisco and the Paraná River basins. *Climate Dynamics*, 38(9-10), 1829-1848.
- Mitchell, S.A., & Breen, C.M. (2007). The role of research in informing the governance process of the use of ecosystem resources. *Water Policy*, 9(SUPPL. 2), 169-189.
- Morosini, F. (2010). The MERCOSUR trade and environment linkage debate: The disputes over trade in retreaded tires. *Journal of World Trade*, 44(5), 1127-1144.
- NAE. (2005). *Mudanças do clima*. Cadernos NAE. Brasília: Secretaria de Comunicação de Governo e Gestão Estratégica, Presidência da República.
- Nerlich, B. (2010). Climategate': Paradoxical metaphors and political paralysis. *Environmental Values*, 19(4), 419-442.
- Neves, A.C.O. (2009). Conservation of the Pantanal wetlands: The definitive moment for decision making. *Ambio*, 38(2), 127-128.
- O'Riordan, T., & Jordan, A. (1999). Institutions, climate change and cultural theory: Towards a common analytical framework. *Global Environmental Change*, 9(2), 81-93.
- Ostrom, E. (2012). Nested externalities and polycentric institutions: Must we wait for global solutions to climate change before taking actions at other scales? *Economic Theory*, 49(2), 353-369.
- Parks, B.C., & Roberts, J.T. (2010). Climate change, social theory and justice. *Theory, Culture & Society*, 27(2-3), 134-166.
- PCBAP. (1997). *Plano de Conservação da Bacia do Alto Paraguai*. Brasília: MMA.
- PNUD. (2007). *Cambio climático: Riesgos, vulnerabilidad y desafíos de adaptación en Paraguay*. Asunción: PNUD.
- Poortinga, W., Spence, A., Whitmarsh, L., Capstick, S., & Pidgeon, N.F. (2011). Uncertain climate: An investigation into public scepticism about anthropogenic climate change. *Global Environmental Change*, 21(3), 1015-1024.

- Querner, E., Jonker, R., Padovani, C., Soriano, B., & Galdino, S. (2005). Regional hydrological impacts of climatic variability and change: Impact assessment and decision making. Proceedings of Symposium S6 held during the *Seventh IAHS Scientific Assembly* at Foz do Iguaçu, Brazil, April 2005. IAHS Publ. 295.
- Rossetto, O.C. (2004). *Vivendo e mudando junto com o Pantanal: Um estudo entre as transformações culturais e a sustentabilidade ambiental das paisagens pantaneiras*. PhD thesis, CDS, UnB, Brasília.
- SEAM. (n/d). *ONU-REDD Programa nacional conjunto (borrador)*, Asunción: SEAM, INFONA, PNUD, PNUMA, FAO.
- Sen, A. (1981). *Poverty and famines: An essay on entitlements and deprivation*. Oxford: Oxford University Press.
- Swarts, F.A. (Ed.). (2000). *The Pantanal: Understanding and preserving the world's largest wetland*. St Paul, Minnesota: Paragon House.
- Thynne, I. (2008). Climate change, governance and environmental services: Institutional perspectives, issues and challenges. *Public Administration and Development*, 28(5), 327-339.
- Tollefson, J. (2010). Intensive farming may ease climate change. *Nature*, 465(7300), 853.
- Tompkins, E.L., Adger, W.N., Boyd, E., Nicholson-Cole, S., Weatherhead, K., & Arnell, N. (2010). Observed adaptation to climate change: UK evidence of transition to a well-adapting society. *Global Environmental Change*, 20(4), 627-635.
- Treib, O., Bähr, H., & Falkner, G. (2007). Modes of governance: towards a conceptual clarification. *Journal of European Public Policy*, 14(1), 1-20.
- Valor Econômico (2011, September 23). Criadores do MT comemoram crédito para agricultura de baixo carbono. *Valor Econômico* newspaper.
- Viglizzo, E.F., & Frank, F.C. (2006). Land-use options for Del Plata Basin in South America: Tradeoffs analysis based on ecosystem service provision. *Ecological Economics*, 57(1), 140-151.
- Zeilhofer, P., & Moura, R.M. (2009). Hydrological changes in the northern Pantanal caused by the Manso dam: Impact analysis and suggestions for mitigation. *Ecological Engineering*, 35(1), 105-117.

Brazilian Dystopia: Development and Climate Change Mitigation

Garry Potter¹, Jun Mian Chen², Nazar Hilal³

ABSTRACT: The Amazonian Rainforest is an area of particular ecological importance to the world. And it is mainly its deforestation, rather than the usual combination of the carbonized energy and transport economic sectors, which make Brazil the world's fourth largest emitter of greenhouse gases. Brazil, with its political and diplomatic alliances with Russia, India, China and South Africa also occupies a prominent position in the complex negotiations with developed countries over the manner in which the "right to development" is defined and understood on the one hand, and then, on the other, balanced with ecological concerns. There are many such concerns but the focus of this article is climate change mitigation. The "dystopia thesis" concludes that humanity faces a plethora of imminent inter-related crises in complex feedback loops. It also concludes that these problems cannot be solved, or even sufficiently ameliorated, from within the context of capitalist reform, or at least not so as to avoid suffering on a colossal scale. This extremely broad, abstract theoretical conclusion, is examined empirically in this article in the particular case of the relationship between the Brazilian economy and the development of the Amazon on the one hand, and climate change mitigation efforts on the other. The examination provides further evidence for the dystopia thesis's most pessimistic conclusions. For our own well being, indeed our very survival, we must protect the Amazonian Rainforest; but we are not going to be able to do so with mechanisms functioning within the context of the present world political economy.

-
- 1 Garry Potter is Associate Professor of Sociology at Wilfrid Laurier University. He is the author of several books including *Dystopia: What is to be done?* as well as filmmaker of the documentary by the same name. More recently he has made another documentary film: *Whispers of Revolution*, available for viewing online at www.whisperofrevolution.org
 - 2 Jun Mian Chen is a Master's student at the Department of Sociology, Wilfrid Laurier University.
 - 3 Nazar Hilal is a Master's student at the Department of Sociology, Wilfrid Laurier University.

INTRODUCTION

“There are no environmental solutions to environmental problems,
only social, economic and political ones.”

Charles Secret, Friends of the Earth

This article will examine climate change with a focus on Brazil, deploying a framework we call the “dystopia thesis.” Climate change is, of course, not only Brazil’s problem but the world’s. The dystopia thesis predicts a dystopian future for humanity, with many different forms, shades and degrees of horror among the possible futures. Perhaps the worst of these possibilities is a global eco-catastrophe, arising from runaway global warming beyond the point wherein checking it is still a possibility. This is a global problem but Brazil will play a key role: either in climate change exacerbation or its mitigation.

The general argument of what we are calling “the dystopia thesis” will be summarized in the first section of the article but the principal focus will be upon how it applies to Brazil. There are a number of reasons for this. The dystopia thesis identifies a great many currently existing ills, as well as offering predictions. Brazil is afflicted by many of them. World socio-economic inequality is a key feature of the dystopia thesis and in the Brazilian case it is simultaneously a causal force and a humanly suffered result. Brazil wishes to economically develop; one could say that Brazil needs to economically develop, if only to mitigate some of the suffering accompanying the poverty of a sizable portion of its population (21.4 percent of its population lives below the poverty line and 4.2 percent are below the “extreme poverty line” according to the CIA World Factbook, 2013). But economic development and the exploitation of natural resources frequently comes into conflict with both local and global ecological imperatives, with global climate change being the most serious of these. This is true everywhere but it is particularly important because of the key role the Amazon Rain Forest plays in the world’s eco-system. The second section of this article thus explains the ecological importance of the Amazonian Rain Forest and the absolute necessity of its preservation.

The third section of the article looks at the economic side of dystopia as manifest in the Brazilian case. It considers both some of the realities of development and the “right to development” discourse of many developing nations, including Brazil. Brazil’s poor need the benefits of development; they need better health care and education to name but two. The rights of individuals to such can thus be argued as a nation’s

“right to development”, as conflicts with the necessity to preserve the rainforest are diplomatically negotiated with the richer countries of the North. We examine this discourse and the realities of global capitalism that underlie it. The latter ensure, first of all, that virtually unbridled exploitation of the forest does take place. Secondly, such structural realities ensure that the benefits of such development do not usually extend to the poor. And thirdly, that a more farsighted care and management of resources does not take place. In essence, there are structural causal forces producing Amazonian dystopia.

The next sections of the article deal with the drivers of rainforest destruction and the failures of capitalist solutions to these problems. The fourth section looks at the forest industry’s ecologically sustainable forestry practices certification programs and their failures. The fifth section looks at an even more powerful driver of destruction than forestry: the cattle industry. This section includes an examination of the way the production and dissemination of scientific knowledge in relation to this industry is given a dystopian twist.

This article is in many senses a particularized application of the broader focus of what has been called “the dystopia thesis.” This argument has been articulated by one of the co-authors of this article elsewhere (Potter, 2009, 2010a), including in the pages of this journal (Potter, 2012). However, for the benefit of most readers who are probably unfamiliar with this argument, the first section here provides a synopsis.

THE DYSTOPIA THESIS

“If a path to the better there be, it begins with a full look at the worst.”

Thomas Hardy

The dystopia thesis asserts that our collective human future will be one of poverty, disease and eco-nightmare: it will be an extreme dystopian reality beyond the imaginations of the writers of fiction. This is because the realities of the scope of human suffering are more than any single mind can grasp. Dystopia is already here for perhaps as many as a billion people. It is here in the form of poverty in the extremes of famine and untreated treatable disease, infant and child mortality and in the incredible pain behind the disturbing statistics. It is here in the form of poorly paid dangerous and/or degrading work, including work done by children. It is here in all the various forms of pollution and is on track for getting worse. It is already here in war and terror and torture.

But just as we can see various forms of pollution getting worse, dystopia is still just emerging. We can see it in the growing numbers of unemployed and the alienated under-employed. We can see the inevitable financial crises coming and going while the cutbacks in governmental (virtually every developed countries government) welfare programs and spending on health and education continue unabated. We can see the effects of global climate change beginning to emerge in unusual weather patterns and the increased frequency of hurricanes, droughts and floods. We can see the beginnings of resource shortages where water is beginning to rival oil as a pressurizing factor in the lead up to wars. On the other hand, we have had to live with some risks for such a long time that we have grown accustomed to them; we have begun to believe they are no longer with us. But the probabilities of nuclear war, for example, have increased rather than decreased.

A constant in all of this is extreme socio-economic inequality. All the above problems are set in a context of structural causality. The world socio-economic political system directly or indirectly causes these problems or exacerbates them or prevents a serious viable long term solution to them being seriously attempted. Structural causality is why the dystopia thesis repudiates any notion of "capitalism with a human face." Unemployment and social inequality, for example, are not contingent features of capitalism. They are intrinsic to it. Unemployment rates may vary over time and from one country to another. They may rise or fall in relation to particular governmental policies. But the existence of unemployment is structurally built into the system; the existence of social inequality, and therefore poverty, is structurally built into the system.

The developing nations' need for their populations to have access to healthy diets, clean water, proper medical care and disease prevention, education and so on, their need for people to have the freedom to live happy fulfilled lives, will not become available through the current system's developmental practices. They develop not only in such a way as to have devastating environmental impacts but so as to ensure inequality and injustice are maintained. Humanity's desire for social justice is linked in a complex but necessary way to our collective need to protect the environment.

In this regard, the dystopia thesis broadly shares the Marxist perspectives upon ecology of such writers as John Bellamy Foster and Saral Sarkar.⁴ It shares Foster's view that there is no third option; humanity faces

4 See for example Foster, John Bellamy. (2011). Capitalism and Degrowth: An Impossibility Theorem, *Monthly Review*, 62(8), 28-33, and Saral Sarkar. (1999). *Eco-Socialism or Eco-Capitalism? A Critical Analysis of Humanity's Fundamental Choices*. London: Zed Books.

a choice; it is either eco-socialism or barbarism. Or in our language here: eco-socialism or dystopia. But though Foster is correct that continual economic growth is necessary to capitalism we would disagree with Foster, at least in part, with regards to potential for different kinds of growth in alternative systems. The dystopia thesis, with its very pessimism, posits as a potentiality its dialectical opposite: a different kind of development, one in harmony with, rather than against, nature. Of course, there are resource shortages and other ecological limits to growth but the plunder of finite resources is not the only sort of development possible.

The dystopia thesis also rules out any sort of Kovelian conclusion (Kovel, 2002) positing socialism as inevitable because of eco-crisis. The only thing that is inevitable is crisis, both economic and ecological. The two are inextricable. Perhaps facing the imminent realities of horror might wake up sufficient numbers of people to act and stave them off. But not only are there no guarantees of socialist revolution but the probabilities of such are looking exceedingly unlikely. Still, such hope as there is, begins with an unflinching look at the harsh realities of our collective prospects.

It is difficult to perceive such realities when the utopian visions of an enlightened eco-capitalism are constantly being presented to us. The market itself, it is alleged, can save nature. We merely need “the creation of markets for the exchange of ‘ecosystem services’ in the form of Payments for Ecosystem Services (PES)” (Sullivan, 2009, p.19). PES is “an incentive-based, voluntary, and conditional conservation approach” that is intended to be “a more equitable alternative to regulation, by explicitly compensating landholders’ opportunity costs” (Börner et al., 2010, p.1280). But the “payments for the environmental services produced by nature’s labour do not go to the environment itself, but to whoever is able to capture this newly priced value” (Sullivan, 2009, p.20). The dystopia thesis is in agreement with those who argue that “any approach that simply encourages the market to put a price on the environment is inadequate as a response to environmental problems since this does not sufficiently orient business or society in general towards the environmental issue that we face” (Beder, 2006b, referenced in Andrews et al., 2010, p.616).

Carbon trading is a case in point. It is a key capitalist policy instrument to reduce global warming (Leimbach, 2003, p.1033). Actually, it has become a common practice which countries utilize so that their obligations under the Kyoto Protocol are met (Zhang et al., 2011, p.128). But this is merely an accounting solution (and usually a crooked one at that). It is simply paying for the right to pollute with the emissions put on someone else’s books. It has

been shown to be wholly ineffectual in actually reducing overall emissions. In fact, some would go so far as to assert that contradictory to its intended aim, carbon emissions trading “is to promote global greenhouse gas emissions” (ibid.). For example, if a company’s emission of CO₂ is under its limit, there is a temptation to sell the remaining limit in exchange for a profit (ibid.). In the view of the Global Alliance of Indigenous Peoples and Local Communities (NOREDD, Dec.13, 2011), the recently negotiated market mechanism Reducing Emissions from Deforestation and Forest Degradation (REDD) is likely to result in “the biggest land grab of all time.” Capitalism distorts human efforts to deal with problems, ultimately reducing all to the making of profits.

A further aspect of the dystopia thesis is the theory of structural mystification (Potter, 2010b). The relationship between knowledge and power is such that the institutional production and dissemination of knowledge produces its dialectical opposite: structural mystification. Structural mystification is the obfuscation of the production of knowledge and the restriction and/or prevention of its dissemination. Thus, for example, knowledges concerning climate change are produced and have a limited dissemination. A consolidation of such knowledge is continually challenged by a combination of real scientific endeavor illustrating the complexity of the subject matters on the one hand and media promulgated disinformation on the other, including, most importantly, the facts concerning the scientific community’s consensus on the issue.

All of these points, outlined above and made elsewhere about the dystopia thesis, are made in a more specifically focused form in this article. The dystopia thesis does not forecast any particular doom to accompany its gloom; there are many forms of possible future barbarism and nightmare. But this article focuses upon only one of these possibilities. It focuses upon the probabilities of the very life being choked out of us in a climate change disaster. Climate change has many different facets and causal feeds into it but none are more important than damage to “the lungs of the world”, the Amazonian Rainforest of Brazil.

GLOBAL WARMING AND THE ECOLOGICAL IMPERATIVE TO SAVE THE RAINFOREST

“A Nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people.”

Franklin D. Roosevelt

The Amazon rainforest in Brazil is the only one of its kind; there are no other tropical forests left in the world that are comparable to its size, structure, and biodiversity. Through the photosynthesis of its millions of plants and trees the Amazonian Rainforest absorbs a huge amount of carbon dioxide (CO₂) from the atmosphere and releases oxygen into the air. It is thus often claimed to be “Gaia’s Lungs”, a metaphor personifying the world’s most natural and efficient filtration system of excess CO₂ (Laurance, 1999, p. 96). Indeed, the lungs of the world have been, for the past few decades, inhaling Earth’s increasingly excess amounts of CO₂, principally attributed to the burning of fossil fuels by humans (*ibid.*). There is, thus, a growing consensus in the scientific community of the vital role of the Brazilian Amazon in containing what would otherwise be a damaging excess amount of CO₂ in the very atmosphere which we all depend upon for our survival and well-being (d’Oliveira et al., 2011, p. 1490).

The Amazon rainforest also provides a second ecological service, to both the local population and to the rest of the world, with its repository of carbon in both biomass and soils, thereby reducing the effects of global warming (Fearnside, 2012, p. 71). The rainforest has taken in huge amounts of carbon stocks and much of this is contained in the trees. The practice of deforestation, mainly for pasture conversions and agricultural purposes (see section five) releases absorbed CO₂ back into the atmosphere. While logging and forest fires emit CO₂, deforestation remains the leading source of emissions in Brazil (*ibid.*). When deforested, the stocked CO₂ is released back into the atmosphere as greenhouse gases (GHGs), in the form of CO₂ and methane (*ibid.*). The turbulent spew of CO₂ in the aftermath of deforestation causes an ecological devastation upon the climate. Fearnside (1996, p.21) emphasizes that:

“[d]eforestation in Brazil already makes a significant contribution to the global load of greenhouse gas (GHG) emissions, and complete or nearly complete replacement of Brazil’s Amazon forest by pasture would both contribute to global warming and greatly reduce evapotranspiration in the region.”

As well, Gerwing (2002, p.139) stresses that Brazil’s, “local phenomenon of forest degradation could have global consequences to the extent that logging and fire reduce forest biomass and liberate previously sequestered carbon.” Since tropical forests stock anywhere between 20-100 times more carbon per unit area than agricultural lands, the burning of tropical rainforests thus accounts for approximately 25 percent of the total global CO₂ emissions (Brady, 1996, p. 5).

Other assessments claim 15-35 percent of global CO₂ emissions from deforestation and forest degradation (Mazzei, Sist, Ruschel, Putz, Marco, Pena & Ferreira, 2010, p. 367). More recent estimates suggest that deforestation accounts for 10-15 percent of global CO₂ emissions; perhaps this lower figure is a result of a reduction of deforestation in recent years through enforcing land-use regulations (Tollefson, 2013), but it should be emphasized that all of these estimates are just that: estimates.

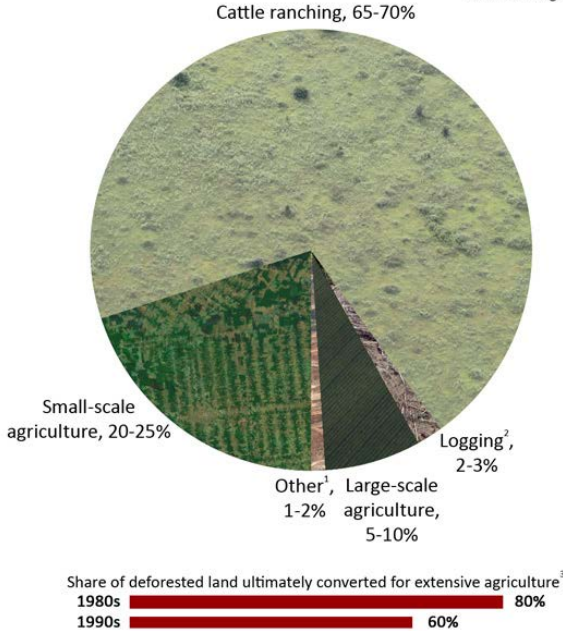
The soil also has an important ecological role to play in the global carbon cycle, not only because it represents a storage medium for CO₂, but that the soil itself actually contains more carbon than biomass (Jassal, 2005, p.177). The soil accumulates carbon from the atmosphere, which is transferred to the soil by plants through processes such as litterfall or root turnover, where the CO₂ becomes part of the organic matter of the soil (Nitschelm et al., 1997, p.411, p.415). Aerts et al. (1992, p.187) found that root turnover contributes a significant amount of litter production in an ecosystem. Elevated levels of CO₂ not only leads to an increase in biomass by speeding up the rate of photosynthesis but it also stimulates root growth, resulting in longer plant roots at a faster rate of growth (Rogers et al., 1996, p.230, p.240). Roots are able to transfer CO₂ to soils at a greater radius and at a faster rate. Soil respiration is linked to root activity, as well as microbial activity in the decomposition of organic material (Søe et al., 2004, p.86). Furthermore, higher levels of CO₂ have a stronger effect on root biomass than on leaf biomass (*ibid.*, p.91). Studies have found that soil respiration increases under elevated CO₂, which in turn is due to the increase of plant biomass production under it (*ibid.* p.91; Nitschelm et al., 1997, p.415). These findings indicate that soils are a very important sink for CO₂. But when forests with a large stock of carbon are replaced by cattle pastures, they lose that carbon (Davidson et al., 2012, p.326).

The Amazon rainforest is precipitously being cleared for cattle pastures and agricultural ends, which have a ruthlessly destructive impact on the forest's rich biodiversity (Fearnside et al., 2009, p.1968). Fearnside (1995, p.53) notes that "[t]he great majority of deforestation in Brazilian Amazonia is followed by conversion of land to cattle pasture, either immediately or after 1-2 years of use under annual crops." In fact, more than 60 percent of deforested land ends up as cattle pasture (Butler, 2012).

Figure 1

Causes of Deforestation in the Brazilian Amazon, 2000-2005

source: mongabay.com



1) Other includes fires, mining, urbanization, road construction, dams; 2) Logging generally results in degradation rather than deforestation, but is often followed by clearing for agriculture; 3) Data from Holly Gibbs 2009

Butler, R. (2013) http://rainforests.mongabay.com/amazon/amazon_destruction.html

The conversion of the Amazon rainforest to cattle pastures obviously negatively alters the biodiversity by drastically reducing the number of plants and animal species to a homogeneous existence (Rodrigues et al., 2013, p.988). But more surprisingly Fearnside (2001) argues that the deforestation of the Amazon forest actually yields very little economic benefit because the deforested areas that become cattle pasture have low productivity (p.173). The Amazon cattle ranchers use the deforested land wastefully in terms of animals per hectare, yielding a low level of investment per hectare (ibid., p.6). Cattle are rarely fed with energy-rich grains and protein; and fertilizers and the use of legumes are seldom used to improve pastures (Boucher, 2011, p.7). As a result, weed invasions tend to degrade many of the cattle pastures (Smith et al., 1998, p.9). In addition, employment levels in ranching are low and ownership is highly concentrated in a select few (ibid.). Even so, cattle remain an attractive option in the Amazon rainforest because developers can

gain entitlement to the land that is cleared (Butler, 2012). Some data indicates that agriculture and pasture made up over 80 percent of what drove deforestation in South America from 1990-2000 (ibid.). We further analyze this issue in section four of this article.

Besides clearing vast amounts of forest space for cattle pastures and agricultural purposes, much deforestation is to produce lumber for building construction worldwide and for luxury furniture. Fearnside (1995, p.61) maintains that:

“...the value of Amazonian forests for ‘ecological’ uses such as biodiversity maintenance, carbon storage and water vapor supply overshadows by far both current and potential revenue from both timber and non-wood products.”

The veracity or not of this assertion, however, is dependent upon effective international agreements and the willingness of developed countries to pay to protect a crucial global resource. We analyze the international situation and the North versus South tensions and contradictions in this regard in section three of this article.

While road paving is among the economic activities that simulates deforestation (Davidson et al., 2012, p.323), a key driver of deforestation comes from private investors who seek to maximize profits by supplying timber, soybeans, and beef to both global and national markets (Celentano et al., 2011, p.850). Thus, deforestation is largely attributed to the high demand for logs, sawn wood, and furniture in both the domestic and international markets. Timber extraction has become a major economic activity in the Amazon forest, especially in the last two decades (Smith et al., 1998, p.17). This is in part because the stability of the market for logs, sawn wood and furniture is higher than that for fruits and nuts (ibid.). Deforestation of the Amazon forest is thus a consequence of global economic forces (Butler, 2009). This point is further argued and analyzed in section four.

Forestry and wood harvests can be conducted in a variety of ways. Clear cutting is economically the cheapest but it is also the most ecologically damaging and wasteful. There are thus environmentalist pressures to engage in more ecologically balanced and responsible forestry practices. There are actually many certification programs to show the developed countries’ ecologically conscious consumers that their luxury furniture or flooring purchase comes not from irresponsible Amazonian destruction but from careful, ecologically managed forestry harvest. Sec-

tion four of this paper examines this apparent positive step to protect the world's forests and the Amazonian forest in more detail. In particular it examines its failures and the reasons for them.

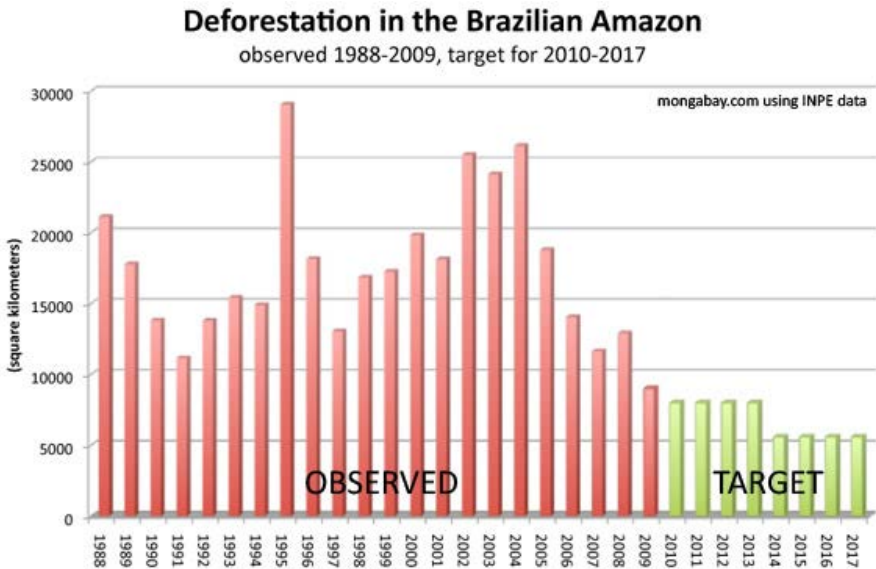
There are many such capitalist reformist environmental solutions. The Amazon rainforest could financially benefit Brazil through the sale of environmental services at the same time as it mitigates against global warming (Fearnside, 2012, p.71). Fearnside (*ibid*) explains that, “[e]nvironmental services in the Amazon rainforest are of global importance and can form the basis for substantial monetary flows to Brazil.” Fearnside’s view, however, we would argue is utopian. Projects intended to reward the environmental services (i.e. the storage of carbon) of Brazil’s Amazon rainforest are increasing but their effectiveness in achieving what they are intended to do is doubtful. For example, Brazil has created the Amazon Fund, with the intention to decelerate deforestation by promoting sustainable economic alternatives to cattle ranching and farming (Ribeiro, 2012). Brazil’s Amazon Fund functions by receiving donations from voluntary countries, such as Norway and Germany (Fearnside, 2012, p.77). A key factor in this, as in many such projects, is their voluntary nature. In practice, the ineffectiveness of the project discouraged potential donors from contributing (Ribeiro, 2012). There is also the REDD plan, whose limitations we discussed earlier. Other efforts include the Rainforest Conservation Fund (RCF), which has helped to create a 960,000-acre reserve in the Peruvian Amazon in February of 2012 (Enviroadmin, 2012). This is undoubtedly a positive development; but it is by no means adequate to the scale of the problem.

Deforestation is sure to cause irreversible damage to not only the Amazon forest itself, but also to cause an important loss of biodiversity, soil erosion, and crucially, climate change. Sustainable utilization of the forest is thus essential. Agro-forestry provides some hope as a way of combining development and environmental protection. It is, potentially at least, a sustainable system of growing trees and crops at the same time. Commercial agro-forestry, from plantations of bananas, oranges, and papayas to cashews, plays a somewhat effective role in slowing deforestation (Smith et al., 1998, p. 7). However, agro-forestry is rarely performed on ranches (*ibid.*, p.9) and, as we mentioned above, and will detail in section five, ranching is the most significant driver of deforestation. Though it is practicable to boost agro-forestry on small-scale ranches, by fencing off pasture for the allowance of fruit trees to grow, there are constraints to agro-forestry (*ibid.*, p.12). Inadequate market information, weak farmers’

associations, and a poor agro-industrial infrastructure are the main socio-economic constraints upon making agro-forestry a widespread viable sustainable management of the forest (ibid.).

A survey conducted by Smith et al. (1998) found nonetheless, that “a substantial proportion of farmers are incorporating timber species in their agro-forestry systems” (p.17). This indicates that, despite the constraints upon agro-forestry, some farmers are doing what they can do to sustain the forests. We are faced with an ecological imperative to save what is left of the Amazon rainforest through sustainable methods like agro-forestry; otherwise there will be nothing to save humanity from global warming. There are small signs of hope. We can see from Figure 2 below that some of the practices to decelerate deforestation have had some effect and we can also find some hope in Brazil’s projections for a further deceleration.

Figure 2



Butler, R. (2008). http://news.mongabay.com/2008/1212-amazon_targets.html

DEVELOPMENTAL NECESSITIES: PEOPLE AND CAPITAL

“The poor complain, they always do but that’s just idle chatter.
Our system brings rewards to all, at least, to all who matter.”

Gerald Helliener

The divide between developed and developing countries in relation to the issue of climate change mitigation is categorized by the Annex I/non-Annex I division in the United Nations Framework Convention on Climate Change (UNFCCC) (Heyward, 2007, p.519). According to the UNFCCC, Annex I nations are industrialized countries with high-income economies, mainly those who were members of the Organization for Economic Co-operation and Development (OECD) in 1992, plus some few other countries with economies in a transitional state. The Annex II category consists of the countries that are developing. This category is further split into two sub-categories. One group includes the developing countries that are most vulnerable to climate change; these are countries with low-lying coastal areas and those that are prone to desertification and drought. The second group includes countries that rely heavily upon income from fossil fuels and are vulnerable to the potential economic impacts of climate change (UNFCCC, 2013).

The growing demand for an equal and unconditional right to development among the developing countries is on the rise (Sengupta, 2002, p.841-842). This demand has been emphasized as one of the basic human rights for all countries, so as to meet their basic needs by increasing productivity and economic opportunities. This is a simple proposition but it has profound implications. The slogan “right to development” contains problematic aspects for the distribution of benefits and entitlements (Lofquist, 2011). As we shall later argue, the slogan and surrounding discourse has significant implications for global ecology, as well as economy. The “right to development” lacks consensus among countries because the discourse is all about sustaining self-interests. The problematic of distribution represents the contradiction between ecological limitations to development on the one hand, and the basic capitalist concept of “never-ending improvement” on the other. This argument in practice, however, manifests itself somewhat differently. It pits the developing countries’ needs for fundamental improvements to living standards against the unlimited further development of the already developed countries.

A fundamental feature of capitalism is the endless need for growth. Beyond this worldwide systemic necessity, however, is a more basic physical reality of human needs. This is manifest in a discourse of rights and entitlements, with developing nations understandably pushing for achievements with respect to adequate living standards. An “adequate living standard” is defined by the Universal Declaration of Human Rights (UDHR) as “the least amount of satisfaction of subsistence rights that are sufficient food and nutrition, clothing, housing and care when required” (Alfredsson & Eide, 1999, p.523). But as Lars Lofquist explains, “this does not imply that we must reject a right to a certain minimum level of well-being; it just means that this right cannot include claims for never-ending improvement” (Lofquist, 2011, p.251).

Climate change is not only an environmental problem, it is also a developmental dilemma. Its effects, as well as any efforts aimed at mitigation, will significantly impinge on developing countries with economies primarily based on natural resources such as agriculture and forestry. Climate change causes more damage to those who are already vulnerable and is therefore likely to further exacerbate poverty and human deprivation. The various negotiated protocols and agreements between nations are intended to reduce the effects of greenhouse gas (GHG) emissions. They are attempts to preserve and save future life from devastating consequences. But the negotiations and agreements are also about the preservation of individual nations’ economic interests and balancing conflicts of interest with others. Of course, imbalances in global power relations come to the fore here.

There are, of course, alliances based upon commonalities of interest. Brazil for example, is a member of one of the leading groups in this debate, the so called BRIC nations (Brazil, Russia, India and China), later forming an even stronger alliance of shared interests and diplomatic strategy (BASIC is the acronym for them) when Russia was dropped in favour of South Africa. Climate change, it is argued by some, should be addressed as ‘everyday behaviors’ (Hochstetler and Viola, 2012, p.753) in which the right to development becomes a common and equal right but at the same time entails responsibility. The challenge for achieving climate change mitigation agreements lies in how to equally protect the right to development, while at the same time creating a binding plan to de-carbonize economic activities. Consequently, the debate of how best to address the issue is inevitably plagued by differences of national interests and of just what constitutes the right to development (Baer et al., 2008).

In theory, there were many opportunities for cooperation between developed and developing countries in implementing the right to development within the normative and institutional framework of The United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. The Kyoto Protocol set targets for GHG emissions reductions for industrialized countries (Annex I Countries) and also created the Clean Development Mechanism (CDM). The CDM is unique in light of its two-fold objective: mitigating climate change and contributing to sustainable development (Baer et al., 2008, p.80-85). Recently, the CDM has aided in promoting sustainable energy projects (Lee et al., 2013). But as argued earlier, it is a capitalist solution to a problem not solvable within the structural constraints of a world capitalist political economy.

The CDM has an accreditation system of defined Certified Emission Reduction (CER) credits. These are units of carbon dioxide reduction equivalent to one ton. The reduction of emissions in the developing countries and the accumulation of these CER credits can then be sold and used by industrialized countries to meet some of their emission targets as set by the Kyoto Protocol (UNFCCC-CMD, 2013). To qualify for the CER credits project, developers must demonstrate the reduction in emissions that they implemented, compared to what would have occurred without these implementations (The Guardian, 2011). The CDM is the principle diplomatically negotiated way discovered so far, of balancing the various different interests of developed and developing nations with regard to climate change mitigation and development. It embodies the alleged possibility of sufficient reform and diplomacy to solve one of the world's most serious and pressing issues; its principles with regard to climate change mitigation are the very embodiment of hope for salvation through capitalist reform and self-regulation.

In Europe the CDM has been used with the creation of a mandatory trading scheme, called the EU Emissions Trading Scheme (ETS), which allows companies to buy CER credits to contribute to their own emission reduction goals (ibid.). Therefore, the CDM, and its CER accreditation system in conjunction with the ETS, would seem to have the potential for reducing emissions in the European nations at the same time as contributing to sustainable development in developing countries, and in particular fast growing countries such as Brazil. Except that it isn't working! Pielke (2013) argues that the ETS has thus far failed pretty much entirely in its de-carbonization goals for Europe.

The CDM might have been more effective in countries like Brazil if the CDM and its CER system had included forest conservation and

measures to avoid deforestation to its protocol. However, the Kyoto Protocol excluded them from the CDM permit for a variety of political and practical reasons (Laurance, 2007, p.20-21). Most significantly, for the possibility of it really succeeding in its purpose, it would have needed to be a binding agreement rather than voluntary in terms of compliance. But the CDM is not a binding policy and, of course, it includes loopholes that discourage companies and countries from abiding by it.

The phrase “of course” in that last sentence signifies a dystopia thesis perspective upon this. The argument is that the really serious issues affecting humanity cannot be properly dealt with in the context of our existing political economy. Contesting forces of national and corporate self-interest dictate what finally gets agreed upon and acted upon in the global community. So, most countries end up with ineffectual voluntary policies that determine their “everyday behaviors” in the efforts to address climate change.

Brazil, for example, has pledged to reduce the GHG emissions between 36.1 percent and 38.9 percent by 2020 (de Motta, 2012). This is an admirable target. But it is also an unrealistic target. Brazil is one of the fastest growing economies in the world, along with China and India. According to the United Nations Development Program document, “The Unprecedented Rise of the South”, Brazil is raising its living standards by expanding international relationships and anti-poverty programmes that are emulated worldwide” (UNDP, 2013). This is good. Yet by contrast, with respect to climate change, Brazil is the world’s fourth largest GHG emitter. Most of Brazil’s GHG emissions derive from agriculture, land-use change and forest management (Roman, 2010, p.1). Moreover, in international negotiations as stated earlier, Brazil occupies a distinct position as an active member representing the “South” and is a major actor within the coalition of the (BASIC) countries. The BASIC agreement included a possible walk-out of negotiations if their common basic minimum position was not met by the developed nations (Hochstetler & Viola, 2012, p.755-756).

Brazil’s climate agenda has evolved around three issues: “stressing every country’s sovereign right to development; opposing any suggestion that the Amazon rainforest be put under international control for its protection; and emphasizing the industrialized countries’ historical responsibility and obligation to compensate for their emissions to date” (Roman, 2010, p.1). While this is fine on one level, and from our perspective of international fairness, quite reasonable, it has nonetheless produced an ecology destroying stalemate with the developed world, not

all of which were even Kyoto signatories and most of which have failed to meet their own emission reduction targets.

The Brazilian case of an emerging economy shows climate change policies characterized by contradictions. Such contradictions include the preservation of national interests and the implementation of unbinding and voluntary policies. The right to development has been manipulated as a means to an end by both developed and developing countries alike. The ultimate goal for all these countries is to maximize their production and economic opportunities well beyond the level of an adequate living standard. The “right to development” discourse has simply been exploited as an ideological tool of self-interested justification.

If the dystopia thesis generally is correct, then it could not be otherwise, in Brazil or anywhere else. The fundamental structural features of the global political economy not only condition economic decisions but also frame the discourse in which policies and values are diplomatically debated and agreed upon. There is thus from a long term environmental perspective, a wholly inadequate set of policies with built-in loopholes. The collective failure to properly act upon what is ecologically necessary for humanity’s long term well-being is, for the near future at least, virtually guaranteed.

THE FAILURES OF MARKET SOLUTIONS: FOREST CERTIFICATION PROGRAMS

“One of the great mistakes is to judge policies and programs by their intentions and not by their results.”

Milton Friedman

There is worldwide awareness and concern for the preservation of the Amazonian rainforest, just as there is a global demand for the products of its resource harvesting. The Brazilian population has its own surprisingly high public awareness of ecological issues generally and climate change in particular (Pew Research, 2010). There is thus pressure from both within and outside Brazil for protective measures. There is government legislation, driven both by international pressure and domestic motivation. The greatest weakness of these environmentally protective laws is the issue of compliance and enforcement. A great deal is left up to the voluntary efforts of corporations and citizenry. There are voluntary international targets for emission levels with respect to climate

change on the one hand, and local legislative measures and international codes of forestry management on the other. It is the latter that we shall discuss in this section as their failures illustrate perfectly the dystopian contradictions preventing real solutions to real, and recognized, serious problems, upon whose solution the future of humanity and a healthy global ecosphere depend.

The problem is that the most serious strategies attempted to remedy ecological/economic issues are such that the hoped for solutions derive from the very same mechanisms that caused and are causing the problems in the first place. The strategies are all market driven and/or dependent upon a kind of consumer voluntarism. One might think that a code of ecologically sound principles to guide forestry practices could do nothing but good. But as it turns out the story is far more complicated. There are a plethora of local and international inspection and sanctioning bodies with respect to forestry. That is actually part of the problem itself: different bodies, different regulations, different credentialization and certification practices. Internationally, more than thirty different such certification systems exist (http://www.accreditation-services.com/archives/certification_bodies). However, we shall focus on only one of these bodies the Forest Stewardship Council (FSC) as it embodies all the dilemmas of market driven solutions to issues affecting the global commons.

The FSC program

The following is from the website of a hardwood flooring company (Tulip Floors, 2011) located in Berkeley, California:

“Despite the well publicized reports of clear-cutting of tropical and old-growth forests, it has taken a long time for government and industry bodies to coalesce around a common certification system. Part of the difficulty has originated with the timber industry itself, which has spent enormous resources propping up its own weak “certification” bodies. In the tropics, government bans against illegal logging are weakly enforced, with enormous corruption allowing illegal loggers to act with impunity. Fortunately, the last decade has seen FSC Certification come to the forefront as the most trusted and widely accepted independent certification system in the world. The Forest Stewardship Council (FSC) is headquartered in Bonn, Germany, and is an international non-profit organization that sets environmental and social standards of forest management.”

The flooring company identifies more than one of the global problems we are aware of: corruption, weakly enforced legislation, the timber industry's own "weak" certification bodies and, of course, the crucial importance of ecologically sound forest management. This, they correctly imply, is absolutely necessary for any Brazilian (and world!) climate change mitigation efforts. Why does the company forefront such concerns so prominently on its website? Certainly most hardwood flooring companies do not. We may speculate upon the green political leanings of the company's ownership and management. They may well have quite altruistic intentions. However, such intentions can fit well with the bottom line in a capitalist economy. There is a niche market for ecologically sustainable products. Consumers aware of the ecological importance of the Amazonian Rainforest and other fragile forests eco-systems, are willing to pay more for a trusted certification that the products they buy have been produced in environmentally sound ways. What possibly could be wrong with that? Isn't that exactly what will solve the Amazonian (and other) logging operation deforestation problems? Well, it is certainly the most popular pseudo-solution offered us by the corporate powers that rule the world.

The very existence of a 'niche market' presumes the existence of a wider market place from which the niche market is differentiated. So if there are good "environmental and social standards of forest management", certified as such by the FSC as is the wood flooring of Tulip Floors quoted above, then it follows that there are uncertified wood products for sale elsewhere and that many or most of these products are a result of ecologically unsustainable practices.

As stated earlier, there are more than thirty certification organizations with no agreed upon common levels of certification or standards of practice. Perhaps, more importantly, over 90 percent of the world's forests have no certification process at all. In Brazil, where the FSC is the biggest forest management certification agency, only 1.4 percent of its forests are FSC certified. Further, as asserted in the USDA report Wood Market Update (2006) "...it is only an estimated 2% of the tropical wood produced in Brazil that is derived from certified forests." The report goes on to say that: "Some estimates show that over 40% of Brazil's tropical wood production comes from illegal logging". So, ecologically unsound practices are rampant and climate change be damned.

Why is this so? The situation expresses the essence of alleged market driven solutions to global problems: individual consumer choices will solve collective problems with collective costs. If you want to have a

conscience, a concern for the collective, you have to pay for it. So, for example, in addition to those consumers willing to pay more for “fair trade” coffee (coffee production, of course, being another of Brazil’s concerns) there are far more people unaware of the problem that the “fair trade” products address and/or more people who are unwilling to pay that little bit extra as a partial solution to a social justice issue. It is the same with ecology. Some people are just going to choose the cheaper hardwood flooring (or furniture or any forest product) over the bragging rights that they personally are not contributing to ecological harm. Individual consumer choices, in theory, could be the driver to solve the problems if everybody made the eco-ethically responsible choices. But in a world riven with inequality, desperation and media conditioned greed, it seems more than unlikely that everyone will. Further, the dystopia thesis would argue that even if consumers came together in some amazing unanimity of environmentalist ethos, environmental harm, while perhaps being significantly reduced, would, nonetheless, continue to take place.

Why is this so? Well, let’s look at the Brazilian case of forestry. Let’s look at the FSC more closely. In the first place, it is not a direct inspection agency itself. It does not employ agents in the field. Rather it certifies the certifiers, those who actually (or perhaps only allegedly) examine the practices of the forestry companies. The FSC does not have just one level of certification – ecologically sound practices or not. Rather, it has a plethora of different certifications and certifiers. In part this is because of the complexity and scale of its worldwide operations; in part this is because of a grindingly slow bureaucracy. But it is also because the logging companies themselves have a significant position upon the FSC board! It is not at all surprising that abuses occur.

It is interesting that a non-profit organization dedicated to ecological concerns such as the FSC has spawned another non-profit organization dedicated to watching and reporting on it! The organization FSC Watch alleges that clear-cutting and harvesting of old growth trees can occur even if a wood product is FSC certified. Their allegations are numerous and seem pretty well founded as well.⁵ The existence of such watchdogs is a ray of hope in the dystopian gloom of probabilities. It works toward the stripping away many of the illusions generated by the many self-policing, niche market driven solutions to deep ecological problems. Notwithstanding such hopes, the dystopia thesis posits a level of contradiction and complexity to the issues such that knowledge dissemination,

5 For a US example see: *FSC Watch*, 2008.

and the failures of political will, have their own dystopia force of causality. The next section will examine this argument through the example of the Brazilian beef export industry.

KNOWLEDGE, DYSTOPIA AND BRAZILIAN BEEF EXPORT

“Where’s the beef?”

Walter F. Mondale 1984 Democratic presidential nomination campaign slogan

“It’s the economy, stupid.”

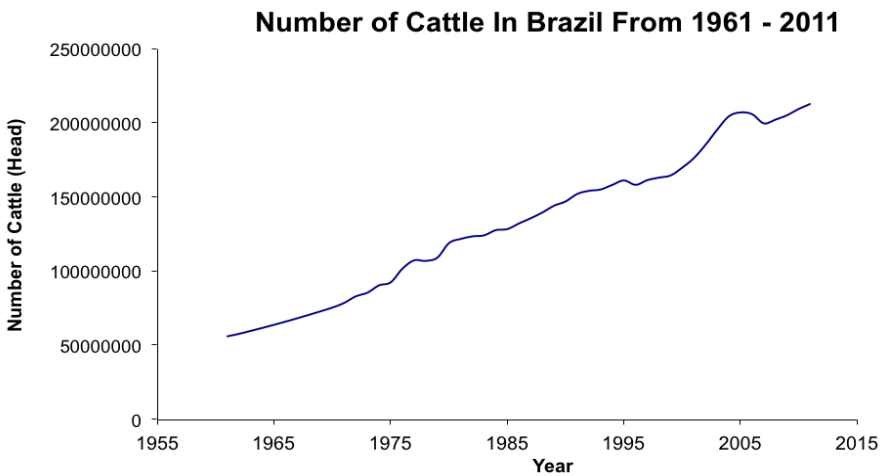
Former U.S. President Bill Clinton 1992 campaign slogan

Brazil was the world’s largest beef producer and exporter until only recently being overtaken by the U.S (Rapoza, 2011). The United States’ overtaking of Brazil in this economic sector was largely due to a weakened dollar; and the fact is, that Brazil has been the most significant producer and exporter of beef for quite some time. This, however, is not a very well-known fact to the environmentally concerned public, who understandably instead, focus their gaze upon deforestation because of logging. But Brazil’s beef production and export sector not only has even more serious ecological consequences than does forestry but it illustrates very well one of the aspects of the dystopia thesis to do with knowledge, which we will look at in the latter part of this section.

Cattle produce CO₂ and methane gas as natural animal functions. They thus contribute to the world’s greenhouse gas emissions and global warming. But how much of a contribution do they make? The first and most obvious statement to make with respect to this, is that the more cattle that are raised, the greater is this contribution. A less obvious factor is that in contemporary livestock management the cattle are kept in relatively small areas proportional to their numbers; this leads to concentrated emissions of methane gas. These methane emissions, per mole, have a global warming potential of 3.7 times that of carbon dioxide (Lashof & Ahuja, 1992). Also contemporary practices frequently involve over-grazing with serious unintended consequences. Overgrazing leads to the hardening and erosion of the surface soil which not only makes the soil infertile and repellent of the precipitation that normally replenishes the groundwater, but it also releases the sequestered carbon into the atmosphere and destroys the soil’s capability of absorbing

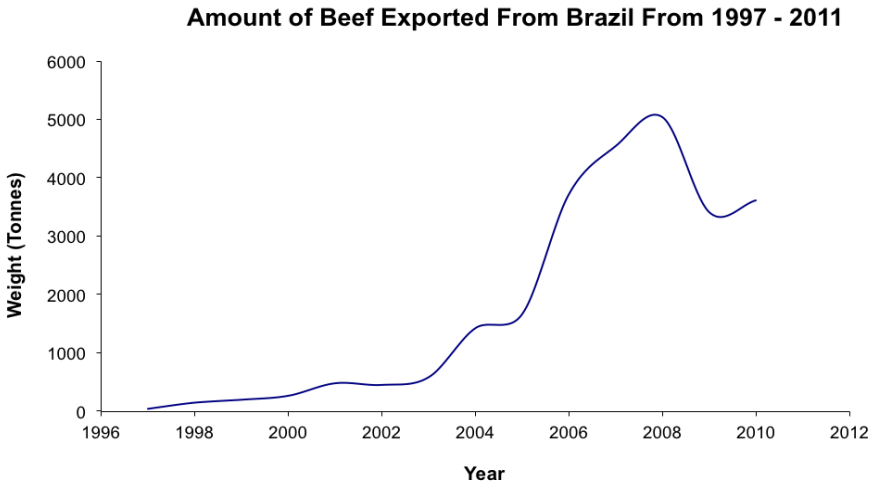
carbon. It is a rarely mentioned fact that soil is the biggest terrestrial reservoir and sequesterer of carbon. Soil organic carbon has a potential rate of sequestration of up to 3 billion tons of carbon per year (Fairlie, 2012, p.1). Finally, it must be observed that Brazil's cattle raising and beef export industry has expanded dramatically in recent years (see Figures 3 and 4 below) and thus is another significant Brazilian factor that is increasingly contributing to global climate change.

Figure 3



Source: FAO, 2013

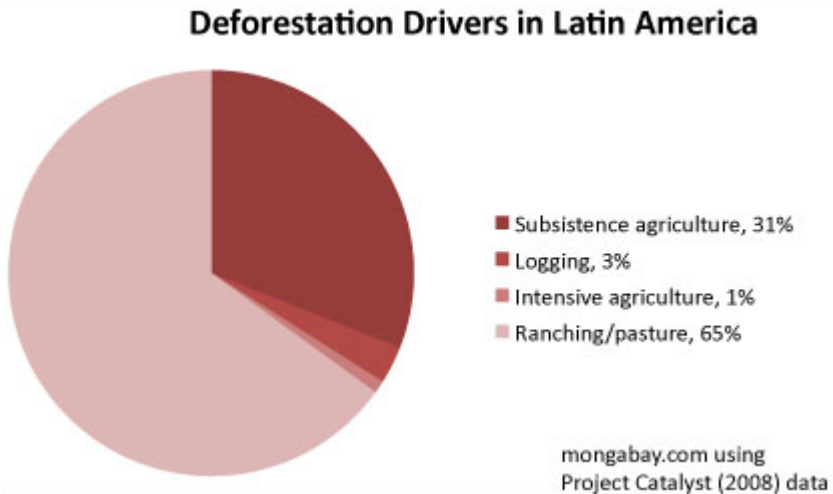
Figure 4



Source: FAO, 2013

Further as we can see from Figure 5 below, the expansion of ranching is the significant driver of deforestation.

Figure 5



Butler, R (2013) http://rainforests.mongabay.com/deforestation_drivers.html

The key economic concept pertaining to the North-South divide in terms of standards of living, development and ecology is that of production for export. Human beings are eating more beef than they used to; and perhaps that is true to some degree for Brazil as well. As Brazil develops, and its beef production is, of course, a part of that development, their standard of living increases and increased meat protein in people's diets usually goes along with that. But Brazilian cattle ranching and beef production, and most importantly, its relatively recent huge expansion, is export driven. One could say (though, of course, with some qualification) that the North-South divide with respect to Brazilian beef, is that it is produced in the South but consumed in the North. It is, thus, certainly not only Brazilians that benefit from Brazilian development. They are a part of a global economy of unequal exchange. And in beef production, just as in the forestry industry, there are serious ecological consequences, including the focus of this article, emissions and climate change.

A key component of the ecological situation is that forestry and logging combine in their environmental impact. Land is deforested to enable the expansion of cattle ranching. So, there is a double impact, so to speak; gas emissions from the increased numbers of cattle themselves, and from the deforestation that indirectly arises from the expansion of the beef production industry.

This is where the dystopia thesis's assertions about knowledge come in. The dystopia thesis argues that knowledge and production are dialectically interrelated with the obfuscation of knowledge production and the restriction of its dissemination with an accompaniment of confusion, mystification and failures of understanding. As said earlier, the label given by the dystopia thesis to the dialectical opposite of knowledge production is "structural mystification" (Potter, 2010b). The complexities of the relationships between knowledge production, knowledge consolidation, knowledge dissemination and the generation of mystification as are promulgated in this abstract theoretical articulation are, in part, illustrated concretely in the empirical Brazilian case. Omission of the effects of land use changes in estimates of life-cycle greenhouse gas (GHG) emissions can lead to serious underestimates. This is particularly true for cattle raising. But changes in land usage may or may not be included in estimates of so-called "carbon footprints." Carbon footprint is a term that the educated layperson interested in environmental matters is quite familiar with. But few are aware its calculation is not standardized and thus may be subject to both legitimate scientific disputation on the one

hand, and that more crassly motivated on the other (Wiedmann & Minx, 2007; East, 2008; Finkbeiner, 2009; Peters, 2010; Pandey et al., 2011).

Scientific misunderstandings, or arguable errors over methodologies, or more fundamental debates, are not very well intellectually appreciated by the public. The public very largely has the mistaken belief that science is principally about certainties; when, of course, checking and re-checking measurements, questioning methods of measurement and critical inquiry and debate are much more its hallmarks. But knowledges need consolidation amongst the scientific specialist community before they can be publicly consolidated as knowledges and harnessed to a political will on a related issue. By consolidation, we mean, generally accepted. For example, while there is scientific consensus about climate change generally and its anthropomorphic origins, public consensus about the issue is still far away. This is not only because of the media misrepresentation of the status of scientific debate and its over-representation of the climate change deniers, a condition that much has been written about even by journalists, but because of the legitimate debates of specialism's (climate change, as we know, encompasses many different issues in many different disciplinary specialism's) about details. This leaves the public somewhat confused, and ripe as it were, for misdirection, as this too is misrepresented in the media.

Thus, we have the Brazilian situation where land use changes driven by the economic imperatives of meat export may or may not have a critical indicator with respect to their effects upon climate change taken into account. But yet this indicator is crucial. Cederberg et al. (2011, p.1773) argue:

“The carbon footprint of beef produced on newly deforested land is estimated at more than 700 kg CO₂-equivalents per kg carcass weight if direct land use emissions are annualized over 20 years. This is orders of magnitude larger than the figure for beef production on established pasture on non-deforested land.”

They further (ibid.) argue that:

“While Brazilian beef exports have originated mainly from areas outside the LAR, i.e. from regions not subject to recent deforestation, we argue that increased production for export has been the key driver of the pasture expansion and deforestation in the LAR during the past decade

and this should be reflected in the carbon footprint attributed to beef exports. We conclude that carbon footprint standards must include the more extended effects of land use changes to avoid giving misleading information to policy makers, retailers, and consumers.”

But misleading information in this, as in many cases, is the norm rather than the exception. The reason for this is apparent if we consider the Brazilian situation elucidated above. It derives from an apparently reasonable compartmentalization of facts and empirical data. But holistic analysis is really required here (and, of course, in many similar situations). The production increase in beef for export has obviously been an economic driver in pasture expansion (not the only one, but the most important one in this context) and hence in deforestation. What is crucially being obscured by the lack of a holistic understanding is actually the dominant feature of causality with regard to cattle ranching and deforestation. The world geo-political economy is actually the causal force leading to the double negative environmental impact of Brazilian beef production and export, and of the developed world’s consumption.

If one follows the logic of this case through, it seems to be the case that in the North-South debate concerning who should foot the bill for the trade-offs between development and environmental protection, the North, far from being generously indulgent by being willing to allow some compensation for Southern climate change mitigation, along with some latitude to Southern economic development, is actually wanting further Southern subsidy for their own rather glutinous consumption.

CONCLUSION

“An alarmist is defined as a person who alarms others needlessly. Yelling “fire!” in a crowded theatre when there is no such fire is clearly alarmist. Pointing out an actual plume of smoke is not.”

Anonymous

Ambassador Pablo Salon, one of the Bolivian hosts of the 30,000-strong World People’s Conference on Climate Change and the Rights of Mother Earth in Cochabamba, presented a six step path to move forward from the current climate talks deadlock (pwccc.wordpress.com, 2011):

1. Agreement on the size of the gap (12-14 gigatonnes of CO₂e)
2. Recognize that developed countries will need to take a larger share of the reduction.
3. Agree on parameters for sharing the burden, based on historical responsibility and capacity of the parties.
4. Have developed countries' emissions peak immediately.
5. Represent every countries' target in terms of gigatonnes, defined as reductions from domestic emission levels and without the use of 'offsets'.
6. Agreement on legal actions for parties that do not fulfill their obligations under the Kyoto Protocol (for a second commitment period) and under the Convention.

The dystopia thesis would be clearly understood by many who attended the Cochabamba conference. The six points outlined here by Solon show a clear way we can embrace a dystopian view, and come up with a meaningful political response. Something like these six steps is crucial for the welfare of the planet. Many people recognize this. But the steps have not been taken and show absolutely no signs that they are going to be.

The dystopia thesis is alarming in its degree of pessimism concerning humanity's future. It provides, among other things, a very long and varied global list of problems and future crises. It is not, however, the large number of such, or indeed, even the severity and seriousness of any single one of them, which is most alarming. In this regard, the focus of this article, global warming, must rank up there in contention for the top position of the most worrisome danger humanity is facing. No, what is most alarming is not the potential harm (our self-elimination as a species?) but rather the prognosis for possible avoidance. The worst outcomes, whether with respect to global warming or any of the other dystopian projections into the future, cannot be avoided without fundamental change to the world socio-economic political system.

Global warming is by definition a global problem. Its effects will ultimately be effects that are felt by everyone. However, they will arrive differentially. For example, many small island nations may well literally be under water before the populations of the developed world experience much more than 'weird' weather patterns, occasional mild inconvenience at home and the more frequent witnessing of multi-variable catastrophes afflicting others – hurricanes, floods, droughts, etc. – unless they happen to have the misfortune to be one of the others in question. Further, global

warming, while on one level can be understood as having global causation, on another, its causality is highly differentiated between parts of the world as well. The developed nations have and continue to have the greatest contribution to greenhouse gas emissions. There are a number of forests in the world, all of which are important. But as we emphasized in section two of this article, the Amazonian Rainforest has a particularly crucial role in maintaining the earth's climate equilibrium. Brazil's deforestation thus is far from simply being a Brazilian problem, and as we argued, cannot have an isolated Brazilian solution.

Both Brazil's population and its government have a degree of environmental awareness and concern. But however environmentally progressive a government Brazil elects in the future, it will not be sufficiently so, that it will produce, all on its own, the legislative and enforcement measures to effectively protect the Amazon. The "right to development" is not merely a discourse; it is a very real human need and driven by poverty and suffering as well as capitalist greed. And this is the truly alarming dystopian problem that we can see in Brazil's particular case, as well as globally. Brazil is situated in a global political economy that not only drives development but drives it in such a way so as to not address the problems of the poor and also to not address the problems of the environment. It is not the argument of this article that the predictions of the dystopia thesis are our inevitable future, just our probable future. No, we believe it is actually necessary for the resolution of our humanity's problems to (simply as a very first step) recognize not only their urgency but their broad fundamental structural causality.

REFERENCES

- Aerts, R., C. Bakker, and H. De Caluwe. (1992). Root Turnover as Determinant of the Cycling of C, N, and P in a Dry Heathland Ecosystem. *Biogeochemistry*, 15(3), 175-190.
- Alfredsson, G., and Eide, A. (1999). *The Universal Declaration of Human Rights : A Common Standard Achievement*. Hague, Netherlands: Kluwer Law International.
- Andrew, Jane, Kaidonis, Mary A., and Andrew, Brian. (2010). Carbon tax: Challenging neoliberal solutions to climate change. *Critical Perspectives on Accounting*, 21(7), 611-618.
- Baer, P., Athanasiou, T., Kartha, S., & Kemp-Benedict, E. (2008). *The Greenhouse Development Rights Framework: The right to development in a climate constrained world*. Berlin: Heinrich Böll Foundation.
- Boucher, Doug. (2011). *The Root of the Problem: What's Driving Tropical Deforestation Today?* Chapter 5: Cattle and Pasture, pg. 3-11. Union of Concerned Scientists Citizens and Scientists for Environmental Solutions. Retrieved from, http://www.ucsusa.org/global_warming/solutions/forest_solutions/drivers-of-deforestation.html
- Börner, Jan, Sven Wunder, Sheila Wertz-Kanounnikoff, Marcos Rüginitz Tito, Ligia Pereira, and Nathalia Nascimento. (2010). Direct conservation payments in the Brazilian Amazon: Scope and equity implications. *Ecological Economics*, 69(6), 1272-1282.
- Brady, Nyle C. (1996). Alternatives to slash-and-burn: a global imperative. *Agriculture, Ecosystems and Environment*, 58(1), 3-11.
- Broto, V. C. (2011). Review Essay: Climate Change and Sustainable Development Perspectives in Construction and Planning. *Urban Studies*, 48(13), 2905-2910.
- Butler, R. (2008, December 12). *Lula pledges big cuts in Amazon deforestation -- after he leaves office*. Retrieved October 23, 2013, from Mongabay: http://news.mongabay.com/2008/1212-amazon_targets.html
- Butler, R. (2009, June 02). *Brazil's plan to save the Amazon rainforest*. Retrieved October 23, 2013, from Mongabay: <http://news.mongabay.com/2009/0602-brazil.html>
- Butler, R. (2012, July 22). *Cattle Ranching's Impact on the Rainforest*. Retrieved October 23, 2013, from Mongabay: <http://rainforests.mongabay.com/0812.htm>
- Butler, R. (2013, October). *Amazon Destruction: Why is the rainforest being destroyed in Brazil?* Retrieved October 23, 2013, from Mongabay: http://rainforests.mongabay.com/amazon/amazon_destruction.html
- Butler, R. (2013, October 23). *Drivers of Deforestation*. Retrieved 10 23, 2013, from Mongabay: http://rainforests.mongabay.com/deforestation_drivers.html

- Celentano, Danielle, Erin Sills, Marcio Sales, and Adalberto Veríssimo. (2011). Welfare Outcomes and the Advance of the Deforestation Frontier in the Brazilian Amazon. *World Development*, 40(4), 850-864.
- Cederberg, Christel, U. Martin Persson, Kristian Neovius, Sverker Molander and Roland Clift. (2011). Including Carbon Emissions from Deforestation in the CarbonFootprint of Brazilian Beef. *Environmental Science & Technology*, 45(5), 1773–1779.
- Central Intelligence Agency World Fact Book. (2013). <https://www.cia.gov/library/publications/the-world-factbook/geos/br.html>
- Davidson, Eric A., Alessandro C. de Araújo, Paulo Artaxo, Jennifer K. Balch, I. Foster Brown, Mercedes M. C. Bustamante, Michael T. Coe, Ruth S. DeFries, Michael Keller, Marcos Longo, J. William Munger, Wilfrid Schroeder, Britaldo S. Soares-Filho, Carlos M. Souza Jr, and Steven C. Wofsy. (2012). The Amazon basin in transition. *Nature*, 481(7381), 321-328.
- de Motta, R. (2012). The Brazilian Policy on Climate Change: Regulatory and Governance Aspects. Brasilia: International Policy Centre for Inclusive Growth - No: 154. Retrieved March 31, 2013
- d'Oliveira, M.V.N., E.C. Alvarado, J.C. Santos, J.A. Carvalho. (2011). Forest natural regeneration and biomass production after slash and burn in a seasonally dry forest in the Southern Brazilian Amazon. *Forest Ecology and Management*, 261(9), 1490-1498.
- Dyson, T. (2005). On Development, Demography and Climate Change: The End of the World as We Know it? *Population and Environment*, 2, 117-149.
- East, A. J. (2008). What is a carbon footprint? An overview of definitions and methodologies. In *Vegetable in-dustry carbon footprint scoping study—Discussion papers and workshop*. Retrieved from, <http://www.enviroconnews.com/?m=201203>
- Fairlie, S. (2012). Maximizing Soil Carbon Sequestration: Carbon Farming and Rotational Grazing. *Mother Earth News*, pp. 1-4. Retrieved from <http://www.motherearthnews.com/>
- Fearnside, Philip M. (1996). Amazonian deforestation and global warming: carbon stocks in vegetation replacing Brazil's Amazon forest. *Forest Ecology and Management*, 80(1-3), 21-34.
- Fearnside, Philip M., Ciro Abbud Righi, Paulo Mauricio Lima de Alencastro Graça, Edwin W.H. Keizer, Carlos Clemente Cerri, Euler Melo Nogueira, Reinaldo Imbrozio Barbosa. Biomass and greenhouse-gas emissions from land-use change in Brazil's Amazonian 'arc of deforestation': The states of Mato Grosso and Rondônia. (2009). *Forest Ecology and Management*, 258(9), 1968-1978.
- Fearnside, Philip M. (2012). Brazil's Amazon forest in mitigating global warming: unresolved controversies. *Climate Policy*, 12(1): 70-81.

- Fearnside, P. M. (2005). Deforestation in Brazilian Amazonia: History, rates and consequences. *Conservation Biology*, 19(3), 680–688.
- Fearnside, Philip M. (1995). Potential impacts of climatic change on natural forests and forestry in Brazilian Amazonia. *Forest Ecology and Management*, 78(1-3), 51-70.
- Fearnside, Philip M. (2001). Saving tropical forests as a global warming countermeasure: an issue that divides the environmental movement. *Ecological Economics*, 39(2), 167-184.
- Finkbeiner, M. (2009). Carbon footprinting—Opportunities and threats. *International journal of Life Cycle Assessment*, 14, 91–94.
- FSC Watch (2008) Exposed: FSC-certified clear-cutting of Massachusetts public forests USA.
<http://www.fscwatch.org/archives/2008/04/13/Clearcutting%20of%20Massachusetts%20public%20forests>
- Foster, John Bellamy (2011). Capitalism and Degrowth: An Impossibility Theorem” *Monthly Review*, Volume 62 (8), pp.26-33.
- Gerwing, Jeffrey J. (2002). Degradation of forests through logging and fire in the eastern Brazilian Amazon. *Forest Ecology and Management*, 157(1-3), 131-141.
- Hamm, B. I. (2001). A Human Rights Approach to Development. *Human Rights Quarterly*, 23, 1005-1031.
- Heyward, M. (2007). Equity and international climate change negotiations: a matter of perspective. *Climate Policy*, 7(6), 518-534.
- Hochstetler, K., and Viola, E. (2012). Brazil and the Politics of Climate Change: Beyond the Global Commons. *Environmental Politics*, 21(5), 753-771.
- Human Development Reports. (2013). Brazil, Country Profile: Human Development Indicators, UNDP. Retrieved from, <http://hdr.undp.org/en/statistics/> and <http://hdrstats.undp.org/en/countries/profiles/BRA.html>
- Instituto Brasileiro de Geografia e Estatística. (2010). www.ibge.gov.br
- Jassal, Rachhpal, Andy Black, Mike Novak, Kai Morgenstern, Zoran Nestic, David Gaumont-Guay. (2005). Relationship between soil CO₂ concentrations and forest-floor CO₂ effluxes. *Agricultural and Forest Meteorology*, 130(3-4), 176-192.
- Kovel, Joel (2002) *The Enemy of Nature: The End of Capitalism or the End of the World?* Zed Books.
- Lashof, D. A., & Ahuja, D. R. (1992). Relative Contributions of Greenhouse Gas Emissions to Gglobal Warming. *Nature*, 344, 529-531.
- Laurance, William F. (1999). Gaia’s Lungs. *Natural History*, 108(2): 96.
- Laurance, W. F. (2007). A New Initiative to Use Carbon Trading for Tropical Forest Conservation. *Biotropica*, 39(1), 20-24.

- Lee, H., Park, T., Kim, B., Kim, K., & Kim, H. (2013). A real option-based model for promoting sustainable energy projects under the clean development mechanism. *Energy Policy*, 54, 360-368.
- Leimbach, Marian. (2003). Equity and carbon emissions trading: a model analysis. *Energy policy*, 31(10), 1033-1044.
- Lofquist, L. (2011). Climate change, justice and the right to development. *Journal of Global Ethics*, 7(3), 251-261.
- Mazzei, Lucas, Plinio Sist, Ademir Ruschel, Francis E. Putz, Phidias Marco, Wagner Pena, and Josué Evandro Ribeiro Ferreira. (2010). Above-ground biomass dynamics after reduced-impact logging in the Eastern Amazon. *Forest Ecology and Management*, 259(3), 367-373.
- Nitschelm, Jennifer J., Andreas Lüscher, Ueli A. Hartwig, and Chris Van Kessel. (1997). Using stable isotopes to determine soil carbon input differences under ambient and elevated atmospheric CO₂ conditions. *Global Change biology*, 3(5), 411-416.
- NOREDD (2011) "Indigenous Peoples Condemn Climate Talks Fiasco and Demand Moratoria on REDD+" <http://noredd.makenoise.org/indigenous-peoples-condemn-climate-talks-fiasco-and-demand-moratoria-on-redd.html>
- Pandey, D., Agrawal, M., & Pandey, J. S. (2011). Carbon footprint: current methods of estimation. *Environmental Monitoring and Assessment*, 178(1-4), 135-160.
- Peters, G. P. (2010). Carbon footprints and embodied carbon at multiple scales. *Current Opinion in Environmental Sustainability*. doi:10.1016/j.cosust.2010.05.004.
- Pew Research. (2010) Global Attitudes Project. <http://www.pewglobal.org/2010/09/22/chapter-5-environmental-issues/>
- Pew Research. (2009). Global Warming Seen as a Major Problem Around the World Less Concern in the U.S., China and Russia. PewResearch Global Attitudes Project.
- Retrieved from, <http://www.pewglobal.org/2009/12/02/global-warming-seen-as-a-major-problem-around-the-world-less-concern-in-the-us-china-and-russia>
- Pielke Jr., Roger (2013) *The Climate Fix: Climate Change and Europe's Carbon Emissions Failure*, Basic Books.
- Retrieved from, http://theenergycollective.com/roger-pielke-jr/220836/europe-s-climatefail?utm_source=tec_newsletter&utm_medium=email&utm_campaign=newsletter&inf_contact_key=6bd33516c5ff43f2dfe684847c0676178ab901b72d79b3d100e0cb8009462a60
- Potter, Garry (2009) *New Orleans And Katrina, Past Prediction, Future Dystopia*, Swans Commentary. <http://www.swans.com/library/art15/potter01.html>

- Potter, Garry (2010a) *Dystopia: What is to be done?* New Revolution Press.
- Potter, Garry (2010b) "Power and Knowledge: A Dialectical Contradiction", *Journal of Critical Realism* Vol.9, No.2, pp.133-154.
- Potter, Garry (2012) "Imaginarities and Realities, Utopia and Dystopia", *Alternate Routes: A Journal of Critical Social Research*, 23, pp.265-278.
- Rainforest Conservation Fund (2013). "RCF helps create 960,000-acre reserve in Peruvian Amazon!" July 13.
<http://webcache.googleusercontent.com/search?q=cache:-c5gwvmseggJ:www.rainforestconservation.org/archives/1227+&cd=1&hl=en&ct=clnk&gl=ca>
- Rapoza, K. (2011). "US Overtakes Brazil As World's No. 1 Beef Exporter", *Forbes*. Retrieved from, <http://www.forbes.com/sites/kenrapoza/2011/09/23/us-overtakes-brazil-as-worlds-no-1-beef-exporter/>
- Ribeiro, Jeferson. (2012). Brazil's Amazon Fund bogs down, donors frustrated. *AlertNet*. Retrieved from, <http://www.trust.org/alertnet/news/brazils-amazon-fund-bogs-down-donors-frustrated/>
- Robinson, J., Bradley, M., Busby, P., Connor, D., Murray, A., Sampson, B., & Soper, W. (2006). *Climate Change and Sustainable Development: Realizing the Opportunity*. *AMBIO: A Journal of the Human Environment*, 35(1), 2-8.
- Robinson, K. (2010). *Brazil's Global Warming Agenda*. Washington DC.: World Resources Institute.
- Rodrigues, Jorge L., Vivian H. Pellizari, Rebecca Mueller, Kyunghwa Baek, Ederson da C. Jesus, Fabiana S. Paula, Babur Mirza, George S. Hamaoui, Jr., Siu Mui Tsai, Brigitte Feigl, James M. Tiedje, Brendan J.M. Bohannan, and Klaus Nüsslein. (2013). Conversion of the Amazon rainforest to agriculture results in biotic homogenization of soil bacterial communities. *Proceedings of the National Academy of Sciences of the United States of America*, 110(3), 988-993. Retrieved from <http://www.pnas.org/content/110/3/988>
- Rogers, Hugo H., Stephen A. Prior, G. Brett Runion, and Robert J. Mitchell. (1996). Root to shoot ratio of crops as influenced by CO₂. *Plant and Soil*, 187(2), 229-248.
- Roman, M. (2010). *Shifting ground: Brazil Tackles Climate Change and Deforestation, but Rapid Growth, Energy Needs Undermine Progress*. Stockholm: Stockholm Environment Institute. Retrieved March 29, 2013
- Rong, F. (2010). Understanding developing country stances on post-2012 climate change negotiations: Comparative analysis of Brazil, China, India, Mexico, and South Africa. *Energy Policy*, 38, 4582-4591.
- Sarkar, Saral (1999). *Eco-Socialism or Eco-Capitalism? A Critical Analysis of Humanity's Fundamental Choices*, Zed Books.

- Sengupta, A. (2002). On the Theory and Practice of the Right to Development. *Human Rights Quarterly*, 24(4), 837-889.
- Smith, Nigel, Jean Dubois, Dean Current, Ernst Lutz, and Charles Clement. (1998). *Agroforestry Experiences in the Brazilian Amazon: Constraints and Opportunities*. Conservation and Development of Brazil's Tropical Forest Regions.
- Søe, Astrid R. B., Anette Giesemann, Traute-Heidi Anderson, Hans-Joachim Weigel, and Nina Buchmann. (2004). Soil respiration under elevated CO₂ and its partitioning into recently assimilated and older carbon sources. *Plant and Soil*, 262(1-2), 85-94.
- Sullivan, Sian. (2009) Green capitalism, and the cultural poverty of constructing nature as service-provider. *Radical Anthropology*, 3, 18-27.
- The Guardian. (2011, July 26). What is the Clean Development Mechanism (CDM)? *The Guardian*, p. 1-2. Retrieved from <http://www.guardian.co.uk/environment/2011/jul/26/clean-development-mechanism>
- Tollefson, Jeff. (2013). A light in the forest: Brazil's fight to save to Amazon and climate-change diplomacy. *Foreign Affairs*, 92(2).
- Tulip Hardwood Floors (2011). FSC Certified. http://www.tulipfloors.com/sustainability/fsc_certified
- UNFCCC. (2013). United Nations Framework Convention on Climate Change . Retrieved April 12, 2013, from Parties & Observers: http://unfccc.int/parties_and_observers/items/2704.php
- UNFCCC-CMD. (2013). Clean Development Mechanism (CDM). Retrieved April 12, 2013, from The United Nations Framework Convention on Climate Change: http://unfccc.int/kyoto_protocol/mechanisms/clean_development_mechanism/items/2718.php
- United Nations (1986), Declaration on the Right to Development, United Nations General Assembly resolution 41/128 http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/41/128&Lang=E&Area=RESOLUTION
- UNDP. (2013, March 30). United Nations Development Program Human Development Index. Retrieved from United Nations Development Program: http://issuu.com/undp/docs/hdr_2013_en?mode=window
- USDA report (2006) Wood Market Update <http://www.fas.usda.gov/ffpd/Newsroom/Wood%20Market%20Update.pdf>
- Wiedmann, T., & Minx, J. (2007). A definition of carbon footprint. ISAUK Research Report 07-01, Durham, ISAUK Research & Consulting. World People's Conference on Climate Change and the Rights of Mother Earth <http://pwccc.wordpress.com/2011/06/16/bolivia-proposes-pathway-to-solve-climate-talks-be-clear-about-targets-and-honour-commitments/>
- Zhang, Fuwei, Guo, Ying, and Chen, Xiaoping. (2011). Research on China's Power Sector Carbon Emissions Trading Mechanism. *Energy Procedia*, 12, 127-132.

Can You Build an Open-Pit Mine in an Urban Centre? Big Copper Versus a Small City and the Urban Environment in a B.C. Interior Community

Terry Kading and Elisabeth Bass¹

ABSTRACT: The citizens of the City of Kamloops have found themselves at the centre of a controversial debate over the implications of a bizarre foreign-domestic investment proposal – the establishment of a huge open-pit copper and gold mine that extends within the municipal boundaries proximate to the main residential area of this regional centre of 85,000+ citizens. It is our contention that the extent to which this mining proposal has been able to proceed reveals the lengths to which environmental and community concerns have to be minimized by all levels of government to maintain a growth strategy based on low-taxes, balanced budgets and a reliance on private investment, particularly in response to the 2008 global financial crisis. This is not a mining proposal in which a community will emerge in response to the investment – with the ability to determine the appropriate distance from the mining activity, but a situation where the mining activity will be imposed upon a substantial population with undetermined environmental and health implications that may have dire implications for the livability and economic future of the residents of this city. The case of Kamloops raises the question of whether or not municipalities in Canada have any status or protection against aggressive corporate investment decisions with dramatic health and economic affects, for as both the opponents and the mining industry have observed, “[If] the project is approved it would set a Canada-wide precedent” (KAPA, 2013; Rees, 2013).

1 Terry Kading is Associate Professor of Political Science in the Department of Philosophy, History and Politics at Thompson Rivers University. Elisabeth Bass is an undergraduate researcher and work-study student in Political Science at Thompson Rivers University. We would like to thank Derek Cook, lecturer in Political Science at Thompson Rivers University, for organizing the community forums that contributed to this article, and the reviewers for their constructive advice.

INTRODUCTION: THE AJAX MINE PROPOSAL IN A RADICAL NEO-LIBERAL ENVIRONMENT

The Ajax mine project will encompass more than 2500 hectares of land, and will be located partially within the City of Kamloops, British Columbia (City of Kamloops, 2013). Within city limits will be located the tailings storage facility, process water pond, processing plant, the North Waste Rock Management Facility and the ore stockpiles (see map – Appendix 1). A small Canadian mining firm, Abacus Mining and Exploration Co., acquired the rights to the abandoned Afton mine site south of Kamloops, B.C., and after completing successful tests for copper and gold partnered with mining giant KGHM to advance the project (Abacus, 2013). Located well outside of city limits, and of limited scope and success, the Afton mine had encompassed 161 hectares and operated on and off from 1989 until 1997. The Ajax project has an expected mine life of 23 years, mining approximately 22 Mt of ore a year, where 17 Mt of ore was mined at Afton over the entire eight year period. Thus, the scope and impact of the Ajax proposal represents a significant intrusion into this urban centre in which the authority of the local government carries little weight as to the placement of facilities and evaluations of the proposed mining activity.

This analysis draws on a critical geographical perspective on neo-liberalism to situate theoretically the Ajax mine proposal, highlight the path-dependent character of this proposal as part of the neo-liberal reform project, and the “strategic role of cities in the contemporary remaking of political-economic space” (Brenner & Theodore, 2002, 349). As a distinctive case of “actually existing neo-liberalism” within the broader process of neo-liberalization adopted by province of British Columbia, the proposal exemplifies the main methodological premises of this perspective: *the unstable historical geographies of capitalism*, where “the creative destruction of capitalist territorial organization is always unpredictable and deeply contested” and “capital’s relentless quest to open up fresh spaces for accumulation is inherently speculative, occurring through “chance discoveries” and “provisional compromises in the wake of intense sociopolitical struggles”; and the *uneven geographical development* and *the regulation of uneven geographical development* that has both fostered a local context amenable to such a controversial proposal and forged the opposition arising from “compensatory regional policies.” Most evident is the mining proposal as an example of *evolving geographies of state regulation* where during periods of crisis the “resultant ‘search for a new institutional fix’ generally entails the partial dismantling or reworking of inherited institutional landscapes in order to

'open up space' for the deployment and institutionalization of new regulatory strategies" (Brenner & Theodore, 2002, 355-356). The uniqueness of this project, which also highlights its audacious character, is that while urban spaces in B.C. are subject to the "devolution of new tasks," "contracting out of services," "expansion of community-based and private approaches to social service provision," "emergency shelters" for the homeless and other "creative moments of neoliberal localization," (Brenner & Theodore, 2002, 369-372), the proposal is less about revamping the regulatory environment than attempting to utilize existing environmental assessment criteria that was never intended for an open-pit mine within an urban setting. The unwillingness of federal and provincial officials to acknowledge this feature and stop the proposal from advancing stems from the urgency of "growth restoration and budgetary constraint" arising out of the 2008 crisis, in which expanded resource extraction has become a federal and provincial priority (Peck, Theodore & Brenner, 2012, 265).

Our examination of this mining proposal also supports and expands on the critical analysis of Nathan Young on the remaking of rural geographies in B.C. arising from the adoption of radical neo-liberalism at the provincial level (Young, 2008). Young documents the effects in small communities from neo-liberal restructuring in the provincial government and the forestry industry, and the initiatives to address decline and dislocation through "guided entrepreneurialism" and local "independence." In contrast, our analysis focuses on one of the small cities that have been a net beneficiary from this provincial restructuring, emerging as a "regional centre" providing a range of government services previously available through smaller communities. Despite this enhanced status, Kamloops remains subject to the "freeing" of corporate actors "to manipulate the spaces of resource production in order to gain efficiencies that are deemed crucial to (global) market competitiveness" (Young, 2008, 2). For KGHM the placement of the Ajax project has many advantages over developing a mine in more remote areas. By locating major mining facilities within city limits there is easy access to an established transportation, water, and electrical network, significantly reducing the time and costs of developing a fully functioning mine site. In addition, there is a large local workforce and mining service providers due to the proximity of the city to two other established mine sites – Highland Copper and New Gold (KGHM, 2013). From a resource investment perspective the location is optimal, but within the city this project has fostered deep divisions driven by competing economic, health and environmental fears.

On the one side are the supporters of the project, where insecurities generated by the local fallout from the 2008 economic crisis have reinforced the position that the city is in no position to be rejecting a major investment and employment opportunity. The opponents of the project highlight that the environmental costs are not only related to health concerns, but will destroy a number of economic opportunities and dramatically reverse local efforts to diversify against a long-standing weakness of resource dependence. Perhaps what is most surprising is an announcement of a billion dollar+ investment commitment in mining at the height of the global financial crisis, an unprecedented context in the history of the resource sector in B.C. Unlike previous recession experiences, the 2008 global financial crisis has served to significantly revive rather than undermine the prospects for mining in British Columbia, as global prices for a variety of base metals have remained consistently high due to demand from Asian markets (particularly China). This has allowed what was a largely moribund industry to offer itself up as a “recession proof” revenue option with high paying jobs, and the ability to address the declining employment opportunities in the forestry sector of the interior and north of B.C. (Gratton, 2010; Brino, 2013). It is only the ironic persistence of this external demand and price for copper at the height of a major global downturn that explains the unwillingness of the provincial government and the main opposition to reject outright Ajax as inappropriate as proposed. Accelerated resource extraction is viewed as the basis of a secure financial future that may revive interior economies. Thus, short-term electoral calculations, an entrenched bias favoring corporate interests and an inability to accept and promote an alternative development strategy accounts for the silence by the two main political parties (the Liberal Party of B.C. and the New Democratic Party of B.C.) as they have become entrapped in the “benefits” of a neo-liberal resource growth agenda. The roots of this “consensus” lay in the decisive defeat of the NDP government by the Liberal Party under Gordon Campbell in 2001.

THE PROVINCIAL CONTEXT AND THE MINING REVIVAL

Despite the image of British Columbia as largely a resource-based economy dominated by forestry, fishing, and mining, the reality is that by the end of the 20th century, in terms of GDP by industry and number of employees, these sectors had faded in significance. These trends would continue under the Liberal government such that by 2007-08 *agriculture, forestry and fishing* would contribute only 3% to provincial GDP, and less

than 3% from *mining, oil and gas* (Brownsey, Howlett & Newman, 2010, 22-23). Employment in *forestry, fishing, mining and oil and gas* combined would decline from 2.6% of the total workforce in 1998 to 1.9% in 2008. Over this ten year period the largest employment gains would be seen in transportation (+25,000), education services (+40,000), retail and wholesale trade (+50,000), healthcare (+45,000), professional, scientific and technical services (+40,000), finance and real estate (+35,000) and construction (+100,000). Given these trends in employment and contribution to the overall provincial economy, the Ajax project is neither significant nor necessary. Rather, the Ajax project, as part of a larger revival in mining investment, serves to address a political problem created by the effort to maintain a very low corporate and personal tax environment yet generate employment opportunities in the interior. The vast majority of employment growth in services, transportation, construction, and finance has benefitted the lower mainland and southern Victoria Island region (in and around Vancouver and Victoria) while most other regions have remained dependent on the declining prospects in the resource sector, notably forestry. This “interior-southern coast” divide would be significantly exacerbated by both the aggressive change in the provincial regulatory framework under the Liberal government after 2001, which led to substantial job losses in the forestry industry, and the financial outlay to host the 2010 Winter Olympic Games which favoured the Vancouver region. The 2008 financial crisis further pushed the provincial government’s interest in fomenting resource extraction as declining revenues from other sectors has made the royalties from resources extremely attractive to fund a significant number of costly services e.g. healthcare, while attempting to maintain a very low tax environment.

Coming into the 21st century, though, B.C. was an anomalous context with a higher tax and regulatory regime in place relative to neighbouring jurisdictions, and where perceived low levels of economic growth (versus the national level), private sector investment, and business confidence fuelled a broader societal discontent (and a sense that many were leaving for better employment opportunities in other provinces). The 2001 provincial election was a powerful rejection of the prevailing regulatory model endorsed by the New Democratic Party, with the Liberal Party of B.C. garnering 58% of the vote and 77 of 79 seats in the provincial legislature. Through the 1990s the New Democratic government had enhanced the broad regulatory structure that had developed in B.C. with respect to the business sector and resource industries (Brownsey and Howlett, 2001, 318 & 323). This regulatory context placed

significant requirements on large industries to meet environmental, labour and safety standards, and in the important resource sectors i.e. mining and forestry, to provide employment opportunities to those communities proximate to these resource extraction activities (Kukucha, 2005, 220-222; Young, 2008, 8-10). This latter feature attempted to ensure that the benefits of these activities were distributed throughout the province. Comprised of a social-democratic ideology that favoured the rights of organized labour, workers, and the lower classes, government policies further ensured that a broad range of public services in education, healthcare, social assistance, and regulatory functions, were distributed throughout communities in the province, irrespective of size. The Liberal government would quickly initiate the types of changes seen as necessary to bring the province in line with other jurisdictions, establishing a pro-business investment environment with profound implications for small communities and the environment.

The Liberal government signaled the shift in ideological priorities by cutting tax rates, terminating various government positions, privatizing some government agencies, contracting out government services, and allowing various government entities to raise prices on services (Fuller, 2001, 1; Fuller & Stephens, 2002, 4-7; Klein, 2002, 1-8). The broadest attack was on the larger regulatory edifice that was seen as deterring private sector investment and preventing B.C. from being seen as “competitive” with other jurisdictions. This was most evident as the government established a specific Minister of Deregulation, which decreed that all ministries must cut regulations by one-third, irrespective of content (Fuller, 2001, 1). These dramatic reductions in government conditions and oversight would extend to the resource sector, where extraction and processing would no longer be tied to the benefit of local communities. By reducing conditions on resource extraction the expectation was that corporate investment would generate the economic prosperity in the hinterland to secure the rural vote (Brownsey, Howlett and Newman, 2010, 25-26). This “rationalization” in the resource sector would allow for much greater private sector latitude in extraction, transport and processing as corporations desired more flexibility to respond to global market conditions. At another level the Liberal government began regional centralization in a range of government services and programs (education, healthcare, legal services, administrative) such that certain regional centres would become the main conduits of essential government services, compelling residents of smaller centres to travel or relocate for access to these

services (Lee, Murray and Parfitt, 2005; Young, 2008, 24). For instance, some 176 schools had been closed by 2009, with the prospect that another 60 were threatened with closure, the majority being in remote areas with declining overall populations (BCTF, 2013). Within regions, one would see population increases in certain small cities, while surrounding towns and small centres would be confronted with precipitous declines in population due to lost employment in the forestry sector or government services and agencies, often where the government had been either the number one or number two employer. For instance, while Kamloops grew by 4% from 2001 to 2006, surrounding small towns had population declines that varied from the 2% range to up to 26% plus (UBCM, 2013). Centralization of government services and rationalization in the resource sector generated quite contradictory outcomes, with the future uncertain for many smaller communities.

At a provincial level economic growth rates rose, unemployment rates fell, and government revenues increased overall, appearing to vindicate the aggressive policy changes of the Liberal government in attracting private sector investment (McMartin, 2009). These changes, though, would take place at the expense of the broader distribution of high wage jobs that had maintained many small towns and communities in the past. These inequities extended to the regional level as prosperity or “boom times” in some areas were contrasted with economic decline and dislocation in others. By 2008 some 20,000+ jobs had been lost in the forestry industry alone, a loss of over 25% of the workforce in this sector even before the 2008 financial crisis (Hoberg, 2010, 332-333; United Steel Workers, 2008). While forestry exports would begin to stabilize by expanding sales to Asian markets, in terms of employment prospects and government revenues, forestry continued to fade in significance, replaced by opportunities in the energy sector. By this time the significance of the energy sector had become apparent, such that from 2001 on government revenues from this sector consistently surpassed forestry, and by 2008 were more than double that of forestry – accounting for 6-7% of all government revenues. Investment in natural gas alone had gone from \$1.8 billion in 2001 to \$7.1 billion by 2008, and by 2013 the Liberal government had made the revenue prospects from exporting Liquefied Natural Gas (LNG) the centre piece of its reelection campaign as the means to finance government services well into the century (Government of BC, 2013).

Mining activity did not figure as a resource priority for the Liberal government until the 2008 financial crisis, and only after

it became apparent that base metals appeared to be increasing in royalty contributions to government revenues (Schrier, 2011). With declining provincial growth rates more attention was focused on the prospects for mining, particularly as a means to boost investment and employment in the interior where the effects of the financial crisis were being more immediately felt. Mining also had the advantage over energy of matching more closely the areas most affected by the fallout in the forestry sector in the southern and central interior, whereas the potential from oil and gas activity is largely concentrated in the remote northeast of the province. Unlike the oil and gas sector, though, the numerous proposals that have emerged for mineral development have generated far more environmental scrutiny given their proximity to established communities (in which the Ajax proposal is the most extreme in this regard). It is also this accelerated provincial government interest in mineral extraction that has raised questions and suspicions as to the rigor of the provincial environmental review process. What stands out in this regard is the Taseko Mines Limited gold and copper project near William's Lake, which upon submitting its proposal to the province for environmental assessment in 2009 quickly received approval at the provincial level, but failed to receive federal approval due to the multiple deficiencies that were found in the company's Environmental Impact Statement (Mining Watch, 2012). To this day this project remains stalled at the federal level.

The priority given to accelerated resource extraction with questionable environmental oversight by the provincial government confirms the aggressive quality of the neo-liberal process in B.C., the failed efforts at "guided entrepreneurialism" and compensatory strategies for many communities, and the limits of a low tax environment in funding the necessary services for the province. However, the regional support for these varied extraction initiatives and related infrastructure projects as the "only way" to reverse the fortunes of numerous small communities in the interior has generated a broader Liberal-NDP "consensus" on the merits of resource extraction. This has allowed for a new stage of "creative destruction" fraught with contestation (Harper, 2013). Within this political space, where the Liberal government is committed to opening eight new mines by 2015, the measure of how aggressive and contested this stage has become is exemplified by the Ajax proposal and the recent experience of the residents of Kamloops.

THE LOCAL CONTEXT OF INSECURITY AND UNCERTAINTY

In multiple ways the City of Kamloops has been a net beneficiary of the provincial process of centralization as government services became concentrated in this regional centre e.g. provincial lottery, healthcare services, and education, leading to a marked diversification in services, employment and the image of the city. Due to the recent diversification away from a long history of resource-dependence at the local level the Ajax project has generated differing and complex levels of insecurity and uncertainty as to the effects of this project on the municipality. In addition, and despite the increased expansion and diversification in occupations over time, for decades the region has had to confront a persistently high unemployment rate (until of late). This has fostered a local political culture more receptive to controversial investment initiatives such as Ajax. This 1981 to 2001 phase was in marked contrast to the post-war period of unparalleled local growth and prosperity.

By the late 1970s this interior centre in British Columbia had experienced over twenty years of population growth on the order of seven percent a year, establishing a pattern seen as continuing well into the future. Over this period the population had grown from 20,000 to 50,000 and the likelihood of having to address a population in the 80-100,000 range appeared imminent, perhaps by the early to mid-1980s (City of Kamloops, 1974, 21; Department, 1980, 11). Based on the prospects for mega-developments in energy, mining and forestry individuals were drawn to the area to the opportunities in these primary sectors and related public and private services (Development, 1998, 3). The economic recession that began to hit Kamloops (and the B.C. interior generally) in late 1981 was an unexpected shock in both depth and duration, and a community-altering event regarding urban development. By late 1981 the city was mired in mass layoffs and cutbacks, labour strikes and a steep economic decline as a result of Depression-era prices on the global market for these resource sectors, leading to the “the dubious distinction of having the highest unemployment rate in the nation” (McRae, 1983, A1). With the termination of projects and related investment, unemployment hovered from 18% to 28% during the mid-1980s and a steady outflow from Kamloops ensued. By the late 1980s city officials recognized that the city had few prospects due to its resource dependence (City of Kamloops, 1989, 40-41). The early 1990s saw a brief revival in economic activity but by the mid-1990s stagnation had returned, such that by late in 1999 it was noted that “[T]alk of a community in economic distress has been a primary

theme leading to this year's municipal election in Kamloops" (Muir, 1999, B1). Candidates for mayor were in agreement that Kamloops needed an "anything goes" attitude to be competitive with other urban centres for tax revenues and jobs, one candidate noting "[W]e should never be in a position as a city – unless it's a nuclear reactor – to have to say no to development" (Fortems, 1999, A5). At this point, the Ajax project would have been a welcome blessing to this distressed community.

Into the 21st century, growth prospects for the city appeared minimal. The emergence of big box retailers had increased the regional profile of the city, but with a 12%+ unemployment rate, a declining forestry industry and news that the Highland Valley copper mine may end operations due to low prices generated local fears of continued decline. A gradual turnaround would be marked by the appearance of a major call centre, Convergys, which would quickly grow to over 1500s employees, making it the largest private sector employer in the city. Pollard Note (currency) and Northern Trailer would establish manufacturing facilities, a local brewery would emerge, and as metal prices rose New Gold would begin developing an abandoned gold mine outside of town and Highland Copper would expand facilities into processing. Along with the expansion of the Sun Peaks ski resort came the creation of other golf course, conference and resort facilities in and around the city, suggesting that Kamloops was replicating the "tourist – retirement" dynamic of neighboring Kelowna. These diverse initiatives would be supported by a significant increase in provincial spending in healthcare and education, such that the province would be the dominant employer fueling an institutional, commercial and residential construction boom not seen since the late 1970s. By 2010 there had been such a notable change in the fortunes of the city and in the employment profile (see table below), that local concerns over the forestry industry had evaporated, replaced by a focus on expanding opportunities from the university (with a new law school), health services, transportation (air, rail, trucking), retail services, real estate, tourism and retirees.

Kamloops Job Profile (2000 and 2013)***Top 10 Employers:**

Employer (2000)	Employees	Employer (2013)	Employees
School District 73	1486	Interior Health Authority	2921
Royal Inland Hospital	1446	School District 73	1872
Weyerhaeuser Canada	920	Thompson Rivers University	1780
University College	800	Highland Valley Mine	1256
City of Kamloops	650	City of Kamloops	713
Overlander Extended Care	450	Northern Trailer (Horizon North)	582
Highland Valley Mine	449	New Gold Inc.	475
McDonald Restaurants (5)	315	Domtar (formerly Weyerhaeuser)	430
Canada Safeway	306	BC Lottery Corporation	424
BC Lottery Corporation	295	CN	320

* 2000 data from Mackinnon and Nelson, 39; 2013 data from Venture Kamloops

The local effects of the 2008 financial crisis would be most evident in the private sector dynamic that had emerged. Convergys would quickly slide in employment and close down in the face of a high Canadian currency and broader corporate restraint for their services, along with Pollard Note. Weyerhaeuser (now Domtar) pulp and wood operations would continue to decline in employment (falling below the 430 employees listed above). Tobiano, a major golf resort and housing development would go into receivership before completing its plans, and within the city the massive Mission Hill condominium project would go into bankruptcy as a half completed project. These trends served to heighten employment insecurities as the unemployment rate went from a low of 3.9% (2006) to 8.3% (2008), and 9.1% in 2010 (Venture Kamloops, 2013). This context allowed the Ajax project (with 400 potential positions) to resonate with some local residents, commercial suppliers and trades people – with legitimate concerns regarding the vulnerability of the “new economy” that had emerged, in light of no provincial level commitment to support the diversification – “green economy” trends in place.

For both the Liberals and the NDP there was a consensus on “fiscal prudence,” “low taxes” (with marginal increases on higher incomes), and expanding resource development. The re-elected Liberals placed

more emphasis on “balanced budgets,” “debt reduction” and the expansion of government services tied to royalties from aggressive resource extraction, while the NDP only countered with some reservations over the rigor of the existing provincial environmental assessment process. As the two provincial ridings that divide the City of Kamloops are comprised of numerous small rural communities awaiting the benefits of a resource revival, and unaffected directly by the proposal, the Liberal and NDP candidates in the two local ridings did not contest the appropriateness of an open-pit mine in an urban centre. This created the political space for the Ajax project to be left largely unquestioned by the two main parties and local candidates in deference to the existing review process. This silence has allowed KGHM to advance the mining project in the face of mounting local opposition and a debatable environmental assessment process being applied to an urban centre.

THE LOCAL OPPOSITION

Those opposed to the Ajax mine proposal emphasize the extent to which an open-pit mine is wholly inappropriate for an urban context and the evident lack of adequate assessment criteria in place to even evaluate such a proposal. The opposition to the Ajax project is comprised of the Kamloops Area Preservation Association (KAPA), Physicians for a Healthy Environment (Fortems, 2013), Kamloops Mothers for Clean Air (KMCA, 2013), and two (of nine) city councilors. Of these the Kamloops Area Preservation Association (KAPA) is the most visible, “a group of people brought together by their concern over the proposal to permit the development of a huge, open pit mine far too close to the city ... its members include local ranchers, physicians, former mine employees, and residents of Knutsford and Kamloops.” (KAPA, 2013). As they highlight “[W]e are not opposed to mining, but we are opposed to the location of the Ajax mine.”

Those opposed to the Ajax mine are concerned that the proximity of the mine is going to pose a threat to the environment, a threat to personal health, and a threat to the considerable efforts to overcome an old and unstable resource-based economy and “industrial” image.

The Ajax mine would be located on the high ground overlooking Kamloops, Knutsford, and the ranch-land on the southern perimeter of the proposed mine. If the project is approved it would set a Canada-wide precedent. Up-wind of the city, less than one kilometre from a residential area, and only 2 kilometres from an elementary school, the

proposed mine would pose a serious threat to the health and well-being of residents, both within and outside the city The real estate value of homes located so close to the mine would plummet. The impact of noise, vibration (from blasting), dust and light pollution would irrevocably change the entire character of Kamloops, and particularly of the Aberdeen, Pineview and Sahali areas. The dust would easily be carried by the prevailing southwest wind over the entire city.

If dust and noise from the mine create significant impacts in the City of Kamloops, the population of Kamloops could decline as retired people, students, migratory workers, sports tournament participants and tourists move away or avoid the city. Selected secondary economic impacts could be substantial. (KAPA, 2013)

These potential detrimental effects have raised significant concerns for Kamloops city council, having devoted considerable time, planning and resources to an alternate vision for the city since 2003. The City of Kamloops has three community plans established through broad community consultation that are counter to the impact of the Ajax mine: the principles enshrined in the KAMPLAN (the official community plan), the Aberdeen Plan and the Sustainability Plan (City of Kamloops, 2013). In fulfillment of these plans, the city has taken on considerable debt to finance the expansion of parks, paths, and large recreational and leisure facilities to rebrand the city as a centre of “health and sport” in attracting residents and investment (and from which it has received glowing reviews).

The Sustainability Plan was created to address at the local level issues including water consumption (which had previously been the highest per capita in Canada), developing transportation infrastructure to serve a growing population in challenging topography, reducing solid waste to increase the life of the landfill, building on the reputation as Canada’s Tournament Capital (which creates approximately \$12 million a year in local economic spinoff), and improving air quality (in recognition of the compromised air shed already in place at certain times of the year). The Sustainability Plan outlines four phases to balance social, economic, and environmental welfare. Sensitive areas and environmental curriculum have been reviewed, and the City has planned land-use and parks, and strategized for community wellness and recycling expansion. Future plans suggest a High Tech/Green Industry Attraction Strategy, a Carbon Off-Set Strategy, an Air Shed Plan, and an Alternate Source Study. Coun-

cillor Donovan Cavers, one of only two councillors with a position on the proposal, states that the city will have no chance of meeting these sustainability initiatives once the mine is operational (Bass, 2012-13).

Consultation on the Aberdeen Area Plan was initiated in 2004 to prepare for the tremendous growth expected within the Southwest Sector and to identify and protect environmentally sensitive sections which were already experiencing groundwater and slope stability issues (City of Kamloops, 2008). Forty eight percent of the city's growth is expected for this area and considerable economic commitment has already been invested to create the infrastructure to accommodate this growth. Although the impact of the mine will be evident for the entire city of Kamloops, the Aberdeen Growth Boundary will only be 310m away from the Strategic Stockpile and Low Grade Ore Stockpile, the closest home within 1400m, the elementary school less than 2000m away and the explosives storage facility less than 4000m from the elementary school. It is already known that the mine will use as much water and electricity as the entire city of Kamloops and burn 91,000 litres of diesel per day over the 23 year expected life of the mine (KAPA, 2013). Although a complete list of chemicals used in the operation of the mine is unknown residents can expect blasting, crushing, concentrating, high powered lighting 24/7, uncomfortable levels of noise, vibration and dust, and a tailings pile so large as to permanently change the topography (reducing exposure to sunlight). The city recognized the looming threat and forwarded to the B.C. Environmental Assessment Office (EAO) an eleven page *Letter of Inquiry* in 2011, to which KGHM was expected to reply.

A series of community forums held in the Fall and Winter of 2012-13 allowed those concerned to review both sides of the argument (Bass, 2012-13). Norman Thompson, for KGHM, stated that many members of his organization were long-term residents of Kamloops and that the best interests of the community were a priority for their project, however during the question period Thompson was unable to answer many questions to the satisfaction of the audience (Bass, 2012-13). Scott Bailey, Executive Project Director of the BC Environmental Assessment Office (EAO), presented the process that will consider the AJAX proposal, stating that this is a way to identify and evaluate effects of proposed projects and attempt to find ways to mitigate the impacts. In the case of AJAX, the proponent KGHM, was required to develop a Community Consultation Plan to address the public on issues relevant to the environment, health, and the social and economic effects on the community. Public input rounds are to be open for participation during various stages

of the assessment, and a community advisory group, which Bailey mediates, had been established (Bass, 2012-13). The EAO welcomes Kamloops City Council to participate in the process, and although they recognize the limited ability of municipal leaders to actually make decisions, they will be listened to and considered. While Bailey affirmed that the EAO recognizes the uniqueness of the AJAX case, short-comings of standards were later made evident by the community advisory group when it was found that KGHM may not even have to address the local health effects in its environmental assessment.

“They were meant to provide community input during the environmental-assessment process for the proposed Ajax copper and gold mine. But, after 15 months of meetings, members of a government-appointed community-advisory group are calling for a complete revamp of the way mines are approved in B.C. “The environmental process is not set up to deal with a mine that’s going to be placed inside a city ... and those flaws in the process are glaring” said Dr. Twila Burgman “One of the big concerns of Kamloopsians is our health, and if that’s not being addressed properly, you can imagine the other concerns we have that are also not being addressed properly.” (Klassen, 2013, p. 1)

Thus, while the EAO had initially satisfied some concerns regarding the process, it would become increasingly evident that requests by the community advisory group and city council for urban appropriate assessment criteria and findings would be repeatedly rejected.

During the series of community forums there were unexpected indications of a significant negative growth effect due to the Ajax mine. An in-house survey of Kamloops doctors showed that 70 percent of respondents would definitely or probably not have come to Kamloops if the AJAX mine was operational (Young, 2013). Of the 152 (of 207) who responded, 105 said that they would not have considered Kamloops to practice if AJAX had been in place, and 54 stated that they would likely leave Kamloops if the project is approved. Eighty four percent were concerned about potential health impacts of the AJAX mine on Kamloops residents. Where an estimated 15,000 people already are without a family doctor in Kamloops, Dr. Derek Plausins stated that “community leaders do need to know this issue does exist and the social impact is not one to be underestimated. The reality is Kamloops has to compete with other communities to recruit doctors. Unfortunately this is going to be another hurdle.” The results of the survey have served to highlight both

the potential negative effects to health from the mine and the economic impact. As a regional trauma centre already confronting a major shortage in doctors, a further decrease in medical professionals would affect not only Kamloops but the entire region. Councillor Tina Lange, who views the mine as a threat to the reputation of Kamloops, has emphasized that health care is the number one service that people need and is requesting council confer with health professionals for more information and send a letter to the EAO asking for the survey results to be weighted in their reports (Bass, 2012-13). However, the role and status of city council in the process overseen by the EAO remains uncertain.

As the city awaits the completion and submission of an environmental assessment by KGHM, the local concerns and divisions escalate. The local newspapers have had almost daily citizen editorials on the Ajax project – the majority vehemently opposed on health and environmental grounds. Community events with KGHM sponsorship have been met with threats of boycotts, and city council has been repeatedly pushed to debate petitions for and against the project. Riding-by-riding results of a recent poll in Kamloops revealed 43% in favour / 32% opposed (North Thompson), and 42% in favour / 36% opposed (South Thompson), with about 25% undecided in both ridings (Fortems, 2013). During the provincial election the legitimacy of the provincial assessment process was further brought into question as the local NDP candidate for South Thompson broke ranks and advocated for an independent federal review of the Ajax project after door-to-door canvassing revealed the extent of the fears of local residents most affected by the proposal.

Through press coverage, editorials, community forums, petitions, and polls, the fears over the environment, health implications, and the potential loss of professionals and the local image have created a context of anxious limbo. Pictures in the local paper of vast dust clouds emanating from the Highland Copper mine on windy days have supported the likelihood of significant increases in particulate throughout the valley from Ajax mining activity. Other emerging issues include concerns over residential ground stability related to continuous blasting, the proximity of waste storage facilities, and the effects on property values and future residential developments. This anxiety has been imparted largely by KGHM in a “relentless quest” to be granted approval by meeting the minimum regulatory requirements stemming from the continuing “open-mindedness” of provincial and federal officials regarding their proposal.

THE CORPORATE RESPONSE

The trepidation that has gripped the city has only been exacerbated by KGHM. Suspicion was inculcated from the beginning with the KGHM proposal in 2010, when the company website stated that the project was to be located 10km south of the city. Only local sleuthing revealed the extent of the placement within city limits, thus establishing early signs of deception for some citizens. Expected to address air quality, water quality, noise and vibration, and human health and ecological risks, there were initial indications of a priority on the views of local authorities. In the face of mounting opposition KGHM has adopted an uncompromising position as to the placement and scope of the project while being ill-prepared to address critical health, environmental, and liveability questions. The corporate response has been to increasingly direct their focus at the provincial level, an arena more disposed to a narrow economic case for advancing this project.

By the fall of 2012, the retiring local MLA and Minister of State for Mining, Kevin Krueger, released a surprising critique in an open letter directed to KGHM, confirming the extent of local fears and the suspicions of the opposition.

Dear Ajax, Here's the thing. You really need to start answering some questions publicly, through respected, independent experts, on a range of key questions. I was pleased to hear Mr. Thompson say in local media that you are fully aware that your mining proposal cheek-by-jowl with some of Kamloops' newest residential developments requires a far higher standard than any other in Canada (my paraphrase). It does. I have heard from anxious constituents in droves for many months.

Good citizens who have been pouring their volunteer time into your "consultations" protest to me that you are burying them in paper, treadmilling the process, stonewalling and attempting to put the onus on government. If that is your approach, you will run out of resources long before you have any hope of building a mine Let's end the uncertainty, fear, anxiety and acrimony. Very fine citizens of Kamloops, including a number of highly-prized specialist doctors, are seriously considering moving elsewhere because of the present uncertainties. We don't want that to happen. (Krueger, 2012)

Krueger called on KGHM to spend the money necessary to address all local concerns in order to acquire "social licence," and warned that

unless his suggestions were followed “I have a strong premonition we’ll be wishing you farewell, some time in the future.”

Rather than heed the advice of the local MLA, KGHM sought to refurbish its local reputation in the community by changing the messenger, but not the message. Kamloops’ highly respected RCMP Superintendent, Yves Lacasse, resigned his position to join the Ajax team in early 2013. However, local expectations that Lacasse would provide an account of how KGHM was willing to address local concerns would be quickly dashed. With the notable increase in organized criticism, and as the tangible negative effects of the Ajax proposal became evident, KGHM revised the terms of consultation – retreating to the narrowest procedural requirements to advance the project “as is.” Initially under Abacus it was emphasized that “If any one of the levels of government says no, this project will not go ahead,” including Kamloops city council and the Thompson-Nicola Regional District. Later, through local newspaper ads, KGHM emphasized that the provincial and federal ministers “have the final say on whether or not our project is approved” and “[T]hat means the mines proponents would go ahead with the project with provincial and federal approval even if city council officially opposes it, KGHM Ajax spokesman Yves Lacasse confirmed” (Klassen, 1).

This rigid tone would be carried into KGHM’s long-awaited response to city council’s request for more information as “Kamloops city council sounded off about a letter from KGHM Ajax meant to answer questions asked of the proponent two years ago, calling the responses a range of things - from less than useless to shallow to a poor excuse. Essentially the only thing council did not call it was informative” (Stahn, 2013).

“Coun. Nelly Dever, noted KGHM continues to use other mines as examples as to why Ajax will work in Kamloops, but refuse to give related information or studies. “When ever we’ve asked for comparative information, they’ve been very reluctant to give that information because according to the answers we’ve received all the mines are different, all mines are independent, are specific to climate, topography.” Dever said this is a “poor excuse, whenever we ask a question, and they feel they have their backs up against the wall, they use the reasoning we’ve done it with these other mines before. We should be able to get that information.” (Stahn, 2013)

Instead of addressing concerns the KGHM response only aggravated fears, as in the letter to council “the company says they have no plan to

go beyond the existing footprint, yet literature for investors had previously mentioned future mineral claims and expansion. If you're telling your investors that you plan to expand – then you plan to expand" noted councilor Tina Lange. The whole context of this response was not helped by KGHM. Spokesperson Yves Lacasse emphasized on submitting the letter that environmental and health questions will be addressed in the company assessment, not in the response to council, and that "*quality of life* is subjective and a study will only be considered once the mine is in operation" (Stahn, 2013).

A later request by concerned citizens and city council that KGHM complete a "full-blast test" to determine local effects was rejected by KGHM as too expensive and not required as part of the assessment process, but KGHM did acknowledge that residents will be able to feel the blasting (Youds, 2013). A request by the community advisory group for a full-blast test was turned down by the EAO, even though geotechnical consultants had reported to the EAO the possibility of not just blast vibrations, but "sonic booms" strong enough to shake houses and break windows more than 10km from the proposed mine site (Klassen, 2013). Frustrated by the intransigence of KGHM and the EAO, the mayor of Kamloops met directly with the federal and provincial ministers to request a full-blast test - but received no guarantees (Klassen). Shortly after this KGHM announced that it was considering revising the placement of the controversial structures within city limits, but only because new core samples revealed the potential for developing a much larger mine site. And thus, the anticipated environmental assessment by KGHM for the fall of 2013 has been postponed until "at least" 2014 (Pailard, 2013).

It is apparent that KGHM, despite affirming the unique qualities of its proposal, has no intention of making any meaningful or conciliatory gestures to allay the multiple fears and concerns expressed at the local level. Meanwhile, KGHM site tours and community information sessions continue (with no study results) even though the placement, overall size and impact of the proposed mine and facilities have become even more elusive. The KGHM strategy attests to the corporate resolve to force open "new spaces of accumulation" through "chance discoveries" by meeting only minimal standards of regulatory compliance however ill-suited these are for the urban environment they intend to enter. To this end federal and provincial officials have been complicit in encouraging this position by deferring to the existing provincial process in an effort to accelerate resource extraction across the province.

CONCLUSION

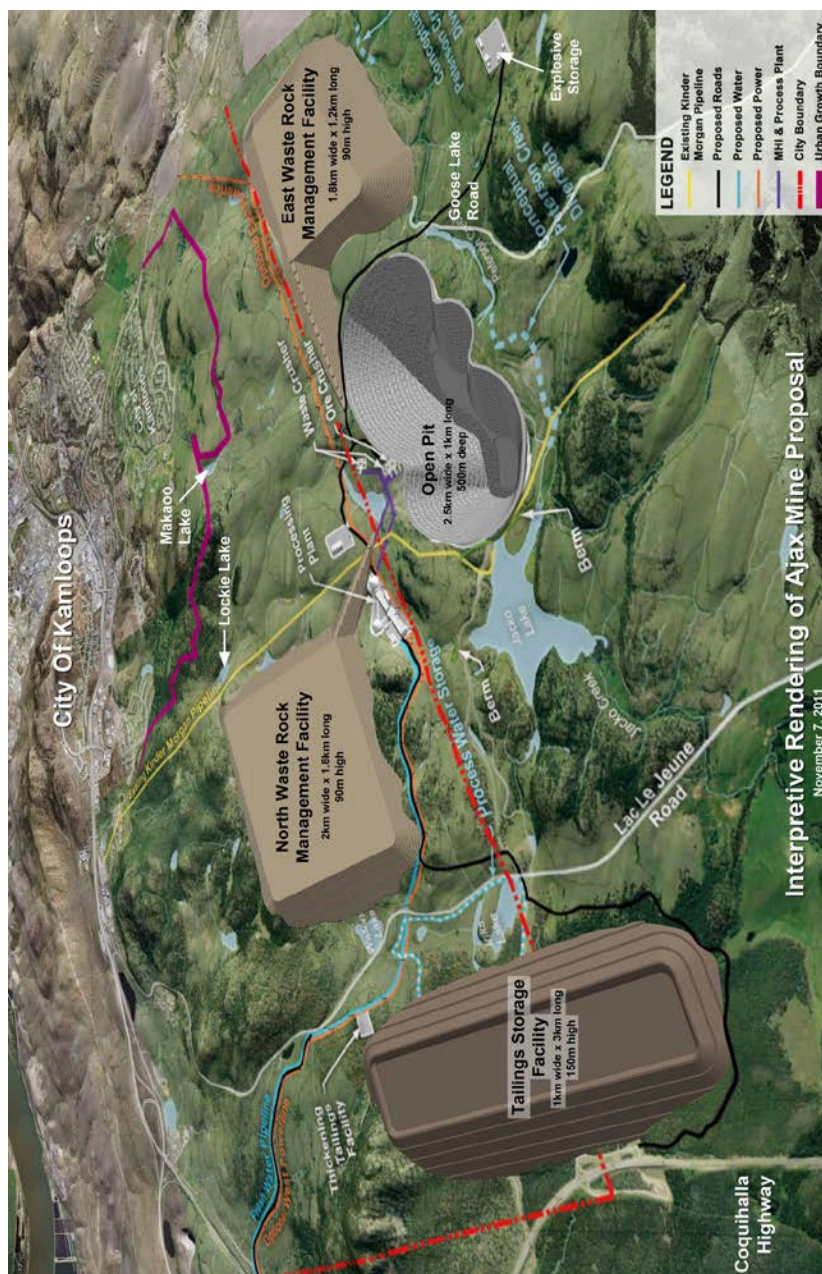
The gravity and the implications of the Ajax mine proposal are distinctive versus the quite common disputes over development initiatives in urban centres. City council and community groups remain uncertain as to their role and the weight of their input in the final decision. There is a lack of clarity over the standards and conditions KGHM is expected to meet at the provincial or federal levels, and no regard for the established land-use, community or sustainability plans of the city. 'Informal recognition' of the uniqueness of this proposal by the EAO or KGHM has not been sufficient to dampen the health or environmental concerns of citizens, or prevent institutions and processes from declining in repute. Increasingly it appears the burden of "research" has fallen to the local level, as KGHM, despite "expertise" in this area, refuse to provide information regarding health and environmental impacts from other operations, nor has the province been forthcoming as to the potential effects based on data from other mines. The imposition of this project to the potential detriment of the local economy, and the possibility that local citizens may be subject to "constant and involuntary exposure" to contaminants from the mine, strikes many as just wrong, irrespective of the support for the project.

The fact that the Ajax proposal has proceeded as far as it has represents just how removed Canadian authorities are from intuitively acknowledging and enforcing any meaningful precautionary principle that anticipates the negative effects of resource extraction, and why approval of the Ajax mine would be precedent setting for corporate investment. That a city with a highly diversified economy, an already compromised air shed, and sustainability plans in place would be considered an investment opportunity for an open-pit mine within city limits, speaks to the entrenched deference to corporate priorities. The project serves no critical employment or revenue needs at the local or provincial levels with some 30+ mining proposals under review, several within the Kamloops region, and a local unemployment rate of 5.3% (Venture Kamloops, 2013). Due to the unwillingness of federal and provincial authorities to recognize firm health and environmental standards for urban centres, and the inability to realize the link between these standards and the creation of new economic opportunities, the Ajax proposal has been allowed to generate considerable local fear and anxiety for tens of thousands of residents.

In the end the "precedent" established by approval of the Ajax proposal may prove to be just too controversial for provincial and federal

authorities, or the requirements on KGHM for approval may be too onerous and costly. There is also the very real possibility that declining copper and gold prices, due to slower growth in China and increased supply from mines being developed around the globe at this time, may reduce the corporate commitment to this project. Nevertheless, the mere fact that this project has been entertained as “feasible” has established a local context of uncertainty that may continue for many years even if the likely “conditional approval” were established. In that time, the cost to the city in reputation and lost economic opportunities due to reservations over the potential effects of the Ajax mine by retirees, students, professionals, tourists, existing residents and other investors may be incalculable.

Appendix 1



KAPA. (2013). From www.stopajaxmine.ca/maps-ajax-mine

BIBLIOGRAPHY

- Abacus Mining and Exploration Corp. (2013). *Ajax Project – Overview*. From www.amemining/s/Afton-Ajax.asp?ReportID=333034
- Bass, Elisabeth (2012-13). Observations from Community Forums (Sept. 9, 2012; Oct. 14, 2012; Jan. 17, 2013). *TRU Political Science Work-Study Student*.
- BCTF. (2013). *School Closures*. From www.bctf.ca/SchoolClosures.aspx
- Brenner, Neil and Nik Theodore. (2002). Cities and the Geographies of “Actually Existing Neoliberalism.” *Antipode*. 34(3), 349–379.
- Brino, Karina. (2013). *Mining Builds Communities - Keynote address to Vancouver Board of Trade*. From <http://www.mining.bc.ca/speeches>.
- Brownsey, Keith, and Michael Howlett. (2001) British Columbia: Politics in a Post-Staples Political Economy. In Keith Brownsey and Michael Howlett (Eds.) *The Provincial State in Canada* (pp. 309-334). Peterborough: Broadview Press.
- Brownsey, Keith, Michael Howlett & Joshua Newman. (2010). From Forestry to Film: The Changing Political Economy of British Columbia. In M. Howlett, D. Pilon and T. Summerville (Eds.), *British Columbia: Politics and Government* (pp.15-29). Toronto: Edmond Montgomery Publications.
- City of Kamloops. (2008). *Aberdeen Area Plan*. Kamloops: City of Kamloops. From <http://www.city.kamloops.bc.ca/communityplanning/aberdeen.shtml>
- City of Kamloops (1974, June). *Kamplan: Survey and Analysis*. Kamloops: City of Kamloops.
- City of Kamloops. (1989, May). *Kamplan 1989: Situation Audit*. Kamloops. Kamloops: City of Kamloops.
- City of Kamloops. (2013). *Proposed Ajax Mine*. From <http://www.kamloops.ca/ajax/land-ajaxmine.shtml>
- City of Kamloops. (1983, April 12). *Regular Council Meeting*. Kamloops: City of Kamloops.
- City of Kamloops. (1984, December 3). *Regular Council Meeting*. Kamloops: City of Kamloops.
- City of Kamloops. (2013). *Sustainable Kamloops*. From www.city.kamloops.bc.ca/sustainable/index.shtml
- Department of Economic Development. (1980). *City of Kamloops Community Profile*. Kamloops: City of Kamloops.
- Development and Engineering Services Department (1998, January). *Annual Report: 1997*. Kamloops: City of Kamloops.
- Fortems, Cam. (1999, October 29). Candidates Differ Over Big-Box Developments. *Kamloops Daily News*. p. A5.

- Fortems, Cam. (2013, April 20). Groups call for more Ajax Transparency. *The Daily News*. From <http://www.kamloopsnews.ca/article/20130420/KAMLOOPS0101/130419757/-1/kamloops/groups-call-for-more-ajax-transparency>
- Fortems, Cam. (2013, April 18). More support Ajax than don't. *The Daily News*.
From <http://www.kamloopsnews.ca/article/20130418/KAMLOOPS0101/130419826/-1/kamloops/more-support-ajax-than-dont>
- Fuller, Sylvia. (2001). "Restructuring Government in BC." *BC Commentary: A Quarterly Review of Provincial and Economic Trends*. 4(4), 1-2.
- Fuller, Sylvia and Lindsay Stephens. (2002). *Cost Shift*. Vancouver: Canadian Centre for Policy Alternatives.
- Government of BC. (2013). LNG – Liquefied Natural Gas: A Strategy for BC's Newest Industry. Victoria: Ministry of Energy and Mines. From http://www.gov.bc.ca/ener/popt/down/liquefied_natural_gas_strategy.pdf
- Gratton, Pierre. (2008). *Mining Industry in BC: Key Issues and Trends -Presentation to BC Construction Roundtable* from <http://www.mining.bc.ca/presentations?page=1>
- Gratton, Pierre. (2010). *The Renaissance of Mining in British Columbia Keynote Address, Vancouver Board of Trade Business Luncheon, BC Mining Week 2010* from <http://www.mining.bc.ca/speeches>
- Harper, Margo. (2013, September 21). Coal mining protest in B.C. set to erupt. *Globe and Mail*. p. A8.
- Hewlett, Jason. (2013, August 1). No Guarantee on Mine Blast: Milobar delivers Ajax worries to B.C. ministers. *The Daily News*. pp. A1-A2.
- Hoberg, George. (2010). Bringing the Market Back In: BC Natural Resource Policies During the Campbell Years. In M. Howlett, D. Pilon and T. Summerville (Eds.), *British Columbia: Politics and Government* (pp. 331-352). Toronto: Edmond Montgomery Publications.
- KAPA – Kamloops Area Preservation Association. (2013). *Stop Ajax Mine*. From www.stopajaxmine.ca/about-kapa
- KGHM International. (2013). *KGHM International Ajax Project – Project Information Centre* from www.ajaxmine.ca/documents.html
- Klassen, Andrea. (2013, April 23). Advisory Group wants federal review on Ajax. *Kamloops This Week*. pp. A1
- Klassen, Andrea. (2013, April 2). Ajax: City opposition not applicable. *Kamloops This Week*. pp. A1.
- Klassen, Andrea. (2013, July 30). City's Ajax report lands with a boom. Air blasts could shake houses, break windows, consultants says. *Kamloops This Week*. pp. A1 & A7.

- Klassen, Andrea. (2013, August 1). Ajax rejects calls for blast test. *Kamloops This Week*. pp. A1.
- Klein, Seth. (2002). *Reckless and Unnecessary*. Vancouver: Canadian Centre for Policy Alternatives.
- KMCA – Kamloops Mothers for Clean Air. (2013). From www.kamloopsmomsforcleanair.com
- Koopmans, Robert. (2013, January 31). Lacasse hopes to bridge Ajax divide. *The Daily News*. From <http://www.kamloopsnews.ca/article/20130131/KAMLOOPS0101/130139970/-1/kamloops/lacasse-hopes-to-bridge-ajax-divide>
- Krueger, Kevin. (2012, October 29). An Open Letter to Ajax. *The Daily News*. From <http://www.kamloopsnews.ca/article/20121029/KAMLOOPS0303/121029866/-1/KAMLOOPS/an-open-letter-to-ajax-mine>
- Kukucha, Christopher. (2005). Lawyers, trees and money: British Columbia forest policy and the convergence of international and domestic trade considerations. *Canadian Public Administration*. 48(4),506-527.
- Lee, Marc, and Stuart Murray, Ben Parfitt. (2005). *BC's Regional Divide: How Tax and Spending Policies Affect BC Communities*. Vancouver: Canadian Centre for Policy Alternatives.
- MacKinnon, Robert and Ross Nelson. (2005). Urban and Economic Change in Kamloops: Postindustrial Adjustments in a Staples Economy. In W. F. Garrett-Petts (Ed.). *The Small Cities Book: On The Future of Small Cities* (pp. 23-48). Vancouver: New Star Books.
- McMartin, Will. (2009, April 23). BC's Economy: Whose Was Best? *The Tyee*. From www.thetyee.ca/Views/2009/04/23/BCEcon
- McRae, Allen. (1983, February 4). Jobless Rate Still High. *The Kamloops News*. pp. A1.
- Mining Watch. (2012, December 11). *Taseko Gets an Incomplete: 50 Substantial Deficiencies Found in Environmental Impact Statement*. From <http://www.miningwatch.ca/blog/taseko-gets-incomplete-50-substantial-deficiencies>
- Muir, Jennifer. (1999, November 18). A Big Box Story: Is the Retail Invasion Hurting Other Businesses? *Kamloops Daily News*. pp. B1.
- Paillard, Sylvie. (2013, August 3). KGHM Changes Ajax Scope. *The Daily News*. pp. A1-A2.
- Peck, Jamie, Nik Theodore; and Neil Brenner. (2012). Neoliberalism Resurgent? Market Rule after the Great Recession. *South Atlantic Quarterly*. 111(2) 265-288.
- Rees, Simon. (2012, August 23). Kamloops development project to set environmental precedent. From www.miningweekly.com/article/kamloops-development-project-to-set-environmental-standard-2012-08-23

- Schrier, Dan. (2011, May 11). BC's Mining Sector Digging Up More Export Dollars. *BC Stats – Analytical Reports*. From www.bcstats.gov.bc.ca/Publications/AnalyticalReports.aspx?subject=mining
- Stahn, Jennifer. (2013, May 3). KGHM ends 104 weeks of waiting (sort of). *Infotel*. From <http://infotel.ca/newsitem/KGHM-ends-104-weeks-of-waiting-%28sort-of%29/IT1759>
- Stahn, Jennifer. (2013, May 8). KGHM response to Ajax questions offer little information. *Infotel*. From <http://infotel.ca/newsitem/Shallow-letter-a-small-step-not-enough/IT1827>
- UBCM. (2013). *2006 Census Information for B.C. Municipalities*. From www.civicinfo.bc.ca/81_ver2.asp
- United Steel Workers. (2008). Campell's Legacy of Mismanagement. From usw2009.ca.ca/docs/forestry%2010%20point.pdf
- Venture Kamloops. (2013). *Community Facts*. From <http://www.venturekamloops.com/communityfacts.htm>
- Venture Kamloops. (2013). *Labour Force*. From <http://venturekamloops.com/labour.htm>
- Youds, Mike. (2013, July 29). AJAX Urged to Conduct Full-Test Blast. *The Daily News*. pp. A1-A2.
- Young, Michele. (2013, November 20). Doctors down on Ajax, survey suggests. *The Daily News*. From <http://www.kamloopsnews.ca/article/20121120/KAMLOOPS0101/121119876/-1/kamloops/doctors-down-on-ajax-survey-suggests>
- Young, Nathan. (2008). Radical Neoliberalism in British Columbia: Remaking Rural Geographies. *Canadian Journal of Sociology*. 33(1). 1-36.

'Greening work' in Lean Times: The Amalgamated Transit Union and Public Transit

Jeffrey Carey¹ and Steven Tufts²

ABSTRACT: This paper examines the Amalgamated Transit Union's (ATU) discussion of environmental issues since the mid 1980s. We explore the trialectic relationship between capital, labour and nature in Canada's public transit unions, primarily through the lens of labour geography. In a review of union documents and Canadian newspapers we find the state uses the environment as a wedge issue in its 'war or position' with unions, representing workers' strike actions as harmful to the environment and the community. The state's positioning of ATU members as crucial to both the functioning of communities and environmental sustainability lends itself to counter-hegemonic campaign strategies. We examine a recent campaign by Toronto's ATU Local 113 entitled "Protecting What Matters" as a local union's community and environmental strategies during a period of austerity. The paper concludes with lessons learned from a labour geography perspective and calls for a more community based approach to resistance.

INTRODUCTION

A marginal issue in labour studies until recently, climate change mitigation and adaptation are increasingly important processes in the examination of work, workers and workplaces (Lipsig-Mummé, 2013). For workers and their organizations, environmental or 'green' issues present both potential opportunities and challenges in workplace and broader regulatory disputes. It is perhaps to be expected then that union responses to the long-run crisis of climate change have been highly var-

1 Jeffrey Carey is a PhD student at the Department of Geography, York University.

2 Steven Tufts is Associate Professor and Chair at the Department of Geography, York University. This paper was supported by the SSHRC-funded Work in a Warming World (W3) CURA. The authors would like to acknowledge the helpful comments on an earlier draft of the article provided by members of W3 during a recent workshop. We also would very much like to thank the AR reviewers. The responsibility for the content rests with the authors.

iegated with some adopting hard-line responses and others attempting to find some form of middle-ground between jobs and the environment. Rather than conforming to a single coherent discursive policy and action plan on the environment, economic actors routinely adopt different discursive strategies influenced by a number structural-economic and political-ideological factors. Labour's response to climate change is further complicated by the variable strategies adopted by capital and the state.

This paper presents a case study of the Amalgamated Transit Union (ATU) as an example of how labour utilizes environmental discourse to further its objectives while capital and the state simultaneously adopt similar discourses on the environment to discipline and fragment workers. For some workers, the long-term impacts of climate change and the mitigation strategies in response to impacts present opportunities in bargaining and organizing new workers. A union that would appear positioned to benefit from adaptation and mitigation efforts is the Amalgamated Transit Union (ATU), a union representing 190,000 public transit workers in Canada and the US. Increasing public concern over unsustainable North America automobile transportation systems, increased ridership throughout large urban public transit systems, decaying public and private infrastructure associated with transit use, and the potential identification of the transit worker as an 'essential green worker', place the ATU at the crux of nature-economy and 'green-job' debates. In theory, the union is well positioned in terms of potential coalition building on environmental issues in the short and long terms. In the short term, this position should serve as a strategic advantage in collective bargaining disputes with capital and the state as the union seeks broader support within the community on transit issues, such as increased public funding of services and the 'greening' of transportation systems. In the longer term, climate change should also potentially serve as the issue which defines the ATU as a progressive actor in union-community (or union-environmental) alliances with the goal of developing alternative transportation planning solutions mediating society-nature relations.

At the same time, however, the current age of austerity following the global financial crisis presents real material challenges to public transit workers. In the United States, a high profile budget showdown in Congress over the funding of a long-term transportation bill (eventually signed into law as H.R. 4281) in March 2012 highlighted the contentious nature of transportation planning in the current economic and political climate (Plungis, 2012). In Canada, austerity budgets at lower levels

of government, have entailed warnings of further cut-backs in investment for public transportation, privatization of services, and in some instances the passage of essential service legislation to limit the collective bargaining strength of workers (see recent report by Gilligan and Stolarick (2013) in the Toronto case). In some instances, this has entailed the invocation of a 'green' agenda on the part of the state to discipline workers. This is evidenced most recently in collective bargaining disputes in Ottawa and Toronto as the state has employed discourses on the environment and climate change to discipline workers and increase public discontent towards the ATU (*Globe and Mail*, 2006; Rupert, 2009; *Ottawa Citizen*, 2009).

These recent events, specifically those in Canada, highlight the complicated role of the state in defining and defending green issues in collective bargaining disputes with public transportation workers. The state is not only in many cases the employer of public transit workers but also the regulatory and disciplinary power over all workers as it reproduces capitalist relations through labour laws, collective agreements and cultural norms. In an intensified neoliberal regulatory environment, this has entailed significant roll-backs in workers' rights (specifically collective bargaining rights,) macro-economic regulations, and the public service more generally (Amin, 1994; Peck, 2001; Jessop, 2003; Panitch & Swartz, 2003). More specific to public transportation workers, this changing regulatory environment has entailed moves to privatize services, and more recently, the legislative clawing back of collective bargaining rights through the passage of essential service legislation. Discourses on the environment – specifically those geared towards mitigating climate change, decreasing congestion, and reducing pollution – remain a relatively marginal issue in recent efforts to remove these rights, but they have been utilized by the state to discipline workers in other collective bargaining disputes, opening ground to represent transportation workers as both essential to the economy and the environment.

Given the complicated context and messy character of what is referred to as a 'capital-labour-nature' trialectic, this paper looks to uncover the ways in which the ATU has adopted climate change mitigation and adaptation discourses into its collective bargaining and organizing strategies, and broader campaign strategies for transit regulation and public funding. We also examine, however, the ways in which 'green' issues have been adopted by the state to discipline workers and produce cleavages between the union and the broader community. We find that the union employed environmental discourses more shrewdly

during periods of economic crisis and its' ability to develop lasting coalitions strengthened. Yet these efforts were countered by the state and the ATU's efforts were limited in several jurisdictions in Canada. The development of medium to long-term strategies to engage the public in labour-friendly public transit development remains uneven, leaving some questions as to the success of the union's community and environmental agenda for the future.

This paper begins with a brief conceptual discussion of the capital-labour-nature trialectic. Particular emphasis will be placed on integrating literatures in ways that highlight how *both* labour and capital are implicated in the production of nature and conversely how nature confers limits upon both capital and labour. However, we feel that an emergent 'labour geography' can both contribute to this discussion and gain from a deeper consideration of nature. The paper discusses the results of an analysis of the Canadian ATU's language on the environment in print media between 1986 and 2012. Of particular concern is the extent to which the Canadian ATU mobilized workers around climate change and the ways by which they sought to include mitigation and adaptation strategies into immediate changes in the workplace (such as through bargaining more immediate health and safety regulations in the workplace) or proposing more long-term changes to transportation systems. We detail the ways by which the ATU has attempted to implement such strategies, specifically the 'types' of coalitions they have been forged with outside groups and potential points of cleavage that employers have exploited in the past. The third section reviews two recent campaigns: a case is identified in which the union successfully tied union practices to environmental issues and social justice issues more broadly and a less successful attempt is reviewed in which the union failed to draw explicit links between transit workers and the environment. We conclude with a discussion of how capital-labour-nature read through labour geography informs some normative recommendations for union-environmental practices in the public transportation sector.

CAPITAL-LABOUR-NATURE

Working in the tradition of Marx, there has been a considerable output of literature detailing the ways capital and labour represent and produce nature as well as the ways nature confers limits upon capital and labour. We argue a potentially rich understanding can be developed through a cross-fertilization of ideas between two literatures: debates on the production of nature and labour geography. Exploring this syn-

thesis, the remainder of this section moves from the abstract production of nature thesis to the more concrete debates within 'labour geography'.

The production of nature debates were pioneered by Smith (1984) in his spatialization of Marx's Capital in *Uneven Development: Nature, Capital, and the Production of Space*. With respect to nature, Smith's (1984) argument is twofold: first, nature is understood as a socially produced phenomena – discursively and materially – under capitalism; and, second capitalist nature is reproduced throughout society through production, circulation and capitalist social relations. As Castree (2000) notes, Smith's production of nature thesis is notable in its dialectical materialist treatment of the society-nature relation. Rather than treat nature and society as distinct entities Smith (1984) draws explicitly on Marxist philosophy to identify how nature is transformed (through productive relations) into a 'second nature'.

Smith (1984) constructs his argument through an analysis of the labour process from pre- to post-capitalist socio-economic forms. In early, pre-class based societies he notes a metabolism or relation between society and nature. The relation to nature was governed through use-values as people produced differentiated goods from nature and through labour. Later, capitalism opened a rift or division between society and nature as (1) the development of post-agrarian class-based societies formed, and (2) through the usurpation of use-value by exchange values in the governance of society-nature relations. Indeed, the disjuncture between exchange and use values is at the heart of eco-socialist critique (see Burkett, 1999). Smith (1984) argues further that this rift is reproduced through both structural-economic and political-ideological factors as ruling ideologies of nature pre-figure society-nature relations, presenting nature as external and distinct from society.

More recently, Smith (2007) elaborated on how shifts in productive practices have informed shifts in ideological discourses of an externalized and instrumental nature at lower levels of abstraction. In particular, he notes processes such as the deepening of finance capital into the wetland credit trade and its reproduction in mitigation discourses. He further clarifies his production of nature thesis with respect to the dialectical relation between society and nature arguing that just as capital produces nature, nature produces or presents limits to capital noting the production of nature can create "accidental, unintended and even counter-effective results vis-à-vis nature" (Smith, 2007, p.10). Similarly, the production of nature is never entirely under the control of capital; control over nature is variegated, contradictory and spatially and tem-

porally negotiated despite the increasing centrality of nature to accumulation strategies (e.g., biotechnology, ecotourism, carbon credits) (see Castree, 2005). This relation between capital-nature is clearly dialectic, a fundamental element of the production of nature thesis.

Labour, however, is also implicated in this process. Explicit explorations of labour's embedded role in the production of nature are offered by Prudham (2005; 2007), Nugent (2011), and Hrynshyn & Ross (2011). In his analysis of the "owl wars" in the Douglas-Fir region – a region spanning the west coast of the United States and Southwestern Canada – Prudham (2005) explores the dialectical relationship between nature and local logging communities. Drawing on Polanyi (1944), he argues that nature confers 'limits' upon capitalist accumulation through eco-regulation. Capital's creeping commodification of nature results in a form of push back, or eco-socialization, by which new regulations are struggled for (or against) producing new social modes of regulation. Workers are involved in this process in contradictory ways as they contest government regulations and environmentalist action that threatens economic livelihoods as is the case in Prudham's (2005) study of forestry workers and logging communities. In a later study, he notes the historical cleavages within the labour movement over environmental management and relates the divisions to Cold War ideological conflicts (Prudham, 2007).

Nugent (2011) similarly notes the emergence of divergent strategies within the labour movement on the environment in response to the dual crises of the great recession and climate change. In his analysis of the contrasting environmental strategies employed by the United Steelworkers (USW) and Canadian Autoworkers (CAW) in response to the general manufacturing crisis of the early 2000s, Nugent (2011) argues that the USW effectively resisted dominant neoliberal discourses of ecological modernization. This was largely achieved through partnerships with outside groups and the formation of Blue-Green coalitions. Together they forged a counter hegemonic discourse; one that he terms 'Green New Dealism', predicated on an expanded role for the state in mitigating greenhouse gas emissions and tripartite economic planning. Conversely, he argues, the CAW responded to the general manufacturing crisis of the early 2000s through militant particularism, adopting a corporatist and eco-liberalist stance towards environmental issues. He explains the divergent strategies through attention to the different crises facing steel and auto.

Focusing more explicitly on the CAW, specifically the effect of the general manufacturing crisis on union discourses on the environment,

Hrynshyn & Ross (2011) echo Nugent's (2011) findings. Similarly, they argue that the union became increasingly defensive and isolationist in response to the crisis, leaving little room for coalition building with environmental groups and adopting a similar discourse to the employer on North American automobility. This, they argue, conflicts with popular representations of the CAW as a "sword of justice" and representative of idealized forms of social unionism. It further evidences the temporal and contextual character of the labour-nature dialectic under capitalism; that is, macro-processes and structures such as the global economy or regulatory environment can and do shift labour's discursive and material practices on environmental issues.

It is here where labour geography does have the potential to add to debates on capital-labour-nature relations. Nugent (2011) is an early attempt to bring a labour geography sentiment to eco-socialist approaches. Labour geography as called for by Herod (1997; 1998; 2001) attempts to centre labour in the analysis of the production of economic landscapes. Several recent critiques and commentaries have addressed the strengths and limitations on an approach that attempts to look at the agency of workers within the constraints of a capitalist system (Castree, 2007; Lier, 2007; Tufts & Savage, 2009; Coe & Lier, 2011; Rutherford, 2010; Herod, 2010). While it is beyond the scope of this paper to detail all of the current debates within labour geography, there are four main areas of contention: agency, the role of the state, scale and class. Consideration of nature has not been central to these debates, but each of these issues can be enriched by a placing nature within capital-labour relations.

In terms of perhaps the defining 'analytical boundary' of labour geography, 'agency' remains a contested issue. Some feel that Herod (1997) perhaps overstated the 'capital-centrism' of much radical economic geography (Peck, 2013). But a more pointed critique is perhaps how inserting agency obscures the domination of capitalism as a system of exploitation. Mitchell (2011, p.567), for example, has specifically challenged the limits of overemphasizing labour's agency:

"...I would like to suggest, any labor geography must be tempered with a sober, materialist assessment of labor's geography—the world "as it really is". That is, as we seek to see how workers create economic spaces and landscapes we must also closely examine those spaces and landscapes that they have not made, at least in any basic sense, but in which they find themselves and must live—those landscapes that are, through struggles and the exercise of power, produced not for them but for others, those

landscape that make "a new kind of community" all but impossible".

In an even more stinging critique, Das (2012, p.21) argues that "agency has often been used as a quasi-empirical category: a tool to describe how labor is making a difference to the spatial organization of capitalism, here and there. Agency is opposition to capital's own existence, agency in collaboration with capital, and agency involved in gaining concessions, without challenging capitalist class relations, are all problematically put together".

Even Herod (2010) concedes that 'agency' has been under theorized; Coe and Lier (2011, p.14) dismissed this concern and continue to focus on "developing more precise concepts for describing the politics of work". Here the goal is to theorize agency more rigorously, and they turn to Cindi Katz's (2004) typology of agency (resilience (adaptive, getting by), reworking (shifting distribution systems) and resistance (changing the forces of production, balance of power) (see also Cumbers *et al.*, 2010).

As we insert nature into a trialectic, agency becomes even more complicated as we consider how non-human objects and process impact social systems (Latour, 2005). However, labour geographers have begun to look at how climate change is indeed 'acting' on systems of reproduction. In sector analysis, geographers have looked at the responses of workers to climate change in tourism (Tufts, 2013), forestry (Holmes, 2013) and auto production (Holmes & Hracs, 2013). Exactly how nature acts within these processes has only begun to be theorized in labour geography.

Labour geographies important contribution is its understanding of how worker action can best mobilize labour against increasingly mobile capital, a topic that continues to inspire Herod (2011). As Sadler (2000, p.148) notes, study "of labour geographies suggests there is further potential in focusing on the precise ways in which labour strategies are bound in place and give rise to particular scales of action, and what potential there is for changing that scale of engagement." It has been noted that labour geographers have focused on the workplace, communities, cities, regions, nations and global (Lier, 2007; Tufts, 2007). Some debate remains among scholars as to which scale (e.g., the workplace, local, national, global) is the most practical means of achieving greater power for workers and the ways in which different scales of organization conflict and compliment one other. Indeed, a multiscale analysis and strategy is deemed most appropriate when dealing with labour's relation to capital. (Wills, 2002; Sadler, 2004; Sadler & Fagan, 2004; Tufts, 2007).

Castree *et al.* (2004) emphasize the challenges to organizing at

international scales as local labour inevitably confronts a ‘geographical dilemma’ as workers compete in a global economy for investment and jobs in their communities. And this is perhaps the most contentious point for critics such as Das (2012) who see labour geography as a largely localist project that picks its case studies, largely from advanced capitalist regions and fails for focus on the demands of a universal working class. The result is research that romanticizes militant particularism (Harvey, 1996) at the expense of broader working class alliances. While Das is absolutely correct that labour geography’s empirical base is narrow, he misses the point of much labour geography research, which is to document the processes in which labour produces scale in order to normatively work toward a global fight against capital.

And this is exactly what labour confronts when dealing with climate change. How can workers express unity in the midst of a global climate crisis, when uneven development remains integral to capitalism? How can workers produce a scale of organizational power to confront such challenges? Indeed, here the concept of ‘scaling-up’ power and the contradictions of beginning with localized action becomes even more apparent. Will workers in areas that benefit from longer growing seasons mitigate climate change in cooperation with workers in drought-ridden areas?

There is also the question of the role of the state within labour geography research, argued to be a largely forgotten institution (Herod, 2010). Castree (2007) notes that labour geographers have demoted the state relative to other institutions and relationships. The state, while not being ignored by labour geographers, has paid less attention to the role of labour law in structuring action. Questions range from how the nation state must be included in projects looking to ‘scale-up’ labour law (Rutherford, 2013). Lier (2012) has also argued that public sector workers have also been relatively neglected as an empirical focus.

Again, this is not surprising given that the study of labour action within neoliberal attacks have perhaps rendered the state as an implicit antagonist – and therefore of no longer any excitement. Extra-state strategies of labour as unions attempted to out maneuver neoliberal governments drew attention. Further, transnational corporate responsibility agreements (Wills, 2002) appeared to outflank states, at least temporarily. Labour geographers have begun to explore the variety of ways workers engage with local, regional and national governments in order to shape economic space (Tufts, 2010). In an era of intensified austerity, however, further attention to the state will become paramount.

The state is also primary regulator of the environment and must be taken seriously in the capital-labour-nature trialectic. It would not be without merit to suggest that perhaps a labour-capital-nature-state 'quadrialectic' is required. How labour geographies are affected through the state's engagement with natural processes will remain a fertile ground for research. In terms of climate change, much remains both theoretically and politically unpredictable. As Wainwright & Mann (2012) have recently argued there are many adaptation possibilities to climate change ranging from 'climate Leviathan' strong-states to market-focused governance to more experimental, decentralized democratic approaches.

Last, a central area for debate is the issue of class in the labour geography project. Rutherford (2010) offers a sympathetic critique, warning labour geographers against decentering class from analysis in lieu of other identity formations among workers and a trend toward intersectional analysis. He is also concerned with the trend toward moving analysis away from the workplace and struggles over the labour process. Similarly, Mitchell (2005) has argued for a larger consideration of working-class studies in geography. Labour geography's concept of 'class' is the primary target of Das' critique. His main argument is that

"It is time to move from the labour geography type approach, whose dominant and narrowly defined agency-oriented concerns include social-democratic manipulation of landscapes of capitalism, to a dialectical-materialist class analysis of social-geographical issues, which has more radical ambitions and which will encompass a less voluntarist and more radical labor geography" (Das, 2012, p.19).

Das points to two mistakes within labour geography. First, labour is conflated with class when class is a much broader category and second, class is an anti-essential category subordinated to differences of race and gender. What labour geographer's lack is a theory that encompasses the "unity that defines class" (Das, 2012, p.23). Das is correct, much recent work in labour geography does explore the differences among workers that complicate class struggle, especially in cosmopolitan global cities (McDowell *et al.*, 2008). But there is work that centres the question of the reserve army of labour in the context of abundant local and international supplies of workers (Wills *et al.*, 2010). For many labour geographers, the question of working-class formation is how to operationalize a class politics in a context where capitalism fragments class through daily practices.

Much of the critique of labour geography stems from a more general

confusion over poorly defined levels of abstraction. First, labour geographers spend less time abstracting labour as a commodity that has been separated from natural forces (e.g., land) necessary for social production. Instead, labour is immediately read as a 'pseudo-commodity', that is to say workers are only temporarily a commodity (during the working day), are living beings with agency, and are in a social relationship with capital (Castree *et al.*, 2004, p.29). Second, there is concern that many contemporary geographical studies of unions conflate institutional labour with the entire *working-class*. The critique is that labour unions are hardly the beginning and the end of working-class agency. In fact, they are creatures of capitalism that fail to represent (directly in any case) much of the globally fragmented working-class which is still in search of unity. As a result, labour geography's focus on organized labour creates theoretical challenges with respect to issues of agency, class, struggles with the state, and the production of scale from the outset.

Labour geographers are no doubt guilty of such conflation. Herod's (1997) initial intervention, however, called for only a minor correction to economic geography that failed to see any active agency in workers. What has evolved since then has been a study of labour firmly within a capitalist system and its role in shaping capitalist economic landscapes (often through the power of labour unions). There were never any claims that labour was producing non-capitalist landscapes.

It is here where we can draw some connections to debates over the last two decades on Marx's theorization of nature. Burkett (1999; 2003), for example, has countered critiques of Marxism as an anthropocentric theory view of 'nature' as limitless and subject to forces of production. Instead, he argues that Marx was aware of the inherent contradictions of both labour and the natural limits to capital. In other words, capitalism takes place in the 'natural' world and as much as it might attempt a complete subsumption of labour and nature, the contradictions inevitably lead to economic and ecological crisis.

What Burkett underemphasizes is the role that labour plays in both its own and nature's subsumption to social relations of production, but unevenly so. As a sectarian agent representing narrow material interests, labour unions in some sectors (e.g., forestry) have historically come into conflict with activist communities, fragmenting the broader working-class. The process of how environmental issues disrupt class unity and disciplines specific classes must be integrated into analysis. We are simply too far removed at the current juncture from a class-based ecological revolution that would supplant capitalist ownership of nature with

a system of social use values for nature as advocated by eco-socialists (Magdoff & Bellamy-Foster 2011, p.137). It is, however, appropriate and worthwhile to look at how labour 'produces nature' within the confines of capitalism and how ecological crisis influences processes of labour's deeper subsumption.

Labour geography provides a rich lens for examining how the production of nature intersects with labour and capital's production of economic landscapes within a capitalist system. Issues of agency, scale, the role of the state, and class fragmentation within labour geography are informed with a consideration of nature. Such a perspective informs the analysis of environmental issues and the ATU.

THE AMALGAMATED TRANSIT UNION AND ECO-SOCIALIZATION: CANADIAN TRANSPORTATION SYSTEMS

This section details the major findings from two primary 'grey literatures' reviewing the ATU's language on the environment, specifically with relation to climate change and the union's positioning on issues relating to mitigation and adaptation. These included literature published by the ATU – specifically *In Transit*, the union's primary publication disseminated to workers and newspaper articles spanning the period of 1986 to 2012. As noted in the introduction, particular concern was placed in understanding when and how environmental issues were leveraged by the union in contract and broader regulatory disputes in media and their own propaganda. Further, we attempted to identify how the employer (often the state) used similar rhetoric as a means to discipline workers. Admittedly, this is a brief snapshot of how environmental issues are implicated in transit industrial relations, but content analysis of documents and media remains a powerful unobtrusive research method (Forbes, 2000; Babbie & Benaquisto, 2002). In the case of the ATU, where battles with public employers are often fought in the media, it was determined that examination of such documentation is one acceptable method.

Established in 1892, the ATU is now the largest union representing transit workers in the USA and Canada. The ATU represents more than simply bus drivers but also related services including, para-transit, light rail, subway, streetcar, ferry boat operators, mechanics, clerks, baggage handlers, and municipal employees. The Canadian branch of the ATU was formally established by the international union in 1982. Reviewing union publications, it appears that the Canadian branch has

remained dependent upon its ties with the international union, with the majority of the research and educational capacities remaining within the United States. A brief review of *In Transit* publications for the past five years revealed only two Canadian specific issues (ATU, April 2012 and December 2011). In other editions of the publication, Canadian content is limited, generally appearing under the regular headline “The Canadian Agenda” wherein local transit issues were discussed rather than more broad national transit issues (as is more common in the sections detailing events in the United States.)

At the local scale, the ATU has taken part in coalitions with transit users in order to improve access supporting the Bus Riders Union in Los Angeles and other urban transit movements (Averill, 2010). However, participation with community transit activists is uneven across North American jurisdictions. In Toronto, the current leadership of ATU Local 113 has not particularly embraced any serious coalition strategy with riders or environmentalists seeking to expand public transit. Ian MacDonald (2013) notes in his critique of recent ‘tactical errors’ by the ATU in Toronto (including a late Friday night walkout which left riders stranded), the union has to date failed to advocate for any significant alternative transit policy aimed at servicing poor neighbourhoods. Toronto transit workers and the union continue to struggle with building a positive relationship with the public.

Indeed, the ATU has played a minor role in the larger struggles to build a ‘greener’ economy at either the national or municipal level. Blue-Green Canada, for example, is an alliance largely driven by the United Steelworkers (USW). In Toronto, ATU Local 113 did co-sponsor a large Good Green Jobs for All Conference in 2009, but the content of that event was largely focussed on transition to green manufacturing and infrastructure renewal. The conference primarily organized by the local labour council drew its inspiration from the Los Angeles Alliance for a New Economy (LAANE) and its ongoing efforts to advocate for economic growth through public transit expansion and local procurement strategies (Willis-Aronowitz, 2013). Local 113 is largely absent from more recent transit development community campaigns. It is not an active part of the Toronto Community Benefits Network, a coalition attempting to secure a community benefits agreement with Metrolinx, the Greater Toronto Area’s authority overseeing \$8.4 billion of transit expansion. The union did sponsor a series of town halls in 2010 to hear rider concerns, but this followed an intense period of media demonization of transit workers (CBC, 2010).

With regards to environmental issues, the ATU presents few explicit ties to climate change mitigation and adaptation in its internal (union-members) publications. Where issues are discussed, such as in a February 2008 issue entitled "Going Green", individual solutions are presented in the way of retrofitting workers homes and encouraging environmental stewardship amongst workers (both within Canada and the United States, see Figure 1).

Although the union has remained quiet on environmental issues internally, they have addressed issues of climate change and drawn explicit links between transit workers and mitigating climate change in the popular press. The remainder of this section details the primary findings of a review of Canadian newspapers between 1986 and 2012. Here, discourses on the environment have been utilized by both the employer and the union with two major points emerging.

First, the Canadian ATU employed its discourse on the environment more explicitly during periods of contraction in the public sector. They did so primarily through advocating for an expanded public transportation system; making connections between reducing traffic congestion and minimizing greenhouse gas emissions. As early as 1991, amid talks of contraction of transit services throughout the Greater Toronto Area, Local 1587 of the ATU proposed the expansion of regional transportation lines, specifically an expansion of GO Transit bus operations into new regions including Niagara, Brantford, and Haldimand-Norfolk (Hamilton Spectator, 1992). It should be noted that in this early example, the union's position was couched primarily in terms of increasing membership and ensuring job security. It was the government, specifically then Transportation Minister Gilles Pouliot, that drew the most explicit ties to the environment: "In the vicinity of the Greater Toronto Area we do have the responsibility to move people...it's friendly to the environment, especially on rail" (Hamilton Spectator, 1992). In a later example, the ATU made more direct links between increasing transit ridership and decreased greenhouse gas emissions in their partnership with other unions including the Hotel Employees, Restaurant Employees International Union Local 75 (HERE, now Unite-HERE) to secure employer subsidized transit passes (Canadian NewsWire, 2001). Similar to earlier efforts, this came at a time when the City of Toronto and the TTC were facing a significant budgetary crisis. In this instance, an expanded public transportation system, specifically through employer subsidized transit passes, was framed by the partnership as having broader implications on the environment, workers lives and livelihoods, and the long-term sustainability of industries outside of transit. This link is identified strongly by Paul Clifford, then President of HERE Local 75: "The employer subsidized transit pass is good for all - for

workers, for the environment, for the citizens of Toronto and for the long-term health of the tourism industry” (Canadian NewsWire, 2001).

Second, ties to the environment were most commonly made by the state, particularly during job actions and prolonged strikes. This was most prominent post-2000 when the state made direct links between transit disruptions, traffic congestion, and environmental degradation. For instance, during a 2006 wildcat strike in Toronto, then Toronto Transit Commission (TTC) Vice-Chair, Adam Giambrone, urged Toronto residents to avoid driving when questioned about the environmental harm that an ATU strike had on the environment.

“It’s been a long time since the last system-wide shutdown. As an aside, I hope that our first instinct when we need an alternative to transit is to bike or walk, not take the car. Not only does it help our air quality, but it helps ease traffic congestion.” (Giambrone quoted in *Globe and Mail*, 2006).

Similarly, during an extended strike in Ottawa in 2008 through early 2009, city officials encouraged residents to ease congestion through carpooling, biking and walking during the duration of the strike (Ottawa Citizen, 2009; Rupert, 2009). Again in Toronto, perhaps the most brazen example of eco-discipline came from Brad Duguid in 2008 when in the course of the Ontario government’s legislating TTC workers back to work he noted that transit strikes meant “higher pollution levels, with the related health effects and impact on our environment” (MacDonald, 2013, p.30). In all three cases, the environment, specifically climate change and greenhouse gas emissions were utilized in a nuanced way to divide ties between the union and the community. All three instances would appear to be a form of reverse job blackmail or a classist representation of the issue through an attempt to refocus community dissatisfaction on workers as a means to diminish bargaining strength. Striking workers were painted as taking actions that were damaging to the community and the environment and could be further interpreted as a troubling inroad to the future representation of the transit worker as an ‘essential green worker’. As Tufts (2011) identifies, if used more explicitly environmental issues could serve as a means to further diminish workers collective bargaining rights. The passage of a 2011 bill that designated the TTC an essential service evidenced that the province (with the city’s backing) was prepared to diminish workers’ rights citing the economy as a central issue (CBC, 2011; Schein, 2011). As these examples demonstrate and recent events would dictate, it is not difficult to envision a scenario in

which a government utilizes the environment as a wedge issue to further limit workers' rights in collective bargaining.

'GREENING WORK' IN LEAN TIMES: THE DUAL CRISES OF CLIMATE CHANGE AND THE GREAT RECESSION

Perhaps the most explicit ties between environmental issues, job security and workers lives and livelihoods from the union have come recently with the International ATU taking the lead in promoting the 'greening' of transportation systems in the United States and Canada. However explicit, on the ground responses have been highly fractured across space and time with a significant diversity of responses between and within the International ATU and Canadian locals. The twin crises of climate change and the Great Recession have prompted creative proposals from the International ATU with respect to the eco-socialization of North American transportation systems. Perhaps sensitive to some diminished strength on the part of the state in both the United States and Canada to regulate these crises, the International ATU has seized some ground couching its calls for the expansion of public transportation in terms of environmental sustainability, climate change mitigation, and the 'greening' of work more generally. This is evidenced in the International ATU's recent coalition with unions and environmental groups in the Blue-Green Alliance in addition to its sustained efforts to fight development of the Keystone Pipeline (Associated Press, 2011). Cynically, there is a point to be made that restricting the supply of cheap oil for cars by limiting pipeline capacity will perhaps force more people to use public transit. Nevertheless, International President, Lawrence Hanley had made the union's ties to the environment and transit workers position in a 'green' economy explicit: "...we have to convince people that green jobs matter, and that transit is the greenest job you're going to find" (BlueGreen Alliance, 2012).

Although explicit ties have been drawn by the International union, this commitment has not always trickled down to lower scales as recent Canadian campaigns demonstrate. On the one hand the union has hit back at government calls to reduce funding for public transportation citing the importance of public transportation to the community and the environment. At the same time, recent campaigns in Toronto have been notable in their complete neglect of environmental issues. The remainder of this section highlights the fractured quality of 'green' activism in the Canadian ATU reviewing (1) the response of Local 113 to the City of

Toronto's calls for cut backs to the TTC and (2) its' later neglect of environmental issues in a recent advertising campaign entitled Protecting What Matters.

In 2011, leaving the recommendations from a KPMG report largely unchanged, the City of Toronto released its core services review calling for a roll-back of TTC services including cuts to night buses, accessibility services for the disabled, and increased crowding standards on existing routes. The review immediately drew a heated response from the President of ATU Local 113, Bob Kinnear: "This is a war on commuters, low-wage workers, the disabled and the environment" (Canadian NewsWire, 2011). He further cautioned that, "(this) will drive people away from transit, creating more pollution, more road congestion and more anger about inadequate TTC service." (Canadian NewsWire, 2011). The union's response drew immediate links between environmental justice and increased transit ridership, specifically with respect to transit representing a viable solution to the environmental harms associated with traditional forms of North American automobility and the need for increased funding of transit projects and services to increase 'buy-in' from the public. Furthermore, the ATU drew links between environmental justice and social justice in the community. Further to presenting transit expansion as good for transit workers, the ATU identified the maintenance of a robust public transportation system as fundamental for *all* workers. This is identified by Kinnear in his response to the core services review, "At a time when pollution levels are at record highs and Toronto's road congestion is the worst in North America, recommendations to reduce TTC services are delusional." He adds, "What this report says is: 'Let's punish low wage night shift workers who cannot afford cars and let's cram more commuters into already intolerably-crowded rush hour vehicles'" (Canadian NewsWire, 2011).

More recently, the Canadian ATU's 'green' advocacy has been more tempered or starkly absent. This is perhaps best exemplified in a recent advertising campaign by the union entitled Protecting What Matters. Responding to TTC plans to contract out maintenance services, Local 113 launched a reportedly \$1 million print and video campaign in October 2012. Reaching a broad audience, advertising spots were purchased at Cineplex theatres throughout the city of Toronto (ATU 113, 2012). Campaign videos begin asking "what is the lifeblood of a city" pointing to the essential service that transit workers supply to the city and its residents. In the campaign video explicit ties are drawn between maintenance workers and the daily functioning of the system: "For over a million riders each

day, we're who you don't see. We repair, restore, rebuild every streetcar, bus and train. We get you to school and work; get you home, (and) keep you safe. We work for this city, we're a part of this city, we're Toronto transit workers" (ATU 113 Protecting What Matters, 2012). The union's language is curious given recent actions by the provincial government to declare the TTC an essential service. It is perhaps unsurprising given these recent moves that the TTC has been quick in co-opting this message and using it against the union. TTC Commissioner, Karen Stintz, notes that she "agrees with the union that the TTC is the lifeblood of the city" (Toronto Sun, 2012). She continues, "That's why we have to work together to make it sustainable. We need to work together to improve our customer service and deliver our service more cost effectively. That's why I support contracting out" (Toronto Sun, 2012).

Further to its curious use of language, the union's most recent campaign appears to cede ground on certain issues, most notably the importance of *all* transit workers to the environment. Indeed, frontline workers were largely absent in the campaign as 'behind the scenes' workers were featured. This is understandable on two fronts. First, frontline workers such as fare collectors and bus drivers are the subject to most of the abuse by transit users. Second, it is maintenance and cleaning workers that are most vulnerable to sub-contracting by the TTC as reiterated above by Karen Stintz.

Less understandable is the removal of the environment from the message. In print and video ads, no references are made to the importance of the TTC and TTC workers in general in mitigating climate change. The campaign slogan "Protecting What Matters" (see Figure 2) opens ground for connecting transit workers to numerous causes. However, the campaign maintains a more narrow and short-term focus on economic and community issues. This is somewhat curious given other locals success in defining and defending green issues in past campaigns. The campaign takes a more narrow focus on pressing economic issues focussing on how some workers (specifically maintenance workers) are essential to the functioning of the system and not others (e.g., front of line staff).

CONCLUSION

As this paper has explored, the ATU has employed language on the environment to further their position in collective bargaining disputes and the longer range expansion of public transportation systems. Successful campaigns have generally sought to make connections between

economic justice and environmental sustainability through alliances with outside groups. While framing public transit as essential to both the environment and the community and warning against cutbacks *could* serve as a central issue in the development of enduring coalitions between labour, environmental and community groups, Local 113's most recent campaign demonstrates the limited and fractured nature of environmental advocacy in the Canadian branch of the union.

Lessons from labour geography infused with a capital-labour-nature trialectic may assist in the understanding the limits of the ATU's implementation of environmental rhetoric. First, in terms of labour agency, the ATU has been able to exercise some power in dealing with state employers, but the importance of public transit to contemporary metropolitan economies combined with states that have systematically reduced their revenue streams through low taxation have admittedly reduced the power of public transit unions. In the case of Toronto, the city has lagged behind in terms of public transit investment (Gilligan & Stolarick, 2013). In order to maintain public transit costs, the state has disciplined labour with legislation that effectively removes the right to strike (Schein, 2011).

In rudimentary Gramscian terms, ATU Local 113 simply lost the war of maneuver as workers were designated essential by the a heavy handed Ontario government and was forced to make a transition to a war of position (Hoare & Smith, 2010, p.108-110). The TTC seems to also be leading in the war of position as current campaigns and media offensives that paint ATU members as lazy, corrupt, mean, yet essential public 'servants' to economic circulation and competitiveness. The ATU seems to be consistently outflanked in the war of position as claims of environmental importance have been appropriated by state as a means to discipline dissent. While the media campaign by the ATU seems to demonstrate resistance, it is too early to see if there are any material gains for members.

The second issue central to a labour geography perspective is scale. Here, the breakdown between the International and Canadian branch points to the need for the development of more wide-ranging research and planning capacity in Canada. Although the International ATU positions itself at the crux of the nature-economy dialectic, the fragmented nature of Canadian locals have created challenges in the development of a coherent message aimed at local, provincial and national governments. Furthermore, the lack of a coordinated response on the environment has led to some locals assuming a militant particularist stance on

the environment, placing jobs over environmental issues and short-term economic gains over medium to long-term strategies in the eco-socialization of public transportation systems. The development of these capacities would seem crucial to the development of more enduring and multiscalar solutions in the eco-socialization of Canadian transportation systems, specifically in the way of pressuring government for increased funding for public transportation projects. Fully understanding the limits of the ATU's ability to exercise power in capital-labour-nature relations due to the specific scale of its organization and strategies will require further analysis. In the interim, increased local or regional research and campaign capacity may prove beneficial.

In the end, employing a coherent message on the environment may not be enough for the ATU to achieve gains as the state too employs language on the environment to rally public support against workers. This should prompt significant concern within the ATU (and public sector unions more broadly) as the state can forcibly push a 'green' agenda as a means to further fragment and discipline workers. The case of public transit demonstrates how the state and its role in hegemonic processes remain pivotal. It is here where the role of the state must be considered by labour geographers who have neglected regulation and focused more directly on capital-labour relations.

Debates within labour geography on the fragmentation of class are also paramount. The ATU has attempted to build class unity in its campaign but largely in reference to its own members' jobs. Class unity, however, requires that workers reach out and build coalitions which transcend difference be they gender, race, and geography. There are campaigns which have encouraged the ATU to support a 'free and accessible transit' strategy (Schein, 2011) as a means of building community resistance to neoliberal transit policy. And it is here where the ATU may find that its future strategy in dealing with the state may in fact lie in building a meaningful broad working-class coalition rather than expending resources in a media focused hegemonic battle with a modern capitalist state. A transition toward community based strategies with an orientation to social movement unionism may be the better long-term strategy to 'protect what really matters'.

REFERENCES

- Amalgamated Transit Union. (2008). *In Transit: ATU going green*. Retrieved July 1, 2012, from http://www.atu.org/in-transit-pdfs/JF_IT08.pdf.
- Amalgamated Transit Union. (2011). *In Transit: The year in review, 2011*. Retrieved July 1, 2012, from http://www.atu.org/in-transit-pdfs/ND_ITCanPRESSWeb.pdf.
- Amalgamated Transit Union. (2012). *In Transit: Public transit under siege*. Retrieved July 1, 2012, from http://www.atu.org/in-transit-pdfs/MA_IT12CAN_WEB.pdf.
- Amalgamated Transit Union. (2012). *Protecting what matters*. Retrieved July 1, 2012, from <http://www.protectingwhatmatters.ca/>
- Amin, A. (1994). *Post-Fordism: A reader*. Oxford: Blackwell Publishing.
- Averill, L. (2010). Drivers and riders unite! Fare hikes, layoffs, and service cuts decimate public transit. *The Bullet, Socialist Project • E-Bulletin No. 424, October 27, 2010*. Retrieved from <http://www.socialistproject.ca/bullet/424.php>
- Babbie, E., & Benaquisto, L. (2002). *Fundamentals of social research, first Canadian edition*. Scarborough: Thomson/Nelson.
- Burkett, P. (1999). *Marx and nature: A red and green perspective*. New York: St. Martin's
- Burkett, P. (2006). *Marxism and ecological economics: Toward a red and green political economy*. Boston: Brill.
- Casella, E. (1992, May 28). Go transit could come to Niagara. *The Hamilton Spectator*, pp. B4.
- Castree, N., Coe, N., Ward, K., & Samers, M. (2004). *Spaces of work: Global capitalism and geographies of labour*. Oxford: Blackwell Publishing.
- Castree N. (2007). Labour geography: A work in progress. *International Journal of Urban and Regional Research*, 31, 853–862.
- Coe, N., & Lier, D. (2011). Constrained agency? Re-evaluating the geographies of labour. *Progress in Human Geography*, 35, 211–233.
- Cumbers, A., Helms, G., & Swanson, K. (2010). Class, agency and resistance in the old industrial city. *Antipode*, 42, 46–73.
- Daly, M. (2011, August 19). American labour unions take opposing view on proposed oil pipeline from Canada to Texas. *Associated Press*.
- Das, R. (2012). From labor geography to class geography: Reasserting the Marxist theory of class. *Human Geography*, 5, 19-35.
- Forbes, D. (2000). Reading texts and writing geography. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (pp. 122-143). London: Oxford.

- Gilligan, S., & Stolarick, K. (2013). *You can't get there from here: Ontario's transportation funding gap*. Toronto: Martin Prosperity Institute.
- Globe and Mail. (2006, May 29). *Did strike catch you off guard?* pp. A1
- Hanley, L. (2012). *BlueGreen Alliance members, Amalgamated Transit Union*. Retrieved July 1, 2012, from <http://www.bluegreenalliance.org/members/atu>.
- Harvey, D. (1996). *Justice, nature & the geography of difference*. London: Blackwell Publishing.
- Herod, A. (1997). From a geography of labor to a labor geography: Labor's spatial fix and the geography of capitalism. *Antipode*, 29, 1–31.
- Herod, A. (1998). The spatiality of labor unionism: A review essay. In A. Herod (Ed.), *Organizing the landscape: Geographical perspectives on labor unionism* (pp. 1-36). Minneapolis: University of Minnesota Press.
- Herod, A. (2001). *Labor geographies: Workers and the landscapes of capitalism*. New York: Guilford Press.
- Herod, A. (2011). *Scale*. London: Routledge.
- Herod, A. (2010). Labour geography: Where have we been? Where should we go? In A. Cecilie Bergene, S.B. Endresen, & H. Merete (Eds.), *Missing links in labour geographies* (pp. 15-28). Surrey: Ashgate.
- Hoare, Q., & Smith, G.N., (Eds.). (1991). *Selections from the prison notebooks of Antonio Gramsci*. New York: International Publishers.
- Holmes, J. (2013). The forestry industry. In C. Lipsig-Mummé (Ed.), *Climate@Work* (pp. 124-137). Halifax: Fernwood.
- Holmes, J., & Hracs, A. (2013). The transportation equipment industry. In C. Lipsig-Mummé (Ed.), *Climate@Work* (pp. 105-113). Halifax: Fernwood.
- Hrynshyn, D., & Ross, S. (2011). Canadian autoworkers, the climate crisis, and the contradictions of social unionism. *Labour Studies Journal*, 36, 5-36.
- Jessop, B. (2003). *The future of the capitalist state*. New York: John Wiley & Sons.
- Katz, C. (1998). Whose nature, whose culture? Private productions of space and the "Preservation" of nature. In B. Braun & N. Castree (Eds.), *Remaking reality: Nature at the millennium* (pp. 45-62). Florence: Routledge.
- Katz, C. (2004). *Growing up global: Economic restructuring and children's everyday lives*. Minneapolis: University of Minnesota Press.
- Labour and environmental activists "Launch Rocket" as part of Earth Week activities. (2001, April 19). *Canada NewsWire*.
- Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford: Oxford.

- Lier, D. (2007). Places of work, scales of organizing: A review of labour geography. *Geography Compass*, 1, 813–833.
- Lier, D. (2012). The geographies of community-oriented unionism: Scales, targets, sites and domains of union renewal in South Africa and beyond. *Transactions of the Institute of British Geographers, New Series*, 38, 36–49.
- Lipsig-Mummé, C. (2013). Climate, work and labour: The international context. In C. Lipsig-Mummé (Ed.), *Climate@Work* (pp. 21–40). Halifax: Fernwood.
- MacDonald, I. (2013). What emergency? An assessment of Toronto's 2008 transit strike. In *Free transit, socialist interventions pamphlet series No. 12* (pp. 27–32). Toronto: Socialist Project.
- Magdoff, F., & Bellamy-Foster, J. (2010). *What every environmentalist needs to know about capitalism*. New York: Monthly Review.
- McDowell, L. (2008). Thinking through work: Complex inequalities, constructions of difference and trans-national migrants. *Progress in Human Geography*, 32(4), 491–507.
- Mitchell, D. (2005). Working-class geographies: Capital, space and place. In: J. Russo & S.L. Linkon (Eds.), *New working-class studies* (pp. 78–97). Ithaca: Cornell University Press.
- Mitchell, D. (2011). Labor's geography: Capital, violence, guestworkers and the post-world War II landscape. *Antipode*, 43, 563–595.
- Nugent, J. (2011). Changing the climate: Ecoliberalism, green new dealism, and the struggle over green jobs in Canada. *Labour Studies Journal*, 36, 58–82.
- Peat, D. (2012). TTC union set to launch PR campaign. *Toronto Sun*. Retrieved October 1, 2013, from <http://www.torontosun.com/2012/09/13/ttc-union-set-to-launch-pr-campaign>.
- Peck, J. (2013). Making space for labour. In D. Featherstone & J. Painter (Eds.), *Spatial politics: essays for Doreen Massey* (pp. 99–114). Oxford: Wiley-Blackwell.
- Peck, J. (2001). *Workfare states*. New York: Guilford Publications, Inc.
- Plungis, J. (2012). Highway bill hinges on resolving disputes on spending. *Bloomberg*. Retrieved October 1, 2013, from <http://www.bloomberg.com/news/2012-03-30/highway-bill-hinges-on-resolving-disputes-on-spending.html>.
- Polanyi, K. (1944). *The great transformation: The political and economic origins of our time*. Boston: Beacon Press Books.
- Prudham, S. (2005). *Knock on wood: Nature as commodity in douglas-fir county*. New York: Routledge.
- Prudham, S. (2007). Sustaining sustained yield: Class, politics, and post-war forest regulation in British Columbia. *Environment and Planning D*, 25, 258–283.

- Rupert, J. (2009, January 3). Officials brace for greater gridlock; More parking regulations relaxed as city heads back to work, school without buses. *Ottawa Citizen*, pp. A1.
- Rutherford, T. (2010). De/re-centering work and class? A review and critique of labour geography. *Geography Compass*, 4, 768–777.
- Rutherford, T. (2013). Scaling up by law? Canadian labour law, the nation-state and the case of the British Columbia health employees union. *Transactions of the Institute of British Geographers, New Series*, 38, 25–35.
- Sadler, D. (2000). Organizing European labour: Governance, production, trade unions and the question of scale. *Transactions of the Institute of British Geographers*, 25, 135–152.
- Sadler, D. (2004). Trade unions, coalitions and communities: Construction, forestry, mining and energy union and the international stakeholder campaign against Rio Tinto. *Geoforum*, 35, 35–46.
- Sadler, D., & Fagan, B. (2004). Australian trade unions and the politics of scale: Reconstructing the spatiality of industrial relations. *Economic Geography*, 80, 23–43.
- Schein, R. (2011). Free transit and social movement infrastructure: Assessing the political potential of Toronto's nascent free transit campaign. *Alternate Routes: A Journal of Critical Social Research*, 22, 115–122.
- Smith, N. (1984). *Uneven development: Nature, capital, and the production of space*. Oxford: Blackwell Publishing.
- Smith, N. (2007). Nature as accumulation strategy. *Socialist Register*, 43, 19–41.
- Transit must be reliable. (2009, February 4). *Ottawa Citizen*, pp. C4.
- Transit union head slams city manager's TTC cut recommendations as "A war on commuters, low-wage workers, the disabled and the environment". (2011, September 12). *Canada NewsWire*. Retrieved July 1, 2012, from <http://www.newswire.ca/en/releases/archive/September2011/12/c2370.html>.
- TTC essential service legislation passes. (2012, March 30) *CBC News*. Retrieved July 1, 2012, from <http://www.cbc.ca/news/canada/toronto/story/2011/03/30/ttc-essential-service682.html>.
- TTC workers hear riders' frustrations. (2010, April 12). *CBC News*. Retrieved October 29, 2013, from <http://www.cbc.ca/news/canada/toronto/ttc-workers-hear-riders-frustrations-1.958363>
- Tufts, S. (1998). Community unionism in Canada and labour's (re) organization of space. *Antipode*, 30, 327–350.
- Tufts, S. (2007). Emerging labour strategies in Toronto's hotel sector: Toward a spatial circuit of union renewal. *Environment and Planning A*, 39, 2383–2404.
- Tufts, S. (2007). World cities and union renewal. *Geography Compass*, 1, 673–694.

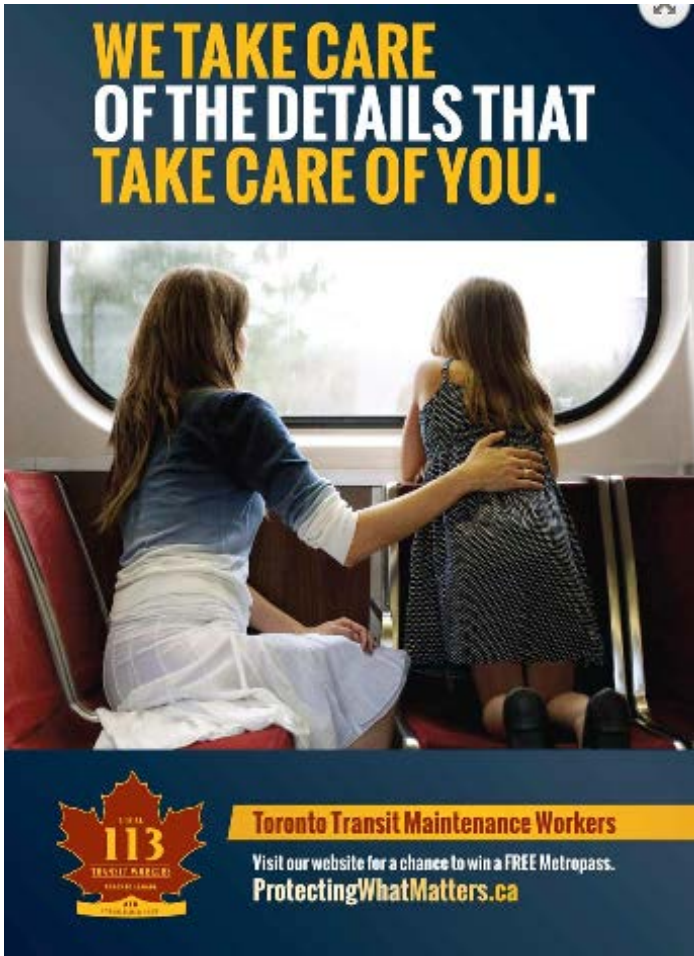
- Tufts, S., & Savage, L. (2009). Labouring geography: Negotiating scales, strategies and future directions. *Geoforum*, 40, 945–948.
- Tufts, S. (2010). Schumpeterian unionism and ‘High-Road’ dreams in Toronto’s hospitality sector. In A. Cecilie Bergene, S.B. Endresen & H. Merete (Eds.), *Missing links in labour geographies* (pp. 83-97). Surrey: Ashgate.
- Tufts, S. (2011). Greening work in an age of uncertainty: Is there something worse than climate change denial? Retrieved July 1, 2012, from <http://www.socialistproject.ca/bullet/579.php>.
- Tufts, S. (2013). Tourism, climate change and the missing worker: Uneven impacts, institutions and response. In C. Lipsig-Mummé (Ed.) *Climate@Work* (pp. 141-160). Halifax: Fernwood.
- Wainwright, J., & Mann, G. (2012). Climate leviathan. *Antipode*, 45, 1-22.
- Willis Aronowitz, N. (2013, October 28). Money train: A new labor movement built around Transit Next City. *Next City*. Retrieved October 29, 2013, from <http://nextcity.org/forefront/view/money-train#.Um7-WZPqdEc.twitter>
- Wills, J., Datta, K., Evans, Y., Herbert, J., May, J., & McIlwaine, C. (2010). *Global cities at work: New migrant divisions of labour*. London: Pluto Press.
- Wills, J. (2002). Bargaining for the space to organise in the global economy: A review of the Accor-IUF trade union rights agreement. *Review of International Political Economy*, 9, 675-700.

Figure 1: ATU guide to “Going Green” (Source: http://www.atu.org/in-transit-pdfs/JF_IT08.pdf).

- **PURCHASE A LOW-FLOW SHOWER HEAD:** Replacing an outdated shower head with a new, water-efficient shower head can save you hundreds of dollars each year, and save countless gallons of water. Additionally, you’ll save on the power used to heat the water! Installation is easy and can be done in minutes.
- **SWITCH TO COMPACT FLUORESCENT LIGHT-BULBS:** Making the switch to CFLs is cheaper than ever, as the average bulb now costs about \$2. Drawing significantly less energy than a standard incandescent bulb, CFLs also last an average of ten times longer. According to the Environmental Protection Agency, if every American household switched just one bulb to a CFL, we would save enough energy in one year to power 2.5 million homes.

- **MONITOR REFRIGERATOR AND FREEZER TEMPERATURES:** Refrigerators and freezers use more power than any other household appliance. Maximize efficiency by setting the refrigerator temperature to 37°F and the freezer temperature to 0°F.
- **BUY LOCAL PRODUCE:** Shop at your local farmers' market. Though the offerings can be more expensive, you can generally count on a higher quality product - and the entire purchase price goes directly to the farmer. Buying any goods produced locally saves energy by reducing the fossil fuels needed to transport food and other items across the country and around the globe.
- **UTILIZE THE SUN.** Open blinds or drapes to let in natural solar heat on cold days, then close them once the sun sets, and you can reduce your heating bills by 10 percent. You can also cut your cooling costs by up to 33 percent in the summer by blocking out sunlight with exterior blinds, shutters, or awnings.
- **GO FROM SCALDING TO JUST HOT.** Turn your water heater's temperature setting down from the standard 140 degrees F to 120 degrees. Not only will this save you some bucks, it'll also slow down mineral buildup and corrosion, prolonging the life of your tank. Since a new water heater costs about \$900 installed, each additional year of use saves you money as well.
- **LOSE THE LAWNMOWER.** Everyone wants a putting-green perfect lawn. But constant mowing, watering and fertilizing is a bore, as well as a burden on the environment. A two-stroke, gasoline-powered lawnmower releases as many hydrocarbons into the atmosphere in 30 minutes as a card does in 90 minutes. Switch to an electric mower, which costs \$8 to \$10 a year to operate.

Figure 2: “Protecting What Matters” advertisement
(Source: <http://www.protectingwhatmatters.ca/>)



**WE TAKE CARE
OF THE DETAILS THAT
TAKE CARE OF YOU.**

Toronto Transit Maintenance Workers

Visit our website for a chance to win a FREE Metropass.
ProtectingWhatMatters.ca

113
LOCAL
TORONTO
TRANSIT MAINTENANCE
WORKERS UNION
218
ST. JAMES STREET EAST

The advertisement features a central photograph of a woman in a blue and white top and white skirt sitting on a red train seat, hugging a young girl in a patterned dress who is standing and looking out a large window. The background is a dark blue gradient with yellow and white text. At the bottom left is a red maple leaf logo with the number 113 and the text 'LOCAL 113 TORONTO TRANSIT MAINTENANCE WORKERS UNION 218 ST. JAMES STREET EAST'. At the bottom right, a yellow banner contains the text 'Toronto Transit Maintenance Workers' and 'Visit our website for a chance to win a FREE Metropass. ProtectingWhatMatters.ca'.

Interventions

The Contradictions of Localism: An Interview with Greg Sharzer

Jordy Cummings

Jordy Cummings¹ (JC): Your book is called *No Local* and it is an immanent critique of inward looking reactions to neoliberal capitalism. One poignant episode you recount surrounds urban agriculture, and the idea that we've come to a really problematic situation when poor people are encouraged to grow their own food in addition to working their jobs and raising their kids. What is the political or strategic problem with localism? What are your thoughts, for example, on campaigns like "Occupy the Economy" and so forth?

Greg Sharzer² (GS): First I'd like to quickly define some terms. 'Local' is a space distinct from larger regional, national and international spaces. But it's also relational, a moment in the global capital circuit. It's amorphous, changing depending on what you're measuring: political, social, economic, and so on. 'Localism' is the fetishization of scale. It's assigning some positive benefit to a place precisely because it's small. It's impossible to be anti-local, unless you're against units of measurement. But I think it's a mistake to think that small is always beautiful. Localism assumes 1) local economies are fairer than global economies, 2) local spaces are autonomous from, and therefore more open to democratic control than larger spaces, and 3) the political project of revolutionary socialism is dead or, more accurately, never existed in the first place. I think these problems mean that localist schemes for change, such as

1 Jordy Cummings is a labour activist and PhD candidate in Political Science at York University. With a background in journalism, Cummings has written for a variety of publications both journalistic and academic, including *Socialism & Democracy* and *Basics Community News Service*. His dissertation focuses on radical theory in the aftermath of the French Revolution and the transition to modernity, using a Political Marxist methodology. He is also editing a reader of George Comninel's writings and is *Interventions* editor at *Alternate Routes: A Journal of Critical Social Research*.

2 Greg Sharzer has a PhD in Political Science from York University in Toronto and is currently affiliated with the Institute for Social Sciences at Gyeongsang National University in Jinju, South Korea.

community gardens, local currencies and transition towns become pieces of the broader capitalist economy, no matter how sincerely their participants may wish to change it.

Because of these problems, I think localism is a way to avoid, rather than confront capitalism. Most localist schemes assume from the outset that capitalism can't be changed wholesale, so it's better to make piecemeal reforms around the edges. Occupy The Economy says the capitalist system is the problem – not so controversial for left-localism – but goes further and says the heights of industry, the banks and industrial corporations – need to be taken over and run for the benefit of all of us. Therefore I wouldn't call Occupy localism. They're far more ambitious than a transition town and resemble the socialist industrial democracy schemes of 100 years ago.

But Occupy's problem is idealism. Their occupation will be accomplished by everyone showing up at corporate headquarters and discussing democracy. They even call for activists to set a date. After that, socialism (though they're careful to avoid that word) will be accomplished...through a constitutional amendment! Apparently capitalists and politicians have a long history of giving up their power voluntarily, and general strikes happen when everyone decides to walk off the job. This doesn't engage with the real history of the labour and socialist movements, which show that you need to win specific victories in different workplaces and community campaigns, while organizing political alternatives that fight to extend those victories.

If Occupy represents extra-local activism, I can see why some people feel localism is more realistic. But the kernel of truth in Occupy the Economy is that localist schemes don't challenge either state or capital effectively. We need to ground dreams of revolution in effective strategy, not only to figure out concretely how to build fighting social movements, but to convince those drawn to localist schemes that we can go beyond the local.

JC: Structurally speaking, it seems that localism involves some aspect of commodity fetishism, in particular in its co-optation of opposition within capitalist social property relations. Would you make a practical distinction between localist political activism, such as those involved in urban agriculture, food security and so on, and the more obvious examples of ethical consumerism, such as "fair trade", alternative currencies and the like.

GS: In *No Local*, I distinguish between pro- and anti-market localism. The latter is about making capitalism fair and ethical, which I don't believe is possible. I think those involved in urban agriculture and food security activism are often far more anti-market, seeing serious problems in how capitalism treats the food supply and looking for solutions. I think the former are simply wrong; I agree with much of the latter critique but I don't feel setting up alternatives economies are the best way to go.

Both strategies can naturalize capitalist social relations, separating economics from politics and believing that the latter can be 'fixed' without the former – or, as Marx accused Proudhon, taking the good from capitalism and dropping the bad. In that sense, both pro- and anti-market localism suffer from commodity fetishism, mistaking the world of things for the world of people. Pro-market localists believe capitalism can be fixed if things are distributed more ethically. Anti-market localists take existing production relations as fixed and seek change at the margins. I've always found this a little tragic, since localism is about bringing agency back to people. But as I point out in the book, I think part of what forms localism is pessimism that union and party organizing can restrict any of capital's rights.

And yet there are important differences between these approaches: people seeking anti-market localist alternatives want the same sort of fundamental change that socialists want. We just differ on how to achieve it. For me, this requires mass, democratic unionization, particularly among agricultural workers, regulation and controls on existing supply chains as steps towards nationalization, and of course, worker control over industry as a long-term goal. I think many anti-market localists would be open to those ideas.

JC: Can you get into the theoretical, or analytical problems with "localism" as part of a project towards eco-socialism or environmental justice. I know people, for example, in Vermont, who are not necessarily "politicized" aside from being "progressive" in the American sense, voting for Sanders, etc. – and they grow their own food and other supplies, raise their own animals. I remember mentioning your book to a friend down there and he said to me "Of course we're not changing the world, we're just trying to raise our families" ...and pointing out that for every person who raises chickens, grows corn, that takes money out of the agri-business complex. When you were interviewed in "North Star", commenters pointed out the plethora of local co-operative businesses that are a significant part of the economy in the U.K. What is wrong with

these kinds of arguments, and what is the concrete role of these rural types? Can we find a balance between talking about the “idiocy of rural life” on one hand, and the romanticist and moralistic rusticism of some quarters on the other hand?

GS: To take your last question first, absolutely, industrialism vs. romanticism is unhelpful. However, I’d argue that’s precisely what the utopian forbearers of localism did by mistaking capitalism, a system of extraction of surplus value from workers’ labour, for its consequences in industrial society. Instead they looked back to a mythical time of petty commodity production. So we need to understand capitalism much more precisely, in order to figure out what to do about it.

So on economics....I’ve received many comments along the lines of, “You say that local alternatives are impossible, but here’s an example of a project or genre of projects that has been viable for years.” Invariably these are projects supported by the fierce determination of local activists, who have managed to carve out a space – say, for a cooperative or community garden – by mobilizing progressive local politicians, or conducting enough community mobilization that these projects get a level of stability. In which case, saying ‘no’ to the local is just contrarian, a denial of the facts.

People who want to make their lives better by growing their own food or meeting their neighbours should do so. Workers need to lower the cost of reproducing their labour power. And I appreciate the honesty of your friend, who knows he’s not changing the world. It’s when people start assigning undue political significance to localism that I think it should be questioned. It’s not a question of whether cooperatives are possible – clearly they are – or whether they can make life better for some workers – clearly they can. The resilience and creativity of social enterprises are not in question: their capacity to serve as a base for anti-capitalist organizing is.

To maintain themselves, they have to make the same kind of compromises that a private firm makes, cutting back in times of recession, rationalizing production and so on. They may not be malign about it, they may spread the costs around more fairly rather than making swingeing cuts, but the discipline that all social enterprises face is imposed by the marketplace, not bad bosses. Politically, these schemes are contradictory: they provide a lesson in social production, and Marx saw them demonstrating “how a new mode of production naturally grows out of an old one.” But he didn’t see them as revolutionary agents; the funda-

mental antagonism between capital and labour still has to be addressed through political and economic action.

It's impossible to socialize capitalism without confronting the powers-that-be. Saying that workers could build alternatives to capitalism, without taking its vast productive capacity away from the capitalists, is like saying that capitalist power is voluntary. It implies people can choose how to participate in the global economy. But by definition, capitalism means workers are alienated from the means of production: the social wealth they produce is stolen from them, taken into private hands, and used against them. If it's not, if workers aren't coerced by enclosure, and the mass of dead labour set up to suck living labour from them, then we don't even have capitalism, just some form of expanded reproduction.

And then the political question...How do we organize this confrontation? We need to 1) identify the central relationship of coercion – workers are forced to sell their labour power to survive and 2) build people's confidence to resist and transform it. Instead of these, I see localists encouraging belief in the power of local schemes to outcompete capitalist enterprise and transform capitalist economies through the agglomerating power of a good example. This is not only challenged by the history of capital centralization and concentration, it opens the door to co-optation. Lately, the ruling class has become very good at localizing, because it's another way to devolve responsibility for cutbacks to local administrations, while imposing new forms of market discipline at the micro level. We don't need to stop making local change; we need to consider how local economic schemes fit into political strategy.

Everyone has the right to say, "The community garden or local currency I participate in has made me aware of how capitalism works and given me the courage to resist," and they're correct. Motivation, as I make clear in the book's introduction, is highly individual. However, Marxists believe that people's ideas change through struggle. It's only the experience of collective organizing and mass resistance that builds people's confidence to run society themselves. If we're going to run the factories and offices democratically, like Occupy the Economy wants, we need to fight to make them our own, not try and set up spaces away from them. And, because capitalism is a political as well as an economic system, we need to engage in all struggles – anti-racist, anti-sexist, anti-nuclear, etc. – where capital is trying to make life worse. In other words, there is a choice: it's not 'you build your farm, I'll build my social movement', and let's meet in the pub afterwards.

This is not an abstract problem. For example, during the protests in Gezi Park in Istanbul, some protestors set up a community garden there. It would be sectarian foolishness not to celebrate the diversity of tactics that led to a garden being planted there. However, some questions remain. How did the gardening tactic resonate with people, particularly after the ferocity of state repression? Some organizers suggested that the garden was the work of 'middle class' activists who were swept aside when the mass of people came into struggle. Is this true, and if so, how did the activists use it to reach out to workers?

As I write, the protesters have just been cleared from Taksim Square in Istanbul after weeks of breathtaking occupation. I can guarantee the kind of political discussions that the movement began are breaking down mental blocks to socialism much faster than years of painstaking social enterprise-building.

JC: I'm wondering if you can mention aspects of localism that play a dialectical role, that is to say, both support and subvert capitalism?

GS: Yes. Every small project is a set of property relations partially removed from capitalism. Internally, it can refuse to replicate hierarchal work relations, and distribute goods via a direct exchange or scrip scheme. Yet, as I mentioned above, the scheme is embedded in a global market in the commodity labour power, which means it has to adapt to it by lowering wages, speeding up work or finding a client base willing to pay more for goods that other capitalists can produce more cheaply. I think non-capitalist schemes can also signal capital that a previously non-commodified space is now commodifiable, like the demonstrated link between artist squats and gentrification. So capitalist social relations get buttressed. I'm deliberately leaving out "the power of a good example" as an example of undermining capitalism, because I don't think it's at all clear that a good example works in the way proponents intend. When projects adapt or fail, they lend credence to the idea that there is no alternative.

JC: What about a set of social property relations that is neither capitalist nor socialist, in the schematic senses of a society of market compulsion on one hand, and of free-association and disalienated labour on the other?

GS: I don't think so, if we conceive of the world market in a Marxist sense as a system of global attempts to reduce the cost of socially necessary

abstract labour time (SNALT). The problem with localist, non-capitalist, Proudhonist, etc. schemes is they assume that they get to decide whether their project is capitalist or socialist. Capitalism doesn't allow that kind of autonomy: it operates outside the control of a multinational corporation or national market, let alone an individual firm. Socialist property relations are an oxymoron: appropriating the means of production means breaking the power of the state that enforces capitalist property rights. Before that, we can have varieties of capitalist power relations – for example, state capitalism, where property is monopolized by a ruling elite dedicated to forms of redistribution. But social property relations imply that the global market no longer coerces firms to achieve SNALT. I could see circumstances in which a redistributive state subsidises social enterprises which don't meet SNALT with revenues from other sources: for example, Venezuela using oil revenues to support reclaimed factories. But is it non-capitalist to use one segment of the circuit of capital to partially remove another segment? Can a change in the mode of production be made through appropriating rents? Maybe, although I don't see how this is sustainable in the long run. I think Manuel Laraburre's work on Venezuelan worker cooperatives is very useful for pointing out the strength and limitations of this strategy.

There's a temporal aspect to this: certainly, mass struggles throw up examples of workplaces and institutions freed from capitalist property relations. When workers seize a factory and it no longer produces for the world market, that can't be described as capitalist. But that's temporary: the struggle must continue to overthrow the state, or be thrown back so that seized enterprises still have to meet SNALT. A strike is not about creating social property relations, but about disrupting capitalist ones. If strikers generalize their action and begin to create forms of dual power, producing for distribution by local workers' councils, for example, that could be 'in between'. But it's in between precisely because it's not stable, and either capital or labour must win.

The question of struggle is what saves this discussion from dissolving into the semantics of how one defines capitalist property. If people are fighting capitalist social relations, new forms of production, distribution and association are born – not from the blueprints of participatory economics but from the practical questions involved in running liberated cities and countries. The point is that these relations are in motion, according to the rhythm of class struggle. You can't create non-capitalism away from the political question of movement-building. Those attempts to break out will be re-incorporated.

Finally, this relates to Marxism directly. Marx fought against mechanical materialism, which states that people are just products of history and structures. This missed people's active role in making history. Against the fatalism of some forms of political economy, localism has stressed agency, which is a good thing. But the problem is its idealist agency: if we have the right ideas, we can reshape the world simply by demonstrating them. Socialists can't re-emphasize mechanical materialism as a response. Rather, we need historical materialism: an understanding of how people make history on the terrain provided for them.

Political economy is determinist in the sense that it sets the terrain upon which we act, one of the conditions Marx referred to when he said 'we act upon a world not of our own making'. The question is not one of rejecting determinism entirely; that way lies voluntarism and ultimately lifestylism. Rather, it is a question of figuring out how much determining power capital has; or, put another way, the relationship of political economy to the working class. The ruling class uses dead labour to control the living and so has tremendous power, but it's not total: capital still needs fresh living labour to mobilize the machines and create surplus value. This is the potential power of the working class: capital needs it. And it's why schemes for social change that ignore how to mobilize workers, setting examples for them instead, miss the fundamental antagonism at the heart of capitalism.

JC: I'm wondering how you would gauge the position of the petit-bourgeoisie. Is localism petty-bourgeois, and as well, can you tell me how you would define "petty bourgeois"? And on the terms of actually-existing petty bourgeois interests, does localism contradict their interests in the same sense as it does for the working class? If we accept that there is a petty-bourgeoisie, not in the Poulantzian "new middle class" sense, but in the sense of small entrepreneurs, shopkeepers, and indeed farmers, how is localism indeed damaging to their own interests? Or is there a "petty bourgeois at all"?

GS: In *No Local*, I use Erik Olin Wright's analysis to describe the petty bourgeois as a group trapped between workers and capital. This is wrong, because a middle layer is too vague a concept to be of any analytical, let alone strategic use. Worse, if we introduce new classes with the same analytical weight as labour and capital, the labour-capital antagonism disappears, along with Marxism. This is one of the unhappy side-effects of the 'creative class' thesis, although even before that, there were decades of

‘new middle class’ theorizing: replace the relationship to the means of production with occupations, or even shopping habits, and the list of middle classes is endless. In 1995, after much of the new middle classes debate ended, Robert Weil came up with a useful characterization: the petty bourgeois is a class that acts as both capital and labour. Their highly specialized knowledge is their capital, which they control and use to appropriate surplus value – their own surplus value. But they don’t produce or own enough to stop working and become a real capitalist.

This fits very well with the definition of localism as petty bourgeois. The tension that comes from embodying the capital-labour antagonism personally causes a desire for classlessness. In turn, this causes a desire for small: to return to a mythical artisanal economy where the world-historical pressures to accumulate and resist exploitation aren’t arrayed against you inside your own head. I think it’s impossible to understand localism without understanding it as an ideology, not just an economic philosophy, though of course this ideology has material roots.

It doesn’t damage the petty bourgeois’s own direct interests, because those interests are to avoid class conflict and escape the constant need to accumulate and alienate. But it damages those members of the working class who also want to escape (which is nearly everyone), and whose natural instinct towards class solidarity gets blunted in favour of small-scale communitarianism. A philosophy of solidarity and confrontation can also sweep up the petty bourgeois along with the working class – in any urban revolution, the small shopkeepers often side with the revolutionaries. Given the historical weakness of the left, that’s been reversed: the working class is presented with the petty bourgeois point of view. It resonates because nothing else is on offer at the moment, and the hope of being petty bourgeois remains an elusive dream for workers, sustaining millions of people in their daily drudgery or unemployment with the false hope of freedom.

JC: You make use of Marxist rent theory, it seems we are both big fans of the third volume of *Capital*. Can you give us an explanation of rent theory and how it connects to these issues? How is it useful to you? And how has it been used incorrectly? I’ve always thought how one conceives rent theory is informed by how one sees the origin of capitalism, am I right to see this?

GS: I claim no expertise on rent theory, but as Neil Smith once said to me, nobody who claims to get it actually does. It’s one of the hardest

parts of Marx's theories, because it's not intuitive. Anyone who works 'gets' exploitation; but how is that connected to land?

I attempted to reintroduce rent because it seemed that Marxists stopped talking about it in the 1980s. Yet capitalist exploitation still has to take place somewhere. Rent is the theory of how social barriers to investment create temporary advantages for capitalists. These may appear as physical barriers, like a fertile or well-located plot of land. But if one capitalist owns a better piece of land than the other, the second one can apply enough capital to change her land until it's just as good.

The point is the barriers to capital flow are social, and the social barriers of ownership seemed to be just as important today – even more so, given the global push towards urbanisation. So I think it's impossible to understand how urban development happens without understanding rent, the extra money gained by landowners from situating production on their property, which other capitalists can't immediately recreate.

Another way of putting this is that land is not outside the capital circuit. And this is important for localism, because there's this idea that urban agriculture is somehow protected from capitalism by virtue of its small size. But urban farms have to compete with other capitals far more than rural capitals do: the competition for land use in cities is intense. If we can understand how rent is generated, we can understand how developers make space for urban gardens as a way to raise the value of their condominium towers, for example. We can also avoid the naive notion that poor, ex-industrial places like Detroit are outside of capital because of all their spare land. In line with radicals there, I'd argue it's precisely the new lands created by long-term economic crisis that makes a place like Detroit so useful to capital. There is no outside to capital: it keeps finding new ways to destroy 'inefficient' property or commons, like Detroit's bankruptcy.

This is not to say things like community gardens are impossible; of course there are many places where they're not only possible but approved by municipal administrations. But my point is that those places are shielded from rent pressures by particular circumstances. They're temporary, at least in the medium term (witness the pressures on the greenbelt in Seoul, for example), and can't be replicated everywhere. For example, Havana turned its spare land into farms because it had no property market. That's not going to work elsewhere on a grand scale.

JC: If local solutions are merely defensive at best, what should socialists be doing about the environmental crisis? One position holds that

a lot of eco-socialist discourse relies on what is called “catastrophism”; myself, I’m sympathetic to the position of Henwood, McNally and other contributors to that book³. On the other hand, there are those who accuse those who critique catastrophism of underrating the importance of the ecological dimension of our struggles, even to the point of denigrating their centrality? On both a strategic and theoretical level, where do you stand on this debate?

GS: Rather than saying all ecological struggles are local, I’d say they’re spatial. They’re always rooted somewhere, which allows people directly affected to shape them – recent activism against tar sands pipelines and fracking are great examples of this. However, eco-struggles are the best example of the limits of localism. On the one hand, capital always ‘lands’ somewhere, it’s never dematerialized. When workers producing a key component of a car go on strike, they can bring the entire production process to a halt, even if the factories are widely scattered. When indigenous people blockade a single pumping station on a pipeline, they can stop the entire project – the company can’t exactly build a new pipeline to go around them. The path-dependency of capital gives local direct actions tremendous disruptive power.

On the other hand, a pipeline isn’t the result of a local business. Oil companies can bring a lot more pressure to bear on local campaigns precisely because they’re extra-local, like when Enbridge Pipelines Inc. gave \$44,000 to the police, at the same time as they need police to protect their property. Local actions need to be scaled up, so that capital can be fought on many fronts: financially, politically, direct action, and so on. I don’t think this is controversial, but what I’m arguing is that the implicit, sometimes explicit, message of localism is: “stop there”. If there is any confrontation, don’t make it too big. Start locally to outcompete or detach from capital.

Put more abstractly, space is not a substitute for social relations. Starting small still poses the same questions of power that mass movements pose, and to challenge, restrict and defeat the extra-local powers trying to shape localities, we need to get big. The way not to do this is by terrifying people with catastrophe. The north pole officially became a lake a few days ago: there’s plenty of reason to be afraid. But fear is a demotivator: making that fear existential – the entire basis of our civilisation is being undermined! – is a sure-fire way to get people to do nothing

3 Lilley, S., D. McNally, E. Yuen and J. Davis. (2012). *Catastrophism: The Apocalyptic Politics of Collapse and Rebirth*. Oakland: PM Press.

at all. It's remarkable that a movement based on strict adherence to local or micro-economies and politics – such as intentional communities and even some transition towns – relies on such sweeping generalisations about the state of the world and human nature.

In response to catastrophists, I guess I'd say: "OK, we agree that capitalism is destroying the planet. What's the best way to stop it?" Detaching and forming more egalitarian, green-friendly communities is premised on the old 'propaganda of the deed' – build it and they will come – model. But capitalism ensures most people are too busy or desperate trying to survive to drop it all and participate in these new models. At which point, catastrophists can go one of two ways: be absorbed with building a better life for themselves right now, or consider strategically how to gain allies. That means speaking to people where they are, about what they're concerned about. Leadership comes from supporting and empowering people to solve their actual problems, not telling them to abandon those problems and focus on planning for the end of the world – whether that end is posed as sweet revenge, our collective doom or a chance to build a new society.

The question of our ecological survival is political, not technical. That means reframing our struggles. Rather than saying, "Runaway global warming is going to drown all of us and lead to mass die-off of flora and fauna and us, so stop the pipeline", it means saying, "The poor safety record of pipeline companies mean that, when spills happen, toxic chemicals are going to destroy your homes, playgrounds and the health of your loved ones." Both are true: only one poses concrete political questions for those living near a pipeline.

JC: We've seen a general discrediting of the dominant forms of left organization – top-down vanguard parties; formless affinity groups; bureaucratic social democracy? What kind of organization do we need to be building on the Left in order to move beyond these concerns, and move beyond localism and towards class struggle? Barring full-scale international socialism, something on the distant horizon, what can be done on the level of national states? Of course there can be no "socialism in one country" or delinking, but isn't it incumbent upon us to suggest new kinds of organization without falling into a pattern of "stagism"?

GS: Part of localism's appeal is to stop fussing with theory and organizational models and just get on with doing what you can, right now. But this conceals a pessimism about the prospect for left victories. It takes collective struggle off the agenda and leaves capital free to impose

itself. This is a natural reaction to the constant assault of austerity, which have succeeded thanks to 30 years of neoliberal defeat for the workers' movement in the Global North. Without an organized left to get involved with, the appeal of DIY is much stronger: why bother with discussions about long-dead revolutions when you can rejuvenate a traffic island by planting vegetables on it? There's a parallel trend which crosses left and right, and that's to focus exclusively on the mechanisms of power – again, tempting now that we know the NSA is reading and watching everything. But these are not only hidden theories of powerlessness – a concession to the nihilism that capitalist triumphalism feeds on. They miss the exciting developments on the left.

For example, the recent and continuing crisis of the British SWP is a reference point for English-speaking leftists, at least, and I've been very impressed with the rethinking of the International Socialist Network and others. They've identified the centrality of anti-oppression politics, not just paying lip service to gender or race; the need for pluralism; and a sober assessment of the left's recent history, as starting points. And of course, there's been the recent mass explosions of struggle in Turkey, Brazil, Egypt and elsewhere. They raise incredibly exciting questions about strategy, dual power, and how to raise demands that can draw layers of people into sustained political campaigns. I think the job of socialists is to learn from and be inspired by these movements, and figure out how their lessons can be applied elsewhere. For the first time in many years, we see the prospect of mass resistances breaking out across the globe, due to highly specific local conditions on the one hand, and the overarching logic of capitalist austerity on the other. Suddenly the old question of: how do we organize this into something that can last, and that can make real gains? – makes sense again.

I read 'stagism' as an attempt to cut off a revolution's momentum, declare its limits to be national borders and impose a new elite to manage it all. All social movements have stages; but equally, they can leap through different scales and inspire other movements in remarkable ways, the Arab Spring being the most recent example. I think that's the best argument against stagism: showing concretely how learning from, and contributing to international movements can help change our own societies.

This is another word for a global network of socialist parties, which seems to be a tremendously unfashionable concept these days. But I don't see how we can get around it. Capital is internationalized, and although it's just as internally divided as ever, its various factions can

muster international resources – legal, financial, military – that a left party in one country can't fully counter. The working class still exists in ever more precarious, gendered, racialized forms, and yet with the vast potential for unity. The advanced sections of the working class still need political organization. Without extra-local political organization, capital can play these sections off against each other.

JC: What kind of struggles exist right now that link the local with the global? What are their limitations and what are their advantages? If we are to say of course “no local”, how can we situate, in general, globality, without falling into the trap of Hardt and Negri?

GS: I would define a linking struggle not only in terms of scale, but also as one that reveals social relations. Again, the anti-tar sands movement is a good example of this: fight a pipeline and you end up fighting multiple levels of government, the police and multinational corporations. You confront the legacy of colonialism in Canada and the U.S. It's a truism to say that every local struggle contains the seeds of global ones – but the keyword there is ‘struggle’. Raising chickens, growing your own vegetables, processing your own biofuel is not struggle. (Unless the land you're doing it on is wanted by a developer, in which case the non-capitalist alternative has to quickly learn how to confront capitalism.) A local struggle has to confront some aspect of capitalist power, and through that campaign raise the confidence of its participants to fight back, and provide a way to self-educate participants in the nuances of organizing.

Hardt and Negri's failure lies in ignoring the strategic questions that movement organizing has posed since the dawn of capitalism, in favour of a celebration of an amorphous global multitude. Years ago I saw Michael Hardt speaking on why we need a theory of love as the basis for a political movement – not in an ethical sense, he apparently meant it strategically. This convinced me that strategy matters, and that strategy, in turn, rests on an understanding of how capitalism must expand and go into crisis. Without a close engagement with that dynamic, and what actual people are doing about it – fighting police brutality, the high costs of living, dictatorships, and so on – we lose a sense of what the questions are and can follow generations of idealist utopians, trying to impose our own order on the world based on what's in our heads and hearts at the moment. I'd argue what these traditions share is a rejection of the relationship between deter-

ministic capital and working class agency. Without that fascinating, studiable and actable anchor, we can suggest any version of local or global we want.

This is the key advantage of a social movement that looks beyond the local to understand what it's fighting and who its allies are. It is firmly grounded in the real world, not in the world we'd prefer to live in right now. This is the opposite of closing off possibilities. The real world poses impossibly rich questions, both in analysis and action. For example, what sparked the deposing of Morsi in Egypt, and what should the role of the Left be in it? Various accounts have suggested it's a revolution, a counter-revolution, or both. 'What side are you on?' is still the most important question, and by questioning localism, I'd like to see people start asking themselves that again. Quickly followed by asking themselves what the sides look like, what motivates them, and how our side can win.

Urban Space in Perspective: An Interview with Matthew Gandy

Aaron Henry

Aaron Henry¹ (AH): You have suggested that the process of urbanization is too complex to be captured by a narrow theoretical framework. Instead, you have utilized an interdisciplinary perspective that combines a number of fields. Can you expand on the analytics you use to put these fields in conversation with one another?

Matthew Gandy² (MG): The challenge of interdisciplinarity is one of the intellectual driving forces behind my work. But interdisciplinarity presents us with a profound paradox. On the one hand, as Andrew Barry and other scholars have shown, the movement towards greater interdisciplinarity reflects an emerging emphasis by governments and funding agencies on making scientific research more “useful” and responsive to the needs of a wider spectrum of so-called “stakeholders”. On the other hand, however, the types of research questions we need to pose in order to make sense of urban space necessarily entail the use of more than one discipline, and may extend to radically distinct bodies of knowledge. The field of interdisciplinary research is often conceptualized as an interaction between the social and natural sciences, a dialogue that is most frequently invoked in relation to urban environmental challenges.

1 Aaron Henry is a PhD candidate at the Department of Sociology and Anthropology, Carleton University. His research is focused on the Hudson Bay Company and the formation of colonial registers of territory as a technology of primitive accumulation. Other research interests include: state formation, natural history as a conduct of social-spatial inspection, and late nineteenth century projects of pacification.

2 Matthew Gandy is Professor of Geography at University College London. His book *Concrete and Clay: Reworking Nature in New York City* (MIT Press, 2002) was co-winner of the 2003 Spiro Kostof award for the book within the previous two years “that has made the greatest contribution to our understanding of urbanism and its relationship with architecture.” He is currently completing three book manuscripts: *The Fabric of Space: Water, Modernity, and the Urban Imagination* (MIT Press), *Moth* (Reaktion animal series), and a co-edited collection *The Acoustic City* (Jovis). Since 2013 he has been co-editor of *The International Journal of Urban and Regional Research*.

Yet these earlier attempts at interdisciplinarity, that we could extend to the appropriation of ecological metaphors by the Chicago School of Sociology, have almost invariably proved unsatisfactory. A typical outcome has been an unreflective extension of one epistemological approach into an unrelated domain or the misapplication of scientific metaphors (a trend observable in more pretentious forms of architectural discourse). So how should we do interdisciplinary work? I would suggest that a first step must be to take seriously the work of different disciplines to understand better their specific agendas, methodologies, and expository strategies. If I draw on art history to analyze cultural representations of cities I want to be sure that I understand the types of key debates in pages of journals such as *October* that clearly speak to my concerns. Equally, if I want to include epidemiological aspects to urban landscapes or appreciate the wider scientific context for protecting urban bio-diversity I need to examine those fields carefully before attempting to combine aspects of the bio-physical sciences with a historically and geographically nuanced approach to the analysis of the production of urban space.

The example of art history is significant since the widely held conception of interdisciplinary work as an intellectual pivot between the natural and social sciences can effectively exclude the humanities and a whole raft of critical insights. It is better, I think, to conceive of interdisciplinarity as a triangulation between the social sciences, the natural sciences, and the humanities. I have used this “triangulation” in my recent research on Gilles Clement’s design for Parc Henri Matisse in Lille in response to recent debates about the “rewilding” of urban space and new approaches to urban design. In this context I have been reflecting on the status of an artificially created “urban island” in relation to its ecological dynamics, symbolic significance, and wider connections to urban land speculation. Like much of my work the starting point was serendipitous (in this case a chance visit to an exhibition in Montreal) and evolved gradually through a process of close engagement with specific sites.

AH: You have focused on the technological mastery of water and malaria and its relation to the constitution of urban space in Lagos, Nigeria. How does linking ecological and epidemiological projects to the formation of urban space allow us to resituate the colonial dimensions of capital accumulation?

MG: I think a starting point here is to acknowledge that any urban project is simultaneously an environmental project. The transformation of urban space entails a complex set of ecological and epidemiological effects ranging from new types of metabolic interactions with the human body to the destruction and creation of distinctive types of ecological assemblages. In the case of colonial Egypt, for example, Timothy Mitchell shows how the imposition of a particular conception of technocratic modernity, exemplified by large-scale irrigation, generated a public health crisis through the spread of malaria. In my own work on Lagos I have been interested in the way new insights into the epidemiology of malaria emerging in the late nineteenth century became incorporated into a form of “scientific racism” that fed into governmental concerns with residential segregation and essentialist understandings of cultural difference. The persistence of malaria in Lagos through both the colonial and post-colonial era has occurred in spite of attempts to drain swamps and alter the “disease topography” of the city and its surroundings. In my recent writing on Lagos I show how the first serious attempt to control malaria occurred for geo-political reasons during the Second World War. The Apapa air base near Lagos served as the main staging post for British troops in North Africa but because of extensive illness that interfered with military operations a vast swamp drainage programme was initiated in the 1940s that also helped to protect the city of Lagos itself. By the late 1950s Nigeria was a focus for public health optimism about the eradication of malaria, tuberculosis, and other diseases through a kind of science-led technocratic modernity but in subsequent decades many of these assumptions behind global health policy have unraveled. With the effective collapse of the Nigerian economy in the 1980s and infrastructure planning in disarray it has been possible for malaria and other infectious diseases to become more prevalent in urban areas. The history of malaria, through both the colonial and post-colonial era, serves a poignant indicator for wider tensions and contradictions underlying the development of Lagos and its changing socio-ecological dynamics.

AH: In a recent talk entitled “Mosquitoes, Modernity and Post-colonial Lagos” you suggested Lagos may be thought of as “a partial modernity”, “or as a space outside or in distinction of modernity”. Arguably, this assessment places modernity on one side as the instrumental rationalization of social, political and ecological processes and the chaos of failed or non-existent attempts to rationalize social life on the other. Yet the western imaginary of the city seems increasingly preoccupied by

'failure' and 'chaos' (e.g. feral cities, the failed city, militarized cities and urban-centered catastrophe). Does this perhaps complicate the 'North' and 'Global South's' 'custody' agreement on modernity?

MG: The term "partial modernity", which I used at my public lecture in Newcastle, denoted the failure of a particular model of technocratic modernity exported from Europe. It is important to recognize that modernity is not a singular teleological process but an array of simultaneous, overlapping, and sometimes contradictory developments. To think of modernity as a multiplicity of forms helps to de-centre urban discourse and avoid Manichean distinctions that fail to recognize the global interconnectedness of urban space.

AH: You have historicized urban space from the nineteenth century 'bacteriological city' to contemporary urban spaces constituted through 'municipal managerialism'. How, if at all, have environmental concerns shaped the constitution of urban space? Has the recent focus on green cities/technologies disrupted spaces of municipal managerialism or served as a means to further mobilize these processes?

MG: It is certainly the case that histories of engineering, planning or other professional fields tend to overstate their influence over the urban process. The classic critique here is Christine M. Boyer's book *Dreaming the Rational City* where she re-interprets the practice of planning within a broader historical and political context. Boyer's account is especially helpful in thinking through the dissolution of the "public interest" as a self-evident or unproblematic focus for professional discourses. The identification of various periodizations can be helpful, certainly in a heuristic sense, but I think terms such as the "bacteriological city" or "municipal managerialism" need to be used in combination with a broader explanatory framework. There is a tendency in much historiographic research to look for patterns, phases, and distinctions that can sometimes obscure interconnected and overlapping sets of developments. I think it is more interesting to reflect on how conceptual terms such as "modernity" have been used in practice rather than worry too much about semantic distinctions. The recent upsurge of "green urbanism" or "ecological urbanism" is a case in point. The speculative dynamics of contemporary urbanization have cannibalized any available vocabulary to provide an ecological veneer to the oxymoronic dimensions to sustainability. The tragedy for municipal managerialism has been the brutal divestment of the public

realm and the shattering of links between environmental policy and the democratic arena. The possibilities for strategic thinking that might have been achieved via the relative autonomy of the state and its cadre of technical experts has been so extensively circumscribed that the very idea of “public policy” now lies in a zone of conceptual limbo. Where does expertise now lie in relation to urban and environmental policy making? In the case of London the disbandment of the city’s regional government in 1986, followed by the re-introduction of a weaker successor authority in 2000, has involved a process of dismemberment and scattering of public sector expertise. In fields such as bio-diversity, for example, London now lacks dedicated scientific personnel, systematic data collection, or a coherent strategy for the future. Interestingly, in other cities such as Berlin, we can observe how failed privatizations have opened up the possibility for essential services such as water and other utilities to be taken back into public ownership. Perhaps what is most critical here is the political need to dispel the deleterious neoliberal mantra of only one pathway and enable an informed citizenry to wrestle back control of urban space.

AH: In *Concrete and Clay: Reworking Nature in New York City*, you discuss the environmental politics in New York City around waste management. What does the political scale of the city offer environmental politics, is it an expedient scale for radical political action?

MG: I have also been reflecting on this question of scale. I think perhaps there are two dimensions here. First, the scale of urbanization itself and the “ecological frontiers” and “operational landscapes” engendered by the process of urbanization. We can usefully return to Henri Lefebvre’s distinction between cities and urbanization as is currently underway in the “planetary urbanization” project developed by Neil Brenner and Christian Schmid. Second, there are the various spaces within which political action and public deliberation can take place. The emergence of a digital public realm is producing new types of intersections and alliances between material locales and different bodies of knowledge. At the same time, however, the massive increase in global inequalities and the etiolated “post-political” characteristics of much policy discourse generates new tensions exemplified by the rise of xenophobia, anti-political movements, and a pervasive sense of confusion and disorientation fostered by corporate-owned media networks and what we might term the “culture industry” in its broadest sense. Recent grassroots insurgencies

such as the Occupy Movement have been highly significant in terms of highlighting injustices and attracting global attention but they do not yet offer a coherent political strategy.

AH: The 'spatial-turn' has brought critical geography to the fore as an important set of analytics. What do you think critical geography can do to help unpack ongoing strategies and projects of austerity in urban spaces?

MG: A key aspect of the "spatial turn" is a cross-fertilization of ideas since the 1990s that forms part of the impetus towards more interdisciplinary modes of scholarship that I alluded to earlier in this interview. The term "critical geography", however, is not as straightforward as it might appear since its use does not so much denote the radical neo-Marxian insights of the 1970s and 1980s but to some degree their relative displacement by other approaches in the 1990s that have been loosely grouped under the umbrella of postmodernism. In contrast, I am interested in thinking through critical geography as a radical synthesis between the neo-Marxian heritage of radical geography and more recent insights from feminism, queer theory, post-colonial studies and other fields. The Just Space network in London, involving many of my colleagues at University College London, is a clear example of how critical geography can enrich the public sphere and contribute towards the articulation of alternative strategies for cities. If we want to challenge "austerity urbanism" we need to draw on all the intellectual resources at our disposal.

Indigenous Takes On Environmentalism: An Interview on the Front Lines of Indigenous Land Defense

Megan Kinch¹ in conversation with Giibwanisi, Anishinaabek Nation²; Kaikakons, Anishinaabek Nation³; Sleeping Grizzly, Haudenosaunee Nation⁴

BACKGROUND AND CONTEXT

Doing an interview with someone who is currently doing a land reclamation meant that the usual email method had to be modified a bit. As Giibwanisi is currently on location at the site, answering my emailed questions would have meant typing out essays on a smartphone. So instead, after a long day chopping wood and doing work, he read my questions to himself and his friends Kaikaikons and Sleeping Grizzly, and they answered in the form of a conversation by the fire. The Oshkimaadziig Unity Camp is a land occupation and cultural revitalization project: the Anishinabek Confederacy To Invoke Our Nationhood (ACTION). What follows, is a shortened and condensed version of their discussion.

DISCUSSION

Megan Kinch (MK): Mainstream environmentalism has been hopelessly sidetracked into greenwashing, environmental capitalism and tokenistic gestures. When even David Suzuki is writing essays about the failure of environmentalism, we know that something has gone wrong. People

1 Megan Kinch is a journalist and activist in Toronto with the Toronto Media Co-op and Basics Community News Service.

2 Giibwanisi, Bear Clan of the Anishinaabek Nation, and is a co-founder of the Oshkimaadziig Unity Camp and ACTION.

3 Kaikaikons, Loon Clan of the Anishinaabek Nation, is also a co-founder of the Oshkimaadziig Unity Camp and ACTION.

4 Sleeping Grizzly, Bear Clan of the Haudenosaunee Nation and a member of the Oshkimaadziig Unity Camp.

affiliated with “environmental justice” movements in Canada have been trying to address previous shortcomings by putting solidarity with indigenous people at the forefront, but it hasn’t gathered the kind of support that mainstream environmentalism used to enjoy, nor has it been able to define what exactly that solidarity means. Do you see your struggle as relating to environmentalism? Is there an “environmental movement” that you feel could support struggles like yours? Or does a new movement have to be built from the ground up?



Kaikaikon: If you want to call our struggle “environmentalism” yes, sure, but at the same time we are much more than that. It’s a spiritual struggle, it’s a political struggle. [Our struggle is] a different kind, we have a way of life. Its environmentalism, its spiritualism, its matriarchy. Environmentalism is just one aspect of it. We are so much more. Its [limiting it to just environmentalism is] kind of like bastardizing who we are.

Giibwanasi: To answer that question I think you have to look at the medicine wheel and you have to look at the physical, the emotional, the mental, the spiritual. The land, the air, the fire, the water. It is all one. One and the same. We cannot look at it as just one aspect of, one category...

Kaikaikon: Its not under one genre or ideology of struggle or fight, you can’t categorize our fight as Anishinaabe liberation movement and resistance. Even the Annishinaabek indigenous resistance movement where there’s our people who have security culture and I guess warrior-ism, for lack of a better word, what we’re doing is trying to achieve every aspect of who we once were and trying to bridge the gap with trying to live in this society with using the technology of everybody who is in that medicine wheel. When you go back and classify our individual struggle as environmentalism, then we got to say no. People have their own definition of ‘environmentalism’. Greenpeace has their own view of environmentalism, and they are against seal hunts, which is people’s traditional diet and right to feed themselves from the land. If you want to start utilizing who you are, there are some things our allies may not agree with. Hunting, trapping. And that’s not, in their eyes, environmentalism (laughs).

Sleeping Grizzly: It is not really environmentalism, it's more of us living with the land with what the land provides. But don't take from the land more than you need. When you take from the land you have to make sure that what you're taking, like when we want firewood or we want to build a box or a canoe or something we're going to take from the dead. We'll only take from the living when we need to build something with structure, something that can dry over time and provide a lot of strength. Something we can manipulate to the way that we need, but not take more than we need, just take what we need.

Giibwanasi: I have not seen an environmental movement that could support struggles like us because, as we said before, there are so many different genres of environmental "activism", whether its fracking or tar sands or pipeline or nuclear or 'save the water' or 'save the trees' or 'save the air' or anything like that. There is not a single organization that I have seen that encompasses it all. So if you want to consider Anishinaabekism or Haudenosaunee-ism who stands against all of these things then I think that maybe if there is one of those things out there maybe, I don't know, I have not seen it. "Idle no More" seems to be about the water and some of Bill C-38 and Bill C-45 but at the same time they have their own view of liberation and they're very exclusive. So a lot of the times we were not included into their liberation agenda. Because at one time they were adamantly and vehemently opposed to blockades and land reclamations and they distanced themselves from them.

Sleeping Grizzly: There is a group down in Kansas City right now that are living off of 180 acres, they are planning to build and right now gathering supplies to...live off the land and what they can grow and gather themselves.

Kaikaikon: Look at the different camps, like the Unist'ot'en camp and all these similar actions who are living off the land. Under the definition of what an "environmentalist" is I'm not too sure if it is, or is not, other indigenous nations (laughs).

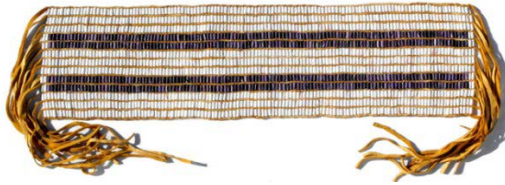
Giibwanasi: Ya, I think I'd have to agree with the Unist'ot'en...

Kaikaikon: Because, first, under our teachings it says we have to concentrate on the South, the family, community, nation, the people of our Turtle Island, our continent. Then we start making alliances with these

other folks. And I think our ideas and teachings can really benefit this person whose asking these questions, but they could learn a lot from our people. Even, all these questions, if they have some humility that they can adapt and just observe. Because our people have been observing for thousands of years and survived, we're still surviving. They can just observe from the people who've been here first and lived through a lot. A lot of environmental disruptions and we're still here surviving.

MK: Your occupation at Oshkimaadiziig Unity Camp is on the site of a Council Fire. It's been an ongoing debate on the left as to how different peoples should relate to each other in struggle. Some would argue that everyone should be in the same organizations and struggle on a class basis, others that nationally oppressed peoples need their own separate organizations which should relate to others. Today, there is also the theory that settler organizers need to 'take direction' from native organizers, but this is more useful as a guideline for settlers participating in native struggles rather than as a directive for social movements as a whole. What do you think should be the organizing relationships between native and non-native people?

Kaikaikon: [In] my own opinion, what we're trying to achieve here is we're trying to create a confederacy, we're trying to rebuild our confederacy. We had alliances with other indigenous nations like the Haudenosaunee and the Cree and the Wendat, so we're trying to build or own, reassert our own laws, our trade alliances and through that came the two-row [wampam]. And the settler society, we have an agreement with them we're trying to uphold here. I don't want to sound racist (laughs), I have to be careful about how I answer this. But our nations have been dealing with Euro-centric people for too damn long. And we need to start any kind of agreement. It comes to a point [where] we need to drop out of these treaties and even the 1764 Niagara covenant chain belt and reestablish something new [with] the other people who are oppressed from all over the world, something has to come representative of the 1764 Niagara chain covenant belt, but something that is more representative of the minorities and the oppressed people. And when the question is asked "non-native people' you have to ask "what non-native people'. I think we have to have an equal relationship but it has to be with people of struggle who come from other nations. And they have to maybe start a new government.



Giibwanasi: So what should be the organizing relationship?

Kaikaikon: Until that happens all lands come back to us! (chuckles) We can establish zones like their cities and shit where they can remain but we're still the landlords. This is kind of radical but those people they need to overthrow their friggen governments. But we need to work with these people whoever are out there to overthrow the governments and the police and the military which is a damn hard thing to do, but we need to do that. And reestablishing our governance, our agreements, our relationships. And that I believe is the other minorities who come here. They don't even know the relationship that exists and I think we'd find common ground to unite stronger.

Giibwanasi: Going back to the two-row wampum, it says that we're not supposed to steer each other's boats. But the way that I perceive things is that the canoes have been hijacked and is actually aboard the settler ship. And we are basically trying to live our canoe way of life on top of that settler ship. So, saying that I'm not supposed to steer the settler ship. Well you know what, my fucking canoe is sitting in that fucking settler ship. So national liberation for native people and organizing is like saying, you know what, I don't want to tell you how to run your own fucking ship but you're ship and the people that run it, the captains, they are not listening to the workers or to whoever, the deckhands and whatnot. So I guess the way to answer that question is, if you are not actively trying to overthrow the captain, then I think that maybe its time that we are in a position to say, you know what, in order to save humanity, to save ourselves, save Turtle Island, that ya, I think at some point, because the original agreements have been so intertwined and entangled, that I think at times that native people are, do have to be in a position to tell non-native people what to do.

Kaikaikon: We were just talking about this last night. And I was thinking about this all day to how to write this because its been on my mind for a while, because it needs to be said without hurting peoples

feelings. Because it needs to be said and it needs to be brought out amongst our brothers and sisters out there who are working with these activists in the different organizations. We've been colonized for so long, that some of us, even on the front line struggles and even back at home in our communities have developed a kind of syndrome that we're kind of, all these fears and intimidations and feeling inferior to white people, is something that is internal and we're dealing with. So when we're working with these people how they come and 'help' there's little subtle ways and different ways that they make our people feel inferior. Me, I feel like I'm kind of like, were dependent on their help. So no matter how they're trying to help, its funny but, they're still the colonists, the white people are the colonists. Because they're helping to "decolonize," but that word "colonize" is still in there. They are 'decolonizing," so they're still the Indian agents running around trying to do what's best for Indians. Because they're the ones who think they know it all so they're helping us. Even by answering these questions, even though we use the English language and their ideology we're using everything that's theirs. Even their Marxism. Somewhere there's our own war chiefs and our own ideas that answers these questions and that we should be using. We're still finding out ourselves, but we need to utilize other peoples, the revolutionary schools of thought, I guess, Marxism?

MK: Do you think that that their agreements such as the dish with one spoon and the two-row wampum are relevant here? Do they apply to the state or do they apply to peoples including western revolutionaries?

Kaikaikon: What we're trying to accomplish here is to rebuild ourselves and rebuild our alliances with other indigenous nations. Our responsibility is to our people first and to our communities and our families. So it applies to the state and it applies to them. Because what you said, we can't answer that, its up to them. Its up to these newcomers to settle that and fight amongst themselves on that. Because we have our own fight to do trying to be with our people who are trying to speak and represent us, who are going against these original agreements, so we're trying to liberate ourselves from what they're doing to us, what our chief-and-council and these peoples are doing. So we're trying to liberate ourselves so we gotta work together with our common allies to remove this shit in our own communities. So it is relevant.

Giibwanasi: Personally, I think that the two-row, the two relationships between settlers and native people that the two row is, is relevant because of the entire context ... its fundamental principles. And the fundamental principals is the relationship, from an indigenous perspective, with the two-row wampum with everything. With the creator, the earth, the sun, the moon, the stars, the two leggeds, the four leggeds, the wingeds, the crawleds, the ones that go in the water, and I think that, ya, the founding principles of the two-row wampum, we could use those things. But at the same time, the two-row wampum was never entered into the one good mind from the settlers point of view. They did not use their one good mind to make this relationship. I think it can be applied if people come with that one good mind and they want to work together, I think that can be. But also understanding the two-row wampum with the settlers, that was made with mostly white people. And now we find that we live in a society out there where there are many people of many different colours.

And if we go back to that settler ship there is class division on that settler ship. There is the captain, there was his lieutenants, there was the deckhands. There was indentured servants, and there were slaves stuffed in the back, stuffed in the bottom of those ships. So I think that the two-row wampum has to be inclusive of the other nations that are here. And I truly believe that had our people known that there were slaves stuffed into the bottom of those ships I truly believe that we probably never would have entered into those agreements, knowing how they treat other humans. Because if we were to look and see those slaves, how could someone enter into one good mind with that?

Kaikaikon: The one dish one spoon is an agreement between indigenous nations that others right to live on a territory without interfering with each others right to eat. And to provide from those resources.

Gibwanasi: So basically you could apply that to organization kind of?

Kaikaikon: Right, yes definitely.

MK: To what extent do you find western philosophies of struggle – things like Marxism, anarchism, social democracy – to be useful to you? I've seen you identify capitalism as a central force to struggle against, in addition to colonialism, does western analysis like Marxism help in understanding those forces? What are the limits of these philosophies for your struggle?

Giibwanasi: From my own perspective, I have to be open-minded to everything, to all sorts of struggles including those mentioned above. But there are things that are useful and there are things that are not useful. I don't ascribe to anarchism because I do not believe in disorganization. I like some of the things that are said about Marxism, especially the scientific approach to understanding economy, political science, and all of that. But, at the same time, there are a lot of things that I do not agree with Marxism. Such as, they often omit two parts of the medicine wheel. Marxism focuses on specifically ideology which is the mental, and probably the physical, like taking physical action of revolution. But they omit the emotional and the spiritual context of how we think and operate.

The Geopolitical Ecology of Empire's Ally: An Interview with Greg Albo and Jerome Klassen

- Jordy Cummings

Jordy Cummings¹ (JC): One of the overarching themes of *Empire's Ally* in general, and your contribution in particular, is a questioning of the predominant thesis held by supporters and detractors of the Conservative government, that is to say, the idea that there was a qualitative shift in Canadian foreign policy in the last few years, as if being “empire’s ally” is something new. Can you delineate what has changed in Canadian foreign policy, and what has stayed constant, and connect that, in turn, with shifts within the Canadian ruling classes?

Greg Albo² (GA): Let me clarify this by elaborating a few basic themes that I and others attempt to raise in the collection in situating Canada as a core imperialist state playing both an independent and supportive role in relation to the US empire and its strategy of primacy in the world order.

First, in relation to Canadian foreign policy debates, it is necessary to take distance from the dogmas about the Canadian state that even much of the Left has taken aboard. This was seeing Canada as a ‘middle power’ that forged a theory and practice of foreign policy based on new formally equal status of states by the United Nations. For Canada, this meant serving as ‘loyal ally’ to the U.S. in an evolving multilateral world still braced by the Cold War: of nation-states steadily increasing the

1 Jordy Cummings is a labour activist and PhD candidate in Political Science at York University. With a background in journalism, Cummings has written for a variety of publications both journalistic and academic, including *Socialism & Democracy* and *Basics Community News Service*. His dissertation focuses on radical theory in the aftermath of the French Revolution and the transition to modernity, using a Political Marxist methodology. He is also editing a reader of George Comninel’s writings and is *Interventions* editor at *Alternate Routes: A Journal of Critical Social Research*.

2 Greg Albo teaches political economy at York University. He has recently co-edited *Empire's Ally: Canada and the War in Afghanistan* (University of Toronto Press, 2012), as well as *Registering Class* (2014) and *The Question of Strategy* (2013) as part of the *Socialist Register*.

economic and military interdependence of the continent within formal institutions; developing with the U.S. joint interests in a liberalized international trading system and defending against external – read communist and socialist movements – threats; prioritizing ‘systemic peace’ in relations between the cold war blocs; cultivating a ‘quiet diplomacy’; and contributing to multilateral institutions and fora where differences in tactics could be debated and compromises negotiated between greater and lesser powers in the context of the U.S. strategy of *détente*. This position was associated with the thinkers that ‘made’ Canadian diplomacy – G. Ignatieff, Pearson, Holmes, and others.

More recently, this was the view that the imperatives of economic integration need to be ‘balanced’ by ‘human security’. An arsenal of new doctrines of multilateral governance need to be integrated into the foreign policy practices ‘agenda-setting’ powers: democratic capacity-building, developmentalism, peace-building, responsibility-to-protect, discursive diplomacy, civil society enhancement, responsible governance and so on. This has been the approach of M. Ignatieff, Byers, Axworthy and host of others, and formed the key thinking behind what critics have labeled ‘human rights imperialism’. For these liberals and social democrats, Harper represents a Canadian turn to the foreign policies of a rogue state as it abandons many of these policies and moves toward a practice of diplomatic isolationism from multilateralism.

But Canada has always played, we argue, an important role in imperialism, from the supportive position of Britain in the Atlantic slave triangle to a key ally of the British and US across the 20th century in the making of global capitalism. It has done so, we argue in *Empire's Ally*, as a ‘secondary imperialist power’. This has meant pursuing and developing its own imperialist interests and capacities, but aligned with the dominant imperialist states of the U.K. and the U.S. This is a pattern of ‘co-operative specialization’ in foreign policy as Canada cooperates closely with the lead imperialist power. Over the Cold War period, this meant specializing in diplomacy, peace-keeping and soft power, and in the text Jerome Klassen and Paul Kellogg lay out how this worked. In the period of neoliberalism, the foreign policy tasks have shifted: Canada now specializes in diplomatic coverage for foreign intervention (as in Haiti, Lebanon, Honduras), advancing free trade agreements (NAFTA, with CETA or the Trans-Pacific Partnership) and the hard power of ‘disciplinary militarism’ of foreign combat missions. When looking at the overall position of Canada within the imperialist hierarchies of the state system, it is the continuities that stand out, and it is from there that the

specifics of the Harper regime need to be judged. This is pretty much a unique thesis to *Empire's Ally*, as only a few writers have pointed in this direction at all, and none of these develop a Marxist-inspired critique of Canadian foreign policy.

Second, the American state's position as the dominant imperialist power and its continued pursuit of primacy has been a consistent in framing Canadian foreign policy. Obama, for example, never broke with any of the strategies and practices taken up by Bush in the 'war on terror'. He continues with the constant referrals to the US as the 'indispensable nation' and has acted on the basis of American exceptionalism with respect to the norms of the world order as, for example, the right to deploy drones at its discretion. This is a strategy of 'disciplinary militarism': the use of armed force to compel states, if their domestic capitalist classes and political elites are not already doing so, to adhere to the neo-liberal world order under U.S. hegemony.

Alongside the American-led international policies for free trade, capital mobility, and the re-capitalization of the banking system, they have formed the basis for what can be called a 'new imperialism' in terms of the geo-economic framework that has emerged. This has evolved since Reagan and consolidated as part of the way neoliberalism has formed the new basis of social rule in the 1990s. It is blindingly obvious that Canadian foreign policy even since Mulroney has been a key support to this strategy. What we attempted to do in *Empire's Ally* was to accept this context and address how the Canadian state and capital out of their own interest fit within this context, and the way the Canadian state transformed its internal and international security regimes as a result of the Afghan war, as part of what Adam Hanieh refers to in the volume as a 'single war' across the Middle and Far East. A lot of conventional military analysts have referred to this as a 'revolution' in Canadian military and foreign policy, and there is something to that. But they totally neglect the continuities in Canadian imperialism and simply ignore the role in supporting the internationalization of Canadian capital.

Third, capitalist states always need to be assessed as making, mediating and reflecting the balance of social processes; in other words, as being the institutionalization of social struggles within liberal democracies. They are not neutral instruments held accountable by, and responding to, parliamentary deputies. As such, the department and branches of the state are also being re-ordered and shifting in the internal hierarchy of state power to reflect shifts in social struggle and ruling class strategies. This theoretical point is often seen to be obvious in the case

of the Canadian state, given the degree of its autonomy from popular democratic forces, and the way the Canadian state has been continually re-organized to assist capital accumulation, including the foreign and military apparatuses, and trade and capital flows from Britain and the U.S. with Canada.

Since 2001 and the opening of the new round of military interventions, there has been a substantial re-ordering of the Canadian state: a general degradation of the institutions of representation and democratic processes; a hardening of the state in terms of policing, prisons military and the security apparatuses, in all its dimensions, from border security to CSIS; a re-orientation of the economic and trade policy branches to facilitate the internationalization of capital and the competitive capacity of labour processes; and a restructuring of the military and diplomatic apparatuses. But it builds on the project of 'deep integration' between Canada and the US since the 1990s. 'Deep integration' follows the internal logic of neoliberalism and the linkage between national security and economic liberalization that have been integral to the exercise of American imperial power.

It would take pages to catalogue all of the policy shifts that have been made, but a few can be signaled: the Fortress North America realignment of border and security relations with the U.S., as well as economic competitiveness; the support for FIPA, CETA, TPP and a host of other 'free trade' agreements that secure new mandates for the internationalization of capital; the cooperation around continental energy policies, particularly around the extreme energy policies of offshore, fracking and the tar sands; the remaking of Canadian defence policy to secure the Arctic for North American control and for the deployment of Canadian troops in joint operations in multiple battlefields; and the recasting of Canadian diplomatic offices and practices to support 'hard power' deployment and alignment with US policies with respect to the Middle East and Latin America. It is this phase of the new imperialism in Canada that we attempt to document in *Empire's Ally*, and the way that the Canadian intervention in Afghanistan helped facilitate these transformations.

JC: So Canada is a "secondary power" within the US led "Empire of Capital", to use Ellen Wood's phrase, a class strategy to restructure Canadian foreign policy in line with the internationalization of Canadian capital. This begs the question, however, is the notion of "secondary power" sufficient to demarcate the role of Canada, when the capitalist class is so thoroughly integrated with U.S. and global capital, on one hand? Or

on the other hand, does the Canadian state and Canadian capital have interests of their own that sometimes diverge with international capital?

Jerome Klassen³ (JK): In the social sciences, there are several theories of Canadian state power in the global political economy. In liberal theory, Canada is a ‘middle power’ and thus holds a vested interest in multilateral diplomacy and conflict resolution. It believes, furthermore, that Canadian foreign policy is guided by the ethical motivations of political leaders and reflects the democratic will of the public. In my view, this is far too idealistic and uncritical. Canada, like every other state, has selfish interests in the global political economy and forges policies that reflect not the popular will but dominant social interests. The idea that Canada is a ‘middle power’ is also incorrect; it is a major economic power with considerable military capacities and is not viewed as a ‘middle power’ by other states, especially in the periphery.

The realist theory of Canadian foreign policy is more accurate in these regards. Generally speaking, it debunks the liberal ideology of the postwar period – in particular, the notion that Canada was a ‘middle power’ in the Cold War and practiced ‘peacekeeping’ for noble and selfless purposes – and tends to view Canada as strong or ‘principal’ power in world affairs. One stream of realism also recognizes the power of the U.S. over Canada and the way in which Canada is forced to work within U.S. power projections. Despite these strengths, realist theory is based on a reification of the state and thus ignores the internationalization of Canadian capital and the role of dominant social groups in forging Canadian state policy at home and abroad. Unfortunately, these issues are completely off the radar of realist research, which has been highly supportive of the new militarism in Canadian foreign policy.

Marxism offers the third perspective on these matters. In brief, it holds that Canada is an imperialist power in that it is bound up with transnational forms of class exploitation and political domination. However, this perspective is still underdeveloped. Although there is a

3 Jerome Klassen is a Research Fellow with the International Development Studies Program at Saint Mary’s University and recently completed a SSHRC postdoctoral fellowship at the MIT Center for International Studies. He is co-editor of *Empire’s Ally: Canada and the War in Afghanistan* (University of Toronto Press) and has published articles in *Studies in Political Economy*, *Canadian Journal of Sociology*, and *Journal of World-Systems Research*. The University of Toronto Press is publishing his monograph, *Joining Empire: The Political Economy of the New Canadian Foreign Policy* (2014).”

strong tradition of Marxian political economy in Canada, it hasn't really addressed foreign policy issues, at least in an academic format. So, one goal of *Empire's Ally* was to generate a new research program on the class politics of Canadian foreign policy. In my view, the Canadian state is best viewed as a 'secondary' imperialist power for several reasons. First, it does not command the political, economic, or military powers to fully set an agenda for global politics, for example, as the United States or even China does. Instead, it operates in a supporting or 'secondary' role in the world market and state system.

Second, despite its formal autonomy and independent interests and capacities, it tends to work internationally by internalizing and incorporating the political, economic, and military norms and priorities of primary powers such as the United States. This has been true since World War II, but has increased dramatically since 9/11, as the Canadian state embraced the 'global war on terror' and, to this end, thoroughly transformed itself. *Empire's Ally* attempts to make sense of these various dynamics. It recognizes that the Canadian capitalist class has claims across the world economy and thus is a key player in the internationalization of capital, including in many poor countries and regions. However, the internationalization of Canadian capital is still focused on North America, which is dominated by the United States and its national bloc of capital.

So, for the most part, *Empire's Ally* recognizes that Canada is an imperialist power, but tends to support, or to operate under, U.S. hegemonic designs. Of course, tensions and rivalries continue to exist between capitalist classes of different nation-states, including the US and Canada. But the idea that Canada is locked in 'inter-imperialist rivalry' with the U.S. is simply not the case, as some Trotskyists seem to argue. To get around these issues, *Empire's Ally* tries to analyze the general tendencies of capitalist imperialism as well as the particular role of Canada as a secondary power in the current global conjuncture. In my view, future research should look more closely at how the particular structure of accumulation in Canada – in particular, the nexus of energy, mining and finance – generates unique patterns of international engagement under the hegemonic direction of Canadian capital.

JC: In terms of Canada's and others' efforts to "rebuild" the Afghan state, what hurdles have been faced, and how has Canada failed to manage and/or transcended such hurdles? If it is indeed possible to help Afghanistan, what can be done, not merely by the Canadian state, but by international assistance?

JK: Canada's approach to state building in Afghanistan has been characterized by two key features. First, it largely followed the U.S.-led process of working with President Hamid Karzai and various warlords, commanders, and sectarian leaders, who filled the power vacuum in 2001. As part of this, the US and the international financial institutions dictated a neoliberal development program for Afghanistan, one that was geared towards the privatization of state industries and the liberalization of trade and investment flows. International NGOs played a key role in this project, in particular, by providing services and building infrastructure in towns and villages.

The result has been a highly contingent and unaccountable form of state building and development, one in which popular needs are not addressed or fulfilled by state institutions. In this context, there is some concern that the Afghan state may disintegrate if a civil war resumes after U.S./NATO forces withdrawal over the next year. The U.S.-led mission has done nothing for reconciliation and transitional justice after decades of civil war, authoritarian rule, and outside intervention. For example, at the present moment, the U.S. is trying to sign a Status of Forces Agreement for a long-term military presence in Afghanistan, one in which its troops will be given legal immunity from Afghan jurisdiction and sovereignty. This is a further example of how outside intervention has continued to limit or undermine efforts at sovereign state building in that country.

It is important to recognize that Canada has enabled the U.S.-led project in Afghanistan through several contributions. In fact, it has tried to develop specialized props for the state-building effort. In our book, Anthony Fenton and Jon Elmer show how Canada's efforts at 'democracy promotion' were in fact based on an elitist model of institutionalizing popular sovereignty. Likewise, Angela Joya and Justin Podur show how Canada's development projects were linked to a militarized, neoliberal model of pacification. In these ways, the authors demonstrate the particular methods of Canadian imperialism in the Afghan theatre.

What alternatives exist? As several authors in our book argue, Canada should withdrawal its remaining military forces and support active and transparent forms of conflict resolution involving the UN, the key regional powers, and the full spectrum of Afghan political forces. After this, Canada should provide aid and reconstruction funding to a future Afghan government, which must be allowed to set its own priorities for economic growth and social development. The Canadian state

must also investigate any Canadian military, diplomatic, or security personnel who participated in potential war crimes, including the transfer of prisoners to torture.

JC: While *Empire's Ally* touches upon this, I'm wondering if you can say a bit more about the ecological dimension of Canadian foreign policy, such as the Canadian state's support and encouragement of ecologically destructive mining industries.

JK: Environmental issues do not factor centrally into *Empire's Ally*. Michael Skinner's chapter does, however, discuss the environmental impact of mining development in Afghanistan. The massive projects coming down the pipe are expected to displace small-scale farming and even backyard mining operations, and to disrupt the delicate ecological balance, including irrigation systems, in certain regions. Beyond this, the book doesn't really grapple with environmental concerns.

Future research on Canadian imperialism must, however, do so thoroughly. As a leading per capita emitter of greenhouse gases, Canada holds a 'climate debt' to the world and thus practices 'ecological imperialism,' or the unequal exploitation of the world's atmosphere as a carbon dump. One major reason for this is that capital accumulation in Canada is increasingly based on energy-intensive industrial operations, including mining and bitumen extraction. The subordination of production in Canada to global market imperatives has also made the country increasingly reliant on global trade and with it, the infinite use of hydrocarbon resources. For these reasons, progressive movements must integrate an ecological perspective into their anti-imperialist and anti-capitalist frameworks. In the final chapter of the book, Derrick O'Keefe of the Canadian Peace Alliance makes this point in very clear terms and suggests methods for making it happen.

GA: In a moment's reflection, it should become apparent that the American military is the most destructive ecological force on the planet: for its use of natural resources in general; as the foremost user of fossil fuels (and thus contributor to climate change); for its mass campaigns of defoliation and aerial bombing; and for the legacy of radioactive and toxic waste it has strewn across the planet. Military activity as a whole is the single greatest contributor to ecological destruction, with the Canadian military being a significant contributor. Just think of the toxic waste that have been left across the Canadian Arctic by Norad's Dew Line, or the ecological

mess that resides at every Canadian and American military base across the country. Modern warfare is really one of the areas where the terms 'ecocide' and 'ecological imperialism' really fit, and they have potentially a very rich conceptual range and possibilities in peace studies research. It is something we need to take up with respect to the Canadian military.

There is no modern imperialist military intervention that has not left a terrible toxic ecological legacy. We are not yet able to make an assessment of what the impacts on Afghanistan has been, but we know it will not be trivial. It is impossible today to be an ecological activist and not also take on militarism and its consequences for climate change and the natural ecology as a whole. And this carries over into being anti-imperialist for this is what the American and Western military forces are organized to defend and enforce. In turn, to be anti-militarist is to take on the ecological consequences of war-making today. These are clearly the analytical and political points of convergence of the ecological and anti-war movements. But we are some ways still of getting that level of social consciousness and political organization as part of the everyday common-sense of the Left and working-class people.

But we also need to see the ecological dimensions of foreign policy in terms of the overall organization of the apparatuses of the Canadian state. Since there has been so much sloppy thinking with respect to the Canadian state and foreign policy, it is necessary to begin with a broader point. Capitalist states are, as Marx put it, "the form of organization which the bourgeois necessarily adopt for internal and external purposes, for the mutual guarantee of their property and interests." National states play an indispensable nodal role in supplying the extra-market institutional and coordinative roles necessary for capital accumulation, including mediating the inter-state system. As such, the diplomatic branches of the state are delimited in their role with respect to these essential systemic needs of capital. Even the much touted period of Canada as a 'middle-power broker' really reflected the areas of 'co-operative specialization', as I put it, consistent with Canada's position as part of the imperialist core re-making global capitalism over the cold war period.

Since 2001, as we already noted, the foreign policy branches of the Canadian state dealing with 'soft power' issues like climate change, human rights, family planning, and so forth, have been marginalized relative to security and military issues. And the diplomatic and economic components of the state facilitating the accumulation of capital have been given increased roles and powers. In fact, in the case of Afghanistan, the 3D policy framework tied economic and military components together in

particular ways. The more recent shifting of CIDA into the, now renamed, Department of Foreign Affairs, Trade and Development Canada, has also gone in this direction. Not surprisingly, given the competitive capacities of the Canadian extractive sector, and Bay St. as the central place in the world for financing mining, the Canadian state has been playing a big part in backing up the internationalization of mining capital.

This, of course, has come at some cost to ecological issues, which the Harper government has symbolized by gutting environmental regulation and moving Environment Canada to the margins of the Canadian state. But environmental issues are a really important dimension in the matrix of foreign policy issues today, given the international dimensions to all ecology issues, especially climate change. Even with what often appears as localized problems of ecology, the competitive imperatives driving capital accumulation forces inter-state competition that puts ecology into competition – in developing more extreme energy sources, dumping pollutants, shirking GHG reduction targets, and so on. This forms a fundamental contradiction in international relations. Through international coordination capitalist states can agree to coordinate action to address ecological issues through upgrading binding constraints (the strategy since the Brundtland Report on sustainable development in 1987). But at the same time these very same states are encouraging accumulation and the competitive capacities of the capitals in their own territorial space that undermine the agreements.

Well, one of the tendencies within this contradiction is going to prevail. It is clear enough that ecology has been subordinated to the imperialist ordering of the inter-state system and the internationalization of capital. The economic crisis since 2008, and the turn to what can be called permanent austerity, has further pushed ecology to the margins. So, not surprisingly, we have witnessed over the last two years the Harper government mobilize the entire international branches of the Canadian state in support of oil and gas exports – the Keystone pipeline to the U.S. and various natural gas export plans to East Asia; and at the same time do whatever the government can do to disrupt the various climate change protocols being negotiated to succeed the Kyoto Accord (the targets from that agreement being basically ignored, before just withdrawing from the Accord). There are any number of other examples of Canadian foreign policy taking the exact same stance of disregard for ecology – from landmines, to withdrawal from the UN Convention to Combat Desertification, to lack of cooperation in international research on the ecology of the Arctic and the other oceans bordering Canada, and others.

There is a habit in progressive circles to charge Harper with a radical re-working of Canadian foreign policy and stump for an NDP-Liberal alliance, backed by a social movement front, to defeat the Conservatives. This would allow a return to the Canadian state role as ‘active global statesman’. Well, Harper has certainly intensified the most aggressive and imperialist components of the Canadian state, the thesis of *Empire’s Ally* suggests that Canada’s shifting international role was already forming under Chretien and Martin and the Liberals. The core features of Canadian foreign policy will not be radically remade, particularly as both the NDP and Liberals have committed to developing the tar sands and the internationalization of Canadian capital.

To be clear, any departure in Canada’s position in the world order is really dependent upon an alternate bloc forming with a program that links anti-militarism and ecology to the traditional demands of the left for democratization, socially-responsible production, increased diversity and autonomy for alternate development models and addressing the inequalities of the world order. In one form or another, this has always constituted the basis of a socialist program for international relations. The anti-war and anti-imperialist movements in Canada could play a bit role in bringing these positions from out of the margins.

JC: Is there a peace movement in Canada? Is there an environmental movement in Canada? What I mean by this question is that, assuming mobilizing for peace and environmental justice are co-constitutive struggles, how can progressive scholars and activists conjoin these movements – and do these movements indeed exist?

GA: This is a tough set of questions – they raise the challenge of reading the conjuncture and the state of Left strategy and tactics, in Canada and more generally. And there are as many illusions about the state of social movements in Canada, or elsewhere for that matter, as there are about Canadian foreign policy. There has been a certain impulse in some strands of the left, and particularly among movement activists, that capitalism is in deep crisis; that the ruling bloc and the core capitalist countries are increasingly divided (and thus able to resolve political problems and rule); that resistance is rising; and that the social movements have within themselves, as is, a ready alternative. Sometimes a further, parallel claim – particularly by union leaderships and progressive NGOs – is made: that the NDP and social democratic forces will be able to switch the channel on the policy agenda (perhaps in alliance with the Liberals).

Although there is still a protracted economic crisis, none of these individual claims hold up, and together they have been terribly disorienting for political thinking and strategizing, especially in a country with such a weak socialist culture as Canada. It is tiresome when repeated every few years for decades. In fact, the disorganization of the broad left – in radical and social democratic parties and in unions and social movements – has been the actual trajectory. The old Leninist formulations behind this theme are completed out of step with the times. The most immediate need is the steady rebuilding of socialist and radical infrastructures and organizational capacities. Otherwise the defeats will mount and the illusions of a coming resistance will seem ever more fantastical. Rather than building the movements, this type of politics always invoking the coming revolt encourages the collapse of oppositional forces, and the broad working classes, into a fatalism that accepts the existing state of ‘no alternatives’. In effect, the political space that can be occupied by right wing populism is widened and filled, for example, by Harperism or the ‘Ford Nation’ in Toronto. We have to begin from a very tough-minded assessment – Gramsci’s pessimism of the intellect – of where we are actually at, steadily building new organizational capacities, experimenting with parties of a new kind, and contributing to key political struggles by connecting them across sectors and to a critique of capitalism. There are no political short-cuts.

This reading of the current period is, more or less, an implicit theme of *Empire's Ally* in attempting to emphasize Canada’s place in the core imperial countries, the reorganization of the military and diplomatic components of the state, and to put the anti-war agenda in Canada in terms of building an anti-neoliberal and anti-capitalist movement. This is why there is such thorough critique of the mythologies of Canada as neutral broker, or as a peacekeeping nation, across the volume. We need to understand the current political terrain as a hardening of capitalist power, not its’ weakening, and make political calculations on the Left on that basis.

A number of contributions in *Empire's Ally* address the question of the peace movement directly, and to their credit none of this nonsense of impending collapse is to be found. Instead, there is a sober assessment of what the peace movements in Quebec and Canada accomplished in opposition to the war in Afghanistan and what remains to be done. Benoit Renaud and Jessica Squires, for example, analyze the course of the anti-war movement in Quebec, *Échec à la guerre*, in relation to the

formation of Quebec Solidaire, and a range of human rights, labour and anti-racist struggles. But they warn that even on this much stronger political ground than elsewhere in North America, there is still a long way to go to rebuild mass movements and the capacity for mass mobilization. Derrick O’Keefe, one of the co-chairs of the Canadian Peace Alliance, carefully dissects the way that a new military strategy has formed in the Canadian state. He stakes out an agenda for re-building an anti-war movement in Canada in this new context, and to keep the peace movement relevant. Similarly, Angela Joya and Anthony Fenton and Jon Elmer pick apart the way that much of NGO and development work has assisted in building what the latter refer to as an ‘expeditionary force for democracy promotion’.

The peace movement is illustrative of the difficulty of building movements in the context of neoliberalism and a hardening of the military strategy of the Canadian state. But the environmental movements illustrate a different trajectory. As neoliberalism consolidated in the 1990s, most of the big ENGOs accommodated to the new political terrain – they wanted to remain relevant and they wanted immediate changes, even if incremental and symbolic. A number of us, particularly in the Toronto Group meeting around the journal *Capitalism, Nature, Socialism*, began tracking the steady embrace of market ecology by the ecology movement, and an incredibly naïve believe in market prices and cost internalization for effecting ‘green growth’ within capitalism. We further picked these views apart in the *Socialist Register* volume 43, *Coming to Terms with Nature*. Even in the current fight over climate change, many of the major ecology groups are relying on market mechanisms and slower development rather than taking up an anti-capitalist political position. The search is for a sustainable energy fix within capitalist social relations.

This is not untypical of a range of social movements. It may well be more accurate to speak of a range of activist nodes each, in their way, opposing some of the dislocations produced by neoliberalism. But not becoming social movements mobilizing tens of thousands in mass protests, and the day-to-day practices of resistance – petitions, picketing, deputations, workplace agitation, and so on. And not forming into anti-systemic organizational forces shifting the correlation of national or international forces in a more democratic and egalitarian direction. So much of what goes under the name of social movements in Canada represents deep frustrations with the way we live, and anger at the gross abuses of power and privilege of capitalism in Canada, but not coherent democratic forces able to suggest a path to another way of living. This is

why we put so much stress in *Empire's Ally* on Canada as a major capitalist power embedded in the wider U.S. and NATO imperialist agenda, and the Harper government as an intensification of some of these neoliberal trends but not the initiator.

Let me return to some of the wider themes. A number of structural transformations have altered the organizational foundations for Left politics: the changes in the nature of employment towards more networked production processes and fragmented services provision; the increasing international circulation of capital; the internal differentiation and stratification of the working class; and the re-orientation of so much organized political activism toward negotiating defensive compromises with the state. Neoliberalism has, of course, driven these pressures. Left alternatives have also suffered historical defeats, for good and ill, in the end of authoritarian communism and the realignment of social democracy toward increasing accommodation of the market and existing distributional relations. These developments have shifted working class capacities in terms of workplace organization, political leadership of oppositional forces and ideological inventiveness. As a consequence, Left politics under neoliberalism (in Canada since the failure to defeat NAFTA in the early 1990s) has oscillated between, on the one hand, a 'politics of chaos' that in fact reflects the disarray of Left forces and organizational weakness, and, on the other, short-term political calculation to avoid further social erosion.

Above all, then, the socialist Left must be actively fostering the formation of new political agencies. One necessary aspect of such an engagement is class reformation through revitalization of unions, and the linking of unions to workers in new sectors, the struggles for gender and racial equality, and the marginalized outside 'normal' work processes. It is also necessary to experiment in organizational convergence between the remnants of the independent Left, civic organizations, and the sections within social democracy that remained committed to a transformative project. Such a reformation needs to be grounded in the building up of educational, communicative and cultural resources indispensable to forming the political identity necessary for a 'new socialism' for the 21st century. And concrete anti-neoliberal alliances forged in struggle to defeat particular initiatives and make inroads against neoliberalism will make such a process of reformation 'organic'.

The anti-war movement is, as we signal in *Empire's Ally*, a crucial component of this convergence as a new Canadian Left will have to be clearly anti-imperialist and offer a radical challenge to the current world

order and the current matrix of foreign policy. It is not difficult to suggest some of the transitional demands that we need to insist upon – a rejection of current policies toward the Middle and Far East and war reparations to the people of Afghanistan and just settlement in Palestine; supporting a multi-polar world order and regional capacities for enforcing peace and dispute settlement; withdrawal from international military alliances and the conversion of military forces into increasingly civil organizations for defence, emergency relief and ecological cleanup; forging a new international economic architecture that places control on capital movements, plans trade, transfers technology and resources, and internationally coordinates a transition to low-carbon economies; and an industrial conversion strategy away from military production. This is the kind of agenda that, as we suggest in *Empire's Ally*, is beginning to emerge across the inter-state system. It is part of the emerging anti-imperialist and anti-capitalist sensibility that is beginning to lay the basis for a new socialism relevant for the 21st century.

Working in a Warming World: On Climate Change and Union Renewal with Carla Lipsig-Mummé

Christina Rousseau

Christina Rousseau¹ (CR): Despite the changing face and composition of the labour force, the organized labour movement (i.e. unions) has grown stagnant in its responses to austerity measures against working class people, a shrinking job market, and the erosion of unions themselves. Running parallel to the issue of union renewal and attacks against working class people is the issue of climate change. As your recent work suggests, climate change and union renewal are not necessarily parallel, and are, in fact, connected as a broad range of issues facing workers in Canada and across the globe. Can you elaborate on this connection?

Carla Lipsig-Mummé² (CLM): It seems to me not only are they not just parallel, but they feed each other and they can create each other. I saw this when I was living and working in Australia, where I was a national councilor for the National Tertiary Education Union, which are blue-collar and white-collar workers together. They bargained nationally – and we had enterprise, or workplace bargaining, as well. My state

1 Christina Rousseau is a union activist and PhD candidate in Humanities at York University. She is currently working on the first, full-length historical study of the Wages for Housework campaigns in Italy and Canada in the 1970s. Her broad research interests include movement organizing, unwaged labour, and Marxist-feminism.

2 Carla Lipsig-Mummé is Professor of Work and Labour Studies at York University. Currently Principal Investigator Social Science and Humanities Research Council's Environmental CURA research grant, *Work in a Warming World*, Carla has also been Principal Investigator of a study on the state of expert knowledge about the impact of global warming on Canada's employment and work, funded by CIHR, SSHRC and NSERC. Author of more than 200 academic works in English and French, her most recent book *Climate@Work* (Fernwood) was published in 2013. *Work in a Warming World* will be published in 2014 and co-edited by Lipsig-Mummé and Stephen McBride. Her current research focuses on factoring work and employment into the struggle to respond to climate change, the future of work, trade unions and the renewal of union militancy in a globalizing era, regulating professions and emerging labour relations regimes.

of Victoria asked me to head a committee that they were setting up on green campaigning. We had representatives from each one of the universities in Victoria, and then it became a national effort, and in a very short period of time we pulled together material and the language for collective bargaining around climate change. There were basically a series of issues that emerged, and ways of bargaining as well. More than that, all the locals participated.

What people were reporting back was interesting: at various universities, young people (in their early 20s) who had never come to a union meeting (and they might be science people, they might be techs, they might be grounds people because academics were not separated out) came for the environment issues and came out of a concern for environmental questions. One of the three people who put their hands up to take my place on the council when I left later became state secretary of the National Tertiary – and now he is a major force in the Australian Council of Trade Unions, doing serious work for environmental change. By this I mean the unions and the corporations argue a very fine line in policy statements, as indeed do many environment groups.

The policy statements usually have a target on either consumer behaviour, or on what regulations or laws we need from the government. All of this is what others can do. I'm suggesting that unions have considerable residual powers through occupational health and safety and collective bargaining that will allow them to raise issues of environmental responsibility. Through their collective bargaining, for example, they can draw in people who haven't been active before. The link between occupational health and safety and collective bargaining will mobilize people who would surprise you, and people who wouldn't surprise you. I think that engagement with environmental responsibility is one of several sources for union renewal, mainly at the local level. This is rank and file work. It can gather, and it has to. And what could reinvigorate unions more than engagement with bargaining? We need to build from the rank and file, because that's where we negotiate.

Another thing I learned from my Australian experience (and I've seen this in Germany as well) is that environmental work in a workplace sometimes begins with one or two people who are passionate in gathering others. I listened to a series of secondary and tech college teachers in southern Germany talking about how they got active. One teacher had talked to their students and together they formed a group in one class, then other classes did. They started out by asking, "What are we wasting? How is our energy being used?" And they formed other clus-

ters – this is real rank and file work. What you can't ever do is present it as a means to a different end, because the people who come to this really care about the environment, and they care about their unions too.

There are other ways to link union renewal and climate change, which we haven't done yet, but which we may with *Work in a Warming World*³. In a hospital you may have eleven different unions. At York University we have seven, I believe. Gather a delegate from each one of those unions and call them your green stewards. Or they could be your existing occupational health and safety officers. You can learn how to audit a workplace and not accept the employer's evaluation. Because if you accept the employer's evaluation, every one of the universities is environmentally superb! And we're not. So you gather this information, and you connect with concerned scientists and environmental lawyers, and you get the tools for auditing and drafting your proposals. But you also draw up a green plan where you develop what we need to do, what our timeframe is, what expertise is needed, etc. That idea – which could be somewhat common across workplaces and sectors – is to have a small group that's interested in green issues.

CR: There is a lot of talk about the creation of green jobs. What does this mean?

CLM: What's a green job? Governments look at the issue and say, "We'll create 2 million, 3 million, 4 million jobs." But there's no consensual definition of green jobs. The idea of green jobs is used largely as a lure – it's basically job creation with a trendy title. We will produce X number of jobs, and the numbers are never the same. These new green jobs are based on a series of hypotheses: *if* this law passes, *if* the shift to cleaner energy occurs within a certain amount of time, *if, if*.

It seems to me that in defining green jobs we need to have 2 or 3 characteristics: 1) The item being produced is of environmental value to better it, and not simply keep it equal; 2) The methods of production are themselves environmentally responsible; 3) The workers have green awareness and green training. But what does it mean to say the processes

3 *Work in a Warming World* (W3) "is a 5 year research programme clustering a number of projects and grants. It is a research partnership among academics and community partners to bring work back into Canadian focus in the struggle to slow global warming. The cluster of W3 projects bridge two solitudes: between environmental and labour market organizations, and between academic and practitioner research. W3 brings together more than 50 organizations and researchers in 10 universities and 4 countries." For more information, see <http://www.workinawarmingworld.yorku.ca/>

of production? I argue that we need to start to use a life cycle assessment: we start with the inputs, we come to the technology we use to transport, the physical environment in which your work takes place, distribution, disposal. It's a chain. Once you do that, once you consider these factors, there are precious few green industries and green processes.

The number of green jobs obviously varies. And worse than that, very few new green jobs are actually being created. In the last month, Gretchen Morgenson of *The New York Times* looked at this. The United States has a series of programs to fund small and medium sized businesses to hire people who are working on environmental responsibility. She followed some of the companies and found that they took the money, but the jobs never came. We don't have any consensus on the issue of green jobs, other than that it is a political tool. All policies, whether to create green jobs or to regulate existing jobs – are vulnerable to politics. We're not that vulnerable yet in Canada. So far, our labour relations framework has stood up better than other countries. I know the Conservatives are now looking for Right to Work legislation, so maybe we aren't going to hold up. But so far we do: we have contracts, we have bargaining, we have occupational health and safety laws that are independent of our contracts, etc. And can it all get wiped out? Sure it can. And so can our unions. But right now we have powers we're not using, and they just might renew us.

CR: In the wake of the 2008 economic crisis and as a response to Canadians demanding environmental accountability, the Canadian government has promised the creation of “green” jobs. The reality in Canada, however, is that resources are going to support environmentally destructive practices like fracking and the oil sands industry (not to mention the Canadian government completely abandoning its Kyoto commitments). It seems that people in Canada are interested in green jobs – or at least in greening existing jobs. But instead resources are going to support environmentally devastating industries and practices. Why is Canada so stalled compared to other developed countries? How does the Canadian labour movement compare with other countries in its response?

CLM: In Canada, we're still around 30 percent unionized – the US is around 11 percent. If I had my druthers, we wouldn't be going workplace to workplace. But we don't have the government in our hands. I don't reject the NDP out of hand because having lived in Australia when the conservative coalition came into power. The government at

the national level completely got rid of protective elements; all dues collection was by hand, you couldn't collect it at the source any longer. The federal government said repeatedly, "Our goal is for every worker to be a self-employed contractor." Union membership in Australia went from 56 percent down to 21 percent. Unions had no money to have offices or staff.

There are a number of initiatives that are good within the union movement as a whole. But the harder issues, which happen around collective bargaining, are very rare. Is there good will in the movement? Absolutely (especially in British Columbia). We need to get back the right to bargain in the public sector, because we almost don't have it anymore. I've watched the labour movement engage in the past, and it has been very promising. It hasn't been quick, but it's been promising. For example, the United Food and Commercial Workers union, organized greenhouse workers who are almost always migrants. They understand the contradictions: from field, to truck, to factories, to fork – there's a whole political economy. I'm waiting to see not just the unions, but also the environmental movement, go beyond the proposal of policies to make the changes happen. We've seen a little of that, but not much – and we do have the places and the spaces to do so. There are things we can bargain, and also ways we can bargain. We developed this in Australia, and it works almost everywhere: 1) What are you negotiating to demand the employer to do?; 2) What are you prepared to do jointly with the employer (create a joint commission in which you and the employer oversee a whole range of things, e.g., the heating plant, etc.); 3) What you will negotiate into your collective agreement to have the employer do for your members as citizens in civil society? Free metro passes, for example. Hotel workers in Toronto have negotiated that for their workers; 4) We as a union are going to educate our members as part of our collective bargaining responsibility. That's new. We take on the education. It goes through every sector, and that could be part of the green plan. These are the ways you can bargain, and they are doable.

How does it compare to other countries? The European unions are way ahead. They've been on social partnership for years. They have a tripartite hold that works against conservative governments. For example, there was a partnership to create cleaner steel. The Green Workplaces project in the UK is something I would love to borrow for here. There are between 300-350 companies building relationships workplace by workplace to green, consult and negotiate. That's a model I would like to see us get involved with. It's workplace based, but it's Trade Union Congress enabled. There are lots of other examples as well. Codetermi-

nation in Germany will do something like this too. Codetermination gives unions enormous research capacity. Board fees pay for research centers, when union members sit on company boards. The fees do not go into their pockets, but into this. European unions, when they have money – and the Quebec unions do this too – put money into research so that when they go to the table or into the strike, they have backup. And we have never done that here, nor do I see the climate for it now.

Compared to what we do vis-à-vis the government, you might ask why Canadians who are concerned about the environment continue to reelect a government which is the pariah of the Western world, although it's about to be joined by Australia.

CR: The reality is that people working in environmentally destructive industries like the oil and mining industries in Canada are working these jobs because they earn them money. How can we get these workers to care about environmental responsibility when they have a pay cheque to think about?

CLM: We can ask the same question in many places. If you have chronically poor communities, in the Maritimes or in the Atlantic provinces for example, they're going to migrate. I've been talking with a group that is looking at an alternative skills training program. My thought is that you create regional instead of provincial labour markets, because then you may at least keep them somewhere in the Atlantic. Well before we got into climate change, there was a skills training problem: we never solved it, and we keep asking the same questions 20 years later. There is a dilemma of personal need.

I think that we often forget in universities that everybody doesn't have the range of choices that we do. For example, if you come from an outpost, if you come from a fishing community where fish are gone, your choices are made in function of a lot of pressures. If we stay students for a long time (as I did), then you can underestimate the perception of no choice. I would only be contacting these workers through their union. Coming from the outside in some industries never works. Above all, we have a number of things that are not climate but that are linked and related. For example, the Canadian government's scandalous negligence: piping, or rail carrying of the oil sands, the lack of rail standards, and the dangers attached to them, etc. All kinds of people who work in those and other kinds of industries can gather around that. Gathering around issues that are not climate change in the workplace, but are envi-

ronmental so that the links may also happen elsewhere the community. That doesn't take you to a practice – the idea of green plans or environmentally responsible charter for workers in their workplaces. Those are places that we can't go to from the outside.

In *Climate@Work* we write about what we are doing with unions and what unions are doing in the workplace⁴. In some ways it's not part of our academic writing. I think when we cluster stories better that may happen. But it's a different kind of work for us.

CR: There have been a lot of grassroots responses to environmental devastation and climate change in Canada. For example, the anti-fracking movement in New Brunswick by Mi'kmaq warriors and the Elsipogtog First Nations in response to shale-gas exploration in the area, recently culminating in a massive blockade and the proclamation of a massive land reclamation. This is, of course, one example of environmental activism coming from First Nations and indigenous people in Canada. I was recently at my union's national convention (Canadian Union of Public Employees), where an emergency resolution was passed in support of the Elsipogtog First Nations. On a national level, with my union, it seems to have ended there.

CLM: CUPE has environment committees in 130 different locals. They're probably not doing "nothing". CUPE is very decentralized in this way. I always know that they're doing more than what I know about. We have something called a *Work and Climate Change Report*, which is a compendium of worldwide research – it comes out monthly, and it's free. It's a straight thing. You go to it if you want to know what is happening. You don't often find stuff about mobilization. It's geared for what it does, which is gather people who you could otherwise never talk with and give them information and hope they use it. We work on a number of different levels and with several different goals inside this work.

CR: Can you talk about the connections between unions and grassroots movements? How do they compare, and how can they respond to climate change and environmental devastation in a meaningful way?

CLM: Different ways in different parts of the country. I would say by responding to environmental degradation. Given what we're getting out of the Harper government, concern about climate change has moved into

4 Carla Lipsig-Mummé, ed. (2013). *Climate@Work*. Halifax: Fernwood Publishing.

a larger concern about the environment as a dangerous thing because of the way the government deals with it. British Columbia would be far in advance of everyone else on this. British Columbia will say it's an unwritten rule that nobody goes forward anymore with an environmentally destructive plan if the First Nations don't want it. Across the whole country, I don't know what local links are made.

Local bargaining isn't happening really. We've got examples of things included in contracts – there are clauses, and there are more than we know. But there is not awareness that there is a lot out there. We know there's more than we know, but until we get a good search engine or even a federal system, we put it together bit by bit. What it means is, in terms of actual awareness, people pick up the spark and bring it home to their locals – and those are the things we'll be looking at with *Work in a Warming World* with another seven years of funding. I'd like to be moving into the local work sooner than that.

CR: So the work is something that is happening more at a local level than at the national level in unions?

CLM: When we've talked with people in packed rooms, few talked about what they were bargaining. They talked about what they were doing with their occupational health and safety committee, or talked about separate environment committees. But I didn't hear about bargaining in that room. That's the next step. In any place that it hasn't already started, they really have to be starting from the ground. Because quintessentially what we do in this country is we bargain from the local level. We can provide some of the material, the information; find out what they need to help. And it helps a lot that we have these good unions, and unions that are largely good in terms of listening to their locals and taking up the work of *Work in a Warming World*. In other words, they are taking up the work of *Work in a Warming World* and that helps too. But it's a long way to go.

CR: According to a Statistics Canada report from 2012, the percentage of workers in unionized positions is 31.2 percent compared to 33.8 percent in 1997.

CLM: How lucky we are that we only dropped 2 percent! But yes, precarious jobs are a killer in making any kind of unionized force.

CR: While union membership has grown in this period, there has been a greater growth of non-unionized jobs: precarious, temporary, part-time work. The major issue for a lot of these workers is job security. Additionally, the public sector has largely lost the right to collective bargaining. With the impending threat of “Right to Work” legislation, what are we to do? How can workers be integrated into struggles not only for better, secure jobs, but also for environmental protection and opposing climate change?

CLM: We do things that will sound very much reformist. We ensure the government that wants to do this is not in office again. But there is a whole active and confrontational life for unions, which somehow nationally has disappeared since 2000. The Canadian Labour Congress under Bob White was extraordinarily creative in not letting these things take root. Leadership, to some degree, matters. If nothing else, it matters if only in terms of despair or the willingness to fight. That willingness to fight – and I’m talking about climate bargaining at the local level and the mood of the labour movement as a whole – has been taking a giant step backwards; a step of resignation for a very long time. That needs to change. And that means getting involved with political parties that can stop the party that won’t. In other words, it needs a certain kind of reformist political action.

CR: Do you see a place for returning to the roots of the labour movement, which was built out of nothing, and out of militancy and illegitimacy?

CLM: It grew out of itself and out of the chances people took with their own lives and with the lives of others. Do I see it? I haven’t seen it yet. Labour as a social movement fought for the legal right to continue to represent and bargain. The price you pay to get the right to bargain is to lose the social movement. On the other hand, if we lose the right to bargain, we have to start right back again. Where do I see it coming from? I see it coming from workers. Fast food workers and minimum wage workers in the United States are doing quite spectacular work, and I don’t think we’re seeing that here. Now we’re not talking about climate. We’re talking about the simple role of the union as defender and an advancer of social rights and social power. In other words, we’re talking about something in which climate is only a part. I haven’t seen anything here that is like what the fast food workers in the United States are doing. And it’s not just them. The day labourers are enormously

organized in the United States. What we're talking about is: does the United States of the 1930s happen again? And the answer is: lose our basic rights and there are certainly people of several generations willing to fight back. That's *politique de la pire* – in other words, we will become radical if it gets a lot worse. I'm not hoping so; I'm hoping it gets better. But that's the only place I can see it coming from. If we're talking about union radicalism again, I think it will take us getting to a moment where we understand that we have everything and all to lose. Then I have a certain amount of faith in several generations for that fight back. But that means that it needs to get desperately worse, and it's hard to wish that.

Climate Change and Socialism: An interview with John Bellamy Foster

Steve da Silva

Steve da Silva¹ (SD): Over the last decade you have emerged as a leading thinker in synthesizing radical ecology with the Marxist tradition. From *Marx's Ecology* (2000) to *The Ecological Rift* (2010) and everything in between, you've carried out the much needed intellectual work of recovering the overlooked ecological content of Marx's original thought, presenting us with a side of Marx that many Marxists may have not been aware of. You have also developed a 21st century dialectical materialism, particularly as it pertains to ecology and the unprecedented ecological crises that confront our species and earth. Could you briefly summarize the ecological crises that we confront, perhaps by explaining the concept of the "metabolic rift" and the various "planetary boundaries" that capitalism threatens to surpass or has already surpassed?

John Bellamy Foster² (JBF): Scientists led by Johan Rockström of the Stockholm Resilience Center now refer to nine "planetary boundaries" defined by the Holocene geological epoch in which civilization arose. These nine boundaries, all of which we have crossed or are in the process of crossing, relate to: climate change, ocean acidification, the destruction

-
- 1 Steve da Silva is former PhD student who studied political economy and Canadian history in the Social and Political Thought program at York University. da Silva is a former editor of BASICS Community News Service, with which he remains people's journalist; an anti-imperialist activist within CUPE Local 3903, its First Nations Solidarity Working Group, and within the Canadian chapter of the International League of People's Struggles; and a young father within a fledgling Community Parenting Movement and its associated Parenting Coops.
 - 2 John Bellamy Foster is editor of Monthly Review and a Professor of Sociology at the University of Oregon. He is the author of *Marx's Ecology* (2000), *The Ecological Rift* (2010, with Brett Clark and Richard York); and *What Every Environmentalist Needs to Know About Capitalism* (2011, with Fred Magdoff) all published by Monthly Review Press. These texts and his frequent contributions to Monthly Review have made Foster one of the leading Marxist ecologists today, bridging the critique of capitalist political economy with a materialist understanding of the ecological crisis and the increasingly urgent argument for a revolution in social relations.

of the ozone layer, the loss of biological diversity (or species extinction), the disruption of the nitrogen and phosphorus cycles, the loss of land cover, the loss of fresh water, aerosol loading, and chemical pollution. We can see this as the development of various rifts in the biogeochemical cycles governing the earth system. The notion of a rift in the metabolism between nature and society (or in the universal metabolism of nature) goes back to Marx's *Capital*, where he constructed a theory of how the labour and production process under capitalism, which he defined as the metabolic interaction between human beings and nature, was disrupted by capitalist agriculture through the shipment of soil nutrients in the form of food and fiber to the cities where they could no longer be returned to the soil, and where they contributed to urban pollution. Marx's approach here, in which he introduced the concept of *social metabolism* and connected this to the earth metabolism anticipated the structure of all subsequent ecological systems theory and our understanding of ecological crisis. It is basically in such terms that science has come to understand our present global ecological predicament.

SD: A high-level climate change report came out in September 2013 from the United National Intergovernmental Panel on Climate Change (IPCC). What do you make of the findings in this report? Is the sense of urgency reflected in your work to be found there? Are the predictions and estimates you are framing in your work validated, downplayed, or challenged in this new IPCC report?

JBF: It think that the most important development in the new IPCC report as compared with previous ones is the establishment of a carbon budget based on the trillionth metric ton of actual carbon emissions, which marks the point of irreversible climate change associated with a 2° Celsius increase in average global warming. In *Monthly Review* we have been basing our analysis of the planetary emergency for the last three years on the carbon budget associated with the trillionth ton, using the same data. So this fits with how we have framed the problem in line with the scientific literature. At current rates of emission the carbon budget will be exhausted (the trillionth ton will be reached) somewhere around 2040 – so the urgency of finding a way of drastically reducing carbon emissions is very great. It is clear, especially given the short time span, that this cannot be accomplished by technological means alone, but will require conservation, changes in social relations, and the self-mobilization of the population. Kevin Anderson at the Tyndall Institute

for Climate Research says we need a moratorium on economic growth, something hard to think of in a capitalist society. Certainly, we need a revolution in our social priorities.

SD: I am curious if you have a sense of who has been more receptive to your work: radical environmentalists or Marxists, socialists, communists? Have you found it easier for radical environmentalists to embrace a dialectical materialist analysis and its historical socialist and communist conclusions, or for socialists and communists to apprehend the gravity of the ecological crisis and reorient their programs, strategic orientations, and concrete organizing accordingly? Also, do you think the chasm between class struggle militants and environmentalists is narrowing?

JBF: There has been a broad receptivity of all of these groups to the interpretation offered in my *Marx's Ecology* and Paul Burkett's *Marx and Nature*, and to what has come to be known as the *theory of metabolic rift*, drawn from Marx. The biggest remaining hurdle for Marxists has to do with the issue of the "dialectics of nature," of which there is a long-standing criticism within Western Marxism. It was argued, following Lukács' *History and Class Consciousness*, that the dialectic applied only to society, not to nature – a position that led Western Marxists largely to ignore natural science and external (non-human) nature. Lukács in his later work offered a way out of this dilemma, arguing that the key to a qualified, materialist dialectics of nature was to be found by following Marx's stress on the labor process as the metabolic interaction between nature and society. Thus Marx's concept of social metabolism is now recognized to be of fundamental ontological, epistemological, and ecological significance, promising a wider critical synthesis within Marxian theory. I have discussed this recently at a talk I have given in Stockholm on October 20, and this will be published in more complete form in the December 2013 issue of *Monthly Review* under the title "Marx and the Rift in the Universal Metabolism of Nature."

SD: Environmentalists and leftists aside, have you observed a shift in consciousness concerning ecological crises in recent years amongst people more broadly? Here in Canada, there has certainly been a growing awareness of the destruction wrought by Alberta's tar sands. This is translating into popular resistance that cuts across and bridges, uniting Indigenous and non-Indigenous people, which is a very posi-

tive development. From Hurricanes Katrina and Sandy to fracking, I'm wondering if you can describe the pulse of people's consciousness in the United States concerning ecological issues? Or, do the existing rising environmental currents reside within a NIMBY-istic framework?

JBF: I wrote an article entitled "The Fossil Fuels War" in the September 2013 *Monthly Review* that dealt with these issues. There are a lot of environmental activists who understand the necessity of blocking tar sands and other unconventional fossil fuels if we are going to have a chance of avoiding breaking the carbon budget. If we were to use all of the tar-sands oil in Alberta we would cross the point of irreversibility creating devastating conditions beyond our control. As a result there is a fierce battle taking place across North America to oppose the Keystone XL Pipeline. In Canada, the resistance is being led by Idle No More, arising out of the Indigenous communities, around which a larger alliance has developed. This is not simply a "Not in My Backyard" or NIMBY movement, but a real revolt – though one that has huge obstacles in front of it. People are already physically opposing the Keystone XL Pipeline in its critical southern leg.

SD: From the Bolivarian revolution in Latin America to the Arab Spring, have you any sense of the extent to which the mass movements and popular uprisings sweeping the world in recent years are developing a consciousness of "the ecological rift."

JBF: There are some indications of this. I believe that *La Via Campesina*, the international peasant's movement, has embraced the concept of the metabolic rift in some of their work. The Vice President of Bolivia, Álvaro García Linera, has drawn on Marx's metabolism concept in his discussion of ecological issues. Marx's notion of social metabolism has played a big role in intellectual discussions and movement activities in Venezuela and Brazil, mainly through the influence of István Mészáros's work. Samir Amin has been emphasizing Marx's distinction between wealth and value as part of an ecological argument that he has been advancing within the World Forum for Alternatives, based in Senegal. In China the metabolic rift concept is now central to discussions of ecological Marxism. How much these ideas have actually filtered down within the movements globally I don't really know. But the kind of theory we are talking about, which aims at a more synthetic view of material-ecological conditions, erasing the traditional distinctions between workplace and

environment, for example, is itself a reflection in part of the dire conditions we face and the convergence of economic and ecological crises in our time.

The fact that Marx's classical ecological critique is being rediscovered in this context does not alter the fact that the motivation for such analysis arises from the planetary emergency of our time, in which all that is solid in the material existence itself is seemingly melting away and people are at last forced to come face to face with the dire consequences and the contradictions of a whole epoch. It is hardly surprising that we are now seeing what may be the emergence of a new environmental working class worldwide, reminiscent of the early industrial revolution, where the struggles were equally based in factories and communities; and that this is part of what has contributed to the growing unrest in emerging economies such as Egypt, Brazil, Turkey, and China.

SD: The argument has been put forward in the new volume *Catastrophism* (2013) by Sasha Lilley and others that 'catastrophist' discourses are more harming than they are helping the Left. Certainly, the themes of the end times and apocalyptic scenarios are ubiquitous in the cultural apparatus of capitalist-imperialist North America – from the apocalypse genre in Hollywood to the increasingly dominant conspiracy theories being propagated by rightwing libertarianism – which suggests the use of catastrophist discourses as a reactionary ideological form. As dialectical materialists, how should we cut through the consciousness of defeatism, apathy, and helplessness that *Catastrophism* takes issue with without downplaying the actual ecological crises on the horizon?

Also, though you seem to have been spared the 'catastrophist' label in Lilley *et al.*, there seems to be an implicit critique of your form of presentation in their work. What do you make of their presentation of 'catastrophism' and their argument that catastrophe-mongering on the Left is a dead end strategy?

JBF: The right introduced the term "catastrophism" to attack the environmental movement and the scientific community. There is no such thing as catastrophism anywhere on the left, since this would be a contradiction in terms. The slogan of the Green Left in Australia is "System Change, Not Climate Change." It is the global scientific consensus that tells us that we are headed towards catastrophic developments on a planetary level *if we don't alter our relations with nature*. To deny this is to deny science itself, and reality as we know it. To argue, as the world

scientific community does, that we are facing a certain planetary disaster if we continue along the lines of *business as usual*, is merely to insist that the latter must change.

The small number of individuals on the left who have been saying lately that we have to avoid any kind of environmental “catastrophism” seem mostly to be people who are beginning to take the environmental problem seriously for the first time, and yet who are still reluctant to acknowledge the severity of the crisis – or for some reason would rather deny it. So their first reaction is to say that it is all exaggerated – or, alternatively, that telling people the truth in this area should be avoided, since they will then simply freeze and be unable to act. But what is really making it difficult for the population to act in response to this crisis is not the immobilizing force of so-called “catastrophism,” as has been lately suggested, but rather the power structure of capitalism itself, which is currently blocking at every level and by every means possible the necessary radical shift to a sustainable society.

I know of only one case on the left where I myself have been accused of falling prey to a mindless “catastrophism” and that is in an article, entitled “Transcending the Metabolic Rift,” that my friend Jason Moore wrote in the January 2011 issue of *The Journal of Peasant Studies*, where he wrote: “A theory of capitalism that identifies the convergence of rapidly explosive contradictions need not succumb to catastrophism. (A world that runs like a red thread through Foster’s work.)” I was quite bemused by this because I knew of no occasion over the years where I had used the word “catastrophism” – except of course to deny it recently in the face of such criticisms. In this sense I would draw a sharp line between talking about likely catastrophes if society continues to follow a certain course – *when the object is to change it* – and what is being called “catastrophism,” or a position that vacates all hope. I think it is incontrovertible that for the *first time in human history*, beginning in 1945 with Hiroshima, and since then with the disruption of the biogeochemical cycles of the earth, humanity has created the conditions for its own potential annihilation as a species – and certainly the destruction of civilization as we know it. This conclusion is one of the most startling discoveries of modern science. Nothing could be more opposed to historical materialism than to deny such conditions.

SD: The perennial challenge of socialist/communist strategy has always been to identify concrete struggles around which people can be rallied around on a progressive basis that moves them in the direction of confronting the broader social contradictions that make up capitalist-impe-

rialism. The challenge of rallying around “the ecological rift” seems to be the equally remote and seemingly intangible threat it poses. The incrementally minute changes year-over-year just don’t seem to convey the truly catastrophic consequences of moving beyond the “tipping points”. Where do you see the points of intervention being taken up or that have yet to be utilized for generating a stronger ecological consciousness?

JBF: I don’t think it is remote at all. This ecological rift is everywhere apparent today. Extreme weather events which science has traced to climate change are occurring all over the globe now. Water shortages, crop failures, destruction of forests, loss of biological diversity, global land grabs, are becoming ubiquitous realities. At the same time the system is searching more rapaciously for fossil fuels, leading to fracking, ultra-deep-sea oil drilling, exploitation of tar sands oil, etc. People’s lives are being affected in dire ways, and countless numbers of people across the globe are engaged in struggle. My argument is that the material conditions of the globe and the world economy are being undermined across the board creating the conditions for the emergence of an environmental working class and a broader, co-revolutionary struggle. The struggle is taking more rebellious forms, as one would expect, in the global South, but it must be universalized everywhere on the planet if we are to succeed. Marx’s concept of the metabolic rift is useful in this context because it helps us understand how this crisis is structurally related to capitalism itself.

SD: My final question concerns the capacity of generalized international monopoly capitalism to meet the looming crises in a manner than strengthens its system. You address the rise in the exploitation of unconventional oil sources in *Monthly Review* November 2013, a course of action that is hurling us even more rapidly off the “carbon cliff” and that is ultimately unsustainable. But what about nuclear energy? Capitalism can’t escape the second law of thermodynamics, which states that energy in the universe proceeds in one direction from low to high entropy, but it does seem intent on trying to tap energy sources at a whole new level. What are the possibilities and risks associated with nuclear? Is this the site of capitalism’s next “technological fix”?

JBF: Nuclear energy has been promoted by some climate scientists as a partial solution to the carbon problem. In the past I have called all attempts to go in this direction a Faustian bargain. To go in this direction

would be to seal our doom. One is reminded of the sign at the entrance to hell in Dante's *Inferno*: "Abandon every hope, ye who enter here." But in truth nuclear energy is not really on the table anymore where carbon emissions are concerned. It takes a long time to build and put into operation new nuclear power plants, they are notoriously expensive, and they raise all sorts of security issues. Can one really imagine the global expansion tenfold of nuclear power throughout the world? The simple truth is that there is simply not enough time to go in that direction, if we are trying to avoid breaking the carbon budget. The only real answers are alternative, non-carbon, energies coupled with conservation on a huge scale, requiring the transformation of social relations. Of course, capitalism is not going to go in this direction. Its last-ditch attempt at a "technological fix" is more likely to proceed along planetary geoengineering lines. One is reminded that Marx and Engels in *The Communist Manifesto* invoked the Sorcerer's Apprentice when addressing capitalism. For those with any sanity left the only answer to our problems lies in an ecological and social revolution on a global scale. Humanity as a whole has to reenter history once again.

Reviews

Book Review

The Ecological Rift: Capitalism's War on the Earth

by John Bellamy Foster, Brett Clark and Richard York. New York: Monthly Review Press, 2010. \$17.95 U.S., paper. ISBN-13: 978-1-58367-218-1. Pages 1-544.

The Politics of Climate Change

second edition, by Anthony Giddens. Cambridge, London: Polity Press, 2011. \$ 21.95 CDN., paper. ISBN: 978-0-7456-5515-4. Pages: 1-256

Reviewed by Samantha Wilson¹

The maintenance of an earth system in which humanity can safely exist hangs in a delicate balance. Recent evidence suggests that society has exceeded the regenerative capacity of the planet by 30 percent (Foster, Clark and York, p.18). What's more, if we continue down this path we risk irreversible environmental damage which stands to threaten humanity and the biodiversity of future generations. Despite increasing precariousness of our social and natural environments, governments in advanced capitalist countries have yet to implement policies which adequately address the climate crisis. The Harper Conservatives' cancellation of the Kyoto Protocol is just one example of this. This raises a few important questions: what policies can adequately address the severity of the climate crisis? What is required to bring about a more egalitarian and sustainable society? In this review I will compare and contrast two recent contributions that address the above questions: *The Ecological Rift: Capitalism's War on the Earth* by John Bellamy Foster, Brett Clark and Richard York, and *The Politics of Climate Change* by Anthony Giddens. For reasons that will be explored, I contend that the arguments made by Foster et al., provide not only a stronger analysis of the climate crisis but proposes stronger remedies for rectifying ongoing ecological degradation.

At the core of *The Ecological Rift* is an analysis of the fundamentally antagonistic relationship between capitalism and the environment. The authors explore "various radical ecologies that challenge the treadmill of

1 Samantha Wilson is an independent researcher with interests in critical political economy, feminism and environmentalism.

capitalist accumulation, with the object of generating a new relation to the earth" (Foster, Clark and York, p.8). Foster et al., argue that humanity has become alienated from its natural environment. Drawing on Marx's ecology, they argue that the separation of one's inorganic from organic nature poses a serious threat to both the basis of life and society as a whole. Foster, Clark and York make the case that, despite the severity of the environmental crisis, mainstream social science has become all the more removed from radical, even critical approaches that might offer substantive alternatives. Rather, in their view, much environmental social science is premised on what they refer to as 'ecological modernization'. This approach champions technological fixes and market-based solutions as providing a way out of the crisis, rather than addressing the structural and systemic roots of capitalism – that is to say, unequal forces and relations of production. Foster et al., stress that the ecological and social crises humanity faces are one and the same. In their view, a solution to the ecological rift will necessarily require an anti-capitalist project: one that transcends "a society based in class, inequality, and acquisition without end" (Foster, Clark and York, p.47).

Foster, Clark and York argue that cut-throat competition and the quest for capital valorization necessarily exploits the natural environment resulting in the undermining of the world's ecosystems. They counter orthodox economists which contend that market-based mechanisms, including complex financial instruments and potentially catastrophic technological fixes (e.g. nuclear power) will result in a more sustainable capitalism. Rather, the authors explore various paradoxes which lie at the root of capitalist development. They illustrate this, for example, by way of a discussion of the Jevons Paradox. It was William Stanley Jevons' contention that increased efficiency in coal use would not - as had been assumed - lead to decreased demand "because improvement in efficiency led to further economic expansion" (Foster, Clark and York, p.171). This is, of course, contradictory to the assertions of ecological modernists who champion sustainable technologies as the key to dealing with the climate crisis. And this is where the work of Foster et al. contrasts most sharply with that of Giddens.

Rather than challenge the structural and institutional shortcomings of capitalism, Giddens' so-called "realist" approach contends that we must work within the capitalist system and established institutions in hopes of alleviating climate change. In his view the primary agent of change must be the state, which would provide the legal parameters and institutional configurations through which technological advancements

and market outcomes could be based. A key theme throughout Giddens' work is the centrality of the state in mitigating climate change. Giddens argues that the state must "act to counter business interests which seek to block climate change initiatives" (Giddens, p.93). He proposes that the state and capital work together to promote more sustainable development. In my view, however, such a contention is not only idealistic but naïve. Not only does this fail to recognize the role of the state in capitalist societies as the superintendent of capitalism but incorrectly assumes that the state's role is to act as the neutral guarantor of the public good.² Rather, the primary role of capitalist states is to facilitate capital accumulation and to legitimize unequal class relations. Thus it is difficult to envision how states might *counter* business interests rather than extend and deepen them, often at the expense of both the public good and environment. Moreover, *The Politics of Climate Change* suffers from what are irreconcilable contradictions. If it is true, as Giddens argues referring to the Keynesian era, that "...centralized planning of the economy, supposed to overcome the irrationalities of capitalism, proved quite unable to cope with the complexities of a developed economic system" (Giddens, p.95), how is such a view reconciled with his state-centric solution to the climate crisis? Like Giddens' confused understanding of the role of the state in capitalist societies, far from challenging the vested power of capital and the anti-democratic institutions through which they prowl the world looking for profit making opportunities, the prescribed solutions fall far short of what is actually needed.

Not only is a return to a pristine era of so-called state regulations on capital not possible but the era of neoliberalism has worked to thoroughly embed market compulsions into the overall architecture of society. Indeed, throughout his analysis, Giddens reveals himself to be a great apologist for the capitalist system seeking to justify a market-oriented approach to climate change rather than challenge it. Giddens (p.213) contends that the only solution to the climate crisis lies in further economic growth on a large scale. But unlike Foster et al., he does not envision economic development of an alternative kind, one where the means of production are held in common and ecological sustainability are placed front and centre. It is this apparent contradiction – that between capitalist development and environmental degradation – that is missing throughout *The Politics of Climate Change*. In line with Foster et

2 For an expansion of this argument see the important study by Panitch, L. and S. Gindin. (2012). *The Making of Global Capitalism: The Political Economy of American Empire*. London: Verso.

al., only a radical, socialist-inspired alternative to the climate crisis may offer a way out of the crisis that is capitalism.

In sum, Giddens' *The Politics of Climate Change* falls disappointingly in line with what Foster et al., earlier referred to as the school of 'ecological modernization'. Meaningful social change will not derive from technological fixes or a cult-like belief in the infallibility of market mechanisms. Giddens ignores this reality, while Foster, Clark and York attempt to uncover the cause of the climate crisis: capitalism. The continuation of business as usual represents a significant threat to the livelihood of future generations. As such, an alternative anti-capitalist project is of the utmost necessity. This is undoubtedly a great challenge, but it is certainly feasible as the daily struggles of countless millions around the world can attest to.

Book Review

Revolution at Point Zero: Housework, Reproduction, and Feminist Struggle

by Silvia Federici. Oakland, California: PM Press, 2012. \$15.95 US, paper. ISBN: 978-1-60486-333-8. Pages: 1-188.

*Reviewed by Danielle DiNovelli-Lang¹
Carleton University*

Revolution at Point Zero is a collection of twelve important essays (plus a preface and introduction) by the Marxist-feminist political theorist Silvia Federici. As a collection, it is remarkable for its combination of historical breadth – the earliest essay was originally published in 1975, and the latest in 2011 – and sustained engagement with the topic of reproductive labor. Reproductive labor is not just the book’s organizing theme; it emerges through the process of reading Federici’s essays in sequence as the political problem that manifestly joins what would otherwise appear to be very different historical conditions of struggle, from the Wages for Housework campaign in the ‘70s to the anti-globalization movements of the *fin de siècle*. It is, as Federici affirms in the preface, “the work in which the contradictions inherent in ‘alienated labor’ are most explosive, which is why it is the *ground zero* for revolutionary practice, even if it is not the only ground zero,” (2012, p. 2, emphasis in the original).

Federici’s concept of reproductive work (or labour) is maximally inclusive without ever seeming to be imprecise. It includes everything that goes into the reproduction of labour-power, that is, of human beings, from the constitutively unwaged labour of motherhood, to subsistence agriculture, to the grossly underpaid services of personal care workers. It excludes, by definition, the so-called productive labour of commodity production that generates surplus value for capital at the expense of the worker. Still, because this latter expense is measured in the difference between what the working class requires to reproduce itself and what it is capable of producing, reproductive and productive labour are inextricably linked, even as they are constantly opposed by the movement of capital. This is important because it clarifies Federici’s relationship to

1 Danielle DiNovelli-Lang is an Assistant Professor of Anthropology at Carleton University in Ottawa, Ontario. She can be reached at danielle_dinovelli@carleton.ca

orthodox Marxism: While insisting that the exploitation of women, and others, cannot be understood or combated independently of the material conditions of production required and generated by global capitalism, she is equally insistent that global capitalism cannot be understood or overthrown without acknowledging the enormous surplus and critical significance generated by unpaid labour in the sphere of reproduction.

It is this crucial expansion of the revolutionary dialectic to include as central those forms and aspects of life that are disingenuously externalized by capitalist production – cooking, childrearing, gardening, subsistence farming, as well as the life-giving capacities of nature itself – that enables a book whose theoretical underpinnings were born in the feminist struggles of the 1970s to feel so timely in the contemporary context of intensifying neoliberalism. Armed with the understanding that reproductive work is absolutely essential to the functioning not only of capitalism but of whatever social system we may decide to put in its place, and that it is therefore revolutionary, Federici is able to explain why so many contemporary anti-capitalist mobilizations ...

... have not been fought only or primarily by waged industrial workers, Marx's projected revolutionary subjects, but have been fought by rural, indigenous, anticolonial, antiapartheid, feminist movements. Today as well, they are fought by subsistence farmers, urban squatters, as well as industrial workers in Africa, India, Latin America and China. Most importantly, these struggles are fought by women who, against all odds, are reproducing their families regardless of the value the market places on their lives, valorizing their existence, reproducing them for their own sake, even when the capitalists declare their uselessness as labor power (p.92-93).

What unites these struggles is that they are all waged not only against capitalism but also in defense of the alternative sphere of reproduction and, implicitly, a mode of production that would be subordinate to that sphere rather than the other way around. Otherwise, they are all very different, and herein lies Federici's most crucial contribution to the discussion of revolutionary subjects and subjectivities, most clearly articulated in the 2008 essay, "The Reproduction of Labor Power in the Global Economy and the Unfinished Feminist Revolution," quoted above: By dismantling Marxist claims that capitalism has a progressive character (p.92) Federici frees us from the expectation that the revolution must come "after" it.

In the case of the five essays written during the Wages for Housework campaign, this means that, "you don't need to enter a factory to be part of a working class organization" (p.38). In the case of the six anti-

globalization essays written much later, it means that the historically continuous attack on subsistence, whether this be the expropriation of peasants in Europe and Asia, women gardeners in Africa and inner-city North America, or indigenous people everywhere, is fundamentally an attack on these subjects' revolutionary ability "to resist a more intense exploitation," (p.86). In other words, our capacity to resist capitalism from the outside just as much as our capacity to revolt against it from within both rely on our ability – contingent on our control of the means of subsistence in time (reproductive labor) and space (land) – to be different from it. This perspective dismantles the prevalent supposition that the anticolonial struggle for territory and workers' struggle for higher wages are constitutively opposed. It also dispenses with the attractive illusion, made prominent by the writings of Hardt and Negri², that the disappearance of autonomous localities in the face of globalization could ever engender, never mind sustain, a revolutionary uprising (Federici 2012, p.142).

I should add that the essays in *Revolution at Point Zero* could absolutely be read independently of each other, as precise analyses of specific political situations. The essay, "On Elder Care Work and the Limits of Marxism," for instance, is a particularly compelling analysis of an under-theorized crisis of our time, while the final essay, "Feminism and the Politics of the Common in an Era of Primitive Accumulation," articulates Federici's relationship to important contemporary debates about common property and neoliberalism's new enclosures. To read them this way is to read them as a student or a scholar, which is good and valuable enough. But to read them all is to read them as a subject of history, compelled by capital and invited in solidarity, which is much better.

2 Hardt, Michael and Antonio Negri. 2004. *Multitude*. Cambridge: Harvard University Press; 2000. *Empire*. Cambridge: Harvard University Press.

Book Review

False Positive: Private Profit in Canada's Medical Laboratories

by Ross Sutherland. Black Point, Nova Scotia and Winnipeg, Manitoba: Fernwood Publishing, 2011. \$17.95 Cdn., paper. ISBN:978-1-55266-409-4. Pages: 1-135.

*Reviewed by Deborah Komarnisky¹
Carleton University*

Ross Sutherland provides an intriguing argument exploring the relationship between the use of private for-profit medical laboratories and the erosion of universal access to health care in Canada. Sutherland questions whether the principle of universality is still a cornerstone in Canada's health care system and whether patient care suffers due to the self-interest of private capital. This book is of interest to anyone concerned about current health care funding and the debates on the privatization of health care in Canada.

Sutherland worked as a home care nurse in eastern Ontario. He was part of a home care team that administered intravenous antibiotics to patients. Sutherland had daily encounters with private for-profit medical laboratories and found troubling trends within the health care system. Private and public health clinics and physicians contract medical laboratory services to private for-profit medical laboratory. The private for-profit medical laboratory receives payment for each sample it tests. Tests are performed on a large scale with samples being shipped from various regions to a central location. Throughout the book the author argues that private for-profit medical laboratories have infiltrated Canada's health care system. The private for-profit medical laboratories have taken over publicly funded non-profit private and public community based medical laboratories.

Sutherland argues that there are three main private for-profit medical laboratories, namely LifeLab (formally known as MDS), Canadian Medical Laboratories (CML) and Gamma-Dynacare (a subsidiary of Laboratory Corporation of America). Private non-profit medical clinics send samples for testing at what the private for-profit medical labora-

1 Deborah Komarnisky is a MA Candidate at the Department of Law and Legal Studies at Carleton University.

tories deem as more affordable rates than rates charged by public non-profit medical laboratories. Blood, tissues and other biological samples are collected at local specimen centres or as Sutherland labelled them as “bleeding centres.” Next, samples are transported to another location for testing and analysis. Once results are available, the results are transmitted to the treating physician who then review the results and transmits them to the patient with treatment options. Many of the private for-profit laboratories send blood, tissue and other biological samples to a central location for testing and analysis. Transporting the collected samples to a central testing and analyzing location can result in time delays in testing, analysis and, ultimately, treatment for patients.

Private for-profit laboratories work on volume – the testing and analysis is done at a single location so that the for-profit laboratory only has to hire limited technicians. Samples from the different local specimen centres are all shipped to a single centre. The faster samples can be tested and results analyzed, the faster the private for-profit laboratory will be paid. More complicated tests or tests that are less common are not seen as profitable. This delays results and places patient care in jeopardy.

Sutherland frames his argument by considering the historical development of private for-profit medical laboratories in Ontario and throughout Canada. Sutherland argues that the private for-profit medical laboratories are one trend in a greater erosion of the public non-profit medical system in Canada. Sutherland continues developing his argument by considering the current use of private for-profit medical laboratories. This shift is seen as indicative of a greater shift in the development of global capital markets and the rise of neo-liberalism. Are private for-profit medical laboratories regulated? Are private for-profit medical laboratories inspected by Health Canada or through each Province? The development of private for-profit medical laboratories shows the evolution of the private for-profit medical care system. The democratic nature and universality of the health care system is in jeopardy. Sutherland argues that the democratic health care system ensures access for all Canadians and ensures services are provided universally throughout Canada. Access to timely medical testing is important to ensure proper medications are given to patients. Improper dosage of medications or improper type of medication given to a patient can have dire, and even fatal, consequences for patients.

Canada’s notion of universality is successfully challenged by Sutherland. Sutherland also challenges whether Canadians have equal access to medical care and through the use of private for-profit medical labo-

ratories. Sutherland presents the notion that a democratic public health care system ensures that testing is done in a timely fashion and patient care is of paramount importance. A question to consider is whether the health care of Canadians is being compromised by the use of for-profit medical laboratories operating in conjunction with private non-profit health care clinics and public health care clinics. Sutherland maintains that the exclusive use of public non-profit organizations is the best way to increase access to medical care, control costs incurred by private for-profit medical care, integrate services, improve quality of healthcare and enhance the democratic control of health care in Canada. The question of whether governmental regulation of health care can monitor private for-profit laboratories must be considered when determining the direction of the future of Canada's health care system. Sutherland advocates that the social principle of universality cannot be compromised by the lure of profits in health care policy and regulation in Canada. Sutherland suggests that the healthcare system in Canada has shifted from a democratic patient-centric system to a profit driven neo-liberal system.

Sutherland leaves us with the question of whether Canada's public health care system can truly be universal if private for-profit medical laboratories are operating and controlling the testing of medical samples across Canada. Sutherland convincingly advocates that fee-for-service for laboratory services be ended and that Canada's health care system be transformed into a fully integrated public-non-profit system guaranteeing universal access to health care for all Canadians.

Book Review

El diario del Che en Bolivia

by Ernesto Che Guevara. Adys Cupull and Froilan Gonzalez, eds. Havana, Cuba: Editora Política, 2006. Price N/A, paper. ISBN 959-01-0714-1. Pages 1–428.

*Reviewed by Gabrielle Etcheverry¹
Carleton University*

The diary of Che in Bolivia was written by Ernesto “Che” Guevara during his 1966–67 revolutionary campaign in that country. Although it is most likely that Guevara did not intend for his diary to be widely read, it was soon published and circulated in the United States and Cuba after its discovery following his death. This recent Spanish-language edition of the Bolivian diary provides new materials, such as photos, maps and paratexts as a means to further understand the conditions Che encountered, thus expanding on the information available in previous editions. It is also dedicated by Fidel Castro to graduating university students in Cuba with the hope that this “moving book” will aid in their continuing formation as “citizens inspired by Che’s example” (my translation), indicating that Che’s diary has become a crucial text inside and outside of that country.

Being the first press to publish the complete diary in any language in 1987² (the first editions published in Cuba and the United States in 1968 lacked thirteen entries), Editora Política has here provided additional information such as a farewell letter from Che to Fidel in which he renounces his political posts in Cuba to undertake the mission in Bolivia (p.xxix). Also provided are photos of the fake Uruguayan passport that Che used to enter Bolivia disguised as Adolfo Mena González, fake immunization records, and his letters of reference from Bolivian officials introducing him as a special envoy from the Organization of American States in Bolivia to research social and economic relations in the countryside (p.xxxi–xxxvi). Maps of the routes taken by Che from La Paz to Lagunillas and Ñacahuasú, and the shorter routes he and the other *guerrilleros* took during the time-span recorded in the diary have

1 Gabrielle Etcheverry is a PhD candidate at the Department of Canadian Studies, Carleton University.

2 Walters, Mary-Alice, ed. 1994. “Introduction” in *The Bolivarian Diary of Ernesto Che Guevara by Ernesto Che Guevara*. New York: Pathfinder. p.44

also been added. Photos of local roads, scenery, flora and fauna, such as tapirs, llamas, turkeys, and the kinds of fish Che describes catching for dinner in one of his entries are included throughout along with photos of some of the key towns and surrounding areas his group would have crossed on their journey.

Like other editions of the diary, the book begins with Fidel Castro's "Una introducción necesaria" [A necessary introduction], here titled "Nota al lector" [Note to the reader], which provides a context for the political and military challenges faced by Che and his cadre in the period covered by the diary (November 7, 1966 to October 7, 1967). Some of this context includes difficulties Guevara had with "pseudo revolutionary" (p.xvii) leaders such as Mario Monje Molina of the Communist Party of Bolivia (PCB) and Che's vision of the revolution in Bolivia extending to the rest of Latin America (p.xviii). According to Castro, he saw the greater project of international socialism spreading from Latin America to Africa, South East Asia and even the United States (p.xix) – information largely confirmed in Che's farewell letter. The editors have also included a transcript of the speech Fidel gave at Guevara's wake, here titled "Un modelo de revolucionario" [A model revolutionary] after the final entry in the diary. The diary entries have been extended by inserting text from Castro's introduction in the dates that Che was captured by the Bolivian military and then executed (October 7 to 9). While this helps mark the days between these two events, the addition of this text seems out of place as "entries" in a personal diary.

Guevara's generally short notes provide small glimpses of the physical and psychological conditions he and the other forty or so rotating *guerrilleros* encountered. The main activity in the early days included making camp and digging tunnels for hiding food and "compromising" materials while they waited for more of his trusted reinforcements to arrive from Cuba. As more of his men arrived and Bolivian nationals began to join the group, Che also noted which members of the group seemed more tired, lackluster, committed or efficient; which locals could be trusted and which could not, as well as how the men perceived (and interacted with) each other. Guevara also noted the physical discomfort they experienced, such as the numbers and types of insect bites they suffered, the scarcity of food and water in the final days of their campaign, and his own failing health. As can be imagined, some of the more riveting diary entries describe details of their battles with the Bolivian military in the deep countryside and the tense moments between ambushes.

Some of the more interesting moments Guevara recorded were how the group coalesced and changed throughout the eleven months covered in the diary. This edition provides the reader with some useful background information such as photos and brief biographical sketches (p.405–425) of many of the people who worked with him in his last campaign, including Juan Vitalio Acuña Núñez (Joaquin) from Cuba, Che's second in command, and Guido Alvaro Peredo Leigue (Inti), a Bolivian *guerrillero* trained in Cuba and member of the PCB who stayed with Che after Monje withdrew his support. Of the forty people from Cuba, Bolivia and Peru listed at the end of the book, only three survived, lending a dose of sobriety to the call of *¡Hasta la victoria, siempre!*.

Some of the photos provided in this edition may seem banal at first glance, particularly for readers who may already be familiar with the Bolivian countryside. Nevertheless, it is these commonplace details that help ground the reader in the real drama recounted in his daily entries – the day-to-day survival in difficult conditions and the (sometimes flagging) will and discipline required by all the members of his group. The photos and biographical information on the fighters who joined him are a particularly welcome addition to the diary after so many years. Whether one reads the diary as a manual for guerrilla subterfuge and warfare, as a historical document or a testament to the final days of a (glorious or misbegotten) revolutionary struggle, these everyday details help readers to distinguish the man from the myth and provide a valuable addition to what we already know of his final days.

Book Review

Don't Leave Your Friends Behind: Concrete Ways to Support Families in Social Justice Movements and Communities

by Victoria Law, China Martens (Eds.). Oakland, California: PM Press, 2012. \$17.95 US, paper. ISBN: 978-1-60486-396-3. Pages: 1-234.

*Reviewed by Kevin Partridge¹
Carleton University*

Don't Leave Your Friends Behind is a book that arises from the practices of anti-oppression activists largely based in the United States. The contributors to this book are arguing that parents and children need to be central to movements for social change and not relegated to the periphery. It is focused on experiences of inclusion and exclusion of families from activist practices. These practices - rallies, marches, protests - are often understood to be the activities of primarily young, able-bodied and economically independent individuals who have time and flexibility to attend and organize such events. This book offers thoughts and stories from people who are trying to create more inclusive spaces within an economic and social system they oppose as well as within the movements that are aligned with their opposition. Raising children is posited as a necessary foundation for social change and a valuable source of energy and inspiration for organizations that advocate for this change. The social reproduction that occurs through the act of bringing new people into the world and socializing them as they mature is seen here as an inherently political act. The authors put forward different methods for including children and their caregivers within groups that advocate for social change.

The editors of this book intend that it be used as a resource for people within activist communities and particularly for those who are intent on creating non-hierarchical structures they hope can and will supplant the

1 Kevin Partridge is a PhD candidate at the Department of Sociology and Anthropology, Carleton University. His doctoral research focuses on alternative constructions of genders and masculinities. He completed his Master of Arts at Simon Fraser University exploring women in the Vancouver punk scene of the 1980s. He can be reached at kevin.partridge@carleton.ca

dominant structures, both economic and social, that they identify as the root cause of oppression. One of the primary means of oppression they oppose is to exclude people who are identified as 'lesser' or 'othered' by characteristics such as ability, appearance, wealth and age. They identify children and their caregivers as being a group that is not only excluded from positions of self-determination by dominant social forces but also within movements that do progressive work. They are concerned about the absence of spaces for children and the problems of providing childcare amongst social justice groups. Changes must be made to allow both parents and children to be a part of the political work around which these groups are organized. This book also serves as a reflection and expression of the many challenges of the 'behind-the-protests' work of political organizing amongst and inside activist communities.

It covers a broad range of different groups with over fifty short essays written by a variety of activists mostly based in the US, with a few additional voices from Canada and the UK. The different narratives are organized in seven chapters. The editors of the book arrange the chapters so that they progress from descriptions of the many problems that people encounter when they are involved in social justice groups towards possible solutions to these problems. This allows the book to provide an outline of a broadly unifying project that can be applied in many different spaces. This structure is designed to motivate readers to look towards solutions that include as many activists as possible rather than dwell on differences and difficulties. Each chapter features a number of independent essays that differ in style, focus and even language. One chapter on transformative justice and childcare is presented in a graphic narrative form. Several chapters contain a mix of English and Spanish that reflects the specific and dominant US context of much of the book. The benefit of this format is that there are likely to be specific chapters that appeal to many potential readers of the book. This matches the intent of the editors that the book be useful to diverse people who can pick out certain contributions that are helpful in their specific situations and ignore or browse those that are not relevant. The drawback to this format is that the book does not have a clear overall analysis or argument.

Consequently, although the editors have tried to slot these various works into a broader schema, there is a great deal of crossover, complexity and even contradictions between the various pieces. Given the variety of political analyses referenced within the book, it is not a surprise that it is difficult to discern any broad conclusions. The book could have greatly benefited from some editorial material that added a greater

understanding of the context of the many disparate chapters. It seems to offer an implicit critique of certain social justice 'movements' without much analysis of why these problems exist and how they connect to the broader struggles in which they are located. While all the authors may be able to agree on the importance of an idea such as 'inclusivity', their experiences and analyses of exclusion and ideas for being inclusive vary considerably. This may be because there is a larger political focus on creating a community of diversity but this is not made very explicit within the book. Some of individual authors advocate anarchist, vegan, Christian, and/or feminist analyses that can all make interesting contributions to political thought but the book as a whole does not convey a cohesive political critique.

Readers who are not already engaged with these discussions and debates might find this lack of cohesion makes the book difficult to read as there are only a few framing remarks throughout the book. However, this format is helpful in showcasing many disparate approaches to social activism around children. For instance, there are chapters on schooling that advocate avoiding the public school system and others that describe different ways to navigate and advocate within public schools and in the interests of children and their caregivers. It is an excellent resource for those who may not have personal access to such a vibrant and wide-ranging political conversation and offers social researchers a set of intriguing and useful primary documents created by activists who are grappling with practical and specific aspects of organizing and building solidarity. This book allows access to debates that help shape the many different forms of social justice organizations and fuel the creative process that is required to positively resist oppression and fight for social change.

Book Review

Resistance Behind Bars: The Struggles of Incarcerated Women

second edition, by Victoria Law. Oakland, California: PM Press, 2012.

Reviewed by Rebecca Jaremko Bromwich¹
Carleton University

Victoria Law's book *Resistance Behind Bars: The Struggles of Incarcerated Women* is an account of the agency of women prisoners in the United States produced by an abolitionist scholar. *Resistance Behind Bars* compellingly challenges and goes a distance to remedy the frequent failures of prior studies to document or theorize the agencies and resistances of incarcerated women. The information offered in the book about the agency of woman prisoners is valuable in that it provides a window into the under-studied and woefully under-appreciated agency of women prisoners. With sensitivity to issues of race and class, the text documents individual resistance and collective organizing by women in the United States. The book discusses problems faced by women in prison such as sexual abuse, isolation from families and especially children and a lack of opportunities for work and education. The text then uniquely discusses active steps women in prison take to challenge and change their conditions, from the formation by women in prison of peer education groups, the clandestine making of arrangements for children to visit mothers to prison rebellions and uses of the media by woman prisoners in raising public awareness about their lives.

Probably the best thing about this book is that it is such an accessible read. The narrative is personal and engaging in its presentation of thorough research. As such it is likely to be accessible to – and read by – woman prisoners themselves as well as people not specifically trained in law, criminology or any related academic discipline. Clearly, the introduction from the second edition indicates that this has already begun to happen. Providing for these women a context, community and history for their own struggles is invaluable. The great strength of the

1 Rebecca Jaremko Bromwich is a PhD candidate at the Department of Law and Legal Studies, Carleton University. She has a B.A. (Hon.) in social/ cultural anthropology from the University of Calgary, an LL.B. and an LL.M. from Queen's and a Graduate Certificate in Women's, Gender and Sexuality Studies from the University of Cincinnati.

book is the distance it goes to develop for women prisoners “a commonly known history of resistance” (p.6).

The most obvious limitation of this book is its implicit American imperial hegemony. The subtitle of the book is *the struggles of incarcerated women* but there is no reference anywhere to women outside of the United States. The book only discusses conditions in certain states and makes at best passing reference to the possibility that a world outside the US even exists. I find this particularly jarring as a Canadian reader given that much of the research presented comes from New York State and Michigan, which of course border on Canada. Beyond the obvious geographical concerns here, a bigger danger of the book is that in seeking to present the struggles of incarcerated women as a unified resistance against an implicitly unitary prison industrial complex, it may miss the complexities and particularity of individual circumstances even within the systems it does describe.

Further, the very same things that are valuable about the book are also problematic when other audiences are considered. Law’s overarching goal in her writing is to advocate for the abolition of prisons. Law writes that she is working towards the “dismantling rather than reform of the prison system.” (p.ii) The passion and clear political commitment of the text that make it appealing for prisoners and advocates make it less likely to be read by policy-makers. Unfortunately, the expressed political commitment of the text makes it unlikely to be taken seriously, by many whose work impacts significantly on the day-to-day lives of women in prison. Corrections officers, prison psychologists, police, social workers, lawyers and students in those fields, whose present and future agencies have an effect on the day to day lives of woman prisoners – and whose actions can help humanize their conditions – are unlikely to read this book. This is not to say that the book falls short of its goals. Law says she is not advocating for “humanized prisons.” It is therefore no criticism of the work’s quality that the book certainly will not achieve that. I worry though that, instead of “galvanizing outside support for their struggles” (p.17), this text may help galvanize discursive forces that see incarcerated women as dangerous, incorrigible and in need of containment.

That the expressed ambit of the book not to advocate for prison reform is vexing for those of us who see the amelioration of conditions for women in prisons through systemic change as one part of a broader solution of reduced incarceration rates, social change and, yes, prison reform. This is therefore a troublesome and potentially alienating book for those who work in the prison industrial complex and strive to do

what they can as agents within that system. Resistance, after all, is possible and takes place within a range of social positions. Just as the lives of women incarcerated in the prison system are complex and particular, so too are the agencies of those working within the walls. It would be interesting to develop a companion volume to this text that documents the struggles of those agents in the justice system working in solidarity with prisoners, albeit on the other side of the bars, to improve conditions inside.

This book, therefore, achieves well, with the limitation of its American-centrism, its objective of building a discourse about the agency of women in prison. It tells stories about the actions and negotiations of power by people whose lives are woefully under-studied and misrepresented. The book, read by woman prisoners, is no doubt a source of inspiration and encouragement. Read by students and scholars, it can complicate over simplistic understandings of women in prison as victims or villains alone. As such, it makes an important contribution to study of women in prison.

Unfortunately, in my view, this contribution is limited in that rather than sparking a new conversation, it adds fuel to a polarized discourse. In our contemporary neoliberal climate, the political proponents, builders and beneficiaries of the prison-industrial complex are arguably in fact energized by precisely the kind of radical opposition by prison abolitionists offered by this book. Victoria Law succeeds elegantly in making her intended contribution to this discussion and the book is of great potential use for women in prisons themselves, but in my view this is not the primary sort of conversation Canadian policy-makers, and the public in general, need.

Book Review

What is Critical Social Research? Volume 1.

by Babak Fozooni. England: Upfront Publishing Ltd., 2012. \$13.50 US, paper. ISBN: 978-1780352794. Pages: 1-198.

*Reviewed by Mahnam A. Malamiry¹
Carleton University*

Babak Fozooni's book provides a genuine, provocative, and insightful opportunity to have in one book a number of previously published articles in the realms of cinema and Iranian social movements; the ideological politics behind encyclopedic discourses on fascism, and Engels; and critical social psychology.

Using such shock-and-awe titles as "Fuck Critical Psychology" and "Sand-Nigger Psychology", Fozooni intentionally disrupts the *status quo* as it relates to academic thought. This book, both amusing and very serious in its critical analysis, provides the reader with an opportunity to see the potential for social science research to contribute to the emancipation of the working classes. In the preface, Fozooni calls for the abolition of the university as a bourgeois institution so as to develop a new academic system that is pro-working class. His criticism of pre-modernist, modernist, and post-modernist theories is embedded within a broader Marxist analytical framework. He uses a variety of critical frameworks, including theorists Mikhail Bakhtin and Lev Vygotsky (p.56, 76), Karl Marx (p.132) and, to a lesser extent, Michel Foucault (p.90).

His article on "The Politics and Parables of Encyclopedias" examines the socio-political perspectives and assumptions between the *Encyclopedia Britannica*, *Encyclopedia of Marxism*, and *Wikipedia*. Such an analysis shows how sources of knowledge can be different in their authority and legitimacy, with a surprising conclusion that *Britannica*, due to its positivist epistemology, is the least intellectually trustworthy of the three (p.132). In further elaborating on his examination of the development of progressive social thought, Fozooni looks to the cinematic works of Magnus Hirschfeld and Abbas Kiarostami.

1 Mahnam A. Malamiry, M.A. Department of Law and Legal Studies, Carleton University. I am grateful to Babak Fozooni and Jerusa Ali for their comments and feedback on an earlier draft of this review.

In his work titled “Magnus Hirschfeld’s Contributions to Sexual Politics”, Fozooni examines the pioneering work of Hirschfeld on sexual politics and explores how the undermining of Hirschfeld during the Weimar Republic by liberals and social democrats paved the way for a full-scale attack by the Nazis after 1933. In a similar examination of cinema, “Debunking Kiarostami” provides an intimate and in-depth analysis of world-renowned Iranian filmmaker Abbas Kiarostami. This particular text provides a valuable means of contextualizing Kiarostami’s politics and philosophy, as well as demonstrating some of his limitations as a filmmaker and the liberal humanist core of his ideology (p.182).

In “Sand-Nigger Psychology: Towards a Critique of the Iranian Psy-Complex”, Fozooni engages with Nickolas Rose’s conception of the psy-complex. This complex is defined to be “a complex of discourses, practices, agents and techniques [...] which [provides] the basis for the generalization and development of *applied* and *clinical* psychology” in society at large (p.44). Fozooni interestingly points out the similarities between “fundamentalist” societies of the US and Iran. While the U.S. is more advanced in terms of wealth and geopolitical significance than Iran, the two states share similarities as they have officially sanctioned fundamentalist socio-political regimes for the governance of everyday life (p.57). Such an assemblage is said to perpetuate a bourgeoisie value system upon the proletariat especially through an authoritative regime that is regulating increasing divisions between the public-private divide, and values between religion and atheism (p.58). Fozooni takes an opportunity in “Cognitive Analytic Therapy” (CAT) to foreground the genuinely emancipatory Vygotskian and Bakhtinian aspects of CAT, especially for the working class (p.19-20). The next article shows how socio-political systems of governance dominate Iranian family and women.

In “Iranian Women and Football”, Fozooni explores how surplus value is extracted from the family as a means of development and application of the elite Mosque-Islamic regime in Iran. Women therefore come to labour under both cultural repression and economic exploitation (p.90). Fozooni’s theoretical framework for analyses in this article is interesting as it predominantly utilizes Marx, the Pankhursts’ family’s political heritage and Bakhtin, along with some secondary Foucauldian themes designed to elaborate on the link between family and the mosque as bio-power. Fozooni conceptualizes how social movements in Iran engage with and resist the dominant Islamic discourses of the ruling “bourgeois” elite, and in such a way are not much different than

other anti-oppressive social movements around the world (B. Fozooni, personal communication, April 16, 2013). Fozooni's ability for critiquing dominant, problematic academic discourses are shown in the next article.

"Fuck Critical Psychology!" shows how, as a confirmed speaker at a Critical Psychology conference, Fozooni abruptly changes his presentation in light of his experience during the conference lambasting critical psychology for having become too complacent in the politics of its analyses. Fozooni declared that critical psychology was no longer sufficiently representative of the oppressed working classes and thus insufficiently critical. He argues that so-called critical psychology actually perpetuates "bourgeois modes of organizing and communicating" (p.77). He attempts to theorize a radical 'Iranian' critical psychology so as to challenge the existing Iranian psy-complex (p.67-69). There are important methodological considerations, however, that bear further discussion.

Fozooni sparingly uses Foucauldian biopower theory. The reason for this, in his view, is because of the shortcomings and limitations of Foucauldian analyses to engage with non-Western socio-political systems of governance. Fozooni's theoretical frameworks for analysis are such that they provide a means of understanding Iranian social relations, an area that has been relatively under-researched in the critical social sciences. Fozooni utilizes Marxist and Bakhtinian theory as a means of having a more nuanced socio-political analysis of Iranian social movements that takes into account not just power relations in a normative, Foucauldian sense, but also classist challenges that are profoundly oppressive in the "fascist oriented" Islamic regime (B. Fozooni, personal communication, April 29, 2013). Fozooni predominantly utilizes Bakhtin, Vygotsky, and Marx to critically engage with socio-political systems of oppression in a way that addresses Foucauldian analysis's shortcomings.

Foucault's analysis misled him to believe that the Islamic revolution of 1979 would be the next evolutionary step in society, as a new "political spirituality" that could be beneficial not only for the Middle East but also for Europe. Foucault kept this belief until he realized, after the revolution, the significant levels of oppression and outright state-sanctioned deaths.² Foucault's inability to adequately engage with the socio-political context in the Middle East can be the result of his theories having developed out of European historical and socio-political norms.³

2 Afary, J., & Anderson, K. B. 2004. The Seductions of Islamism: Revisiting Foucault and the Iranian Revolution. *New Politics* 37(10) 1-10.

3 Beukes, J. 2009. Hamartia: Foucault and Iran 1978-1979 (1: Introduction and texts). *HTS Theological Studies*, 65(1) 1-15; See also Nichols, R. 2010. Postcolonial Studies and the Discourse of Foucault: Survey of a Field of Problematization. *Foucault Studies* 9 111-144. p.124

To transfer such a theoretical framework from its European origin into an Iranian realm, without any consideration for the differences that such a transposition brings, is an ineffective means of accurately understanding how socio-political governance occurs. Fozooni was aware of such Foucauldian limitations in his writing, and chose to utilize more of a Marxist-oriented critique in order to better understand the class struggle in Iran.

This book provides provocative opportunities to re-conceptualize the social sciences, psychology and cinema studies as a means of engagement with socio-political ideologies and Iranian relations. The ultimate goal is to foster the development of a critical theoretical framework for alternatives to existing forms of oppression. Persons interested in such themes will find this book very valuable.

Book Review

José Carlos Mariátegui: An Anthology

by Harry E. Vanden and Marc Becker, editors and translators. New York, NY: Monthly Review Press, 2011. \$29.95 US, paper. ISBN: 978-1-58367-245-7. Pages: 1-480.

Matthew Hawkins¹
Carleton University

José Carlos Mariátegui, the noted Peruvian Marxist activist and intellectual, wrote in 1925 that “each era wishes to have its own sense of the world” (p.386-387). To create a ‘sense of the world’ – achieved through a contextual and historical analysis of the contemporary reality – for Mariátegui is the opening for transforming the dominant social relations. Harry E. Vanden and Marc Becker in their introduction to the anthology put forward Mariátegui as an important non-dogmatic Marxist thinker worth our attention amidst unfolding global political and economic crises. As a major influence on Latin American heterodox approaches to Marxism as well as other critical intellectual trends including decolonialist, dependency, and liberation theology perspectives, Mariátegui has been an important reference for many movements and political actors from the region in their challenges to neoliberalism and global capitalism.

Mariátegui’s *Seven Interpretive Essays on Peruvian Reality* (first published as a collection in 1928), representing one of the first comprehensive Marxist text from a Latin American perspective, is an examination of the racial and class relations and the underlying vestiges of colonial feudalism in Peru’s political economy. Beyond this publication, much of Mariátegui’s writing appears in the form of short articles and essays that were printed in newspapers and popular critical journals, as well as printed discourses to unions and political organizations. Many of these texts, rarely translated into English, provide the basis for much of this anthology.

Mariátegui was born on June 14th, 1894 in Moquegua, Peru, a small southern provincial capital, and raised in a working-class household by his single-mother. He began a career in journalism at the Lima news-

1 Matthew Hawkins is a PhD candidate at the Department of Sociology and Anthropology, Carleton University.

paper *La Prensa* where he eventually began writing on high society, literature and art. In 1919, Mariátegui and César Falcón founded the political paper *La Razon*. Both Falcón and Mariátegui were exiled to Europe by the military government of Augusto Leguía in October 1919 for their radical and critical viewpoints. In the following four years, Mariátegui spent time in Barcelona, Paris and northern Italy where he was exposed to the revolutionary-focused writing of Georges Sorel and Italian critical thinkers in Turin and became a committed Marxist. Returning to Peru in 1923, he was invited to lecture at the Universidad Popular and interacted with organized labour in Lima. Mariátegui continued to be a target of surveillance and political imprisonment by the Leguía government, which exacerbated his already poor health. Mariátegui's intellectual endeavours increased in this period: he founded the socialist-focused journal *Amauta* – meaning “teacher” in Kichwa – in 1926, participated in the formation of the Partido Socialista del Peru (Socialist Party of Peru) in 1928, and published the *Seven Interpretative Essays* in the same year. Deteriorating health and ongoing political pressure encouraged Mariátegui to consider leaving Peru once again in 1930; Mariátegui died that year on April 15th from health complications that had persisted for most of his life.

One of Mariátegui's greatest contributions to a revolutionary Marxist perspective stems from his emphasis on mutual interactions of the working class and indigenous people as potentially creative producers of new social realities. Mariátegui argued that in Peru the “Indian Problem” – better understood he argues as the “Problem of Land” – emerged not from racial or cultural differences but the inequalities created by the colonial political economy and its particular vestiges left by an incomplete liberal revolution (p.69-115). Mariátegui noted the resistance and resilience of indigenous people throughout the colonial process: the history of indigenous struggles against colonialism (p.147) and the continued reproduction of alternative non-capitalist and non-feudalist relations of production in contemporary indigenous communities (p.97). Challenging Marxist scepticism of rural ‘peasantry’, Mariátegui encouraged the urban proletariat to form an engaged relationship with indigenous activists as equal participants in the revolutionary transformation of the Peruvian political economy (p.142; 239; 322). For Mariátegui, a socialist revolution only emerges by a process of creative and collective engagement of people acting with an understanding of their historical realities.

Vanden and Becker have selected and organized selections in the anthology into thematic categories including sections on indigenismo,

myth, imperialism, women, and Marxism and socialism – which is based on a large selection from Mariátegui's *Defence of Marxism*. Academics may find that Mariátegui's brief articles individually rarely achieve theoretical or conceptual depth. Through the organization of the anthology, however, each theme develops into a more holistic perspective demonstrating the Peruvian's complex and nuanced Marxist understanding. The trade off in this organization is that the chronological development of Mariátegui's thought is obscured. As an activist intellectual, Mariátegui's writing often responded to and engaged with particular historical moments and organizational relationships – particularly with other anti-imperialist movements in Peru and the developing influence of the Comintern in South America. A pragmatic intellectual engagement that responded to the immediate political situation underlined important parts of Mariátegui's thought. While reading this anthology the reader should reflect on the contextual development of his arguments.

Mariátegui's prose in rare moments suffers from the translation, which leads to awkward phrasing and the loss of some of the nuances. Unfortunately notes were not written by the translators to explain their difficulties and translation choices. In the context of exposing an English-reading audience to Mariátegui, however, the anthology is very readable and fairly precise.

In the 1928 *Anniversary and Balance Sheet* at the end of *Amauta's* second publication year Mariátegui wrote: "History is endurance. The isolated cry, no matter how large its echo, is not valid; the constant continual persistent sermon is what matters. Ideas that are perfect, absolute, abstract, indifferent to the facts, to changing and moving reality do not work; ideas that are germinal, concrete, dialectic, workable, rich in potential and capable of movement do" (p.127). Mariátegui is a powerful example of an engaged intellectual whose ideas have contributed to Latin America's political transformations; greater attention by English readers is long overdue. Vanden and Becker's anthology is an encouraging start.

Book Review

A New Notion: Two Works by C.L.R. James

by C.L.R. James, edited and with an introduction by Noel Ignatiev. Oakland, California: PM Press, 2010. \$17.95 U.S., paper. ISBN 978-1-55266-391-2. Pages: 1-155.

*Reviewed by Paul Whiteley¹
Queen's University*

Born in Trinidad, living most of his life in the United States and in England, and an influence to Marxist and post-colonial theorists alike, C.L.R. James (1901-1981) remains one of the most inspirational activist scholars of the 20th century. And also one of the least frequently read. Noel Ignatiev has brought together as *A New Notion* two of James's postwar pieces written while he was active on the American left. "The Invading Socialist Society" (1947) is titled after a felicitous phrase of Friedrich Engels' *Socialism: Utopian and Scientific*, and is orientated above all to workers' struggle towards socialism. "Any Cook Can Govern" (1956) takes its inspiration and title from Lenin, and originated as a pamphlet written after James was driven out of the United States by McCarthy-era persecution and state militancy.

Grateful as one may be to see these pieces in print, there are issues to be raised with aspects of this publication. "The Invading Socialist Society", by far the longer text, is credited to James and Raya Dunayevskaya. But Grace Lee Boggs, the third principal of the Johnson-Forest tendency (the Marxist-humanist splinter the text represents) is not listed even though her name (or pseudonym) was included as an author in a variety of previous editions. What is more, Noel Ignatiev's introduction presents both pieces only in the context of James's life and trajectory, which removes "The Invading Socialist Society" from the dynamic and collaborative environment of the tendency in which it was produced. Even the picture on the book's cover represents the author more as aging inspiration to postcolonial cultural studies, rather than the much younger writer of these political pieces.

1 Paul Whiteley is a PhD candidate at the Department of Geography, Queen's University. He completed his Master's in Political Economy at Carleton University, exploring the connections between Harold Innis and contemporary post-humanist approaches.

Granted, this slim paperback is not intended as a definitive scholarly publication, but Ignatiev's edition could have served its audience better by providing some additional background. Contemporary readers of "The Invading Socialist Society" may not be aware of Max Shachtman – the leader of the U.S. "Workers Party" who developed the interpretation of the Soviet Union as a "bureaucratic collectivist" society – or that "Germain" was the early pen name for Marxist economist Ernest Mandel. In 1946 Mandel was made the youngest member of the secretariat of the "Fourth International" and, as an orthodox Trotskyite, he defended the conception of the Soviet Union as a "degenerate worker's state." Presenting the competing "state capitalist" interpretation, James, Boggs, and Dunayevskaya critique both Mandel's bias to defend of the USSR, in spite of its shortcomings, and Shachtman's tendency to endorse bourgeois democracy based on his conviction that the Soviet Union is the "greater evil."

Encountering these texts, the reader should not expect C.L.R. James as the ruminating commentator of *Beyond a Boundary* or the energetic historian of *Black Jacobins*. *A New Notion* presents James as polemicist, pamphleteer and above all as one believing centrally in the power of revolutionary workers:

With the world socialist revolution the history of humanity will begin. And that is precisely what is already shaking the world. Vast millions of men are not thinking or acting as in the old days. They are flexing themselves for a leap that has become imperative for them – the leap from the realm of capitalist necessity into the realm of social freedom. This today is revolutionary politics (p. 36).

James, Boggs, and Dunayevskaya believed in the 1940s and 50s that workers, rather than being pawns of the capitalist system or dupes of party or trade union bureaucrats, were already engaged in the historical process of shedding their chains, equally engaged against American or Soviet imperialism. They saw the potential of American blue- and white-collar workers alongside those in the Soviet bloc and in colonial or post-colonial settings; a striking aspect of the Johnson-Forest tendency was its active engagement in issues of race and gender (they were also interested in decolonization, a theme which sits at the margins of TISS). In spite of the extensive references to Lenin and Trotsky, the reader will find their situational analyses cited in such a way as to undermine the conception of the "Vanguard party" – in one striking passage, they assert that the Fourth International "is far too much governed by the false idea of Lenin in *What is to be Done* that the party brings socialist consciousness

to the masses from the outside” (p. 101). This willingness to critique not only the monstrosity of the Stalinist experiment but also the limitations of Lenin’s and Trotsky’s analysis, shows the crucial role of the Johnson-Forest tendency in opening up alternative paths for Marxist analysis and action in the mid-20th century.

Meanwhile, “Every Cook Can Govern” is a pamphlet which represents aspects of an important turn in James’s thought. In addressing the example of Athenian democracy, he contends that direct democracy in ancient Greece was instituted on the basis of popular organizing, maintained by careful institutional measures, and depended less on the institution of slavery and more on a robust, egalitarian conception of citizenship. For James, this example demonstrates that the possibility of self-management for ordinary working people – this ties together his interest in grassroots organization on the shop floor with imminent developments in the ex-colonies under a robust understanding of democracy.

From a 21st century standpoint, it may seem obvious that the Soviet Union of the 1940s was an imperialist power, and that the alienation of workers and oppression of nationalities in Eastern Europe could equal their equivalents under Western capitalism. However, the Johnson-Forest tendency continues to inspire analyses of state capitalism. It recognized the importance of gendered and racialized struggles, valorized the creative power of labour, and celebrated the capacities of workers for self-determination and self-management. In spite of the limitations of *A New Notion* as a publication, its release must still be welcomed as a contribution to the continuing presentation of activist theory, in particular that of C.L.R. James, to new generations.

Book Review

Negotiating Risk, Seeking Security, Eroding Solidarity: Life and Work on the Border

by Holly Gibbs, Belinda Leach, and Charlotte A.B. Yates. Halifax and Winnipeg: Fernwood Publishing, 2012, \$18.95 CAN, paper. ISBN 978-1-55266-527-5. Pages: 1-147.

*Reviewed by Madalena Santos¹
Carleton University*

This interdisciplinary study brings together approaches from political economy and social anthropology to show how working class solidarity is intrinsically linked to but extends beyond the workplace. Gibbs, Leach and Yates argue that in examining solidarity more attention must be paid to the interplay between class, gender and race in relation to workers' broader community experiences and sense of security and risk as a result of labour force changes. The authors set out to demonstrate how globalization and neoliberal policies and practices have led to structural limitations which have impeded possibilities for sustained solidarity. Through interviews with Mexican and Canadian automotive workers in the cities of Ciudad Juárez, Guelph, Stratford, Windsor and Brantford, they center their research primarily on working class women's experiences of solidarity to examine the impact of structural inequities resulting from class, gender and race divides. Their decision to focus on automotive workers in Canada and Mexico is based on what they see as the industry's continued importance as both "a symbol of the good life in North America" and "an exemplar of globalization."

Gibbs, Leach and Yates explain solidarity as the capacity for collective action based on collective identities and a shared sense of belonging. Using a social relations paradigm that employs the concepts of "social reproduction" and "community", they explore changes to the foundations of solidarity. First, they look at how the conditions and structure

1 Madalena Santos is a PhD Candidate in Sociology at Carleton University. Her research interests include methods of creative resistance against settler colonialism, anticolonial feminist theories and practices, approaches to solidarity and allyship, intersectionality, and (im)migration issues. She is currently completing her dissertation on creative Palestinian resistance and solidarity narratives focusing on the Boycott Divestment and Sanctions Movement, spoken word, and theatre

of labour markets shape work experiences, then move on to introduce the research communities in detail. They subsequently explore the gendering of solidarity through the major themes which resonated from their interviews: 1. experiences and feelings of solidarity, risk and insecurity; 2. family lives and the changing world of work; and 3. the impact of (im)mobility on solidarity and community relations. Importantly, their study connects workers' experiences of risk and security, family life, and (im)mobility to both structural political-economic changes and new management control techniques, including increased competition leading to declined wages and benefits as well as job loss; restructuring of government income support programs and privatization of social services creating barriers to health, housing, and employment security; violations of labour laws and safety practices due to inadequate regulatory scrutiny and a lack of independent unions; and gender segregated work practices such as placement of women in parts production, scarce training opportunities, sexist job advertisements and screenings for pregnancy. The authors' convincingly argue that these policies and practices, which more adversely affect women and racialized peoples than white men, have led to the individualizing of collective responsibility and the destruction of collective identities as well as the deterioration of community needed to uphold long-term working class solidarity.

This study demonstrates how the materiality and social relations of gender, race, family and community play significant roles in the experiences of automotive industry workers. According to the authors' interviews and analysis, women in both countries are employed in less skilled occupations in the automotive industry which places them at the bottom of the production chain and translates into lower wages, less job mobility and more insecurity. While women in Canada seek the benefit of unions when they can, the data presented reveals how women in Mexico tend to distrust unions which are mostly state-affiliated and have a history of collaboration with management. Despite this difference, women in both countries face negative impacts as a result of the social reproduction of gender norms, including being sexualized by coworkers and in the labour movement in general. Women also bear the brunt of family responsibilities in the home. The social reproduction of gender norms at the family level means that women in Juárez and the Ontario cities examined here play dual roles as unpaid domestic workers and paid labourers. Also, the increased pressure to relocate to places of employment after plant closures or in search of work further strains workers' sense of community. Racialized workers in Canada are

additionally affected by a competitive industry which has created an atmosphere of “us versus them”; where top-paying jobs remain in the hands of mostly white men. In Mexico, the hierarchy of race based on skin colour, linked to the legacies of colonialism, determines who gets access to which jobs. To deal with sexism, racism, and overburdening responsibilities, workers rely on individualized coping methods rather than collective solidarity. These individualized responses internalize anxiety, stress, sexism, and racism so that responsibility for institutionalized sexist, racist, and violent behaviour and practice is placed on the individual experiencing these injustices rather than on the unjust structural and societal foundations that enable these practices to continue.

The claim that solidarity is “deeply gendered” is not a novel one, as rightly acknowledged in this study; however, the authors’ analysis – grounded in the experiences of workers – provides a significant contribution to understanding the ways in which solidarity is gendered and how globalization and neoliberalism impact the manner in which solidarity is actualized. In this way, this study offers critical insight into the gendered effects of neoliberal policies and practices on solidarity in other employment sectors. In comparing the similarities and differences between worker experiences in Canada and Mexico while recognizing the generalizability limitations of their data due to the small number of Mexican workers interviewed, Gibbs, Leach and Yates underscore the importance of class to any analysis of solidarity. The authors also make a strong case for how independent unions can help mitigate risk and security through collective action, and education concerning the impact of structural changes on their workplace thereby reducing the tendency to scapegoat individuals based on race and/or gender. Substantially, their research points to the contradictory processes that exist alongside the erosion of working class solidarity revealing traditional and non-traditional practices and possibilities for solidarity which has considerable implications for the exploration of solidarity movements outside the workplace in all fields of study and political contexts.

Book Review

The Great Revenue Robbery: How to Stop the Tax Cut Scam and Save Canada

edited by Richard Swift. Toronto: Between the Lines. 2013. \$19.95 CDN, paper. ISBN: 978-1-77113-103-2. Pages: 1-160.

Reviewed by Matt Fodor¹

One of the main challenges facing Canadian progressives is changing the discourse on taxation. Over the past two decades, an anti-tax ‘consensus’ has emerged in Canadian politics. Tax cuts have deprived governments of billions of dollars in revenue. Taxes are viewed as a burden to be avoided; in other words, taxes are separated from the services they pay for. It was in this context that progressive economist Hugh Mackenzie called for an “adult conversation” about taxes in Canada.²

The Great Revenue Robbery, edited by Richard Swift for the recently formed organization Canadians for Tax Fairness, is a welcome contribution. Featuring contributions from progressive economists, journalists, activists and others, *The Great Revenue Robbery* offers a concise, well-argued challenge to what has become a near-consensus in Canadian politics, and makes the case for taxation as an essential component of a progressive political agenda. The book is aimed at a popular audience and is particularly useful for political activists.

A key theme of the book is how the tax issue is framed, with the book’s first three chapters devoted to it. Trish Hennessy calls for a return to the concept of virtue in politics, noting that during the postwar years, a time of expansion of public infrastructure and the social safety net, “[i]t was commonly accepted that taxes were the price of a civilized society, but also a happier one” (p.19). Diana Gibson discusses the success of the conservative movement in moving the Overton Window – the current spectrum of mainstream policy options, noting that: “The conservative movement brought the expansionist era of liberal social democracy

1 Matt Fodor is a Ph.D. candidate in Political Science at York University, Toronto. His research interests include social democracy, Canadian politics and comparative political economy. He is a contributor to the book *Tax is Not a Four Letter Word: A Different Take on Taxes in Canada*, edited by Alex Himelfarb and Jordan Himelfarb (WLU Press, 2013).

2 Hugh Mackenzie, “Can We Have An Adult Conversation About Taxes?”, *Toronto Star*, October 26, 2009.

to an end by being bold: by not being afraid to say things that were unpopular and by repeating them forcefully, and shamelessly" (p. 27). Progressives, Gibson argues, must learn from the example of the conservative movement and move the Overton Window leftward. Swift's own chapter provides an excellent overview of the role of the media, which overwhelmingly heeds conventional business opinion about free markets and for the most part excludes progressive perspectives, in shaping public opinion about taxation.

While these chapters do raise the important point of the success of the conservative 'counter-revolution' and hegemony of neoliberal ideas, it does not explain why the Keynesian welfare state went into crisis in the 1970s in the first place. What we now refer to as the 'golden age' of capitalism in the postwar period, a period characterized by high levels of economic growth where high levels of corporate profitability and very real increases in living standards, represented a unique phase of capitalist development that is unlikely to be repeated.

Other chapters in the book cover the topics of tax havens, corporate taxes, financial transaction taxes, ecological taxes, and taxes and cooperatives. Peter Gillespie's chapter criticizes the Canadian government's lax attitude towards tax havens and the major presence of Canadian banks in Caribbean tax havens. Jim Stanford in his chapter on corporate taxes shows how corporate tax cuts since the mid-1980s have failed to deliver promised increased business investment and thus jobs and higher incomes for Canadians. Increases in public expenditure, Stanford maintains, would have a greater impact on growth and investment than tax cuts.

Toby Sanger's chapter on financial transaction taxes offers a helpful and clearly-written debunking of several 'myths' about FTTs. Joe Gunn in his chapter on eco-taxes makes the case for a progressive carbon tax, arguing (correctly, in my view) that carbon taxes are ultimately more effective than a cap-and-trade system (which is more subject to market fluctuations and requires the development of an emissions trading market). John Restakis in his chapter on taxes and cooperatives discusses the role of the social economy in Italy, Spain and Quebec, and calls for reform of the tax system to encourage the cooperative sector. However, a more critical assessment of what role this sector should play as opposed to government in terms of social welfare provision, for example, would have been beneficial.

Veteran journalist Murray Dobbin, who has written much on taxation and the consolidation of neoliberalism in Canada, effectively reiterates the book's key themes of changing the discourse on taxation and

articulating an alternative to neoliberalism. Dobbin stresses the need to link tax fairness with communitarian values and a progressive values and suggests that campaigners “frame the issue as a choice two very different futures: a continuation of the dystopian low-tax, high-private-consumption regime; the other, a return to higher taxes but also to more public goods and stronger communities” (p. 141).

Overall, *The Great Revenue Robbery* makes a strong case for the central role of taxation in a progressive agenda, and is presented in an accessible manner. It is especially helpful in light of the retreat of Canadian social democracy on the question of articulating an alternative to neoliberalism, where the NDP not only accepts but even promotes anti-tax politics. The book represents just the beginning of an adult conversation about taxes in Canada. It is a call to action to challenge to speak boldly in support of the necessity of taxes as a key component of the public good and our collective capacity to shape the future, and to develop a progressive tax policy to counter growing inequality and rebuild deteriorating public services.

