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Sociobiophysicality, Cold War, and Critical Theory: Human-Ecological Transformation and Contemporary Ecological Subjectivity

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I am submitting herewith a dissertation written by Alexander Stoner entitled "Sociobiophysicality, Cold War, and Critical Theory: Human-Ecological Transformation and Contemporary Ecological Subjectivity." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Sociology.

Harry F. Dahms, Major Professor

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**Sociobiophysicality, Cold War, and Critical Theory:
Human-Ecological Transformation and Contemporary Ecological Subjectivity**

**A Dissertation Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville**

**Alexander Stoner
August 2013**

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DEDICATION

This dissertation is dedicated to my supervisor, Harry F. Dahms, who taught me sociology as a vocation.

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This dissertation has benefited from ongoing dialogue with friends, family, students, and colleagues. First and foremost, I would like to thank my wife, Katrina. This dissertation would not have been possible without her love and support. I would also like to express my gratitude to Dr. Harry F. Dahms, who, in addition to providing invaluable mentorship, has been a source of open-minded assistance and encouragement. Additionally, I would like to thank my dissertation committee members. Dr. R. Scott Frey played a key role in my intellectual development, introducing me to the rigor of environmental sociology some six years ago. I also thank Dr. Frey for emphasizing some of the connections between my dissertation and recent research on the treadmill of destruction. I would like to thank Dr. Allen Dunn, who pressed me to articulate and specify issues of contextualization and class. I thank Dr. Steven P. Dandaneau for his critical remarks, which were central in the refinement of the dissertation. Dr. Damayanti Banerjee directed my attention to a number of alternative perspectives on the nature-society relationship and provided related insight into future research. Finally, I would like to thank Dr. Paul Gellert whose comments and criticism forced me to reconsider the complexity of science and environmental degradation. Obviously none of these individuals are responsible for any errors in this dissertation, which are the sole responsibility of the author.

My framing of the Anthropocene and its relation to modern capitalist society at the beginning of the introduction was developed in collaboration with Andony Melathapolous for a series panel discussions entitled, “Anthropocene and Freedom,” hosted by the Platypus Affiliated Society. Many of the arguments and formulations developed in the dissertation, particularly in the second section of chapter one, have been published elsewhere in the following paper: “Sociobiophysicality and the Necessity of Critical Theory: Moving beyond Prevailing Conceptions of Environmental Sociology in the USA”, *Critical Sociology*, published online before March 19, 2013 by Sage

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ABSTRACT

The United States is an important global player in resource depletion, energy use, waste production, and other indicators that contribute to economic threats to humanity's ecological future. Critical theory provides conceptual tools that are uniquely well-suited to more fully comprehend the links between economic progress and ecological deterioration. In key regards, the present situation is the continuation as well as amplification of political-economic, social and cultural features that took hold during the Cold War, and which demand rigorous sociological focus, scrutiny and analysis. To date, however, sociology has barely begun to assess the consequences that resulted from the Cold War for the condition in which modern societies find themselves in the early twenty-first century, and for their ability to meet both persistent and new challenges. The purpose of this dissertation is to elucidate the present predicament, especially with regard to the link between modern society and natural environment, by introducing the concept of "sociobiophysicality" as a promising tool to address related issues in ways that highlight the importance of sociology today. To do so, however, the specific importance of the tradition of critical theory—especially as represented in the writings of Lukàcs, Adorno, and Postone—for sociology in general, and with regard to the link between human-ecological transformation and contemporary ecological subjectivity in particular—must be reconstructed and made explicit.

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INTRODUCTION: THE PATTERN OF PROGRESS IN MODERN SOCIETY AND THE PROGRESSIVE DESTRUCTION OF NATURE

When viewed in light of the history of planet Earth—which is estimated to be over 4.5 billion years old—the human-ecological legacy of the Industrial Revolution in the nineteenth century is difficult to exaggerate. Indeed, human activities have fundamentally altered earth system processes to such an extent over the past 250 years that scientists are currently debating whether or not to add a new epoch of geologic time—the *Anthropocene*.¹ The etymological roots of the term (*anthropo* meaning “human” / *cene* meaning “new”) is meant to capture a change in the history of the planet, namely that for the first time in history its course will be determined by the question of what humanity will become.

The transition to the Anthropocene also coincides with the expansion of bourgeois society—the society in which the productivity of humanity moved from the rural forms of peasant production to production in cities and the rise of a new class of “commoners” who were to be judged not on the basis of tradition or divine orders, but on their capacity to “work.” While the idea of an era of planetary history driven by humanity would have been viewed as a great accomplishment by thinkers of the Enlightenment, it has come to be associated with the potential demise of all life on earth. The legacy of the nineteenth century Industrial Revolution and what Dutch atmospheric chemist Paul Crutzen terms “the Great Acceleration”—the spike in human activities and its interaction with earth system processes following the Second World War—has not, after all, lead to the opening of human capacities and the flourishing of ecosystems, but rather the seeming diminishment of both. The onus on humanity to shape the course of history seems only to lead to increasingly unsuccessful attempts to avoid planetary disaster.

¹ The term, “Anthropocene,” was first coined in the 1980s by biologist Eugene F. Stoermer and was popularized in 2000 by atmospheric scientist Paul Crutzen, who the Nobel Prize in chemistry in 1995 for his research on the link between anthropogenic greenhouse gas emissions and decomposition of ozone in the atmosphere (see Steffen et al., 2011 for a succinct conceptual overview of the Anthropocene).

American society, in actuality (existing the world-over through global capitalism in addition to other systematic means) as well as in the guise of its weird and distorted mythological ideal self-understanding (its ideological existence), is an important driving force contributing to humanity's predictable ecological apocalypse. Critical theory, I contend, provides us with the conceptual tools needed to fully comprehend this situation, although not, unfortunately, with the means to do anything about it. Something similar occurred during the cold war, which we stupidly survived despite our lack of self-understanding. Our current situation is even less optimistic, for humans are not the masters of the earth in the same way that some can be vis-à-vis the products of their own alienated societies. As it turns out, things are getting worse along the road to catastrophe, both in the objective sense of worsening harm to increasing numbers of living beings, human and otherwise, and in the subjective sense of increasing self-deception, which masks the fact that nothing new under the sun ails us but the alienated core of our modern being. This dissertation aims to elucidate this most urgent of all human concerns via a study of what I will call "sociobiophysicality."

The Environment-Society Problematic

Faced with what appears to be a mounting human-induced ecological crisis, social scientists have devoted an increasing amount of intellectual energy to understanding the link between human society and the biophysical environment in recent years. Efforts to elucidate the social processes energizing antagonisms between society and environment have been framed in various ways—from the political (Brulle, 2000; Markowitz and Rosner, 2002; McWright and Dunlap, 2011) and economic (Foster et al., 2010; O'Connor, 1998; Schnaiberg and Gould, 2000), to degrees of pro-environmental attitudes and behaviors (Dunlap, 2002; Routte et al., 2005); from social domination under modern patriarchy (Merchant, 1980, 1995) to science and technology, or lack thereof (Mol, 2003; Mol and Spaargaren, 2002; York et al., 2003). Despite this fragmentation—a trend that cannot be isolated from social scientific treatments of the environment—these efforts are unified in their aim to include the biophysical as a critical factor in social analysis. An important aspect of this research has been the focus on the socio-historical drivers of

environmental problems (see e.g. Black, 2012; McNeill, 2000; McNeill and Unger, 2010; Pred and Watts, 1992). This work shows that the relationship between modern society and the environment continues to be detrimental to sustainability. *The specific form this relationship has taken during the contemporary era is characterized by general antithesis.* That is to say, modern society posits “nature” as an external object which may then be quantified, manipulated, and controlled.

One of the most unnerving characteristics of the relationship between modern society and the environment is that the role of modern society in perpetuating environmental problems is becoming increasingly visible, yet less and less understandable. To perceive the link between society and environment at the beginning of the twenty-first century does not require an effort of great abstraction. Indeed, environmental issues and problems are all around us—e.g. in erratic weather patterns and resource depletion, on the one hand, and reflected in advertisements and political discourse, on the other. What remains paradoxical, however, is the fact that the intensity and scale of societally-induced environmental degradation, which rose to historically unprecedented levels during the latter half of the twentieth century (McNeill, 2000), is synchronous with an equally impressive increase in public concern for and attention to the biophysical world (Schnaiberg, 1994). In other words, although people are clearly paying more attention to the biophysical than ever before, key indicators suggest that developments are pointing in the opposite direction.

The problem my dissertation examines is what I call the environment-society problematic. This involves the paradox of increased environmental destruction amid increasing environmental attention and concern, as two coterminous developments throughout the latter half of the twentieth century, which continue today. What is paradoxical about the parallel development of these two processes, I suggest, is that the expansion of ecological consciousness has not yet translated into revolutionary transformation of human culture worldwide in the face of the objective imperative to do so. Admittedly, one could suggest that this is not paradoxical at all—and one could provide all sorts of explanations for why this is the case, including, for example, vested

“interests,” denial, cynicism, and so on. However, what I am interested in is critical theory’s take on this situation, and in the dissertation I will attempt to render plausible my contention that while environmental destruction is becoming increasingly visible and less deniable, the paradoxical process at work remains largely concealed.

The environment-society problematic involves two processes, which I will refer to in terms of an objective dimension (actual, concrete human-ecological transformation) and a subjective dimension (the social conception and understanding of the natural environment). Within the environmental sociology literature, pertinent research tends to focus on either the objective dimension of the environment-society problematic *or* the subjective dimension of the environment-society problematic. Yet, the interrelationship between the subject-object dimensions has not been made an explicit object of concern. This research gap is both real and frustrating, since it is precisely the *synchronicity* of the subject-object dimensions, as they have developed throughout the latter half of the twentieth century, that today remains paradoxical. The purpose of this dissertation is therefore twofold. First, it advances a critical theory of the environment in order to critique the inextricable linkage between the domination of human and non-human natures. The second goal of my dissertation is to contextualize the environment-society problematic both historically and societally. In order to do so, I examine post-World War II American society so as to better understand why contemporary environmentalism and contemporary American environmentalism in particular fails to engender the types of changes expressed by its need and desire to move beyond the environmental destruction that characterizes its own sociohistorical context.

Chapter Breakdown

Chapter one reviews key aspects of environmental sociology by focusing on the distinction between affirmative and critical approaches. The chapter then engages a critique of values-based and traditional Marxist-oriented environmental sociology in the USA in order to highlight the necessity of critical theory for environmental sociology. Chapter two specifies the methodology of critique that informs the dissertation by focusing on dialectics, the methodological function of mediation, and immanent critique.

In the third chapter I contextualize the environment-society problematic theoretically. This chapter moves toward a critical theory of the environment through a reading of 1) Georg Lukács's critique of reification; 2) Theodor W. Adorno's critique of identity thinking; and 3) Moishe Postone's critique of traditional Marxism. Considering the fact that Lukács (1885-1971), Adorno (1903-1969), and Postone (1942 -) each wrote successively, I suggest that we view the core critique of each theorist as an attempt to "name" central aspects of the nature-society relationship at different, successive stages of the development of modern capitalist society. Against this background, I advance the concept of sociobiophysicality (SBPh) as an attempt to "name" central aspects of the nature-society relationship, and the critique of modernist SBPh as an attempt to "name" the elusively dynamic nature of the environment-society problematic in particular. Within environmental sociology, there is no critical theory of the environment, and the dissertation moves toward remedying this deficit. What distinguishes a critical theory of the environment, as opposed to a critical sociology of the environment, is the immanent critique of the inextricable connection between inter-human domination and the domination of biophysical nature. SBPh is significant in this regard because it provides a critical, dynamic, and reflexive account of 1) the objective drivers of environmental destruction; 2) why environmental destruction has been increasing at an accelerating rate; and 3) how such destruction is intrinsically related to subjectivity.

Chapter four situates the environment-society problematic in historical and societal context in order to elucidate the conditions of possibility of a contemporary (i.e. post-World War II) social conception of nature. I do so through an immanent critique of contemporary American environmentalism's misrecognition of its own sociohistorical context. The chapter advances the concept "critique containment" and the category of "contemporary ecological subjectivity" and in doing so moves toward an explanation of why contemporary environmentalism and contemporary American environmentalism in particular fail to engender the types of changes expressed by its need and desire to move beyond the environmental destruction that characterizes its own sociohistorical context. The failure of contemporary American environmentalism, I argue, must be understood

with reference to its objective sociohistorical context. However, insofar as this sociohistorical context is defined by a regime of critique containment that emerged in and through the cold war, it is characterized by an apparent decontextualization and is therefore misrecognized as such. My critique of contemporary American environmentalism focuses on the linkage between cold war science and technology, on the one hand, and a specifically contemporary social conception of nature, on the other. In order to elucidate the significance of this linkage the chapter grounds and elaborates the following three propositions: 1) cold war science and technology are mediated by a regime of critique containment; 2) cold war science and technology were crucial in the production of a contemporary social conception of nature, which today remains central to contemporary environmentalism; 3) contemporary American environmentalism is mediated by critique containment, although it does not recognize itself as such.

The fifth chapter discusses the significance of the dissertation and elaborates some of the project's theoretical and empirical implications. The chapter identifies points of contact between sociobiophysicality and current research in both environmental sociology and critical theory.

**PART I. HUMAN-ECOLOGICAL TRANSFORMATION:
CONCEPTUALIZING “SOCIOBIOPHYSICALITY”**

CHAPTER 1: ASPECTS OF ENVIRONMENTAL SOCIOLOGY

This chapter reviews key aspects of environmental sociology, which I have delimited in accordance with the distinction between affirmative and critical approaches to environmental sociology. The chapter does not provide a comprehensive or exhaustive account of the field of environmental sociology. Section one compares the seemingly critical approach of treadmill of production theory with the affirmative approach of ecological modernization theory. Reflexive modernization and risk society are discussed as well. Section two provides a more pointed and critical review by examining values-based and traditional Marxist-oriented approaches to environmental sociology in the USA in order to assess whether or not – and if so, how exactly – these approaches help us make sense of the paradoxical nature of the environment-society problematic. Section three argues that in order to further research efforts accordingly environmental sociologists must be able to grasp objective drivers of human-ecological transformation and forms of subjectivity as synchronous yet non-identical forms unfolding in and through space-time.

1. “Critical” and Affirmative Approaches

Critical and affirmative approaches to environmental sociology, notwithstanding their many differences, hold two elements in common. First, both approaches start from the assumption that societally-induced environmental degradation is severe and in need of amelioration.² Second, both critical and affirmative approaches share a normative aim, or vanishing point, which involves upholding the possibility of nature-society reconciliation.³ What, then, distinguishes an affirmative approach from a critical approach? Put simply, affirmative approaches assume that the possibility of nature-society reconciliation can be actualized in and through existing patterns of social change, whereas critical approaches assume that existing social conditions prevent (i.e., are antithetical to) actualizing the possibility of nature-society reconciliation.

1.1 *Treadmill of Production*

According to Buttel (2004: 323), “The treadmill of production is arguably the single most important sociological concept and theory to have emerged within North American environmental sociology.” While the validity of this claim may be disputed, it is certainly the case that treadmill of production theory is one of the most well-known critical approaches to environmental sociology.⁴ The treadmill of production was first outlined by Allan Schnaiberg in order to better understand the relationship between the spike in environmental degradation throughout the latter half of the twentieth century and

² I have refrained from using the term “sustainability” given the term’s somewhat ambiguous meaning (for critical assessments, see, e.g., Amsler, 2009; Luke, 1997).

³ It is important to note that presupposing the possibility of nature-society reconciliation is not logically related to assumptions regarding the likelihood of such reconciliation. Moreover, the possibility of nature-society reconciliation should not be understood in zero-sum terms. For example, although efforts aimed toward ameliorating the current rate at which environmental destruction increases (implicitly or explicitly) presuppose the possibility of nature-society reconciliation, this presupposition does not (logically, or necessarily) imply a positive or negative likelihood regarding the possibility of nature-society reconciliation becoming actual.

⁴ Buttel (2004: 324) indicates that the *treadmill of production* can be thought of in four ways: (1) as a concept “parallel to a concept such as the self-expansion of capital”; (2) as a sociological theory “with a causal or interpretive system involving chains and relationships among social forces/variables”; (3) as outlined in the work of Allan Schnaiberg; and (4) as found in “the work of Schnaiberg and of his three main coauthors: David Pellow, Ken Gould, and Adam Weinberg.” Following Buttel, I employ the first and second meanings conterminously and, unless otherwise noted, I therefore leave aside the more complex questions involved in determining what constitutes a (social) theory and, relatedly, whether or not the treadmill of production can be considered a (social) theory based on such (un)specified criteria.

the reconfiguration of business, labor, and government in post-World War II American society (see Schnaiberg, 1975, 1980). Schnaiberg later fleshed-out the treadmill's theoretical and empirical implications in collaborative work with David Pellow, Kenneth Gould, and Adam Weinberg (see e.g. Gould, Pellow, and Schnaiberg, 2004, 2006, 2008; Gould, Schnaiberg, and Weinberg, 1996; Pellow, 2002; Weinberg, 2002).⁵

The treadmill of production theory is rooted in the Marxist tradition, although, as Buttel (2004) points out, the theoretical ground of the treadmill approach is perhaps more aptly described as a unique variety of neo-Marxisms (see e.g. Schnaiberg, 1994). Buttel (2004: 326) characterizes the neo-Marxism of the treadmill of production as “extra-Marxist political economy”—that is, “a style of critical or radical political-economic reasoning that borrows eclectically from Marx's concepts and insights while eschewing other aspects of Marx's work or those of contemporary Marxists.” The treadmill's extra-Marxist political economy approach to the environment combines work on state capitalism with the analysis of monopoly capitalism (see, for example, Baran and Sweezy, 1968; Foster, 1986; O'Connor, 1973), though as a theoretical conceptual device, the treadmill of production is quite distinct from both O'Connor's second contradiction thesis and Foster's more recent work on metabolic rift (Buttel, 2004: 326).⁶ Table 1 below, adapted from Gould et al. (2004), illustrates the main elements treadmill of production theory keeps and eschews from neo-Marxism.

⁵ It is important to be aware that the treadmill of production theory has developed and changed since its inception (see Buttel, 2004 for an overview of these changes). While much of my review focuses on Schnaiberg and Gould's *Environment and Society* (2001), I have attempted to make references to changes in the theoretical/conceptual development of treadmill of production where appropriate. Schnaiberg first put forth the treadmill of production theory in his (1980) *The Environment*.

⁶ O'Connor's (1998) second contradiction, which is an extension of Marx's first contradiction between capital and labor, states that the capitalist mode of production ultimately undermines the conditions of production. Foster's metabolic rift will be discussed in section two below.

Table 1. Neo-Marxist Elements of Treadmill of Production

Keeps	Eschews
Importance on class and inequality	Labor theory of value
Importance of the corporate form and its effect on social organization	Proletariat as the historical agent of progressive change
Tendency toward concentration and centralization of capital	----
Instrumental view of the state	----

In *Environment and Society: The Enduring Conflict*, Schnaiberg and Gould (2001) extend Schnaiberg's (1980)⁷ theoretical agenda by developing a model of environment-society interaction within which notions of finitude, ecological limits, and ecological "overshoot" play a central role.⁸ The authors start from two sets of ecological organizing principles, which they suggest are analogous to the first two laws of thermodynamics: 1) matter cannot be created or destroyed; and 2) as energy is transformed from its potential to kinetic (societal) form, entropy occurs (Schnaiberg and Gould, 2001: 4). Schnaiberg and Gould conceptualize ecological problems as problems of (1) additions and (2) withdrawals in accordance with the two laws of thermodynamics. According to treadmill of production theory, modern industrial forms of social organization accelerate both the quantity and quality of additions and withdrawals, thereby disrupting ecological organization and perpetuating societally-induced ecological *disorganization*.

The concept of treadmill of production refers to the "industrial logic" of capitalist societies, which is in direct opposition to the ecological organizing principles outlined

⁷ It should be noted that Schnaiberg's *The Environment* (1980) is perhaps the most systematic presentation of his ideas on the treadmill of production. Chapter V of this book is perhaps the most thorough explication of Marxian political economy as it relates to treadmill of production.

⁸ These notions all rely on some measure(s) or set(s) of indicators of biocapacity. Biocapacity refers to the capacity of an area to provide resources and absorb wastes. When a population's resource demand and use exceeds its biocapacity, "unsustainability," or overshoot, occurs. On the societal implications of overshoot, see Catton (1982).

above (Schnaiberg and Gould, 2001). Schnaiberg and Gould (2001: 69) identify the following seven elements as central to the logic of the treadmill of production:

- 1) Increasing accumulation of wealth, through ownership of economic organizations that successfully use ecological resources to expand production and profits.
- 2) Increasing movement of workers away from self-employment, into positions of employees who must rely on expanded production to gain jobs and wages.
- 3) Increasing allocations of the accumulated wealth to newer technologies in order to replace labor with physical capital, thereby generating more profits for wealth-holders, in order to sustain and expand their ownership in the face of growing competition from other wealth-holders.
- 4) Increasing activities of governments to facilitate expanded accumulation of wealth for “national development,” on the one hand, and “social security,” on the other.
- 5) The net result of these processes is an increasing necessity for ever greater ecological withdrawals and additions in order to sustain a given level of social welfare.
- 6) The ecological obverse of no. 5 is the increasing likelihood of an industrial society creating *ecological* disorganization as economic pressures push toward greater extraction of market values from ecosystems.
- 7) Extending no. 6, societies become increasingly *vulnerable* to socioeconomic disorganization as their ecological “resource base” itself becomes disorganized.

According to treadmill of production theory, the industrial logic of the treadmill encapsulates both economic production and environmental protection enforcement. In this sense, industrial logic is also conceptualized as a reference frame that reflects economistic models of progress and legitimizes the superiority of the market.⁹ Put

⁹ According to Schnaiberg (1993), “The political economic perspective on environmental issues poses these as dialectical conflicts, with competing sets of social interests in natural resources: use-values involving direct utilization of natural resources for subsistence, habitat, or recreation by citizens, versus exchange-values, which require transformation of natural resources into commodities that can be marketed.

somewhat hyperbolically, the industrial logic of the treadmill of production is a way of circumscribing the hegemonic principals operating within a global capitalist system, which justify blatant contradictions and discrepancies in the name of so-called economic rationality. The “objectivist, materialist, realist” orientation of treadmill of production theory is consistent with most Marxist-oriented approaches to environmental sociology in the USA, which maintain a firm commitment to realist epistemological and ontological positions (Buttel, 2004: 327).¹⁰ It is important to note that this so-called “objectivist, materialist, realist” approach places analytic weight on the objective dimension of the linkage between environment and society and therefore (over)emphasizes the objective dimension of the environment-society problematic. As argued below, this objectivist position is not simply flawed; rather, it is reflective of the paradoxical nature of the environment-society problematic itself.

Given Schnaiberg’s (1980) original theoretical aim of explaining the relationship between the dramatic spike in environmental degradation following the Second World War and related changes in American society, treadmill of production theory is relevant to the aim of this dissertation, which examines the environment-society problematic in theoretical, historical, and societal contexts by focusing on American society, in particular. According to Schnaiberg and Gould (2001), the expansion of production in postwar American society, driven in and through an array of political and economic factors, is correlated with an increase in environmental throughput and ecological withdrawals, leading to increased environmental degradation (i.e., “ecological disorganization”).

Expanding production systems transformed the relationship between American society and the biophysical environment in deep, fundamental ways. For one, the quantitative increase in production throughout the latter half of the twentieth century relied on ever-increasing levels of biophysical throughput, effectively necessitating

Dialectical struggles to maximize the “value” of ecosystems and their components thus characterize modern societies, and especially modern states.”

¹⁰ As I note again below, commitment to the realist position was reinforced throughout the 1990s with the onset of post-modern theories, which most Marxist-oriented environmental sociologists perceived as a subjectivist and/or idealist threat.

virtually exponential levels of ecosystem withdrawals (see Schnaiberg et al., 2002: 16).¹¹ At the same time, new factories required a dramatic increase in the use of chemicals related to the spike in ecosystem additions (Schnaiberg et al. 2002: 17).¹² According to Schnaiberg et al. (2002: 17-18), these changes and the social-environmental outcomes they produce and reinforce hinge upon economic expansion via large firms; increased consumption; solving social and economic problems by speeding up the treadmill; and alliances among capital, labor and government.

Schnaiberg and his colleagues (Schnaiberg et al., 2002: 17-18) circumscribe the roots of expanded production in post-World War II American society by referring to the following processes, each of which correspond to reconfigurations of business, labor, and government at greater intensity and geographic scale:

- 1) The increasing portability of production, as sources of energy became more separable from their applications in production (e.g., stream power versus steam, and then diesel and electric power).
- 2) The portability of instruments of finance, increasing the “circulation” speed of production and distribution, by establishing national and international banking networks.
- 3) Improvements in transportation, allowing for more rapid and easier movement of raw materials, sources of energy, products, workers, and distribution agents.
- 4) Improvements in communication, leading to a reduction in the transaction costs of producing for distant and less familiar markets, and increasing the pace of economic activity.
- 5) Increased availability of credit from financial institutions, and insurance from such institutions and government agencies in order to permit taking longer distance risks.
- 6) The rise of technological specialties (e.g., applied scientists or engineers), which would have skills at redesigning capital equipment in production.

¹¹ I elaborate the “inner logic” of this dynamic in chapter three.

¹² Treadmill of production theory stresses the fact that the toxicity of chemicals used during the second half of the twentieth century, such as pesticides, is qualitatively different from those used during the first half of the twentieth century.

- 7) The rise of financial-organizational specialties (e.g., systems analysts and industrial engineers), which permit reallocation of financial and human resources.
- 8) Political control over international and domestic trade, through the use of government instruments, ranging from patent and property rights to the use of “gunboats” and armies, as well as trade consuls and small business administrations.

According to Schnaiberg et al. (2002: 19-20), structural changes in the U.S. political economy during the late 1960s and early 1970s, especially the reduction of labor costs in order to increase returns, result in an increase in adverse social and ecological outcomes. As the authors explain, (Schnaiberg et al., 2002: 19-20), three processes play a significant role in exacerbating these structural shifts 1) production shifts to energy and chemical intensive forms; combined with 2) a decline in the share of the workforce involved in the production process; which led to 3) the increased deskilling of the majority of remaining workers. Economic expansion and the acceleration of increases in biophysical throughput brought about new qualitative treadmill forms, social as well as ecological (Schnaiberg et al., 2002: 21-23). Consequently, the new ecological treadmill form was characterized by the corresponding increase in ecological withdrawals, whereas the new social treadmill form was driven by labor-saving technologies (Schnaiberg et al., 2002). The latter social treadmill form not only deskilled workers within new emerging labor market hierarchies, it also induced ever-greater incorporation of the American workforce into the treadmill of production upon which their survival depended.

Enmeshed in these structural shifts, the state is caught in a “double-bind,” as the its existence, according to treadmill of production theory, depends on a logic that increasingly displaces workers from production while increasing demand for social safety nets (Schnaiberg et al., 2002: 20). From a treadmill of production perspective, the social and environmental costs of capitalism place ever greater pressure on the state to provide

assistance to the poor, who, in turn, bear such costs because the political avenues currently available remain bound by the treadmill of production.¹³

Although according to Fisher and Freudenburg (2004) most treadmill theorists view the relationship between state, society, and environment as contradictory, in general, treadmill of production theory operates with an instrumentalist view of the state. From this perspective, the so-called “environmental,” or “green,” state (i.e., institutions of governance conducive to effecting or bringing about environmental action aimed toward ameliorating existing environmental destruction) is an organization whose economic decision-making would include equal considerations of ecological *and* social impacts (see Schnaiberg and Gould, 2001; Schnaiberg et al., 2002).¹⁴ Because treadmill of production theory views “unlimited expansion of production” as a necessary precondition for the organizational structure and healthy functioning of the state, “any state environmental protection is experienced as a form of scarcity” (Schnaiberg et al., 2002: 23). State environmental policy is therefore viewed as largely symbolic—that is, as window-dressing devoid of substantial content.

Schnaiberg and Gould (2001) note that the currently weak degree of environmental regulation is primarily a result of the logic of profitability, where everything is placed within the context of competition: “Governments must appear to be doing something to protect the environment, mainly to appease their environmental interest groups, who can cause political troubles otherwise” (Schnaiberg and Gould, 2001: 55).¹⁵ Moreover, production facilities are typically far removed from the majority of those consuming the products. As Schnaiberg and Gould (2001: 65) explain, “freedom of movement of capital increasingly disconnects facilities that engender ecological additions and withdraws from those investors whose capital undergirds these facilities.” In other words, environmental degradation is unequally distributed, and this unequal

¹³ Here the influence of James O’Connor’s (2001 [1973]) aforementioned work on fiscal crisis and the state is quite obvious.

¹⁴ From within the theoretical framework of treadmill of production, the distinction between institutional and organizational forms is not entirely clear (cf. Weber, 1978 [1922]: 48-56). For useful analyses of the environmental state, see Dobson (2000), Eckersley (2004), Münch et al. (2001), and Scott (1990).

¹⁵ See also Gould, Weinberg, Schnaiberg (1993)

distribution can affect the perceived seriousness of environmental problems.¹⁶ Still, scholars working within the treadmill of production framework have defended the primacy afforded to the production process. According to Gould et al. (2004: 302), the focus on production is especially important for environmental sociology because decision-making with regard to biophysical throughput is contingent upon producers' (1) access to capital, (2) access to labor, (3) assessment of potential liability, (4) assessment of marketability, and (5) assessment of profitability.

This emphasis on production, including related Marxist conceptions of the role of the state and the concrete prospects for an environmental state, is quite different from ecological modernization theory. As we shall see, these and related differences between treadmill of production theory and ecological modernization theory are reflective of different, often unspecified, assumptions about the nature of modern societies. In contrast to the Marxism(s) of the treadmill of production, ecological modernization theory takes a lead from theories of reflexive modernization and risk society. In order to illuminate the theoretical roots of the divergence between treadmill of production theory and ecological modernization theory, I will next outline the theory of reflexive modernization, focusing on Ulrich Beck's theory of risk society, before discussing ecological modernization theory.

1.2 The Greening of Modernity? Reflexive Modernization, Risk Society, and Ecological Modernization Theory

According to Joas and Knöbl (2004: 463), the discourse on modernity within the discipline of sociology changed during the 1980s in part because of the growing criticisms put forth by theorists of postmodernity, which led many sociologists to reflect on the concept of modernity and modern rationality. The theory of reflexive modernization, and world risk society in particular, is illustrative of this change in discourse—a change which has its counterpart in real processes of social change, to be sure. My engagement with these theories focuses primarily on the work of Anthony

¹⁶ There is a growing body of literature on environmental justice and equality within environmental sociology. See, e.g., Agarwal, 1992; Banerjee, 2006; Brulle and Pellow, 2006; Buckingham and Kulcar, 2009; Bullard, 2008; Shrader-Frechette, 2002.

Giddens and Ulrich Beck—two sociologists whose theoretical contributions have had a significant impact on environmental sociology, although this impact has been less prominent in the US.

1.2.1 Reflexive Modernization

For social theorists such as Anthony Giddens and Ulrich Beck, the latter half of the twentieth century and the turn of the twenty-first century, in particular, coincide with fundamentally new aspects of modernity. Anthony Giddens (1991a: 1) suggests that within the contemporary context of globalization (a period he also refers to as “high” or “late” modernity), the connections between the emergence of sociology as a discipline and the emergence of modern social institutions is much more complex and precarious than was previously realized. Reflexive modernization theory claims that processes of nineteenth century modernization have profoundly undermined the very structures of industrial society, giving rise to new and emergent social transformations, which are profoundly altering social life. Scholars working within this framework stress the need to rework the basic premises of sociological analysis accordingly.¹⁷

For Giddens (1991a, 1991b, 1993), there are three key interrelated sets of elements that account for modernity’s unique dynamism: 1) separation of time and space, 2) disembedding mechanisms, and 3) institutional reflexivity. According to Giddens (1991a), processes of globalization accelerate and intensify the interrelations between these elements. As a consequence, in modern social life, the linkage between the phenomenological (i.e. experiential) and global level is marked by “profound processes of the reorganization of time and space, coupled with the expansion of disembedding mechanisms – mechanisms which prise social relations free from the hold of specific locales, recombining them across wide time-space distances” (Giddens, 1991a: 2). Institutional reflexivity refers to an inherent element of modernity characterized by “the regularized use of knowledge about circumstances of social life as a constitutive element in its organization and transformation” (Giddens, 1991a: 20). Although Giddens contends that newly emerging threats and opportunities, such as global climate change and

¹⁷ See, e.g., Hajer, 1996; Beck, Giddens, and Lash, 1994.

sustainability, are created by the increased scale and scope of change between the separation of time and space, disembedding mechanisms, and institutional reflexivity, he does not (contra post-modernism) view “high” modernity as marking a new phase of social development “beyond modernity” (Giddens, 1991a: 27).

According to reflexive modernization theory, although newly emerging threats and possibilities undermined the “older” processes of nineteenth and early-twentieth century modernity, such as industrialism, these transformations were generated by changes in earlier forms of modernity. Hence, a defining characteristic of modernity from within the framework of reflexive modernization is that its historical specificity is “fluid,” with no clear disjuncture between the “new” and the “old” (see Baumann, 2000). Institutional reflexivity, for example, both undermines and is a product of the certainty of knowledge characteristic of Enlightenment thought (Giddens, 1991a: 21). According to Giddens (1991a: 27-28), the contemporary widespread questioning of “providential reason”¹⁸ is coupled with a growing recognition of the “double-edged nature of science and technology” (i.e. the notion that both science and technology are generative of new dangers and risks as well as new opportunities and possibilities).

Giddens has extended his work on reflexive modernization to the issue of global climate change, which he contends is unlike any other socio-political issue. According to Giddens (2009), one of the unique features of global climate change is that it is primarily an issue of abstract, future risk and therefore difficult for people to relate to in their everyday lives. As such, he contends that the key political task is to put the issue on the mainstream political agenda in order to bring a concern for climate change in line with the “ordinary” concerns of everyday actors. Giddens (2009) argues that Western industrialized nations must take a unified stand on climate change mitigation.

While I agree with Giddens that a unified effort addressing global climate change on behalf of the industrialized nations is much needed, I contend that his argument that developing nations will not do much in this regard without a model from the West misses

¹⁸ By “providential reason,” Giddens is referring to “the idea that increased secular understanding of the nature of things intrinsically leads to a safer and more rewarding existence for human beings” (Giddens, 1991: 27).

the point.¹⁹ A more pressing issue is the fact that the post-World War II, cold war configuration of economy, state, and society in the industrialized West is unlikely to be able to reconcile the tension between its model of economic growth and climate change mitigation, which would require cutting-back aggregate industrial output (Barnes and Gilman, 2011). And while it is both understandable and probably true that the issue of climate change is absent from the everyday concerns of most people, there has also been a growing consensus among policymakers and citizens around the world that societally-induced climate change poses a very serious long-term threat to human well-being (Barnes and Gilman, 2011: 45).²⁰ Despite his explicit recognition of the barriers inhibiting environmental action, Giddens's (2009) recent work on climate change politics relies on the mistaken assumption that increasing concern for and attention to the reality of climate change is itself grounds for improvement.²¹

Although mounting environmental destruction can translate into mounting concern and frustration, there appears to be a general sense among environmental sociologists that increasing attention and concern is itself a good thing, perhaps indicating that matters are improving. To reiterate, what is counter-intuitive about this assumption is *not* that greater destruction corresponds with greater attention and concern but that increasing attention and concern is somehow logically related to less destruction (or at least a decline in the rate of destruction). Herein lies the paradoxical nature of the environment-society problematic—people think there is a link between paying attention and improvement.²² Indeed, it appears that even though people are clearly paying more

¹⁹ At the same time, sociologists must be aware of the potential “unreflexivity” (more on this below) involved in championing non-Western peoples, groups, communities, and/or indigenous groups from within the modern capitalist system (for examples of this type of unreflexivity, see Foster, 2005b, 2009).

²⁰ Barnes and Gilman (2011: 45) argue that it is not very likely that this consensus will be converted to political action unless the modern conception of political legitimacy is revolutionized.

²¹ Giddens therefore conflates the presupposition of the possibility of nature-society reconciliation with the likelihood of this reconciliation becoming actual.

²² This paradox, which itself is effected by the dynamic and contradictory processes energizing the environment-society problematic can be further specified as follows: Proposition 1: Increasing destruction has led to increasing awareness; Proposition 2: Increasing awareness leads to less destruction (or at least a decline in the rate of destruction). These two propositions are independent of each other (i.e. they belong to separate reference frames), although there is the assumption (especially in environmental movements) of

attention to the well-being of the environment—perhaps generating the felt need to think, act, and live sustainably—key indicators suggest that developments are pointing in the opposite direction. What is it, then, that we do not understand about the dynamic link between increased environmental destruction and humankind’s awareness of this destruction?

1.2.2 Risk Society

The category of risk indicates “a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself” (Beck, 1992: 10). More specifically, risk “represents the perceptual and cognitive schema in accordance with which a society mobilizes itself when it is confronted with the openness, uncertainties and obstructions of a self-created future and is no longer defined by religion, tradition, or the superior power of nature but has even lost its faith in the redemptive powers of utopias” (Beck, 2010: 4). According to Beck, the social production of wealth associated with nineteenth and twentieth century modernization simultaneously generated the social production of risk. Although Beck sees the social production of risk as an epiphenomenon of the unintended consequences of the control of nature through the use of science, he contends that his category of (world) risk society is historically specific. The term *risk society* refers “to the emergence of new risks which began in the latter half of the twentieth century, and hence to the historical experiences of environmental crises and the retrenchment of welfare state guarantees, etc.” (Beck, 2010: 235, note 2). The meaning of the category of risk society is the thematization of “the process of problematizing the assumption that it is possible to control and compensate for industrially generated insecurities and dangers” (Beck, 2010: 7). As such, *risk* is essentially double-sided: risk both exacerbates and creates the possibilities for ameliorating the adverse effects of future risk.

Although Beck’s theory of risk society is rooted in the theory of reflexive modernization, Beck (2010) distinguishes his own perspective of reflexive modernization

Proposition 2 logically following from Proposition 1. When Proposition 2 turns out to be incorrect, we are confronted with a paradox.

from the work associated with Anthony Giddens. Beck pinpoints the crucial distinction between his perspective and that of Giddens by examining the meaning of the words *reflection* and *reflexive* (Beck, 2010: 119-122). Giddens's version of reflexive modernization views the social processes of reflexive modernization primarily in terms of knowledge (*reflection*) and is concerned above all with "the foundations, consequences and problems of modernization", whereas Beck contends that his approach situates reflexive modernization as "primarily the result of *side effects* of modernization" (Beck, 2010: 119).

In *Risk Society: Towards a New Modernity* (1992 [1986]), Beck elaborates the rebound effect of both risks and side effects, which he contends are produced by industrial societies back onto these societies, as it were. Where and when such rebounding occurs, says Beck (1992 [1986]: 76), "modernization risks have successfully passed through the process of social (re)cognition." This also allows Beck to distinguish his approach to social change from theorists of postmodernity. As he explains,

[G]lobal risks are the main triggers of an explosive transformation that is rendering visible the contours of society in the twenty-first century. The theory of world risk society addresses the increasing ubiquity of globally manufactured uncertainty. The key institutions and actors of the first modernity, who are responsible for judging and controlling manufactured uncertainties, are being undermined by the growing awareness that they are ineffective, indeed that their measures are counterproductive. This does not occur haphazardly, but systematically. The radicalization of modernity gives rise to this irony of risk: the sciences, the state and the military are becoming part of the problem they are supposed to solve. This is the meaning of the expression 'reflexive modernization': we are not living in a *post*-modern world but in a *hyper*-modern world. It is not the crisis but the *victory* of modernity which is undermining the basic institutions of first modernity due to unintended and unknown side effects. (Beck, 2010: 55)

Beck (2010: 119) argues that his perspective of reflexive modernization encompasses the "more narrow" perspective concerned with the foundations, consequences, and problems of modernization, but his perspective also is extended to include "the idea of a 'reflex' in the sense of the (preventive) effect of *not* knowing." Beck (2010: 115-123) explains that his more encompassing conceptualization of reflexive modernization represents an advance because it allows for a more accurate grasp of the contours of our contemporary moment (i.e. [world] risk society). This is in part because, on Beck's account, reflexive modernization takes into account the fluid boundary

between knowing and non-knowing by specifying how this boundary itself is increasingly made ambiguous in and through (world) risk society (Beck, 2010). As he explains:

World risk society is a *non*-knowledge society in a very precise sense. In contrast to the premodern era, it cannot be overcome by more and better knowledge, more and better science; rather precisely the opposite holds: it is the *product* of more and better science. Non-knowledge rules in the world risk society. Hence, living in the milieu of manufactured non-knowing means seeking unknown answers to questions that nobody can clearly formulate. (Beck, 2010: 115)

According to Beck, the more narrow perspective of reflexive modernization (i.e. the perspective Beck associates with Giddens and Lash) focuses on processes that can, at least to some degree, apply to both pre-modern and modern societies: “*some* form of knowledge, consciousness, reflection, communication and self-observation is relevant not only for all modern but also for all *traditional* societies” (Beck, 2010: 120). For Beck, if the concept of reflexive modernization is theorized trans-historically, then the historical specificity of reflexive modernization is masked. This theoretical and conceptual shortcoming is significant since reflexive modernization, according to Beck, is the result of a completely new social and historical situation. Whereas industrial society had previously systematically produced its own threats and dangers “*without* thematizing them publicly as political conflicts” (Beck, 2010: 109), risk society confronts itself in and through the activity of thematizing such threats and dangers. According to Beck (2010: 109), “The institutions of industrial society create and legitimize risks that they cannot control. Industrial society then sees and criticizes itself *as* risk society.”

However, I contend that Beck is unable to provide an adequate account of the conditions of possibility of his own theory (i.e. an adequately reflexive account of the sociohistorical within which his theory operates and inevitably refers to), which, despite its aims, renders his critique of Giddens less than plausible. Specifically, Beck does not recognize that the distinction between pre-modern society and modern society is meaningful only from within its immersion in time and space (i.e. the contextual

framework of modern society).²³ The contextual framework of modern society implies that the historical trajectory of modernity is itself historically specific. Furthermore, the possibility of “non-modern” conceptualizations (of nature, for example) is rooted in modern society’s historical specificity. In other words, it is by virtue of the historically specific historical trajectory of modernity that the distinction between “pre-modern” and “modern” can be conceptualized, including the retrospective projection of such conceptualization. Beck (2010) criticizes Giddens and Lash for their supposedly undifferentiated concept of reflection by arguing that the very universality of the concept of reflection requires one to further differentiate “reflexive modernization.” This criticism might be well taken, but what Beck apparently does not recognize is that the very concept of universality is historically specific.²⁴

The work of Giddens (2009) and Beck (2010) is significant in part because both theorists attempt to grasp new and emergent threats, such as global climate change, within the context of globalization from a theoretical sociology perspective. While there is insight to be gleaned, a central problem confronting the research efforts of both Giddens and Beck is that of the proverbial “throwing the baby out with the bath water.” Both Giddens’s theory of reflexive modernization and Beck’s theory of risk society are more coherent than some anti-theoretical versions of postmodernism, to be sure. However, the extent to which the processes these theorists identify differ from the dynamic and contradictory logic of capitalist development remains unclear. Although both Giddens and Beck recognize the historical synchronicity of capitalism, reflexive modernization, and (world) risk society, without more rigorous theoretical criteria for delineating what constitutes change we are left wondering in the dark. If the multifaceted and simultaneous nature of changes in capitalist society has been increasing throughout the twentieth century (which it has), then we must be able to distinguish between qualitative changes within capitalism (see Dahms, 2000). Otherwise, construction of (additional) “new” theories seeking to account for changes in the nature of change itself

²³ For an account of perspectives that recognize their own immersion in time and space and those that do not, see Dahms, 2008.

²⁴ I shall return to this issue when I discuss Marx’s mode of presentation in chapter two.

may prove to be futile. According to Joas and Knöbl (2004: 474), “The rhetoric of historical rupture certainly exercises a certain fascination, but (...) it tempts one to produce overly crude contrasts.” Others (e.g., Alexander, 1996; Sica, 1997) have gone a step further by contending that “reflexive modernization” is simply modernization theory in new dress.

In chapter three, I attempt to explain why there might be reason to (re)situate processes energizing the environment-society problematic at the beginning of the twenty-first century within the contextual framework of modern capitalist society. At the same time, it is important to acknowledge that contemporary discourse on modernity within sociological theory (which includes concepts such as risk society and reflexive modernization) does in fact resonate with the seemingly paradoxical nature of the environment-society problematic. This resonance is reflective of the vicissitudes of our current moment, namely, its dynamic, decontextualized character. We must therefore scrutinize the possibility that these theories reflect more than challenge our ability to scrutinize the present.

1.2.3 Ecological Modernization Theory

Ecological modernization theory has made a significant impact on environmental sociology discourse in recent years. The timing of ecological modernization theory’s ascendancy and incorporation into environmental sociology is instructive, as it was not until the mid to late 1990s, during the acceleration of “globalization” following the official end of the cold war, that ecological modernization theory gained its current prominence within environmental sociology. In this regard, it is also interesting to note, as Buttel (2004) details, that the reception of ecological modernization theory coincides with a decline in the treadmill of production’s established theoretical foundation within the field of environmental sociology.

Table 2 below shows some of the main characteristics of the three waves of environmental concern and reform. The rise of ecological modernization theory, as Mol (2003: 57) explains, occurred during the third wave of environmental concern and reform

during the late 1980s.²⁵ During this period, the notion of “global change” took on an increasingly significant role with regard to environmental concern and reform (Mol, 2003: 47-59), as the notion of global change began to play a central role in defining environmental concern and reform during this period insofar as it “underlined the growing importance of (...) environmental problems that concern and challenge the entire world” (Mol, 2003: 54). The shift from “limits to growth” in the 1970s to “global change” in the late-1980s parallels the growth of a number of institutional organizations and international commissions like the Brundtland Commission and the WorldWatch Institute, whose mission is to protect and manage the global environment.²⁶

²⁵ See also Buttel, 2004 for the historical specificity of ecological modernization theory.

²⁶ For a critique of this institutional and organizational development, see Luke (1997).

Table 2. Some characteristics of the three waves of environmental concern and reform

	First Wave	Second Wave	Third Wave
Beginning	Ca. 1900	Ca. 1970	Late 1980s
Central notion	Nature conservation	Limits to growth	Global change
Focal point	Protection of reserves and species	Minimizing additions and withdrawals	Sustainable development
Geographical range	Industrializing nation-states	Industrializing nation-states	Globalizing world
Results	Protected areas and species	National environmental agencies, laws, NGOs	Ecological reform of modern institutions around production and consumption
Major social theories on environment	---	Deindustrialization, neo-Marxism	Ecological modernization

Source: Mol, *Globalization and Environmental Reform: Ecological Modernization of the Global Economy* (Cambridge, 2003), pg. 49

This theoretical development was undoubtedly influenced by “actual environmental restructuring” (Mol, 2003: 56) in wealthy nations, particularly Western European nations such as Germany, Sweden, and the Netherlands. Mol cites a variety of empirical studies that, although inconclusive, point toward a break in the coupling of economic growth and “ecological disruption,” which had characterized development in most advanced countries during the previous decade. The break in the link between economic growth and environmental destruction, referred to as “decoupling,” has been a primary area of concern for ecological modernization theorists.²⁷ Some ecological modernization scholars argue that technological development and institutional modernization lead to dematerialization of production (see e.g. Tapio 2005). In contradistinction to the concept of decoupling, dematerialization “is a joint concept including both eco-efficiency and substitution and refers to a decoupling of economic

²⁷ The issue of decoupling has also been a key point of contention between ecological modernization theory and Marxist-oriented environmental sociology (see e.g. Næss and Høyer 2009: 74).

growth from resource consumption and negative environmental impacts” (Næss and Høyer 2009: 74).

The concepts of decoupling, dematerialization, and the more general notion that economic growth is positively related to a nation’s ability to offset global ecological challenges are central to the aim and underlying theoretical premises of ecological modernization theory. Viewed in this light, Mol’s gloss on the fundamental premises of ecological modernization theory is important and is worth quoting at length.

The basic premise of the Ecological Modernization Theory is the centripetal movement of ecological interests, ideas and considerations involved in social practices and institutional developments, which results in the constant ecological restructuring of modern societies. Ecological restructuring refers to the ecology-inspired and environment-induced processes of transformation and reform going on in the central institutions of modern society. Institutional restructuring is of course not a new phenomenon in modern societies, but a more continuous process that has accelerated in the phase that is often labeled late, reflexive or global modernity. The present phase differs from the pre-1980s phase, however, in the increasing importance of environmental considerations among the triggers for these institutional transformations. Within the Ecological Modernization Theory *this process is conceptualized at an analytic level as the growing autonomy or independence of the ecological sphere and ecological rationality with respect to other spheres and rationalities.* (Mol, 2003: 59 [emphasis added])

According to Mol (2003: 60-61), the growing independence of the ecological dimension referred to above applies to both the economic and sociological dimensions of modern society as well. This implies that “economic processes of production and consumption are increasingly analyzed and judged, as well as designed and organized, from both an economic *and* an ecological point of view” (Mol, 2003: 60). Since the mid-1990s, the aim of ecological modernization theory has been to better understand the global dynamics energizing the various ecological responses of modern societies; these responses are collectively termed “ecological modernization.”

Given ecological modernization’s relatively optimistic view of the potential brought about by the most recent development of capitalism, it should be noted that scholars working within the ecological modernization framework have curbed their initial, perhaps overly optimistic position regarding environmental sustainability within capitalism. As Mol and Spaargaren (2002: 36) explain, the potential compatibility between environmental sustainability and capitalism does not necessarily mean that the

capitalist system is “inherently sustainable or will develop more or less automatically into an environmentally sound production and consumption system.” Ecological modernization theory, however, does not provide a critique of capitalism. Indeed, the underlying theoretical premises of ecological modernization require an affirmation of the global capitalist system.²⁸

According to Mol and Spaargaren (2002: 36), “ecological modernization theory identifies both actual and further possibilities to transform the current institutional order into one that takes environmental considerations and interests increasingly into account”. This “more balanced” position toward capitalism puts ecological modernization theorists in the position to make the following claims:

- (i) capitalism is changing constantly and one of the main triggers are environmental concerns and interests, (ii) significant environmental improvements in production and consumption are possible under different ‘relations of production’, and (iii) all major, fundamental alternatives to the present economic order have proved unfeasible according to various (economic, environmental, and social) criteria. (Mol and Spaargaren, 2002: 38)

For ecological modernization theorists, these claims point toward “redirecting and transforming ‘free market capitalism’ in such a way that it less and less obstructs, and increasingly contributes to, the preservation of society’s sustenance base in a fundamental/structural way” (Mol and Spaargaren 2002: 38). For ecological modernization theorists, such as Mol (2003: 59-60), “ecology” has the potential to emerge as *the* new emancipatory grand narrative.

In contrast to the aforementioned theoretical progression within ecological modernization theory, Buttel (2000: 58) contends that the rise of ecological modernization, and its subsequent incorporation into environmental sociology in the 1990s, owes much more to a variety of *external* political and economic factors than to the approach’s internal theoretical/conceptual achievements.²⁹ For Buttel (2004), it is no

²⁸ On this issue, ecological modernization theorists have constructively responded to criticism from Marxist-oriented environmental sociologists (see e.g. Mol and Spaargaren, 2002).

²⁹ These external factors include: (1) the resurgence of the environmental movement during the 1980s; (2) ecological modernization theory’s ability to address problems of the more widespread concept of sustainable development; (3) the much needed argument regarding the potentiality of future environmental improvements; and (4) ecological modernization theory’s explanation of some of the environmental

coincidence that ecological modernization theory grew out of the concept of sustainable development. Indeed, ecological modernization's optimistic outlook resonated particularly well during the 1990s because, according to Buttel (2000: 60), it provided a needed counterpoint to what was perceived as a tendency toward structural determinism.³⁰ Following Buttel (2004), I contend that the ascendancy of ecological modernization theory and its incorporation into the field of environmental sociology during the 1990s is a reflection of the (unrecognized) immersion of ecological modernization theory in time and space³¹ rather than an indication of theoretical progression.³²

Not surprisingly, there have been several theoretical and empirical criticisms of ecological modernization theory. Focusing on the empirical level, York et al. (2003) found that factors drawn from ecological modernization theory, including state environmental regulation, had no impact in their empirical analysis of cross-national variation in environmental impact. Fisher and Freudenburg (2004) found ecological

improvements during the 1980s, as evidenced by progress in Germany, the Netherlands, and Switzerland (Buttel 2000: 59-60).

³⁰ As Buttel (2004) indicates, the treadmill approach was particularly vulnerable to the accusations of structural determinism during this time.

³¹ On the immersion of mainstream approaches to sociology in time and space see Dahms (2008).

³² In response to these shortcomings, Buttel (2000: 60) offers five propositions, which he claims are intrinsic to ecological modernization theory and which he contends have the capacity to be framed in terms of a distinctive, coherent ecological modernization perspective: (1) capitalism's institutional flexibility, (2) the potential role of capitalist eco-efficiency and rationalization in environmental reform, (3) critique of radical environmentalism, (4) the potential for the environment to be an autonomous or "disembedded" area of decision-making, and (5) analyses of specific policy environments part and parcel of the restructuring of the state. Despite this potential, Buttel argues that ecological modernization theory is weakened insofar as its proponents, specifically Mol (2003) and Mol and Spaargaren (2002), attempt to link the approach with the theories of reflexive modernization and risk society discussed above. According to Buttel (2000), attempts to elucidate these theoretical similarities are most likely reflective of efforts to establish ecological modernization's theoretical legitimacy. Although there are identifiable similarities between the two approaches, Buttel (2000) suggests that certain inconsistencies between ecological modernization theory and theories of reflexive modernization and risk society are too great to be theoretically consistent. Specifically, Beck's notion of risk society (1992 [1986], 2010) relies on key disjunctures between risk society and industrial society while the conceptual core of ecological modernization theory rests on the idea that environmental progress can be made without major structural change (Buttel 2000: 62). According to Buttel (2000: 64), ecological modernization theory is "ultimately a political-sociological perspective" that has its closest relations to the neo-Weberian tradition of embedded autonomy (see e.g. Jänicke 1990) and state-society synergy (see e.g. Evans, 1997). Buttel suggests that the potential influence of ecological modernization theory depends on developing these similarities as opposed to legitimizing itself in reference to the current popularity of Beck (1992, 2010) and Giddens (1991a, 2009) writings.

efficiency, but not environmental institutionalization measures, to be a strong predictor of emissions reduction.³³ The assumption that the shift from a more production-based economy to a service-based economy corresponds positively with increased societal ability to ameliorate environmental problems has been confounded both empirically³⁴ and conceptually. Moreover, many of the empirical studies that have found supporting evidence for ecological modernization theory's basic assumption that modernization is necessary for ecological sustainability have been isolated in geographic and historical scope since ecological modernization theory has focused primarily on modern, advanced North American and Western European countries during the 1990s. As a result, these studies grasp neither dynamic processes of social change (Isaac and Lipold, 2012) nor ecological impacts that inevitably extend beyond national borders—an assumption tellingly referred to as the “Netherlands fallacy” (York and Rosa, 2003). Frey (1998), for example, has utilized world-system analysis to show that not only do core nations draw on the periphery for raw materials and cheap labor but they also export hazardous wastes back to the periphery—a process illustrative of a circuitous dynamic intrinsically bound to the mutual reinforcement of global environmental damage and social destruction within the capitalist world-system.³⁵ It is perhaps in response to the criticisms put forth by scholars utilizing world-system analysis that more recent ecological modernization research has attempted to incorporate empirical and case study work on non-core nation-states in order to evaluate the key tenants of ecological modernization theory.³⁶

Another consequence of ecological modernization theory's limited focus is that the majority of empirical studies that examine the link between modernization and ecological sustainability have been confined to analyses of advanced Western European nations with relatively strong welfare states. This delimitation ignores historical,

³³ The so-called “Jevon's Paradox”—that is, the notion that increased efficiency in the use of a natural resource as an energy source, such as coal, will actually increase demand for that resource since improvements in efficiency lead to further economic expansion—also appears to undermine some of the fundamental premises of ecological modernization theory. On the Jevons Paradox, see Buttel (2006), Foster et al. (2010: 139-142, 169-181), and York (2006)..

³⁴ See, e.g., Jorgenson and Burns, 2007 and the contributions in *Journal of Environment and Planning*, volume 2, issue 4, a special issue devoted to ecological modernization theory.

³⁵ See also Bunker, 1985; Bunker and Cicantell, 2005; Gellert, 2010.

³⁶ See, e.g., Huber, 2008; Warner, 2010; Zhang et al., 2007.

institutional, and cultural differences between nation-states—factors that may, comparatively speaking, impede or facilitate the development of an environmental state. The United States is a prime, if not anomalous, example of how historical, institutional, and cultural factors have combined to impede strategies to pursue even the most minimalist environmental reform efforts.³⁷ America's history of strong anti-state sentiments, deeply engrained in the very fabric of American society and therefore its intrinsic social relations, is an unintended yet highly effective deterrent against welfare state regulation, especially environmental regulations, which are typically perceived as being in conflict with the two primary elements of American mythos: free enterprise and individual liberty.³⁸

1.3 The Incommensurability of Treadmill of Production and Ecological Modernization Theory?

Ecological modernization theory and treadmill of production theory appear to be in direct opposition to one another. Although ecological modernization theory and treadmill of production theory may indeed be incommensurable, I contend that the contemporary debate between the two theoretical positions is not indicative of their commensurability. In fact, the type of dialogue that would need to be established in order to engage the issue of the commensurability between the two theoretical positions is not currently possible. As a step in the direction of such dialogue, I would like to indicate that part of the confusion currently preventing communication between the two theoretical positions is related to comparative differences between Western European societies, where ecological modernization theory originated, and American society, where the treadmill of production theory was first developed.

I will develop this point along two lines. First, it is important to bear in mind that treadmill of production theory originated in American society and that Schnaiberg (1980)

³⁷ This is supported by Fisher and Freudenburg (2004), who have shown that although the overwhelming majority of today's top scientists agree on the need to reduce emissions, environmental protection measures in the US can be resisted by key economic actors within the nation-state (see also Münch, 2001).

³⁸ McWright and Dunlap (2011), for example, have analyzed the American conservative movement's success in undermining climate science and policy. (On the contradictory nature of American mythos, see Wuthnow, 2006).

initially developed this theory in order to explain the relationship between the reconfiguration of American business, labor, and government and the dramatic spike in societally-induced environmental degradation throughout the latter half of the twentieth century. Ecological modernization theory, on the other hand, emerged from and responded to different circumstances in Western Europe, where today the approach remains far more influential than in the US. The reasons for this divergence can be explained with reference to the historical specificity of these two societal contexts, although I will not develop such a comparative analysis here. Rather, I would suggest that one of the reasons ecological modernization has gained a stronger footing in the European societal context³⁹ is because the institutional infrastructure is more favorable, relative to American societal context, to instituting ecological modernization.⁴⁰

Compared to American society, welfare state social institutions, in addition to the public expectations and perceptions regarding state involvement in economy and society in Western Europe, are certainly much more conducive to pursuing environmental regulation. This statement of difference is not meant to glorify the European context, for the differences between the American and the European societal contexts are themselves social and historical. For example, American society was born out of revolt against authority, and this ethos became entrenched in the very fabric of American society and is reflected in widespread opposition to state involvement in economy and society. Furthermore, large parts of the geographic USA (namely, the south) remained a more or less agrarian slave society until relatively recently. In contrast to Western European nation-states, which have a long history of authorial rule, America has never had to fully confront the problem of the social, as it were, in ways its Western European counterparts have. While empirical analyses informed by ecological modernization theory have been limited in scope, American environmental sociologists who are keen to identify this

³⁹ By European societal context I am referring to the EU nations.

⁴⁰ Within the European context it is common to distinguish between “strong” ecological modernization, which substantially changes the direction of environmental dimension in modern society, and “weak” ecological modernization, a term referring to the continuation of convention approaches dressed up in green garb. (See Schermer, 2008 for an empirical exemplar within the context of the EU, and Austria in particular).

shortcoming have been less precise in pinpointing the comparative sociohistorical factors that mediate the degree of ecological modernization across nations. By the same token, ecological modernization theory has not adequately taken into account how its conditions of possibility are fully immersed in time and space, namely the acceleration of various processes that, since the 1990s, have been subsumed under the heading “globalization.”

Another reason for the confusion currently preventing an adequate debate on the commensurability of treadmill of production theory and ecological modernization theory revolves around the meanings associated with the term “constructionism,” specifically as they differ from the American to the European societal context. American environmental sociology is, for the most part, rooted in a specific version of scientific realism associated with empiricist philosophy, which has given American environmental sociology an (overly) objectivist, “materialist” emphasis.⁴¹ This emphasis is upheld in response to theories of ecological modernization and risk society, which question traditional Enlightenment assumptions such as the certainty of knowledge. As I will note again below, not only does the commitment to this objectivist approach reaffirm itself in light of perceived threat (e.g. from reflexive modernization and postmodern theories, or from subjectivist and interpretive approaches) but also it is reflective of the objective dimension of the environment-society problematic. From this perspective, social constructionist approaches to environmental sociology are delegitimized, as “constructionism” is mistaken as code for extreme subjectivism and/or idealism whose epistemological and ontological position(s) inevitably risk(s) downplaying the reality of global ecological threats and the material interaction between society and environment. However, from the perspective of European environmental sociology the social construction of nature is not necessarily incompatible with critical materialism (see e.g. Cook, 2006, 2011; Eder, 1996; Görg, 2011). In fact, approaches to environmental sociology attuned to the question of the social construction of nature are in many ways more critical and more materialist insofar as they are able to scrutinize the ideational and material nature dimensions of the processes whereby modern society posits “nature” as

⁴¹ See, e.g., York and Clark, 2010.

an external object that may then be quantified, manipulated, and controlled.

Consideration of the two aforementioned lines of confusion is nonetheless necessary in order to assess whether or not – and if so, how exactly – ecological modernization theory and treadmill of production theory are incommensurable.

Despite the many differences between the two approaches, both ecological modernization theory and treadmill of production theory share at least one significant assumption. Both theoretical positions are motivated by a common normative commitment—namely, care for the well-being of biophysical nature and an equally strong concern regarding the socio-ecological consequences of societally-induced environmental degradation. This shared commitment implies that in light of the current anti-thesis between modern society and the well-being of biophysical nature both treadmill of production theory and ecological modernization theory uphold the possibility of nature-society reconciliation. In other words, the commonalities between ecological modernization theory and treadmill of production theory, particularly care for the well-being of the environment and concern for related nature-society dynamics, suggest both theories share a related normative aim, or vanishing point—namely, the possibility of nature-society reconciliation.

However, in part because of different ideological affiliations, ecological modernization theory assumes that the possibility of nature-society reconciliation is currently being actualized, as indicated by so-called “actually existing ecological reform” and the related potential brought about through processes of reflexive modernization. Treadmill of production theory, on the other hand, assumes that social relations under capitalism, such as class exploitation, and other forms of domination within modern society greatly inhibit the possibility of nature-society reconciliation from being actualized. Viewed in light of their mutually-shared normative aim and commitment, ecological modernization theory assumes the possibility of nature-society reconciliation can be actualized in and through existing social conditions and is therefore essentially affirmative. Treadmill of production theory, on the other hand, assumes that existing

social conditions prevent the actualization of the possibility of nature-society reconciliation and, therefore, takes a critical stance toward existing social conditions.

Although it is certainly not without its shortcomings, I contend that the critical approach of the treadmill of production is a theoretical advancement over affirmative approach of ecological modernization theory, which, as I have indicated, relies on an argument whose *explanans* do not provide a full or relevant explanation of the *explanandum*. The more significant shortcomings of the affirmative approach, which cannot be evaluated in terms of descriptive analytic criteria and which I shall discuss separately below, will become clearer as this dissertation proceeds. Compared to ecological modernization theory, treadmill of production theory appears to be a more theoretically sound and analytically-useful approach to the study of the environment. The treadmill of production theory is situated within historical and societal contexts, allowing for a specific explanation of the relationship between increasing environmental degradation and some of the most important political and economic changes in post-WWII American society. Espousing the ecological potential of neoliberalism in face of its ecological challenges, ecological modernization theory appears to reflect (as opposed to critically reflect on) the problematic and contradictory nature of accelerating processes of globalization since the 1970s. This passive reflection/unrecognized maintenance is also why ecological modernization theory is inadequate to this dissertation's aim of deciphering the environment-society problematic in theoretical, historical, and societal contexts. The treadmill of production approach certainly lends a more focused lens by critically reflecting on the problems and contradictions brought about in and through institutional and structural changes in American society throughout the latter half of the twentieth century. To reiterate, the treadmill of production approach analyzes the increase in environmental degradation following the Second World War as an outcome of specific reconfigurations between business, labor, and government. As such, the treadmill of production is theoretically instructive insofar as it is capable of grasping the relationship between modern society and biophysical nature as one of intrinsic opposition.

While treadmill of production theory is to be applauded for its significant contribution to environmental sociology, I must now inquire further into the possibility of nature-society reconciliation, including how the treadmill theory evaluates and explains related efforts toward ameliorating current environmental destruction. Where exactly treadmill of production theory locates the possibility of nature-society reconciliation is not entirely clear. With regard to the explanation and evaluation of related efforts aimed toward ameliorating current environmental destruction, Schnaiberg and Gould (2001: 221) indicate an obligation to force the treadmill of production to yield to concerns for preserving the environment other than those required for the perpetuation of its own perpetuation. Schnaiberg and Gould (2001) note the importance of activism and the need to develop realistic alternatives to the current anti-ecological economic system. As they explain,

Environmentalists will have to recognize and address the real socioeconomic tradeoffs involved in treadmill modification, using sound political persuasion and sound economic planning (Redclift 1987). Mechanisms to distribute the economic costs of environmental protection more equitably throughout the stratification spectrum will have to be developed (...) To underestimate or to ignore the potentially regressive social impacts, the depth and breadth of the tradeoffs or the resistance of those powerful actors whose interests may be threatened is to invite political defeat.

To press for voluntary reduction on a mass scale based on concern for the intrinsic rights of ecosystems, species, and individual nonhuman organisms is also to invite defeat in the public political arena (...) The best hope for making gains based on sustaining the environment for its own sake will be to raise consciousness on a mass scale through success in achieving sustainability for other social uses. (Schnaiberg and Gould, 2001: 221-222)

For reasons I have yet to discuss and which will be elaborated separately in chapters two and three below, the critical stance of treadmill of production theory is not critical enough, insofar as it does not engage the type of critical, dynamic, and reflexive (immanent) critique required to comprehend the fact that domination of biophysical nature is also domination of inner human nature. In other words, treadmill of production is a critical sociology of the environment; it is not a critical theory of the environment. Although the necessity of a critical theory of the environment will be elaborated in the unfolding of this dissertation, the difference between a critical theory and a critical sociology of the environment can be illustrated by considering the treadmill's focus on

exploitation and vested “interests.” As mentioned above, treadmill of production theory assumes social relations under capitalism, such as class exploitation, and other forms of domination within modern society greatly inhibit the possibility of nature-society reconciliation from currently being actualized. For example, with regard to the (socio-ecological) emancipatory potential of science and technology, treadmill theorists emphasize the significant role played by elite decision-makers within social institutions such as universities, states, and corporations (see e.g. Gould, 2009). From a critical sociology perspective, which again is consonant with treadmill of production, these institutions reflect the “interests” powerful individuals at the top of the social pyramid, who benefit from the perpetuation of the treadmill. A critical theory perspective, on the other hand, would view elite decision-making in terms of an external social necessity created by, yet imposed on all members of society.⁴² This is not to deny the fact that certain individuals and groups benefit from the way the system is organized. However, the inner workings of the system cannot be explained by this fact.⁴³

Regarding the issue of science and social institutions, the critical sociology of the treadmill of production should be cognizant of its socio-historical embeddedness, but it is deficient in this regard. The critical theory approach advanced in this dissertation, on the other hand, allows us to reflect upon approaches in the sciences that are even more oblivious to their embeddedness and how they perpetuate certain features of modern societies that they are not consistent with, e.g., in terms of their analyses. This, of course, raises the question of how we might appropriate the analyses and representations of what is real provided by “science” (e.g., the Anthropocene discourse) in a way that recognizes

⁴² The notion of an external social necessity created by, yet imposed on social action is contradictory. The methodological-theoretical significance of *mediation* (elaborated in chapters two and three below), which is crucial to critical theory, allows us to confront this contradiction head-on. The external social necessity to which I refer is a *process* of mediation. Conceptualized in terms of mediation, this “external” social necessity operates within and through all members of society. Critical sociology, which focuses on the fact that certain members of society benefit from the social structure thus created, is therefore unable to explain “external” social necessity as a process of mediation. Lukács’s critique of reification, Adorno’s critique of identity-thinking, and Postone’s critique of labor (via his critique of traditional Marxism), which I discuss in chapter three below, are different attempts to specify various aspects of historically specific heteronomy, or “external” social necessity.

⁴³ For recent theoretical efforts aimed toward specifying social institution, see Boltanski (2011: 50-82). On the unspecified, problematic nature of “interests,” see Dahms (2000: 1-30).

the severity of our current ecological situation without affirming this information as if science were above critique, which it cannot be, logically, according to critical theory. While this is a complex issue that goes beyond the more specific aims and purpose of this dissertation, the reader must be aware that what established scientific approaches present as real is always in danger (and even likely) to reflect ideological context, which is not to suggest that what established scientific approaches present is simply “wrong”, but that, at a deeper level of analysis and critique, related constructions of what is real would need to be scrutinized.

2. Moving beyond Prevailing Conceptions of Environmental Sociology in the USA

This section moves toward a more pointed and critical review of aspects of environmental sociology by examining values-based and traditional Marxist-oriented approaches to environmental sociology in the USA in order to assess whether or not – and if so, how exactly – these approaches help us make sense of the paradoxical nature of the environment-society problematic. I argue that in order to further research efforts accordingly, environmental sociologists must be able to grasp objective drivers of human-ecological and forms of subjectivity as a synchronous yet intrinsic oppositional unfolding in space and time.

2.1 The Formation of American Environmental Sociology and the Values-Based Approach

The “official” development of environmental sociology in the USA began in the late 1970s and was initiated by Catton and Dunlap, whose 1978 essay, “Environmental Sociology: A New Paradigm,” is now commonly recognized as the first formal attempt to delineate an environmental sociology proper.⁴⁴ Catton and Dunlap’s (1978, 1980) “human exemptionalist paradigm” (HEP) presents a set of fundamental assumptions they believe point toward an underlying anthropocentrism uniting even the most divergent sociological approaches and theoretical orientations. For Catton and Dunlap, the HEP illustrates how the entire sociological tradition, especially the classical cannon (i.e. Marx,

⁴⁴ The following provides only a brief sketch of the “official” development of the sub-discipline in the USA initiated by Riley E. Dunlap, William Catton, and others. For a more comprehensive review of the field see Villancourt (1995).

Durkheim, Weber), is devoid of systematic insight into environmental problems. Approaches that fall within this domain, according to Catton and Dunlap, analyze social factors, forces, and institutions separate from the biophysical environment. Following Kuhn (1962), Catton and Dunlap claimed that this supposed “impasse” signified a scientific crisis that marked the opportunity for a paradigmatic shift (i.e. environmental sociology).

Questioning what they considered to be sociology’s inherent anthropocentrism, Catton and Dunlap developed a New Environmental Paradigm (NEP), later termed the New Ecological Paradigm. The fundamental premises of the NEP revolve around three basic assumptions listed below:

- 1) Human beings are but one species among the many that are *interdependently* involved in the *biotic communities* that shape our social life.
- 2) Intricate linkages of *cause and effect* and *feedback* in the web of nature produce many *unintended consequences* from purposive human action.
- 3) The world is *finite*, so there are potent physical and biological *limits* constraining economic growth, social progress, and other societal phenomena. (Catton and Dunlap, 1978: 45 [emphases added])

While the initial attempt to circumscribe an environmental sociology proper in the late 1970s was fueled by the felt need to incorporate biophysical factors into sociological research, the historical (and dialectical) genesis of contemporary concern for the environment was left unquestioned. Although Catton and Dunlap’s appropriation of Kuhn is certainly questionable, especially in light of the debates regarding the applicability of Kuhn’s scientific revolution thesis to the social sciences (see e.g. Habermas 1983 [1981]; Hassard, 1993; Lakatos, 1970, 1980); today, we may ask: does an overarching anthropocentrism connect sociology generally and the classics, which represent different agendas respectively (cf. Buttel, 1978; Foster, 1999)? If so, does this represent an impasse worthy of Kuhnian revolution? As I will endeavor to demonstrate, the push to establish environmental sociology’s niche within the discipline, far from

signifying scientific crisis, is perhaps more indicative of the incorporation and projection of environmentalism's ideological concerns (Bloor, 1991 [1976]: 79-83; cf. Luhmann and Fuchs, 1994: 129). For the origins of environmental sociology, this involved the twin tasks of demarcating the uniqueness of a specialization's territory (environmental sociology) while simultaneously legitimizing the new approach. As a consequence, efforts to establish environmental sociology as a new sub-discipline eschewed the most important theoretical insights of the classical tradition in an effort to legitimate the specialization's novelty.

It appears that from the retrospective position of more than thirty years later, the early efforts to ecologically revolutionize sociology have resulted in the uncritical incorporation of problematic epistemological assumptions of U.S. environmentalist discourse, as evidenced by the values-based approach to environmental sociology. These assumptions rest on the notion of an unmediated relationship between concrete human-ecological transformation and the social perception and understanding of the natural environment. When the history of U.S. environmentalism is taken into account, for example, it is typically couched within the basic notion that the cumulative effects of human-induced environmental degradation in post-World War II American society reached a significant level where public attention to the environment coalesced with a variety of specific political and cultural factors during the 1960s (see Dunlap and Mertig, 1992; Gottlieb, 2005 [1994]). On this basis, a normative framework is constructed from which solutions to environmental problems are located within the realization of individual ecological consciousness. It is perhaps not surprising, then, that the values-based approach is driven by a strong normative commitment aimed toward increasing individual environmental awareness.⁴⁵ Unfortunately, the NEP-influenced, values-based approach treats environmental concern (taken here to be a "surface-level phenomenon") as if it is somehow directly indicative of more fundamental, underlying social dynamics. According to the critical theoretical perspective elaborated in this dissertation, however,

⁴⁵ Catton and Dunlap (1994), for example, contend that the vitality of environmental sociology itself depends on individual concern for the biophysical environment.

in order to understand contemporary environmental concern effectively, environmental sociologists must recognize concern for the environment as an *historical manifestation of underlying social dynamics*.

2.1.1 The Values-based Approach

Although the concept of values has been defined in various ways, when researchers talk about environmental values they are usually referring to “the various ways in which individuals, processes and places matter, our various modes of relating to them, and the various considerations that enter into our deliberations about action” (O’Neill, Holland, Light, 2008: 2).⁴⁶ To study the specific ways individuals or groups relate to environmental values is to examine the ways these relationships bring about different sources of environmental concern (O’Neill, Holland, Light, 2008: 2).⁴⁷ The values-based approach typically follows a two-fold formula: (1) measurement of individual environmental values and (2) analysis of their relationship to behavior deemed “environmentally consequential” (Dietz, Fitzgerald, Shwom, 2005: 336).

The system of value measurement developed by Rokeach (1973) and Wicker (1969) has laid the foundation for the majority of empirical work on environmental values, and research based upon Ajzen and Fishbein’s (1980) theory of reasoned action, having been determined *statistically* valid, remains essential for analysts trying to explain the somewhat tenuous relationship between environmental values and behavior.⁴⁸ Survey-based methodology (e.g. mass phone or mail public opinion surveys) is favored among values researchers, who use this technique to uncover the effect of group differences (race, class, gender, etc.) on so-called “environmentally consequential behavior” (e.g. recycling, driving behavior, support for environmental legislation, and so on). Environmental values, measured by regression and treated as dependent variables, are then explained with reference to various factors such as age, race, class, sex, and

⁴⁶ For a comprehensive review of the environmental values literature, see Dietz, Fitzgerald, Shwom (2005).

⁴⁷ Since the values-based approach tends to be atheoretical (Stets and Biga, 2003), and because there is a wide variety of diverse claims regarding the exact definition of environmental values (see e.g. Schultz et al., 2005), I use the term “values-based” environmental sociology to refer to survey-based public opinion research on environmental attention, concern, awareness, and the like.

⁴⁸ Statistical analyses of the relationship between environmental attitudes and behavior continue to yield inconsistent results.

political party orientation (among various other demographic control variables). These values are then employed in conclusion sections of journal articles where they are typically invoked in discussions of how to develop a more sustainable relationship with the environment.

One of the most striking and problematic features of the values-based approach is that it simply assumes environmental values have the ability to influence decisions relating to individual environmental behavior in practically meaningful and politically significant ways. By relying on data derived from public opinion surveys, for instance, this approach effectively reifies the “public” by expecting a select group of survey respondents, as they answer questions related to environmental problems or issues, to somehow represent the public in a way that can actually be transposed into effective political action (cf. Adorno 2005 [1965]). If people’s opinions and individually-oriented actions, such as recycling, have a meaningful political effect on environmental degradation, then how do we explain the positive correlation between increased destruction and growing attention and concern in recent decades?

Is it possible that this research may unintentionally support a homogenizing ideology presupposed by the assumption of “free” normative action, particularly in American society? The originality of democracy, as Lefort (1988) tells us, is that its legitimacy is rooted in “the people,” which is at the same time connected to an “empty space” impossible to occupy; that is, the distinction between legitimacy/illegitimacy is essentially open-ended. Public opinion surveys, on the other hand, are an implicit attempt to unify the social domain by seeking a more or less uniform acceptance of what the social is under the aegis of freedom of opinion. This is not an entire over-exaggeration because it is worth recalling the fact that “public” opinion (in the sense I have been using the term) originated as a decision technology for policy formation produced by and for the American cold war military-industrial complex (Amadae, 2003). In this sense, indicators pointing to the recent rise in public attention and concern for the environment—far from indicating signs of improvement—are actually rooted in ideology and violence.

By not critically reflecting on its own incorporation in social time and space, the values-based approach to environmental sociology produces a positivistic misrepresentation of the “subjective” dimension of the environment-society problematic severed from its material connections to the “objective” capitalist system. This approach affirms the ideology of “free” normative action, which hides the real divisions between environment and society. In fact, the ideal of a practically meaningful and politically significant relationship between environmental values and behavior is ultimately undermined by the values-based approach itself.

2.2 Marxist-oriented Environmental Sociology

Unlike the values-based approach, Marxist-oriented environmental sociology operates with an explicit theory of history. While this should be a welcome relief in light of the preceding discussion, I contend that Marxist-oriented environmental sociology falls short insofar as it remains confined to what Moishe Postone (1993) calls “traditional Marxism,” which, as we shall see, takes the relationship between capitalism, environment, and society for granted and treats Marxism as an a priori theory of society.⁴⁹ I identify two related shortcomings of “traditional Marxist” environmental sociology: (1) *non-reflexivity* and (2) the treatment of Marxism as an analysis of capitalist exploitation and domination within modern society as opposed to an analysis of the form of modern society itself.⁵⁰ Given the variety of work that may be subsumed under the “traditional Marxist” heading, the following discussion will focus primarily on the work of John Bellamy Foster and his colleagues, whose Marxist-oriented environmental sociology (particularly Foster’s concept of “metabolic rift”) has made a significant contribution to the field in the U.S.⁵¹

⁴⁹ I elaborate Postone’s theory, including its potential contribution to environmental sociology in greater detail in chapter three below.

⁵⁰ This is central to Postone’s (1993: 66) distinction between “traditional” and “critical” Marxism.

⁵¹ The concept of metabolic rift has been employed in a number of empirical studies that examine actual environmental destruction (see e.g. Austin and Clark, 2012; Longo, 2012). My aim here, however, is to locate various disconnects between actual ecological conditions and its subjective side.

2.2.1 Non-reflexivity

John Bellamy Foster's concept of metabolic rift, rooted in his interpretation of Marx as a social theorist concerned with the fundamental metabolism between humans and nature, is an attempt to conceptualize nature-society interaction within capitalist society (Foster, 1999, 2000). Foster explains the theoretical premise of his approach as follows:

It was in *Capital* that Marx's materialist conception of nature became fully integrated with his materialist conception of history. In his developed political economy, as presented in *Capital*, Marx employed the concept of "metabolism" (*Stoffwechsel*) to define the labor process as 'a process between man and nature, a process by which man, through his own actions, mediates, regulates and controls the metabolism between himself and nature.' Yet an 'irreparable rift' had emerged in this metabolism as a result of capitalist relations of production and the antagonistic separation of town and country. Hence under the society of associated producers it would be necessary to 'govern the human metabolism with nature in a rational way,' completely beyond the capabilities of bourgeois society. (Foster, 2000: 141)

The concept of metabolic rift advances several propositions. First, ecosystems are characterized by complex relationships of interchange that aid in their regeneration and continuance. Second, the labor process constitutes a dialectical, metabolic relation between humans and the biophysical environment; thus, the economic system can be characterized as a social metabolic order. Third, an economic system predicated on constant growth and reproduction on larger scales undermines natural cycles and processes. From this, the social metabolism is increasingly separated from the natural metabolism, producing metabolic rifts in natural cycles and processes. Finally, technological development employed to increase productivity intensifies the metabolic rift.

While these propositions are potentially significant for environmental sociology, we must be careful to ascribe the theory of metabolic rift to Marx since he did not use this terminology and was not driven to develop a theory based on such terminology. The issue here has less to do with the "correct" interpretation of Marx and more with whether or not Foster's theory of metabolic rift risks reducing the complexity of nature-society dynamics to a static, rigidified, and anachronistic form of scientific dialectics. Adorno (1974: 268; in Cook, 2011: 25-26), for example, contends that Marx did not develop a theory of

humanity-nature metabolism for philosophically sound reasons. According to Adorno, the absence of a scientific theory of humanity-nature metabolism in Marx may have been an intentional analytic move on Marx's part in order to indicate that "nature" is irreducible to the human conception of it (Cook, 2011: 26). Perhaps because of this, and as Cook (2011: 25) points out, Foster does not recognize that his own concept of metabolic rift requires interpreting Marx's mention of natural history in the preface to the first edition of *Capital* as alluding to capitalism as first—not second—nature. Adorno, on the other hand, shows the concepts "history" and "nature" are both thoroughly dialectical. Juxtaposing these two concepts, he thereby sheds light on an historical dynamic in order to critique the present. Susan Buck-Morss's (1977: 56-57) gloss on Adorno's idea of natural history is particularly apt in this regard: "if the biophysical takes the appearance of an ontological first, or a static permanence, then history severs this illusion. If history appears as linear progress, then history as an extension of 'first nature' illustrates modern society's severance from the biophysical as a form of contemporary destruction and domination."

Foster's appropriation of the concept of nature may also be reflective of American environmental sociologists' more general aversion to "constructionism," which is sometimes viewed as constituting a threat posed by European and "postmodern" environmental sociologists to the mainstream American commitment to "scientific realism." For example, addressing his American colleagues on the twenty-fifth anniversary of U.S. environmental sociology, Foster (2005a: 57) writes,

Environmental sociology in Europe tends to be influenced to a greater extent by postmodernist theory and to take a more cultural/constructionist direction. Such radical constructionism often resembles, in certain ways, the human exemptionalism of the past. Partly for this reason, U.S. environmental sociology, which is predominantly realist, has had relatively little influence within Europe, and the spread of postmodernist environmental sociology predominantly from Europe often appears as a threat to what has been achieved here (...) Once we abandon realism, our capacity to deal with the real ecological crises arising out of the dialectical interaction of nature and society are much reduced. (Foster, 2005a: 57)

The irony of this defense, especially for Marxist-oriented environmental sociology, is that it is anti-materialistic insofar as it relies on a wholly abstract concept of "nature." "Nature," I contend, must be understood in terms of Marx's concept of

alienation, which in turn demands an understanding of the dialectical reciprocity of the biophysical environment and production (see Mészáros, 2005 [1970]: 116). In this sense, nature does not refer to external, or trans-historic, “nature” but to a process whereby capitalist production works in and through both the biophysical, or so-called “external nature,” *and* the human body/consciousness, or so-called “internal nature,” thereby transforming both (see e.g. Horkheimer and Adorno, 2002 [1947]). This reflexive approach is not necessarily at odds with Foster’s “objective” analysis of capitalism’s destruction of the environment. However, because Foster divorces Marx’s “scientific” approach from his overall critical theory of modern society Foster is unable to go the extra step to show the powerful role played by capitalist production in shaping the possibilities of subjective experience,⁵² and he is therefore unable to grasp the concept of metabolism in Marx (*Stoffwechsel*) to be referring to a process of co-evolution between nature and history (Cook, 2011, 2006).

2.2.2 Marxism as an Analysis of Capitalist Exploitation and Domination within Modern Society

Related to this lack of reflexivity is the “traditional” Marxist treatment of Marxism as an analysis of exploitation and domination within modern society rather than an analysis of the form of modern society itself (Postone, 1993: 66). Foster and his colleagues Clark and York (2010) illustrate the problematic nature of such an approach quite well when they combine the concept of metabolic rift with the so-called “Lauderdale Paradox,” thereby constructing a meta-theoretical amalgam that they contend is not too dissimilar from an ecological reading of Marx’s distinction between use-value and exchange-value, which Foster and his team then apply to critique the shortcomings of orthodox economics.

The “Lauderdale Paradox” is derived from the work of James Maitland, Earl of Lauderdale, who in 1819 distinguished between “public wealth” and “private riches.” As ecological economist Herman Daly (1998: 22) notes, “Lauderdale called attention to the

⁵² Adorno’s (1973 [1966]: 183-186) discussion of the preponderance of the object is especially important in this regard.

paradox that private riches could expand while public wealth declined simply because formerly abundant things with great value but no exchange value become scarce, and thereby acquired exchange value and were henceforth counted as riches.” Put simply, the so-called “Lauderdale Paradox,” as employed by Foster and his colleagues, is shorthand for the idea that there is an inverse correlation between public wealth and private riches, which means that if things such as air and water are given exchange value then these items will be diminished at the expense of the public wealth (Foster, Clark, York, 2010: 55).

Foster does not explicitly endorse public distribution over private appropriation, to be sure. Indeed, he has been advocating what he calls “ecological revolution” for the past few years (see e.g. Foster, 2005b, 2009). Yet, his Marxist critique of capitalism, albeit with an environmental twist, is rooted in a “traditional Marxist” understanding of the labor theory of value; in other words, it is framed in terms of a critique of private property and the market that is overly simplistic, superficial, and distorting. For example, Foster’s aforementioned ecological critique of neoclassical economics is rooted in his argument that the capitalist market valuation of nature is fundamentally inadequate and anti-ecological (Foster, Clark, York, 2010; see also Burkett, 1999, 2006). The only reason the environment has so easily become a lucrative field of capitalist investment geared toward sustainability is because of “a *distorted accounting* deeply rooted in the workings of the system that sees wealth entirely in terms of value generated through exchange” (Foster, Clark, York, 2010: 53 [emphases added]). Given that this is indeed the case, it seems rather self-defeating to assume that Marxist-oriented environmental sociology should be geared towards showing the system as flawed, as if to tell the so-called “neoliberals,” “I told you so.” Instead of identifying capitalism’s exploitation and domination with particular individuals and/or groups, a more useful analysis, I contend, would direct our attention away from particular individuals and groups and toward the form of society guided by the logic of capital itself. For it is certainly *not* the case that if individuals were simply informed of capitalism’s destruction of the earth they would then recalibrate their self-identity and live a different, more ecologically-friendly life. From

the perspective of capital—the defining logic of modern societies—the production of value *is* rational.⁵³

Foster and his collaborator Paul Burkett have attempted to debunk the narrative that Marxism is unconcerned with ecology (Burkett, 1999, 2006; Burkett and Foster, 2006; Foster and Burkett, 2004), and their efforts have made a significant contribution in this regard. According to Burkett (2006: 130), “It is one thing to point out formal contradictions between nature’s material forms and capitalism’s monetary and market forms; it is quite another (but equally necessary) to establish tensions between capitalism’s own material requirements and the reproduction of natural wealth. The latter task demands that the ecological critique of money and markets be grounded in a critique of wage-labour and capital.” But notice that the object of analysis for both Foster and Burkett is private property and the market, which is then critiqued from the standpoint of labor. The problem is that this approach fails to grasp the *coercive* aspects of labor, which under capitalism structure a form of abstract domination that penetrates into the very nature of what the social is.

By employing Postone’s (1993) distinction between “traditional” and “critical” Marxism we can further specify the shortcomings of “traditional Marxist” environmental sociology. As indicated, this approach assumes the standpoint of the proletariat as the normative and historical basis for the critique of capitalism. The “traditional Marxist” critique of capitalism is essentially positive in that it affirms the structure of labor already in existence. The implications of this affirmation become strikingly clear when we consider the issue of social change. Postone (1993: 66) explains the “traditional Marxist” approach to this issue as follows: “the capitalist class is to be abolished in socialism, but not the working class; the private appropriation of the surplus and the market mode of distribution are to be negated historically, but not the mode of production.”

In contrast to “traditional Marxism,” and as Postone (1993) has convincingly argued, value is not *necessarily* tied to a historically-specific mode of distribution.⁵⁴

⁵³ I am not dismissing the ideal of reason itself, to be sure. A more adequate understanding of the relationship between structure and practice, as we shall see below, can be gleaned from a critical appropriation of Lukács’s categorial approach to Marx’s categories outlined in *Capital*.

Value is, instead, a historically-specific form of social wealth, which means the labor that constitutes value is historically specific as well. The determinateness of alienated labor as such cannot therefore be captured in terms of concrete forms of exploitation and domination *within* modern society, nor can this dynamic be understood by relying on an undifferentiated notion of “labor.”⁵⁵ The critical Marxian approach put forth by Postone grasps the historical specificity of labor under capitalism as structuring a form of abstract social domination, which in turn allows us to scrutinize the form of modern society itself.

Like the opposition of use-value and exchange-value expressed as two poles of a contradictory unity that acquire immediacy in the commodity, the labor embodied in the commodity possesses this double character in the form of abstract value-creating labor and concrete useful labor (Marx, 1976 [1867]: 131-137). This so-called “double-character” is a defining feature of labor under capitalism as *commodity-determined labor*: it consists of isolated individual labor while simultaneously assuming “the form of abstract generality” (Marx, quoted in Postone 1993: 47). As a particular use-value, the commodity is the product of a particular concrete labor; as a value the commodity is the objectification of abstract human labor (Postone, 1993: 154; Marx, 1976 [1867]: 125-131). Despite the “critical” efforts of traditional Marxism, socio-ecological domination under capitalism is impossible to grasp in terms of objective appearances alone because, under capitalism, concrete labor as a “first-order mediation” (i.e. the self-mediation of humanity with nature) interacts with abstract labor as an alienated “mediation of the mediation” (Mészáros, 2005 [1970]: 79), thereby transforming both.

Socio-ecological domination in contemporary capitalist society cannot be understood simply by pinpointing the anti-ecological character of the market; in other words, the market is unable to express the “value” of the biophysical. Insofar as “traditional Marxist” environmental sociology roots its critique of capitalism in the

⁵⁴ “Once fully established socially, it [value] can be distributed in various ways” (Postone, 1993: 45). This would include non-market modes of distribution, such as planning.

⁵⁵ Following Postone, I use “labor” in quotes to indicate a trans-historic conception of labor as the metabolism between humanity and nature. For Postone, the explanatory power of this overly general conception of labor is rather narrow, and he insists that we root our analysis in terms of the historical specificity of capitalist labor, namely its double character.

existing structure of labor, it is unable to capture reification as a thoroughly *social* process of mediation.⁵⁶ The environment-society problematic (i.e. the paradox of increased global ecological despoliation amid wide-spread attention and concern during the latter half of the twentieth century) must be discerned at the theoretical level because it neither can be captured directly at the level of immediate experience nor can it be grasped with reference to processes taking place at the “surface level” of social reality. In other words, we cannot adequately understand this paradox by solely relying on the objective facts of actual ecological destruction. We must also be able to take into account the synchronous development and reciprocal interaction of the subjective dimension of the environment-society problematic. So although Foster’s claims that the only solution to the environment-society problematic is a socialist ecological revolution may be correct, these claims do not, however, mean that such stated goals are a possibility (see Foster, 2005b, 2009).

3. The Environment-Society Problematic Reconsidered

Due to the elusive nature of the environment-society problematic, the underlying dynamics fueling the synchronicity of (1) increased environmental degradation and (2) widespread growth of environmental attention and concern since the Second World War must be understood must be understood theoretically with regard to the relational specificity of these dynamics. The gap between the subjective dimension and the objective dimension, as reflected in the research gap between the values-based approach and traditional Marxist-oriented environmental sociology, is both real and frustrating since it is precisely the synchronicity of these two dimensions as they have developed throughout the latter half of the twentieth century that remains paradoxical.

One of the key tasks for environmental sociology, and one of the areas where critical theory promises to make a distinct contribution, is in the development of a theoretical framework capable of grasping the relational specificity of the subjective and

⁵⁶ The traditional conception of reification, as illustrated by Lukács (1971 [1923]), views reification as the covering up of true social nature as embodied in productive capacities of the proletariat. To anticipate my argument below, the issue of the relationship between ontology and anthropology appears in a new, more productive light once we understand alienation as “the origin and the conceptual core of reification” (Vogel, 1996: 34).

objective dimension of the environment-society problematic. Chapter two outlines my methodology of critique, which I contend is capable of understanding the conditions for this subjective-objective severance as necessary but not sufficient while at the same time recognizing why such an understanding demands the negation of these conditions in order to transform them.

CHAPTER 2: THE METHODOLOGY OF CRITIQUE

When sociologists speak of methodology, they typically are not actually referring to methodology per se but to a particular method or set of methods. The accepted definition of methodology currently propagated within the social sciences is that of the so-called “scientific method.” Although the scientific method as methodology is essentially positivistic,⁵⁷ over the past few decades, the term “positivism” has gained an increasingly pejorative connotation within the social sciences, particularly sociology. Because of this negative connotation, sociologists are today unlikely to openly embrace positivistic research, preferring instead to affiliate themselves with any one of the many available methodological approaches (e.g. ethnography, comparative-historical analysis, world-system analysis, textual analysis, network analysis, etc.) (Steinmetz, 2005). Despite the proliferation (and fragmentation) of various research methods since the 1970s, positivism remains the dominant methodological approach within the discipline of sociology (Steinmetz, 2005).

In light of the fragmentation and proliferation of research methods, it is important to distinguish between *methodology*, on the one hand, and *methods*, on the other. Methodology, as Strydom (2011: 8) explains, refers to “the systematicity of methods in a certain domain, the logic or theory governing methods for the purposes of knowledge and theory production,” whereas methods refer to the “related procedures and techniques.” Following Adorno (see Adorno et al., 1972), who contended that methodology should be appropriate to the object of study, the received reduction of methodology to the scientific

⁵⁷ Although Auguste Comte is credited with coining the terms “positivism” as well as “sociology,” the meaning of the term positivism and its relation to the discipline of sociology has become increasingly opaque since Comte’s day. Following Benton and Craib (2001: 23), positivism may be delineated as a term that describes approaches that “share the following four features: 1) The empiricist account of the natural sciences is accepted; 2) Science is valued as the highest or even the only genuine form of knowledge (since this is the view of most modern empiricists, it could conveniently be included under 1); 3) Scientific method, as represented by the empiricists, can and should be extended to the study of human mental and social life, to establish these disciplines as social *sciences*; 4) Once reliable social scientific knowledge has been established, it will be possible to apply it to control, or regulate the behavior of individuals or groups in society. Social problems and conflicts can be identified and resolved one by one on the basis of expert knowledge offered by social scientists, in much the same way as natural scientific expertise is involved in solving practical problems in engineering and technology.”

method is simply inappropriate this dissertation, which attempts to identify the elusive nature of the dynamics fueling the antithesis between modern capitalist society and the natural environment, particularly the paradoxical nature of the environment-society problematic. Insofar as the dominant methodological reductionism is unable to reflect upon its immersion in time and space (see Dahms, 2008), it is unable to critically reflect upon its own knowledge production as constitutive of the evolution of social reality.

This chapter outlines the methodology of critique that informs this dissertation. Critical theory as methodology, I argue, must be able to critically and reflexively account for

- 1) the conditions of its own possibility (i.e. its own social context) and
- 2) the immanent possibility of the fundamental transformation of this context (i.e. the notion that the theory's condition of possibility is itself generative of its own supersession).

The chapter begins with a discussion of Piet Strydom's (2011) *Contemporary Critical Theory and Methodology*, which is perhaps the most exhaustive examination of the overall methodological program of critical theory to date, in order to introduce the reader to the types of issues and problems with which critical theory as methodology must confront. The second section discusses dialectical methodology and, therefore, focuses on the methodological function of mediation and alienation as social mediation. In the third section of the chapter, I distinguish immanent critique as the core of critique as methodology and engage a discussion of Horkheimer's (1937) essay, "Traditional and Critical Theory." The chapter concludes by indicating the necessity of critical theory.

1. Methodology within Critical Theory

Piet Strydom's (2011) *Contemporary Critical Theory and Methodology* is perhaps the most exhaustive examination of the overall methodological program of critical theory to date. Strydom traces the development of critical theory from its classical foundations in Kant and Hegel to the left-Hegelians and to Peirce and Kierkegaard, while also presenting a detailed account of the relation between the appropriation of the classical foundations by pragmatists like Royce, James, Dewey, Mead, and Mills and early critical theorists such as Korsch, Lukács, Horkheimer, Adorno, and Marcuse. Although Strydom is concerned primarily with the relationship between the pragmatist tradition and contemporary critical theory,⁵⁸ his detailed attention in locating methodology within the architecture of the critical theory tradition is instructive for the purposes of introducing the reader to the sorts of methodological issues and problems that critical theory must confront.

In contrast to Morrow and Brown (1994), whose *Critical Theory and Methodology* presented the methodological core of critical theory as a mode of analysis geared toward analyzing the relationship between structure and agency, Strydom contends that since the late 1980s “immanent transcendence” has emerged as the key methodological concept of critical theory primarily because it links contemporary critical theory to its classical foundations in Kant and Hegel, the left-Hegelians, and the pragmatists. Table 3 shows the architectonic structure of critical theory as a social scientific theoretical research program. Following Strydom (2011), it is important to emphasize the interrelations between each dimension since the methodology of critical theory finds its place within this context.

⁵⁸ Contemporary critical theory is distinct from the first generation of critical theorists associated with the so-called “Frankfurt School.” Contemporary critical theory refers to the second generation (e.g. Apel and Habermas) third generation (e.g. Wellmer, Eder, and Honneth), and fourth generation (e.g. Celikates and Jaeggi) of critical social theorists. The methodological approach of this dissertation, however, is rooted in the framework put forth by the first generation of critical theorists. In order to avoid possible confusion, I refer to this approach as Frankfurt School critical theory. It is important to be aware, however, that the notion of a unified, collective Frankfurt School (methodological) approach is quite problematic, as Abromeit (2011), Tarr (1977), Wheatland (2009), and others have pointed out.

Table 3. Architectonic structure of Critical Theory

<i>Dimension</i>	<i>Focal Concern</i>
Transcendental	Conditions of Possibility
Dialectic	Goal Pursued
Normative	Guiding moral-ethical-political principles
Ontological	Character and scope of social reality and its relation to nature
Epistemological	Cognitive and knowledge production processes, the interest guiding its pursuit, kind of knowledge, modes of inference, and context of intersubjective justification
Methodological	Logic of knowledge and theory production, social scientific employment, intersubjective testing, justification and practical use

Source: Strydom, *Contemporary Critical Theory and Methodology* (Routledge, 2011), pg. 8.

The transcendental dimension of critical theory, as Strydom (2011: 9) explains, is rooted in the assumption that “humans are practical, corporeal beings who engage with the world in a restricted number of ways which allow the opening up of different perspectives, interests in knowledge, categorical lines of questioning and constitution of corresponding objects of knowledge as well as intersubjective reflection in the form of argumentation or discourse.” On this basis, critical theory engages reality in accordance with the aim of enhancing social existence (Strydom, 2011: 9). That social existence might be enhanced is a possibility immanent to the theory’s social context.⁵⁹

The dialectical and normative dimensions of critical theory are inseparable from the transcendental dimension. The normative dimension of critical theory should be understood from within a framework that views morality and ethics as operative in

⁵⁹ It is important to note at this point that meaningful experience hinges on the possibility of an emancipated socio-cultural-biophysical existence.

everyday life as well as in the activity of social research. From this perspective, both everyday life and the activity of social research are seen as “being structured by ideas of reason or regulative ideas that operate simultaneously as immanent moral obligations and transcendent guidelines or critical standards for autonomous agents’ ethically informed orientations and actions” (Strydom, 2011: 9; cf. Boltanski, 2011; Bourdieu, 2004). As Strydom (2011: 9) explains,

Critical Theory aims at enlightenment, emancipation and transformation, including self-transformation. Its goal is to clarify the processes of the constitution of society by accounting for the mechanisms at play in the process and, particularly, in the deformation or blockage, and to do so in a way that facilitates problem solving and world creation.

With regard to the concept of immanent transcendence, Strydom (2011: 96) emphasizes, “it is necessary to recognize that the transcendent ideas present in all human forms of life are not absolutely transcendent, but point towards a state beyond the present which could be realized, with the result that the actual situation is transformed in some crucial respect.” In terms of the (immanent) possibility of nature-society reconciliation discussed above, the actualization of this possibility entails a qualitative transformation to the nature of existing environment-society dynamics. In this sense, a critical theory of the environment is emphatically radical and revolutionary.

According to Strydom (2011), the dialectical tension between immanence and transcendence must be registered in a dimension of potentiality deep-seated in social reality. As he explains,

This deeper dimension of social reality would be an abiding form of human engagement, experience, interests or practices which simultaneously makes social reproduction possible and points beyond all forms of social organization so that it time and time again, not just here and now in the present, gives rise to situation-transcending claims. (Strydom, 2011: 104)

Critique, then, is grounded in the “accumulated historical potential” of human agency, which critical theory then seeks to make apparent so that this potential is or could be achieved to some extent through social practices (Strydom, 2011: 135). Such critical recognition, in turn, demands the negation of these social conditions in order to transform them. This context-transcendent moment is at the heart of what Strydom refers to as immanent transcendence.

At the theoretical level, Strydom (2011: 11) distinguishes between versions of critical theory that, on the one hand, are concerned with “the process of the constitution, reproduction, organization, transformation and evolution of society” (see e.g. Habermas, 1979) and theories that are concerned with “interfering forces, factors or processes which allow the intrusion of an element of distorting or blocking violence into social relations and the process of the factual realization of the potential of counterfactual socio-cultural ideas of reason.” Although Strydom stresses that the overall structure of critical theory as an intellectual tradition requires both types of theories, I would like to draw attention to this division since it has been ossified somewhat in and through the work of second, third, and fourth generation critical theorists.

According to Nelson (2011), in attempting to deal with the failure of Marxism many contemporary critical theorists, such as Habermas and Honneth, have largely abandoned a focus on materiality in favor of “linguistic or communicative idealism” (Nelson, 2011: 125), which, as Nelson (2011) explains, drastically lessens the potential contributions contemporary critical theory might make toward a critical theory of the environment capable of providing insight into today’s worldwide ecological crises.⁶⁰ While the Frankfurt School’s emphasis on the theoretical dichotomy between subject and object has been recast by Habermas and others in intersubjective, communicative terms, the approach of this dissertation aims toward a critical engagement with the fundamental intricacies of the subject-object model, which, I argue, is a model more appropriate for engaging the environment-society problematic from a critical theoretical perspective.

There are at least three main reasons why such an approach is appropriate for critically engaging the environment-society problematic. First, such an approach indicates the parameters of a methodology of critique and a critique of methodology capable of grasping the interplay between the subjective dimension and the objective dimension of the environment-society problematic without privileging one over the other.⁶¹ Second, the resolution of the dialectical tension between immanence and

⁶⁰ See also Biro et al. (2011).

⁶¹ This is comparable to Postone’s (1993) approach. His reinterpretation of Marx’s critical theory of modern society has significantly influenced my work on the environment-society problematic. Postone

transcendence via communicative mediation downplays the mediation between social subjectivity and social objectivity; conversely, the more critical approach sees the mediation between social subjectivity and social objectivity as both structuring and structured forms of social practice. On this basis, communicative action could be theoretically re-conceptualized in terms of the social relations thus constituted.⁶² Third, the communicative framework of contemporary critical theory presupposes what needs to be established, namely the actuality of meaningful communication, which, as indicated, is linked intrinsically to its social context.

Epistemologically, critical theory requires self-reflexive awareness and critical recognition of the fact that the scholar's active participation in social research represents "a moment of participation in the evolution of reality – that is, of society and nature" (Strydom, 2011: 12). This critical reflexivity therefore demands responsible engagement with reality, indicating critical theory's pragmatic-realist dimension (Strydom, 2011: 12). Strydom explains that from within the methodological framework of critical theory theoretical knowledge production is employed for explanatory purposes, which are simultaneously geared toward concrete engagement and transformation. Thus, critical theory does not claim to adhere to a dualism between the purely analytic and the purely political (Strydom, 2011).

At the ontological level, Strydom stresses that critical theory sees the dividing line between society and nature as relatively fluid. Although not necessarily at odds with this proposition, the theoretical and methodological approach of this dissertation responds to ontology by returning to the methodological function of mediation, which redirects attention to the fact that the so-called "ontological" dimension is always already socially mediated. Approaches that engage ontology without explicit recognition of its social mediation do so at the risk of denigrating themselves into ideology (see e.g. Archer,

(1993: 5) explains his approach as follows: "Such an approach recasts the question of the relation between culture and material life into one of the relation between a historically specific form of social mediation and forms of social 'objectivity' and 'subjectivity.' As a theory of social mediation, it is an effort to overcome the classical theoretical dichotomy of subject and object, while explaining that dichotomy historically."

⁶² This dissertation does not pursue the communicative problematic further. For a critical assessment of the so-called "communicative turn" within contemporary critical theory, see Morris (2001).

1995; Bhaskar, 2008; Searle, 1995). The methodological function of mediation would therefore suggest that if discussions of ontology are to have theoretical-empirical purchase they must first concede the analytic and political priority of social mediation.

2. Prolegomena to Dialectical Methodology: The Methodological Function of Mediation

In order to explicate the methodological function of mediation, which is central to the dialectical approach of this dissertation, I must first turn briefly to Hegel. I should emphasize the brevity of this engagement in no way does justice to the intricacies of either Hegel's philosophy or the methodology of the dialectical approach. As such, and for the sake of clarity, I will rely on Marcuse's (1960) Preface, "A Note on Dialectic," of his book, *Reason and Revolution: Hegel and the Rise of Social Theory*, which was among the first texts to engage in a detailed study of Hegel's system and its implications for Marxian theory⁶³

Hegel represents an important break in the history of Western thought not only because he recognized that ideas themselves are historically constituted but because his work represents a mode of cognition—negative thinking—that Marcuse (1960 [1941]: vii) notes, "is in danger of being obliterated."⁶⁴ It is telling that today one would be presuming too much to claim that even the Marxist tradition upholds the power of negativity. Marcuse provides a superb gloss on the significance of negativity, which is worth quoting at length:

[The] world contradicts itself (...) Philosophical thought begins with the recognition that the facts do not correspond to the concepts imposed by common sense and scientific reason – in short, with the *refusal to accept* them. To the extent that these concepts disregard the fatal contradictions which make up reality, they abstract from the very process of reality. The negation which dialectic applies to them is not only a critique of a conformistic logic, which denies the reality of contradictions; it is also a *critique of the given state of affairs* on its own grounds – of the established system of life, *which denies its own promises and potentialities*. (Marcuse, 1960 [1941]: vii [emphases added])

⁶³ On the theoretical and sociological significance of Marcuse's book, see Anderson (1993).

⁶⁴ For a more recent discussion of negative thinking, see Noys (2010).

The negativity of dialectical thought is therefore inherently revolutionary; its critique of the status quo is grounded in the internal inadequacy of the existing state of affairs. As Marcuse further explicates,

Dialectical thought starts with the experience that the world is unfree; that is to say, man and nature exist in conditions of alienation, exist as 'other than they are.' Any mode of thought which excludes this contradiction from its logic is a faulty logic (...) While the scientific method leads from the immediate experience of *things* to their mathematical-logic structure, philosophical thought leads from the immediate experience of *existence* to its historical structure: the principle of freedom (...) and the very process of existence in an unfree world is 'the continuous negation of that which threatens to deny (*aufheben*) freedom.' Thus freedom is essentially negative (...) [Dialectical thought functions] to demonstrate that unfreedom is so much at the core of things that the development of their internal contradictions leads necessarily to qualitative change: the explosion and catastrophe of the established state of affairs. (Marcuse, 1960: ix)

To demonstrate the perpetuation of unfreedom in a world that claims to be free is an effort of what Hegel termed "determinate negation": "The negation is determinate if it refers the established state of affairs to the basic factors and forces which make for its destructiveness, as well as for the possible alternatives beyond the status quo" (Marcuse, 1960: xi-xii). Hegel's philosophical notion of truth, for instance, does not rest simply on the correspondence between the concept and external reality but is itself an attribute of reality as process. Marcuse explains this aspect of Hegel's dialectical philosophy:

Something is true if it is what it can be, fulfilling all its objective possibilities. In Hegel's language, it is then identical with its notion. The notion has a dual sense. It comprehends the nature or essence of a subject-matter, and thus represents the true thought of it. At the same time, it refers to the actual realization of that nature or essence, its concrete existence. All fundamental concepts of the Hegelian system are characterized by this same ambiguity. They never denote mere concepts (as in formal logic), but *forms or modes of being comprehended by thought*. (Marcuse, 1960 [1941]: 25 [emphases added])

As Strydom (2011: 23) explicates, for Hegel, "'the Idea' (e.g. freedom) (...) means the concept together with the actualization of that concept."⁶⁵ The idea of freedom refers to its rational dimension, whereas the process of actualization refers to its

⁶⁵ According to Marcuse (1960 [1941]: xii), "it is the idea of Reason itself which is the undialectical element in Hegel's philosophy." The implications of Marcuse's claim are, in many ways, fleshed-out in my discussion of Adorno's negative dialectics and negative philosophy of history in chapter three, although I do not address the similarities and differences between Adorno's and Marcuse's studies on Hegel. The issue Marcuse raises ultimately revolves around the relationship between history and freedom. For Adorno, the very historical moment that gave rise to the idea of humanity actualizing freedom as a concrete possibility is precisely that which prevents the actualization of this historical possibility (see Adorno, 1998 [1962]).

immanent dimension (Strydom, 2011: 23). Hegel links the concept to the concrete, or the process from the rational to the actual, through *mediation* (Strydom, 2011: 23). Hegel unfolds this dialectic in the first subdivision of his *Science of Logic*, which concludes that there is a qualitative basis to the changes of quantity and quality (Hegel, 1969: 474; cf. McTarggart, 1964: 92). Hegel's conception of essence refers to this qualitative foundation, but essence, according to Hegel, is by no means impervious to the changes of quantity and quality. The second major subdivision of the *Logic* explicates the relation between appearance and essence as an internal relation not to be understood in a dualistic manner. For Hegel, the shifts from the *Logic* to *Philosophy of Nature* and then to the *Phenomenology* are themselves an unfolding of the dialectic (see Marcuse, 1960 [1940]: 24-25).

Although Marx's critical social theory certainly represents a break from Hegel, the idea that Marx set Hegel on his feet is somewhat distorting.⁶⁶ While a comparative assessment of the social, historical, and theoretical relationships between Hegel and Marx and how these relationships are linked to the similarities and differences between their respective dialectical methodologies is well beyond the scope of this dissertation, it is important to bear in mind the specificity of the different socio-historical contexts within which Marx and Hegel lived and wrote. Considering this background, I would suggest that Marx remained committed to the dialectical conceptual approach developed by Hegel, especially the central role played by negative thinking, although he did so in and through a socio-historical context quite distinct from Hegel's.

Although Marx is often interpreted as a theorist of social class, particularly within sociology (see, e.g., Wright, 1993), to the extent that Marx articulated a concept of class, this concept was essentially critical (Postone, 1993). It is clear that Marx's approach to class, in particular, is in accordance with negative thinking and the dialectic approach

⁶⁶ The idea that Marx stood Hegel on his feet or, put differently, turned Hegel on his head, is Engels's although it is often mistakenly attributed to Marx himself. Discussing the shift from idealism to materialism, Engels explained, "Thereby the dialectic of concepts itself became merely the conscious reflex of the dialectical motion of the real world and thus the dialectic of Hegel was turned over; or rather, turned off its head, on which it was standing, and placed upon its feet" (Engels, 1946 [1886]).

more generally.⁶⁷ The famous opening line of the *Communist Manifesto*, “the history of all hitherto existing society is the history of class struggles,” while written as a piece of agitation, is, from the perspective of critical theory (and Marx was perhaps *the* first critical theorist), a critique of history itself. As Marcuse points out,

Marx’s materialistic ‘subversion’ of Hegel, therefore, was not a shift from one philosophical position to another (...) but rather a recognition that the established forms of life were reaching the stage of their historical negation (...) From this stage on, all thinking that does not testify to an awareness of the radical falsity of the established forms of life is faulty thinking.

No method can claim a monopoly on cognition, but no method seems authentic which does not recognize that these two propositions are meaningful descriptions of our situation: ‘The whole is the truth,’ and the whole is false. (Marcuse, 1960: xiii, xiv)

In order to unpack the methodological implications of Marcuse’s statement, “‘The whole is the truth,’ and the whole is false,” we must again return to Hegel since the first part of this statement is Hegel’s. According to Reichelt (2005: 33), Hegel’s philosophy remains distinct within the context of modern Western philosophy because “it conceives of reality as an inverted world that is in-itself self-contradictory”—a distinction that Adorno would later incorporate in his notion of society as “objective appearance.” According to dialectical methodology, appearances neither cover up essence nor are they less “real” than essence. This dialectic between essence and appearance is crucial to understanding the methodological function of mediation as essentially dynamic. For Marx, following Hegel, appearance and essence are internally related. As Richard Gunn (1982: 3) makes clear, “The relation between appearance and essence (...) is non-dualistic inasmuch as it is in and through its appearance that essence is.” For Hegel, actuality is the unity of appearance, or significance of a thing, and its essence, or existence. Appearance involves the dialectic of form (the internal organization of the content of a thing) and content (the totality of relations and potentialities of the same thing).⁶⁸ For Marx, essence, which necessarily appears, is socially and historically

⁶⁷ To the extent that Marx articulated a concept of class, his aim was to foster a form of historical consciousness that would engender recognizing the present as a moment of the possible—the possibility that people may control, rather than be controlled by, that which they create.

⁶⁸ On this terminology, see <http://www.marxists.org/reference/archive/hegel/help/glossary.htm>

constituted. Phenomena, according to Marx, both express and veil underlying historical dynamics. This is evident in Marx's mode of presentation in *Capital, Volumes 1-3*.⁶⁹

The methodological function of mediation in Marx's (mature) theory, as operative in his unique mode of presentation, is perhaps most clearly illustrated in Marx's discussion of the commodity in the first volume of *Capital*.⁷⁰ *Capital, Volume 1* was written after volumes two and three and, according to Sperber (2013: 421), reflected Marx's methodology after 1850, especially "his ambivalent feelings about the increasingly dominant positivist understanding of knowledge." Marx's discussion of the commodity is notoriously difficult. Although Marx begins *Capital* with a general discussion of the commodity, he is interested in the historical *specificity* of capital's social forms, particularly the contradiction between the historically-determined nature of essence, on the one hand, and appearance, on the other. For example, although Marx writes about labor as the substance of value and labor time as the measure of its magnitude, he also notes, "The form, which stamps value as exchange-value, remains to be analyzed" (Marx, 1976: 131).

Deciphering the complexity of Marx's mature theory is further complicated by Marx's unique mode of presentation.⁷¹ This is evident in the first chapter of *Capital, Volume 1*, which should not be interpreted as a causal historical development (Postone, 1993: 128-130). Rather, Marx's mode of presentation is essentially *retrospective*: "each category presupposes those which follow" (Postone, 1993: 128). This peculiar mode of presentation is not provisional. As Postone explains:

Marx explicitly states that his categories express the social forms not as they first appear historically but as they exist, fully developed, in capitalism (...) To the extent that a logical historical development leading toward capitalism is presented—as in the analysis

⁶⁹ As Postone (1993: 134) explains, "Whereas Marx's analysis of value in Volume 1 is the analysis of capitalism's essence, his analysis of price in Volume 3 is of how that essence appears on the 'surface of society.'" .

⁷⁰ Unfortunately, the traditional Marxist interpretation of Hegel too often interprets *Geist* as completely abstracted from material and/or sensuous reality (see e.g. Foster, 2000; Paolucci, 2007). Such an ahistorical interpretation is distorting at best, especially given the experiential element of Hegel's philosophy (see Adorno, 1993 [1963]). On the differences and similarities between Hegel and Marx's concept of mediation, see Postone (1993: 216-225).

⁷¹ I will return to this issue in chapter three when I discuss Moishe Postone's reinterpretation of Marx's critical theory.

of the value form in the first chapter of *Capital*—the logic must be understood as being *retrospectively apparent* rather than *immanently necessary*. The latter form of historical logic does exist, according to Marx, but...it is an attribute of the capitalist social formation alone. (Postone, 1993: 129)

For Marx, history is not contingent nor is there a universal history or ultimate “Truth.” Rather, our knowledge of the past is situated within the present, which does have a logical historical development insofar as the present is shaped by the logic of capital. This logic also creates the possibility of critical reflection on the present as such, which must be taken into account in our dealings with the past. Marx does not begin his analysis with “onto-epistemological assumptions” based on “scientific categories” (see e.g. Paolucci, 2007: 67-146) nor does his method of inquiry break entirely with his method of presentation (see e.g. Sayer, 1979). The general logic from which Marx unfolds his categories is intrinsic to the multi-dimensional dynamic of capital.⁷² The historical dialectical logic of Marx’s theory is related to the specifically reflexive character of his social theory. As such, the presentation of Marx’s theory cannot contravene historical specificity.

In other words, Marx’s point of departure in *Capital* can only be justified by the unfolding of the analysis itself. As CRL James (1947) aptly put it,

Dialectic for Hegel was a strictly scientific method. He might speak of inevitable laws, but he insists from the beginning that the proof of dialectic as scientific method is that the laws prove their correspondence with reality. Marx's dialectic is of the same character (...) he ridiculed the idea of having to ‘prove’ the labour theory of value.⁷³ If the labour

⁷² Paolucci (2007: 87-88), for example, misrecognizes the multidimensional aspect of capital and on this basis dismisses Postone *contra* Marx.

⁷³ James is referring here to Marx’s (1868) famous letter to Kugelmann, where he states: “Where science comes in is to show how the law of value asserts itself. So, if one wanted to ‘explain’ from the outset all phenomena that apparently contradict the law, one would have to provide the science before the science. It is precisely Ricardo’s mistake that in his first chapter, on value, all sorts of categories that still have to be arrived at are assumed as given, in order to prove their harmony with the law of value. On the other hand (...) the history of the theory of course demonstrates that the understanding of the value relation has always been the same, clearer or less clear, hedged with illusions or scientifically more precise. Since the reasoning process itself arises from the existing conditions and is itself a natural process, really comprehending thinking can always only be the same, and can vary only gradually, in accordance with the maturity of development, hence also the maturity of the organ that does the thinking. Anything else is drivel. The vulgar economist has not the slightest idea that the actual, everyday exchange relations and the value magnitudes cannot be directly identical. The point of bourgeois society is precisely that, a priori, no conscious social regulation of production takes place. What is reasonable and necessary by nature asserts itself only as a blindly operating average. The vulgar economist thinks he has made a great discovery when, faced with the disclosure of the intrinsic interconnection, he insists that things look different in appearance.

theory of value proved to be the means whereby the real relations of bourgeois society could be demonstrated in their movement, where they came from, what they were, and where they were going, that was the proof of the theory. Neither Hegel nor Marx understood any other scientific proof.

Hence, it is only retrospectively apparent that Marx's treatment of commodity in the first chapter of *Capital, Volume 1*, which he presents by indicating the production and exchange of the enormous number of goods in the capitalist economy, is something other and more than external objects produced for market exchange. Only half-way through the first volume does it become more apparent that Marx's category of commodity actually refers to the structuring principle of a historically-specific form of social life. Here Marx's mode of presentation is in line with Hegel's conceptual development (Sperber, 2013: 426). As such, the dual form of the commodity is also the mode of cognition specific to the historically-determinate form of existence under capitalism. It indicates a historically-specific form of social life characterized by internal contradictions, such as the opposition between abstract and concrete, general and particular. Marx's categories, such as commodity and value, are not simply economic categories. More essentially these categories denote alienated modes of being comprehended by thought (see Marcuse, 1960 [1941]: 25). Such a *categorical* approach can and should be distinguished from a *categorial* approach, which treats categories, such as commodity and value, as essentially "external" (e.g. as market mediated economic categories).

An understanding of Marx's categorial approach therefore allows for a better appreciation of his contention in *Capital, Volume 1* that the commodity is the economic cell form of bourgeois society. Marx also notes that as such the commodity is "*sinnlich übersinnlich*," or both "perceptible and imperceptible,"⁷⁴ which Bonefeld (2012: 31), in accordance with Hegel's *Phenomenology*, translates as "sensuous supersensible." This is why, as mentioned above in chapter one, despite the "critical" efforts of "traditional" Marxist-oriented environmental sociology, socio-ecological domination under capitalism

In fact, he prides himself in his clinging to appearances and believing them to be the ultimate. Why then have science at all?"

⁷⁴ As Bonefeld (2012: 31) indicates, this formulation appears only twice in *Capital* and once in *Contribution to a Critique of Political Economy* – where the English version of *Capital* translates it as "transcendent" and then as "perceptible and imperceptible."

is impossible to grasp in terms of objective appearances alone since, under capitalism, concrete labor as a “first-order mediation” (i.e. the self-mediation of humanity with nature) interacts with abstract labor as an alienated “mediation of the mediation” (Meszaros, 2005 [1970]: 79), thereby transforming both.

The methodological implications of this contradiction can be elaborated by further examining Marx’s treatment of commodity in *Capital* in light of the discussion of mediation thus far. On this basis, the commodity is the mode of existence (the form of appearance) of the mediation that is the contradictory unity of abstract and concrete labor it embodies (Marx, 1976 [1867]: 131-137). The historical determinateness of labor under capitalism is this so-called “double character.” As a defining feature of alienated labor under capitalism, commodity-determined labor consists of isolated individual labor, which simultaneously assumes “the form of abstract generality” (Marx, quoted in Postone 1993: 47). Individuals constitute and are constituted by forms of social practice. Yet as an expression of alienated social relations, commodity-determined labor structures and is structured by social relations, which, although constituted by individuals, exist “quasi-independently” of these very same individuals (Postone, 1993: 76). This is why, in terms of use value, the commodity is the product of a particular concrete labor, whereas, as a value, it is the objectification of abstract human labor time expenditure (Postone, 1993: 154; Marx, 1976 [1867]: 125-131).⁷⁵

The abstract generality of the commodity, which exists quasi-independently of individuals who create and are created by it, is Marx’s initial determination of the form of abstract domination specific to capitalist society (see Postone, 1993). This has implications for this dissertation’s aim of examining the environment-society

⁷⁵ Although I elaborate Postone’s reinterpretation of Marx as a critical theorist of modern society in chapter three, it is important at this point to note the distinction between Postone’s categorial analysis, which he contends is in line with Marx’s critique of political economy, and the categorial analysis of traditional Marxism. Postone’s categorial interpretation analyzes the double-character of labor in capitalism as constituting “the basis for a historically specific, abstract, and impersonal form of social domination” (Postone, 1993: 30), which underlies the fundamental contradiction between value and wealth (or “real wealth”). A categorial interpretation, on the other hand, posits “an undifferentiated notion of ‘labor’ as the source of value without having further examined the specificity of commodity-producing labor” (Postone, 1993: 55). This is characteristic of traditional Marxist approaches grounded in a “class-centered” interpretation and understanding of capitalism.

problematic. When investigating the environment-society problematic, it is crucial that we analytically distinguish between the transformation of the objective dimension of the environment-society problematic (i.e. actual, concrete human-ecological transformation via labor), on the one hand, and the subjective dimension of the environment-society problematic (i.e. the social perception and understanding of such transformations), on the other. As I will argue below, Frankfurt School critical theory exemplifies a level of socio-historical reflexivity capable of acknowledging the necessary reciprocity between the subjective and objective dimensions of the environment-society problematic while at the same time recognizing their distinction. Engaging this dialectic is necessary in order to pinpoint alienation and reification (discussed in chapter three) as key mediating processes between the subject-object dimensions. For if environmental sociologists fail to grasp alienation and reification, then the distinction between the subjective and objective becomes unrecognized since the subject-object dimensions, in capitalist society, are always already conflated in the commodity form whereby these dimensions are subsumed under the identity principle of exchange society (discussed in chapter three). In this sense, the notion of an unmediated relationship between people's transformation of the (socio)biophysical world and our perception and understanding of this transformation not only fails to recognize these two moments as non-identical but also perpetuates the contradictory dynamic of capital insofar as it fails to recognize alienation and reification as structuring concrete social practices that produce and reproduce the subjective/objective severance in and through space-time.

The categories Marx unfolds in his mature work, such as commodity, value, and capital, which I elaborate in more detail in chapter three, are likely to be misunderstood without first engaging Marx's category of alienation as a key process of social mediation. Alienation is perhaps the single most significant element of continuity between the "young" and the "mature" Marx. Although there are important distinctions to be made between Marx's early and mature works, one gets an entirely different understanding of Marx's later theory of capital if and when severed from his earlier theory of alienation. Moreover, the categories Marx puts forth in the three volumes of *Das Kapital* are

alienated categories (Postone, 1993). As an attempt to grasp the nature of social reality under capitalism, these categories must be seen as emerging within a context of alienated social relations.

2.1 Alienation as Social Mediation

The methodological function of mediation in Marx's critical theory must be rooted in his theory of alienation. The significance of alienation for Marx was already evident in his doctoral dissertation on Epicurean philosophies of nature, which Marx wrote three years prior to the *Paris Manuscripts of 1844*. In his dissertation Marx emphasized the contradictory character of the world, focusing specifically on the contradiction between existence alienated from its essence. Referring to alienation as "an independent, autonomous mode of existence" (Marx, quoted in Mezaros, 2005 [1970]: 67), Marx noted that "the 'absolute principle' of Epicurus' atomism—this 'natural science of self-consciousness'—is 'abstract individuality' (Marx, quoted in Meszaros, 2005 [1970]: 67). Marx would elaborate his ideas on alienation in later works, most notably the *Economic and Philosophic Manuscripts of 1844* (also referred to as the *Paris Manuscripts of 1844*).

One of the most significant elements of Marx's theory of alienation, which also distinguishes it from those of both Hegel and Feuerbach, is Marx's treatment of the dialectic between ontology and anthropology (Mezaros, 2005 [1970]: 43). Meszaros (2005 [1970]: 43) emphasizes the significance of this aspect of Marx's theory of alienation as follows: "the *specific* anthropological factor ("humanity") cannot be grasped in its dialectical historicity unless it is conceived on the basis of the historically developing *ontological totality* ("nature") to which it ultimately belongs." With this contextualization in mind, Marx further developed his theory of alienation through a critique of Hegel's *Philosophy of Right*, where Marx argued that the Enlightenment idea of a "'natural' realization of Triumphant Reason" was the ideological supersession of religion, which previously had served to justify the status quo (Meszaros, 2005 [1970]: 43). Hence, as Meszaros (2005 [1970]: 47) notes, "no sooner are the achievements of the

Enlightenment realized than they are liquidated.” Marx fleshed-out the implications of this statement, especially with regard to Hegel, later in his *Paris Manuscripts*.

My approach to Marx’s category of alienation as a category of mediation should be understood in light of the foregoing discussion. According to Marx, alienation is the determination of the mode of existence (*Existenzbestimmungen*) under the conditions of capitalism. As Postone (1993: 224) explains, “Marx developed the theory of alienation as one of a historically specific mode of social constitution, whereby determinate social forms—characterized by the opposition of an abstract universal, objective, law like dimension and a ‘thingly,’ particular dimension—are constituted by structured forms of practice and, in turn, shape practice and thought in their image.”

As the first critical theorist of modern society, Marx developed his (unfinished) theory of alienation through a critique of Hegel and Smith, and in the process he identified and analyzed the intrinsic contradictions constitutive of modern, bourgeois society (Dahms, 2006: 11). These contradictions, as Dahms (2006: 11) notes, “are most conspicuous in tensions between the values of democracy (as espoused most explicitly during and by the French Revolution, in terms of liberty, equality, solidarity) and the imperative of a market-based economy operating according to the capitalist mode of production, and foreshadowing industrialization.”

Marx’s category of alienation refers to an inherently dynamic set of social processes, constituted by the capitalist mode of production that, in addition to estranging humans from nature, self, consciousness, and others, simultaneously rewrites reality so as to inhibit these very same humans from consciously recognizing that this estrangement is indeed the case (Marx, 1988 [1844]). When Marx discusses the estrangement of the worker from the product of his labor, for example, he is also referring to alienation from the external sensuous world, which is, at the same time, taken to be “nature.” Likewise, labor’s relation to the act of production within the labor process (the relation of the worker to their own laboring activity) is, under capitalism, *necessarily* alien activity. Alienation from *species-being* (i.e. the ontological identity of individual and society) transforms man’s consciousness from his being as a member of the human species into

“an independent, autonomous mode of existence” (Marx, quoted in Mészáros [1970] 2005: 67). In this way humans are alienated from other humans.

Alienation is the foundation of the entire complex of social relations under capitalism, and as such it comprises a set of *mediating* processes between subject and object. Alienation as a form of social mediation can be seen as an elaboration of Marx’s theory of practice, which he had previously outlined in the *Theses on Feuerbach* (Postone, 1993: 219). According to Postone (1993), Marx’s theory of practice breaks with the subject-object dualism of traditional epistemology to conceptualize objectivity and subjectivity as mediated through social practice. On this basis Marx is able to elucidate the link between epistemology and normative action as being rooted in the structure of social relations (Postone, 1993: 219).⁷⁶ Relatedly, Marx circumscribes his standards of critique as a function of existing social reality. Since the criterion of validity is social rather than absolute (Postone, 1993: 219n), Marx is able to ground his critique without collapsing into relativism.⁷⁷ This grounding is overlooked by Derek Sayer (1979), who, in stressing the Kantian impulse in Marx’s theory of knowledge, misinterprets the role of historical relativity in Marx’s method. According to Sayer:

Marx’s analytic...entails a clear dialectic, again in Kant’s sense of the word. This dialectic consists in the establishment of the ‘extent and limits’ within which the categories through which these forms are ordinarily grasped and can be validly applied, and therewith determination of the boundaries within which theories which assume the validity of these categories can legitimately purport to hold. If, with Marx, we assume ‘correspondence’ between the categories of thought and the phenomenal forms they apprehend, then the conditions of validity of the former will strictly coincide with the conditions of existence of the latter. Both will be historical. (Sayer, 1979: 109-110)

In contrast to Sayer (1979) and in line with Postone (1993), I contend that Marx’s sociohistorical theory of knowledge is something fundamentally other than a relativized Kantian epistemology.⁷⁸ Compared to Kant and Hegel, Marx sees social objectivity and social subjectivity as constituted through social practice. “Praxis,” in this sense, refers to

⁷⁶ The tenth thesis of Marx’s *Theses*, for example, asserts that ideas of reason are contained within yet point beyond existing social reality (Strydom, 2011: 28).

⁷⁷ On Marx’s conception of reality, see Reichelt (2012).

⁷⁸ “Although Marx’s critical theory rejects the possibility of absolute knowledge, it does not imply a sort of socially and historically relativized Kantian epistemology, for it seeks to grasp the constitution of forms of social objectivity along with their related forms of subjectivity” (Postone, 1993: 218).

the process whereby forms of social objectivity and social subjectivity are socially constituted *simultaneously*. Praxis, as such, can then analyzed in terms of structures of social mediation.⁷⁹ More specifically, Postone explains,

[T]he mediating quality of labor...constitutes alienated social relations characterized by an antinomy of an abstract, general, objective dimension and a concrete, particular dimension, even as it objectifies itself in products. This duality gives rise to a sort of unified field of social being in capitalism. An identical subject-object (capital) exists as a totalizing historical Subject and can be unfolded from a single category, according to Marx, because two dimensions of social life—the relations among people and the relations between people and nature—are conflated in capitalism inasmuch as both are mediated by labor. This conflation shapes both the form of production and the form of social relations in capitalism, and it relates them intrinsically. That the categories of Marx's critique of political economy express both dimensions of social life in a single unified form (which is, nevertheless, intrinsically contradictory) stems from this real conflation. (Postone, 1993: 220)

Moreover, Marx's socio-historical theory of knowledge is essentially dynamic. In contrast to approaches that rely on interpreting Marx's theory as elucidating historical progression, the dynamic nature of Marx's theory is not imposed from the outset. Rather, the dynamism of Marx's theory is grounded in the dynamic and contradictory nature of capital—a historically specific motion generated from within the social context of which the theory itself is an integral part.

3. Immanent Critique

According to Robert Antonio (1981: 330), "Immanent critique is a means of detecting the societal contradictions which offer the most determinate possibilities for emancipatory social change. The commentary on method cannot be separated from its historical application, since the content of immanent critique is the *dialectic in history*." Antonio correctly suggests that critical theory is not a general theory but rather a method of analysis whose core is immanent critique. But because immanent critique is "an historically applied logic of analysis rather than a fixed theoretical or empirical content" (Antonio, 1981: 330), sociologists understandably (but not legitimately) have trouble understanding critical theory.

Immanent critique is the most significant element of critical theory as methodology. I contend that critical theory as methodology (i.e. immanent critique) must

⁷⁹ See Postone, 1993: 218, 220.

be able to critically and reflexively account for (1) the conditions of its own possibility (i.e. social context) and (2) the immanent possibility of the fundamental transformation of this context (i.e. the notion that social context itself is generative of its own supersession). Critical theory, as exemplified by Marx's theory, assumes that people are socially constituted and rests on the premise that a more just and humane society is possible. In order for a theory to be critical of society, the theory must view itself as an integral part of social and historical reality. In other words, a theory that is critical of society cannot advance from a standpoint outside its own social context (Postone, 1993: 87), hence the significance of *immanent* social critique for critical theory.

According to Postone (1993: 88), that the structures and underlying social relations of modern society are contradictory is what generates the possibility of a critical stance toward this context. According to Marx's theory, capital, as the structuring principle of underlying social relations, both generates and prevents the possibility of its own supersession. Critical theory's referent of critique, although generated within capitalist society, points outside existing social conditions. Critique's conditions of possibility are socially constituted by the dynamic and contradictory nature of modern capitalist society. The referent of critique is emphatically "not yet"—a "not yet" generated by the existing social conditions which simultaneously undermine this possibility. The contradictory nature of modern society is what normatively compels and analytically enables critical theory to develop tools capable of elucidating critical recognition of the problematic features of modern capitalist society and the related consequences that result from how our lives are created.

3.1 The Frankfurt School Revisited

It is unlikely that the first generation of critical theorists (Adorno, Marcuse, Benjamin, Horkheimer, and others) would have developed the kind socio-historical reflexivity they engaged had it not been for the social and historical conditions in Germany during the 1920s and 1930s. The experience of the period between the two World Wars required these theorists to develop a theoretical perspective on social reality that was sufficiently critical and self-reflexive. The early Frankfurt School

theorists were driven by the need to understand the ways in which the working class in Germany shifted to the political right instead of the left as traditional Marxists would have expected. Throughout the 1940s, it became increasingly clear to these thinkers that there was no direct correspondence between socio-economic contradictions and class action. They viewed the rise of National Socialism in Germany and the lapse of the Soviet Union into Stalinism as a demand for the fundamental reconstruction of Marxism (Morrow and Brown, 1994: 15).

Central to the Frankfurt School reconstruction of Marxism was the availability of Marx and Engels's early manuscripts, which were reconstructed and published in German in 1932 (Morrow and Brown, 1994: 91). Keeping in line with Marx's materialism, the Frankfurt School theorists combined, on the one hand, the concept of alienation with Lukács's concept of reification and, on the other, Weber's notion of instrumental rationality with Freud's insights into processes of socialization in order to better understand and acknowledge the contradiction between modern democratic society and the actualization of human freedom. This theoretical reconstruction marked a decisive break from the economic determinism characteristic of vulgar Marxism and classical Marxist theory while simultaneously grounding social research in an uncompromising recognition of the limits of the Enlightenment project coupled with an acute awareness of the centralization and concentration of the means of mass manipulation.⁸⁰

Marx's dialectical critique is integral to the ideology critique of Frankfurt School critical theory. The immanent critique of ideology, as Nicholson and Shapiro (1993 [1963]: x) explain in their introduction to Adorno's book on Hegel, is the core of the critical approach: "Truth is attained by unfolding both the truth content and the contradictions of thought through linking it to the truth content and contradictions of its social context and commitments." The emphasis on social contradictions within a historically-specific totality affords a perspective into the dynamic and potentially regressive tendencies inherent in the historical "development" of modern capitalist society, which in turn demands the negation of these conditions in order to transform

⁸⁰ See, e.g., Horkheimer and Adorno, 2002 [1947]; Marcuse, 1991 [1964]; see also Jay, 1993 [1973].

them. Critique, from this perspective, is grounded in the “accumulated historical potential” of human agency, the topic critical theory then seeks to make apparent so that this potential is or could be achieved to some extent through social practices (Strydom, 2011: 135). As such, the context-transcendent moment of immanent critique of ideology explodes the theory/practice dichotomy, connoting what Celikates (2012) refers to as “critique as emancipatory practice.”

3.1.1 Traditional and Critical Theory

Early Frankfurt School critical theory represents one of the few traditions of social theorizing that developed out of and remained committed to a sufficient degree of self-reflexivity. Max Horkheimer provided the methodological program for such an intrinsically self-reflexive approach to theory and social research in his 1937 essay, “Traditional and Critical Theory.” For Horkheimer, “traditional” theory presupposes society as separate from observation and the activity of social research—not only as a possibility but also as something desirable. Scientific activity, from a traditional theoretical perspective, is seen as taking place alongside all other activities in society, *“but in no immediately clear connection with them”* (Horkheimer (1972 [1937]: 197 [emphases added]), which means that data can be collected and tested accordingly. This information can then be *used* to yield valid predictions of future events related to the same phenomena. It is perhaps not surprising that the traditional approach to knowledge production emphasizes applicability. Knowledge production’s aim, as such, is the output of more and more science/knowledge, which exercises an inherently positive social function.

The critical theoretical approach, on the other hand, recognizes the necessary entwinement of history and knowledge and therefore emphasizes the limitations the former places on the latter. It sees the socio-historical object of sociological analysis (modern society) to be inseparable from the socio-historical reality of the researcher’s milieu, which, in turn, defines reality perceived (Horkheimer, 1972 [1937]). For Horkheimer, this interplay between individual and society literally shapes the perceptual organ itself, thereby creating a conundrum for the positivist claim that scientific

explanation alone leads to valid predictions of future events related to the same phenomena. For critical theorists, the identification of individual and society is marked by tension, insofar as the latter is not created through collective agency but rather produced by the world of capital (Horkheimer, 1972 [1937]: 207-208). The critical theorist's conceptual apparatus is characterized by this tension as well. In other words, although critical theory uses concepts to interpret society "exactly as they are interpreted in the existing order, [regarding] any other interpretation as pure idealism" (Horkheimer, 1972 [1937]: 208), it also *refuses to accept this order*.

4. The Necessity of Critical Theory

It is in this sense that alienation is located as a key process of social mediation between the subject-object dimensions of the environment-society problematic. The elusive dynamic of alienation as social mediation must be grasped at the theoretical level because it is not obvious at the level of immediate appearance. Against this theoretical background, the positive correlation between increased environmental destruction and people's aggregate attention and concern for the well-being of "nature" is seen in a new light, which is reflective of the paradoxical nature of social reality in modern society as expressed through the contradictory reference frames of individual-society-nature. What alienation means for environmental sociologists is that it is not possible to conceive of the relationship between society and the environment separate from alienation, regardless of the fact that, empirically speaking, alienation has eluded the attempts of most environmental sociologists. The activity of social research is mediated in and through an alienated form of productive activity. Insofar as the efforts of both social scientists and natural scientists fail to recognize alienation as social mediation, their knowledge production will reflect the real severance of the subject-object dimensions of the environment-society problematic in alienated form. The fact that today we are able to understand the potentially catastrophic effects of human-induced environmental degradation more precisely than at any other point in human history and at the same time remain incapable of reducing the rate at which this destruction continues to increase is a case in point.

CHAPTER 3: TOWARD A CRITICAL THEORY OF THE ENVIRONMENT

In the previous chapter, I indicated that the underlying dynamics fueling the environment-society problematic must be understood at the theoretical level with reference to alienation, which mediates the reciprocity between the objective dimension (i.e. actual concrete human-ecological transformation through labor) and the subjective dimension (i.e. our social conception and understanding of the natural environment) of the environment-society problematic. I suggested that such a theoretical understanding of mediation is also a theory of praxis whereby (*à la* alienation) people create structures through social practice that in turn dominate them.⁸¹ I indicated that although non-identical, the subject-object dimensions of the environment-society problematic appear unified under the logic of capital and are therefore unrecognized at the level of immediate experience, hence the need to understand alienation as social mediation at the theoretical level. This chapter theoretically grounds and further elaborates these propositions in an attempt to move toward a critical theory of the environment capable of grasping the elusive nature of the environment-society problematic. Such a theory not only understands the conditions for the subjective/objective severance of the environment-society problematic as necessary but not sufficient; this approach also indicates why such an understanding demands the negation of these conditions in order to transform them.

The following chapter outlines the contours of a critical theory of the environment through a detailed, though not exhaustive, theoretical analysis of 1) Georg Lukács's critique of reification; 2) Theodor W. Adorno's critique of identity thinking; and 3) Moishe Postone's critique of traditional Marxism. In light of the fact that Lukács (1885-1971), Adorno (1903-1969), and Postone (1942 -) each wrote successively, it is suggested that, with regard to the potential contribution these theorists might make toward a critical theory of the environment, we view the core critique of each theorist (i.e. critique of reification, critique of identity thinking, critique of traditional Marxism), as an attempt to "name" central aspects of the nature-society relationship at different,

⁸¹ On alienation as self-generated domination, see Postone (1993: 30-33, 68, 126, 158-159).

successive stages of the development of modern capitalist society.⁸² In order to further research efforts accordingly, the final section of this chapter advances the concept of sociobiophysicality, or SBPh, as an attempt to “name” central aspects of the nature-society relationship, including its elusively dynamic nature, in its dialectical unfolding and recent incarnation at the beginning of the twenty-first century. As will become clear, SBPh is less a category or concept to be applied than it is an attempt to “name” and make visible an inherently dynamic process intrinsic to its “object” of study as an historical *experience* whose contradictions and tensions are entwined with those of the thought attempting to comprehend it.

⁸² I am not suggesting that these theorists themselves conceived of their critical theoretical efforts as such, to be sure. In contrast to approaches that project contemporary environmentalist ideas onto classical thinkers, such as Marx (see, e.g., Foster, 2000), the potential contribution of Lukács, Adorno, and Postone to environmental sociology is precisely their penetrating analyses of the dynamic and contradictory nature of *modern society* and its effects on how our lives are created.

1. Georg Lukács: Critique of Reification

Georg Lukács's (1923) *History and Class Consciousness* (*HCC* hereafter) represents an important split with the Marxism of the Second International and offers a critique of the totalitarianism of the latter. As a result, *HCC* is considered one of the founding texts of Western Marxism.⁸³ In this collection of essays Lukács (1971 [1923]: xxlii) explains that he seeks nothing other than to “understand the essence of Marx’s method and to apply it correctly.” Accordingly, “the problem of commodities must not be considered in isolation or even regarded as the central problem in economics, but as the central, structural problem of capitalist society in all its aspects. Only in this case can the structure of commodity-relations be made to yield a model of all the objective forms of bourgeois society together with all the subjective forms corresponding to them” (Lukács, 1971 [1923]: 83). Although Lukács’s conclusion regarding the proletariat as the historical Subject fell victim to the traditional form of theorizing his own theory promised to surpass (see Postone, 2003), I contend that the conceptual core of his concept of reification, in addition to his emphasis on the commodity form of social relations, remains analytically vexing.

The following discussion engages Lukács’s essay, “Reification and the Consciousness of the Proletariat,” and it is largely organized in accordance with the three section structure of that essay. In the third section of my discussion below, however, I break from a close reading of Lukács and shift my focus to the problematic nature of Lukács’s conclusions, the nature of which will be elaborated more fully in my discussion of Moishe Postone later in this chapter. I will conclude with a brief discussion of the contributing potential of Lukács’s concept of reification for an environmental sociology theoretically informed by a critical theory of the environment.

1.1 The Conceptual Core of Reification

Translated from German, reification (*Verdinglichung*) literally means “thing-ification.” While awkward, this translation is instructive nonetheless because it signals an

⁸³ The other key text here is Korsch’s (1923) *Marxism and Philosophy*, published the same year as *HCC*.

apathetic distance from that which makes us social.⁸⁴ More specifically, the concept of reification derived from Lukács refers to a *form of social life* under modern capitalism—one in which human subjectivity is increasingly shaped in accordance with the objective commodity form.

As the guiding motif of his *oeuvre*, the concept of reification is illustrative of Lukács's attempt to move beyond—by way of his reading of Hegel⁸⁵—the subject-object dualism that continues to plague post-Kantian philosophy and sociology to this day.⁸⁶ Lukács's critique of reification is not simply a critique of detached, contemplative individual forms of bourgeois subjectivity. Rather, Lukács's seeks to grasp reification as a process grounded in the intrinsic connection between consciousness and social structure.

Combining Marx's critique of alienation and commodity fetishism and Weber's theory of rationalization, Lukács puts forth a “critique of capitalism in terms of a critique of reification as the defining effect of the capitalist mode of production of all aspects of social life” (Dahms, 2011: 11). Like Marx, Lukács's analysis presupposes the commodity as the dominant form of social relations under modern capitalism; these relations structure and are structured by the intrinsic oppositions inherent in modern capitalism. Unlike Marx, Lukács developed his critique of reification at a later stage of capitalist development, during the years following the end of the First World War. As a result, Lukács's concept of reification “expresses the effects of the capitalist mode of production on human beings and society as *second nature* – at a later stage of capitalist development: advanced, monopolistic capitalism” (Dahms, 2011: 11). Drawing on Marx's discussion of

⁸⁴ On the plausibility of Lukács's social ontology, see Joós (1983).

⁸⁵ Lukács (1999 [1967]: xxiii), in his 1967 preface to *HCC*, said that his extension of the Hegelian dialectic was an attempt to “out-Hegel Hegel”: “The proletariat seen as the identical subject-object of the real history of mankind is no materialist consummation that overcomes the constructions of idealism. It is rather an attempt to out-Hegel Hegel.”

⁸⁶ See Rose (2009 [1981]) on the ossification of the subject-object dualism within the discipline of sociology. Rose (2009 [1981]: 29-34) also provides an assessment of Lukács's attempt to break out of the subject-object dualism. For a more “sociological” analysis of the phenomena of reification, see Gabel (1975).

commodity fetishism in *Capital, Volume 1*,⁸⁷ Lukács describes “the reification produced by commodity relations” with regard to both “the objective evolution of society and for the stance adopted by men towards it” (Lukács, 1971 [1923]: 86). Lukács’s focus on the structure of commodity relations as a model of the intrinsic relation between the subject-object forms is the defining feature of his *categorical* appropriation of Marx’s category of the commodity.

Lukács extends Weber’s analysis of rationalization, identifying it as a force working in concert with the abstraction embodied in the commodity form. In keeping with his categorical appropriation of Marx’s mature theory, Lukács’s analysis of rationalization is concerned not only with the objective aspects of rationalization but also with the intrinsic relationship between objective processes of rationalization and its subjective effects as structured by the commodity form of social relations.⁸⁸ On this basis, Lukács identifies two key (subjective and objective) changes resulting from the rationalization of work: (1) the severance of the “organic, irrational and qualitatively determined unity of the product” (Lukács, 1971 [1923]: 88), which in turn effects an (2) equally abstract fragmentation of the subject whereby the worker’s activity “becomes less and less active and more and more *contemplative*” (Lukács, 1971 [1923]: 89). Lukács (1971 [1923]: 92) analyzes the effects of economic rationalization in terms of the dissimulating role played by the value form: “This rational objectification conceals above all the immediate—qualitative and material—character of things as things. When use-values appear universally as commodities they acquire a new objectivity, a new

⁸⁷ “The mysterious character of the commodity form,” which Lukács, quoting Marx, identifies as “the basic phenomenon of reification” (1971 [1923]: 86), is that “the commodity reflects the social characteristics of men’s own labour as objective characteristics of the products of labour themselves, as the socio-natural properties of these things. Hence it also reflects the social relation of the producers to the sum total of labour as a social relation between objects, a relation which exists apart from and outside the producers. Through this substitution, the products of labour become commodities, sensuous things which are at the same time suprasensible or social” (Marx, 1976 [1867]: 164-165).

⁸⁸ Here is it important to recall sociohistorical context within which Lukács put forth his critique of reification. Processes of increased rationalization emerged with the consolidation of large-scale industry and investment banks in the U.S., for example, at the beginning of the twentieth century. The concomitant rise of the modern bureaucracy within the economy—the so-called “managerial revolution”—gave rise to increasingly complex corporate hierarchies of organization and control.

substantiality which they did not possess in an age of episodic exchange and which destroys their original and authentic substantiality.”

Lukács explains the subjective effects of large-scale industry and the related objective process of increased rationalization from the perspective of the worker:

[T]he period of time necessary for work to be accomplished (which forms the basis of rational calculation) is converted, as mechanization and rationalization are intensified, from a merely empirical average figure to an objectively calculable work-stint that confronts the worker as a fixed established reality. With the modern ‘psychological’ analysis of the work-process (in Taylorism) this rational mechanization extends right into the worker’s ‘soul’: even his psychological attributes are separated from his total personality and placed in opposition to it so as to facilitate their integration into specialized rational systems and their reduction to statistically visible concepts. (Lukács, 1971 [1923]: 88)

In this passage it is clear that, for Lukács, economic rationalization is not solely economic. Lukács asserts that the abstract universal dimension of the commodity form of social relations is analogous with an increasingly dominating force in modern society expressed through the defining features of modern social life, such as bureaucracy, instrumental rationality, and atomization. Here exchange value is viewed as a cover-up whereby true social nature (as embodied in the creative capacity of the proletariat) is disguised.

Although it appears to be total, the process of rationalization, according to Lukács, is nonetheless inherently incoherent. Lukács believes this incoherence is inherent to modern capitalist society because isolated phenomena, such as the increased specialization of the division of labor and the associated fragmentation of social reality, are governed by a strict rationality—the rigidity of rationality both structures and is structured by the fact that these processes are severed from the social whole from which they were produced and continuously interact. The problem, according to Lukács, is that as immediate, isolated “surface-level” appearances these processes are misrecognized as being directly indicative of the social whole itself. Lukács argues,

It is evident that the whole structure of capitalist production rests on the interaction between a necessity subject to strict laws in all isolated phenomena and the relative irrationality of the total process (...) This irrationality, this—highly problematic—‘systematisation’ of the whole which diverges *qualitatively and in principle* from the laws regulating the parts, is more than just a postulate, a presupposition essential to the workings of a capitalist economy. (Lukács, 1971 [1923]: 102-103)

For Lukács, (1971 [1923]: 103), the increased specialization and fragmentation of labor “has the effect of making these partial functions autonomous [so that] they tend to develop through their own momentum and in accordance with their own special laws independently of the other partial functions of society.” At the same time, the process of increased fragmentation leads to “the destruction of every image of the whole” (Lukács, 1971 [1923]: 103). Lukács uses bourgeois economic analyses of crises as an example of the fundamental misrecognition of this inversion of social reality. “[T]he structure of a crisis,” he explains, is “no more than a heightening of the degree and intensity of the daily life of bourgeois society” (Lukács, 1971 [1923]: 101). “Crises” are experienced as such because “the bonds uniting [bourgeois society’s] various elements and partial systems are a chance affair even at their most normal” (Lukács, 1971 [1923]: 101). In other words, what appears to be objectively given, or “natural” (i.e. non-social), is in fact social. Critical recognition of these processes of reification, according to Lukács, implies the possibility of qualitative social transformation.

In this sense Lukács’s critique of reification may also be seen as critique of ideology—one which resists the unproductive base/superstructure dualism typical of traditional Marxist critiques of ideology.⁸⁹ In discussing the concept of the individual, for example, Lukács goes well beyond the now common sociological critique of individualism to argue that the very idea of the isolated individual presupposes a societal context defined by the universality of the commodity form (cf. Adorno et al., 1972). Lukács’s remarks on individualistic ideology, while critical, are not directed at exposing the idea of the atomistic individual as false. Rather, Lukács seeks to grasp the intrinsic connection between ideology and historical social structure and to show the former as mediated in and through the latter. Here ideology is not the veil that covers the “real” interests of everyday actors because ideology is real; it corresponds to the rational necessity of the “irrationality of the total process” (Lukács (1971 [1923]: 102), the irrationality of society as a whole. Ideology, grasped in its social mediatedness, tells us

⁸⁹ For an extensive analysis of reification along these lines, see Gabel (1975).

something about the underlying historical dynamics of the present insofar as underlying structural forms are exhibited in and through these surface-level manifestations and understood as such (Lukács, 1971 [1923]: 153).

1.2 Social Structure and Subjectivity: The Social Constitution of Bourgeois Thought

Lukács extends his critique of reification to modern Western science and philosophy, disciplines that struggle with “the problems generated by the peculiar abstract forms of life characteristic of its (capitalist) context, while remaining bound to the immediacy of the forms of appearance of that context” (Postone, 2002: 79).

Regarding modern Western science, Lukács asserts:

The more highly developed it [modern science] becomes and the more scientific, the more it will become a formally closed system of partial laws. It will then find that the world lying beyond its confines, and in particular the material base which it is its task to understand, *its own concrete underlying reality* lies, methodologically and in principle, *beyond its grasp*. (Lukács, 1971 [1923]: 104)

Lukács here criticizes the economist Tugan-Baranovsky’s⁹⁰ attempts to explain production in purely quantitative terms. The formalism of bourgeois thought, according to Lukács, has political implications:

The reified world appears henceforth quite definitively—and in philosophy, under the spotlight of ‘criticism it is potentiated still further—as the only possible world, the only conceptually accessible, comprehensible world vouchsafed for us humans (...) By confining itself to the study of the ‘possible conditions’ of the validity of the forms in which its underlying existence is manifested, modern bourgeois thought bars its own way to a clear view of the problems bearing on the birth and death of these forms, and on their real essence and substratum. (Lukács, 1971 [1923]: 110)

Lukács then works through the antinomies of bourgeois thought, as indicated by the problems and contradictions of modern Western philosophy. Here Lukács focuses on Kant’s concept of the thing-in-itself and the more general notion that the world can be known to us to the degree to which it is created by us. Lukács (1971 [1923]: 112) regards the latter as the defining problem of modern Western philosophy. However, Lukács is not simply interested in the intellectual history of Western philosophy. Rather, his aim is to

⁹⁰ Tugan-Baranovsky’s student, Nikolai Kondratiev, would later become well known for his theory of long-term cycles of economic expansion and contraction. It is interesting to note here the connection to Arrighi (1994), whose theory of structural transformation within the capitalist world-system, which draws heavily from Kondratiev, I critique in chapter four along lines similar to, yet distinct from, Lukács’s critique of Tugan-Baranovsky.

grasp “the *connection* between the fundamental problems of this philosophy and the *basis in existence* from which these problems spring and to which they strive to return by the road of the understanding” (Lukács, 1971 [1923]: 112). When writing about the idea that the world can be known to us to the degree to which it is created by us, Lukács (1971 [1923]: 112) indicates that the question of “why and with what justification” we should view this human-created world as constitutive of human reason never arises. According to Lukács, the reason this basic question never arises can be explained with reference to the intrinsic relationship between social structure and subjectivity. To put it another way, Lukács explains that bourgeois thought exhibits a “double tendency,” which is also characteristic of bourgeois society, and that it expresses this opposition between an objective material world and subjective consciousness:

On the one hand, it [bourgeois thought] acquires increasing control over the details of its social existence, subjecting them to its needs. On the other hand it loses—likewise progressively—the possibility of gaining intellectual control of society as a whole and with that it loses its own qualification for leadership. (Lukács, 1971 [1923]: 121)

Lukács (1971 [1923]: 122) believes this problem is ultimately rooted in the division between theory and practice. Lukács’s theory of praxis seeks to move beyond traditional subject-object epistemology. He indicates that both subject and object develop simultaneously through practice—and that this process is thoroughly dialectical. In other words, through praxis the subject both constitutes and is constituted by social structure. This practical activity, according to Lukács, is also historically determinate.

It is on this basis that Lukács is able ground his explanation of the antinomies of bourgeois thought, particularly the opposition between objective matter and subjective consciousness, in the relationship between social structure and subjectivity, a relationship reflective of the contradictory nature of modern capitalist society:

[M]an in capitalist society confronts a reality ‘made’ by himself (as a class) which appears to him to be a natural phenomenon alien to himself; he is wholly at the mercy of its ‘laws’, his activity is confined to the exploitation of the inexorable fulfillment of certain individual laws for his own (egoistic) interests. But even while ‘acting’ he remains, in the nature of the case, the object and not the subject of events. The field of his activity thus becomes wholly internalized: it consists on the one hand of the awareness of the laws which he uses and, on the other, of his awareness of his inner reactions to the course taken by events. (Lukács, 1971 [1923]: 135)

In capitalist society, “‘nature’ becomes highly ambiguous” (Lukács, 1971 [1923]: 136) since, with the progression of modern capitalist society, “nature” (that which was not created by man) becomes increasingly socialized while “society” (that which is artifice; i.e. not “nature”) becomes increasingly naturalized. It is here that the significance of praxis in Lukács’s critique of reification is perhaps most obvious. Regarding the contradiction between subject and object, Lukács explains,

[T]he contradiction does not lie in the inability of the philosophers to give a definitive analysis of the available facts. It is rather the intellectual expression of the objective situation itself which it is their task to comprehend. That is to say, the contradiction that appears here between subjectivity and objectivity (...) is nothing but the logical and systematic formulation of the modern state of society. For, on the one hand, men are constantly smashing, replacing and leaving behind them the ‘natural’, irrational and actually existing bonds, while, on the other hand, they erect around themselves in the reality they have created and ‘made’, a kind of second nature which evolves with exactly the same inexorable necessity as was the case earlier on with irrational forces of nature (more exactly: the social relations which appear in this form). (Lukács, 1971 [1923]: 128)

Lukács claims Marx’s method allows us to grasp the mediation of the historical totality in and through the immediate, fragmented aspects of reified reality. As he explains,

[T]he essence of history lies precisely in the changes undergone by those *structural forms* which are the focal points of man’s interaction with environment at any given moment and which determine the objective nature of both his inner and his outer life. But this only becomes objectively possible (and hence can only be adequately comprehended) when the individuality, the uniqueness of an epoch or an historical figure, etc., is grounded in the character of these structural forms, when it is discovered and exhibited in them and through them. (Lukács, 1971 [1923]: 153)

While the significance of Lukács’s categorial appropriation of Marx’s category of commodity, in addition to his superb critique of reification, should not be downplayed, Lukács drew some rather faulty conclusions from his analysis.

1.3 History, Labor, Totality

One of Lukács’s most problematic conclusions was that he mistakenly assumed a logical and historical link between recognizing reification and overcoming it. Jay (1982: 111) describes the implication of this conclusion: “as men adopted a practical attitude towards the objective world (...) Being would then be understood as Becoming, things would dissolve into process, and most important of all, the subjective origins of those processes would become apparent to the identical subject-object of history.” The

significance of Lukács's conclusions can be further elaborated along the lines of his treatment of totality and the concrete.

Although Lukács (1971 [1923]: 140-149) claims a fundamental break with Hegel's notion of totality (i.e. the actualization of *Geist*) as something outside of history, his critique of capitalism presupposes the proletariat as the historical Subject and assumes a social totality constituted by the proletariat as the identical subject-object. By affirming the concrete, useful dimension of labor, Lukács critiques the social totality as veiled by the abstract value dimension of capitalist social relations. Indeed, it is on this basis that Lukács analyzes the antagonism between the use-value and value dimensions of capitalist social relations. Lukács equates the qualitative, use-value dimension with the proletariat as the identical subject-object of the historical totality. This dimension, which Lukács affords ontological significance and which he contends represent the creative capacities of society, is itself outside of history. However, as I later elaborate,⁹¹ if the antagonism between use-value and value is itself constitutive of capital, then affirming one dimension over the other does not indicate a move beyond capital.

Lukács's contention that the abstract value dimension veils true social nature (embodied in the creative capacity of the proletariat) and prevents the realization of the historical subject-object implies that the creative capacity of the proletariat (their "labor") is extrinsic to capitalist social relations (see Postone, 1978, 1993, 2003, 2009). The ontological status, which Lukács affords to useful labor, involves a number of complex issues and problems beyond the purview of this dissertation. That said, I would like to draw attention to the fact that the conclusions Lukács draws from his analysis go against the critical impetus of his approach outlined in the beginning of his reification essay. By affording labor an ontological role Lukács elevates, trans-historically, that which is in fact socially mediated. He therefore misrecognizes the elusive processes of reification that his critique of reification aimed to grasp.

⁹¹ The following discussion of Postone elucidates this antagonism not as a static opposition but as dialectically dynamic, whereby capital is transformed and reconstituted in space and time. In this sense, championing the use-value dimension of capital's social forms, popular among romantic critics of capitalism and other traditional Marxists, is itself an (unrecognized) active participation in the transformation and reconstitution of capital.

Nevertheless, Lukács's concept of reification is significant and, if and when appropriated critically,⁹² has the potential to contribute to a critical theory of the environment. As previously mentioned, the core of Lukács's reification is an attempt to critically understand social subjectivity and social objectivity as intrinsically connected in terms of their relational specificity as structured by the commodity. This categorically appropriation of Marx's category of commodity sees the commodity form of social relations as a model for the structuring principles of a historically-specific form of social life.

1.4 Lukács and the Environment

Most discussions of the contributing potential of Lukács's concept of reification to environmental sociology have focused on a two-page excursus in *HCC*. In this excursus Lukács criticizes Engels for his contention in *Anti-Dühring* that the dialectical method can (and should) be applied to biophysical nature.⁹³ Unfortunately, the rest of

⁹² Postone (2003) details what such a critical appropriation would entail.

⁹³ In environmental sociology, this debate has been distorted for a number of reasons, the following four being some of the more obvious. First, many American Marxist environmental sociologists dismiss out-of-hand any position that does not uphold an unquestioned ontological status—a status “given” by external biophysical nature (i.e. naïve realism). Hence, questioning of so-called “environmental realism” is automaticity equated with an extreme form of social constructionism and is then criticized for downplaying the severity of today's worldwide ecological crises as though these crises have no bearing in empirical reality. As mentioned in chapter one, this appears to be an issue specific to American environmental sociologists who adamantly defend such a strict (un-reflexive) realist position. Second, much of this discourse has failed to situate the terms of the debate within the context of Lukács's sociohistorical and intellectual milieu. Here Lukács's polemic against Engels must be seen in relation to the debates on positivism occurring during his own time. Third, not enough attention has been paid to the complexity and intricacies of what Vogel (1996) calls the “misapplication thesis”—or, in other words, the differences and similarities between (1) the question of the applicability of the dialectical method to nature and (2) the question of the applicability of the natural sciences to the social and historical dimensions. Finally, much of the discussion has suffered from (mis)understandings of Marx's category of alienation, notion of commodity fetishism, and theory of practice. This misunderstanding is exemplified in Foster, Clark, and York (2010: 216-241), who, in their critique of Lukács, propose what they refer to as “natural praxis.” Although the authors contend that “natural praxis” is synonymous with Marx's theory of social praxis, their appropriation of Marx in this regard effectively renders the spirited edge of his critique flat and banal. Moreover, Lukács himself, following Marx, put forth a much more rigorous and sophisticated analysis of the relationship between materiality and the senses. Central here is the methodological function of mediation, which is completely ignored by Foster, Clark, and York (2010).

Lukács's superb essay, including the potential contribution of Lukács's categorial analysis to a critical theory of the environment, has received almost no attention.⁹⁴

Although not an environmental sociologist, Steven Vogel⁹⁵ is among the few environmentally-focused critical theorists who also uphold the significance of Lukács's critique of reification for a critical theory approach to the environment.⁹⁶ One area where Lukács's critique of reification promises to contribute to a critical theory of the environment can be found in his critical remarks regarding so-called "second nature" that I mentioned previously. Applying the critique of reification to biophysical nature can, in this way, highlight the intrinsic connection between the pattern of progress in modern society and the progressive destruction of nature. Located within this connection is the concomitant process whereby "nature" has become increasingly socialized while "society" has become increasingly naturalized. Social practice under capitalism creates a reified world, but the critique of reification, rather than aimed at uncovering some "real" essence, should be directed toward the critique of mediation, whereby reified social practice can know itself as such. Critique of reification could therefore provide a starting point from which a critical theory of the environment might grasp reification as a key process of social mediation between the subjective dimension and the objective dimension of the environment-society problematic.

2. Theodor W. Adorno: Critique of Identity Thinking

Lukács's critique of reification had a significant impact on members of the Frankfurt School, not least of which included Adorno. In ways quite different from Lukács, the Frankfurt School theorists played a significant role in the resuscitation of Western Marxism during a later period of capitalist development following the Second

⁹⁴ Though not concerned with environmental sociology per se, Vogel (1996) and Feenberg (1999) defend Lukács's position in ways that should resonate with a critical theory approach to environmental sociology as outlined in this dissertation.

⁹⁵ While I agree with Vogel regarding his position on Lukács (see Vogel, 1996: 13-50), I disagree with his contention that Adorno's contribution toward a critical theory of the environment is implausible (see Vogel, 1996: 51-99).

⁹⁶ See also the work of Andrew Feenberg.

World War.⁹⁷ One theoretical connection between Lukács and Adorno is the emphasis on social contradictions within a historically-specific totality, although Adorno's emphasis was far more negative than that of Lukács (see Jay, 1982: 241-275). Adorno was concerned primarily with the regressive tendencies inherent in the historical "development" of modern capitalist society. This shift in focus was no doubt the result of changed historical circumstances, as Adorno, along with other members of the Frankfurt School, was forced to leave Germany with the Nazi seizure of power, and Adorno subsequently spent a good portion of his exiled career in America. Adorno's critical theory is fundamentally rooted in this historical experience and absence of the historical Subject. Accusations of Adorno's overly "pessimistic" approach (see e.g. Habermas and Levin, 1982) fail to situate his negative dialectics within this "frozen" historical moment. Only then does it become possible for us to ask what the present means in the face of his negative dialectics.⁹⁸

Although Adorno's oeuvre comprises a vast array of substantive areas, negative dialectics is a clear thread that runs throughout his works.⁹⁹ Since any attempt to provide a general summary or definition of this approach is destined to fail (Adorno tellingly referred to his approach as an "anti-system"), the following discussion focuses instead on particular aspects of Adorno's negative dialectics. I begin by outlining some important aspects of what Adorno finds compelling in Hegel before discussing Adorno's critique of

⁹⁷ It was Herbert Marcuse, not Adorno, who would influence the American New Left in the 1960s (see Jay, 1973).

⁹⁸ In his book on Hegel, Adorno (1993 [1967]: 1) explains that rather than approaching Hegel by asking whether Hegel has any meaning for the present we should instead ask what the present means in the face of Hegel.

⁹⁹ It may come as a surprise to some that, in light of the purpose of this dissertation, the following discussion will not engage Horkheimer and Adorno's (1947) *Dialectic of Enlightenment (DE)*. However, I have chosen not to deal with this work for two reasons. First, a number of scholars have recently begun to elucidate the connections between *DE* and today's current worldwide ecological crisis in new and interesting ways (see e.g. Görg, 2011; Leiss, 1972; Nelson, 2011). Second, the incorporation of *DE* would have compelled me to defend this approach against Habermas, who argued that *DE* was Adorno and Horkheimer's "blackest, most nihilistic book" (Habermas and Levin, 1982: 13). This discussion, in turn, would have required an extensive analysis of the so-called "pessimistic impasse" reached by Adorno and his colleagues.

the Hegelian dialectic.¹⁰⁰ The following sub-section discusses the linkage between Adorno's break with Hegel and the subsequent shift toward a negative dialectics as well as how this shift is related to the critique of identity thinking and an unwavering, radical commitment toward social emancipation. I will then engage Adorno's (negative) philosophy of history before discussing his notion of "natural history" as a critical concept. I conclude by sketching Adorno's potential contribution to a critical theory of the environment.

2.1 *Dialectics as Critique*

Adorno, in his 1965 lecture, "Whether Negative Dialectics is Possible," explained to his students that taking the dialectic in Hegel seriously requires moving beyond Hegel (Adorno, 2008: 28).¹⁰¹ Accordingly, Adorno's break with Hegel is grounded in what he considers dialectic in Hegel's philosophy¹⁰² —namely, the core of a dynamic theory of experience.¹⁰³ Before discussing Adorno's break with Hegel, I first provide a brief account of what Adorno finds compelling in Hegel, as this is the point from which Adorno launches his critique.

¹⁰⁰ It should be noted that my discussion here is indebted to Brian O'Connor's (2004, 2006) rather succinct explications of Adorno's ideas in this regard.

¹⁰¹ Adorno's lectures on negative dialectics, subsequently published in English by Polity Press (2008), are taken from four courses of lectures on the subject of negative dialectics. Presented while Adorno was writing the book *Negative Dialectics*, the lectures address the themes Adorno developed at the beginning of the book. According to Rolf Tiedemann, who edited and translated the lectures, the Introduction to *Negative Dialectics* serve as "a theory of intellectual experience," which is also what Adorno considered naming the Introduction.

Compared to the rather abstruse text and notoriously difficult (1973) translation of *Negative Dialectics*, these lectures provide a fairly succinct explication of some of Adorno's guiding theoretical maneuvers in his own words. As such, I will be making extensive use of these lectures in this section. I have cross-referenced Adorno's lecture material with *Negative Dialectics* and have indicated this comparison below where necessary.

¹⁰² This is not to imply that Adorno was an orthodox Hegelian. Indeed, as J.M. Bernstein (2004: 20) notes, the thought of anyone being an orthodox Hegelian is contradictory insofar as philosophy, for Hegel, is "one's own time and the history producing one's own time expressed in thought."

¹⁰³ O'Connor (2004, 2013) has argued that the most significant impact of Hegel's philosophy on Adorno is his theory of experience. This is substantiated by the following statement from Adorno's book on Hegel: "These days it is hardly possible for a theoretical idea of any scope to do justice to the experience of consciousness, and in fact not only the experience of consciousness but the embodied experience of human beings, without having incorporated something of Hegel's philosophy" (Adorno, 1993 [1963]: 2). According to O'Connor (2004: 29), the introduction to Hegel's *Phenomenology* "provides Adorno with a model of how consciousness is determined through the experience of objects."

Experience, according to Hegel, is an *active dynamic*—a process of recognizing and moving beyond the insufficient conceptual commitments of unreflected consciousness (O'Connor, 2013: 61). It should be noted that Hegel's treatment of concepts is in accordance with the German idealist tradition (i.e. concepts are both categories of thought and categories of reality). The dialectical conceptualization of experience, as Hegel explains below, is also very different from that of contemporary science, which presupposes the possibility of disembodied analysis from a detached reference point:

The way in which this movement has been brought about is such that it cannot belong to the fixed point; yet, after this point has been presupposed, the nature of the movement cannot really be other than what it is, it can only be external. Hence, the mere anticipation that the Absolute is Subject is not only *not* the actuality of this Notion, but it even makes the actuality impossible; for the anticipation posits the subject as an inert point, whereas the actuality is self-movement. (Hegel, 1977: 13)

Awareness of the insufficiency of unreflected concepts is, as O'Connor elucidates (2013: 62), an experience of contradiction. By actively revising its presuppositions about what the object is, consciousness transcends/transforms itself. For Hegel, reason is what compels consciousness to respond to, rather than to ignore, a state of contradiction (O'Connor, 2013: 62). In other words, the actively questioning consciousness is impelled by reason. The disposition of what Hegel calls *determinate negation* involves recognizing the limits as well as the conditions of possibility of our conceptualizations. Determinate negation, in contradistinction to the abstract negativity of mere skepticism, involves recognition of the concept "as the result of that from which it emerges" (Hegel, 1977: 51). As Hegel (1977: 51) notes, "when (...) the result is conceived as it is in truth, namely, as a *determinate* negation, a new form has thereby immediately arisen, and in the negation the transition is made through which the progress through the complete series of forms comes about of itself." Determinate negation, then, implies self-correction, which is linked to both the knowing subject and the object of analysis (O'Connor, 2013: 63). For Hegel, insofar as the subject's conceptual commitments are challenged and reworked, the object itself is transformed:

...in the alteration of the knowledge, the object itself alters for it too, for the knowledge that was present was essentially a knowledge of the object: as the knowledge changes, so

too does the object, for it essentially belonged to this knowledge (...) *Inasmuch as the new true object issues from it*, this *dialectical* movement which consciousness exercises on itself and which affects its knowledge and its object, is precisely what is called *experience* [*Erfahrung*]. (Hegel, 1977: 54, 55)

The negativity of Adorno's negative dialectics is rooted in Hegel's concept of determinate negation.¹⁰⁴ It is also Adorno's commitment to determinate negation that provides the basis for his critique of Hegel. For Adorno, Hegel's system, which involves a series of progressive steps as a rational requirement to overcome incompleteness (i.e. the movement from partial to absolute knowledge), falls short of what is essentially dialectical in Hegel's philosophy.¹⁰⁵

According to Adorno (2008: 28), it is Hegel's "assertion that something can simultaneously be both a synthetic and an analytical proposition (...) that marks the point at which (...) we have to go beyond Hegel, if we are to take him seriously." Adorno breaks with the "positive" nature of dialectics in Hegel—in other words, with the notion that the whole, as the embodiment of all negations, is the positive. As Adorno (2008: 27) explains, "the fixed, positive point, just like negation, is an *aspect* – and not something that can be anticipated, placed at the beginning of everything." The fact that this premise is simultaneously both what fuels the dynamism of the dialectic *and* what is supposed to emerge from the dialectic is precisely the point at which Adorno parts company with Hegel.

According to Huhn (2004: 5), Adorno contends that the progressive arc of the dialectic and its integrative synthesis is not inevitable and that modern history is the measure of this failure. Furthermore, as O'Connor (2006, 2013) suggests, the intellectual cost of Hegel's commitment to the inevitably forward trajectory of the dialectic is, for Adorno, the relinquishment of a dynamic theory of experience, a theory Hegel replaced with his system. As Brian O'Connor notes,

¹⁰⁴ According to Adorno (2008: 25), "negativity of this kind is made concrete and goes beyond mere standpoint philosophy by confronting concepts with their objects and, conversely, objects with their concepts." See also, Adorno (1973 [1966]: 4-6).

¹⁰⁵ I do not engage the question of the degree to which Adorno's critique of Hegel is justified nor do I question the degree to which Adorno's critique rests on possible misunderstandings of Hegel's philosophy. On this and related issues, see Bernstein, 2000; Coyle, 2010; and O'Connor, 1999, 2004, 2013.

The ‘negative’ which is the moment of insight into our failure to encapsulate an object may be the basis of a more complex knowledge of how we relate to objects. And that moment may even lead to a new level of sophistication in our ways of relating. What cannot be assumed, however, is that it will produce a positive outcome – a new standpoint – and certainly not, as Adorno repeatedly argues, that it can be an element of a further series of negations ending with a complete system of concepts. This system would be identical with the object since it would no longer be at odds with it. That is, the full range of concepts, and their interconnectedness, which would encapsulate an object, would be established. Experience would therefore cease. Ultimately this Hegelian agenda is a false one, pursued, according to Adorno, only by distorting experience itself into a sequence with purely logical values. (O’Connor, 2013: 65)

Such a dynamic theory of experience, according to Adorno, requires an essential openness that Hegel’s closed system does not allow. For Adorno, this open *awareness* must allow the object to show how it is not identical to the concept that seeks to identify what the object is. As Adorno (1973 [1966]: 28-29). notes, “If the thought really yielded to the object, if its attention were on the object, not on its category, the very objects would start talking under the lingering eye.” Consequently, “Reciprocal criticism of the universal and the particular; identifying acts of judgement whether the concept does justice to what it covers, and whether the particular fulfills its concept – these constitute the medium of thinking about the nonidentity of particular and concept” (Adorno, 1973 [1966]: 146).

For Adorno, dialectics as critique is synonymous with the critique of identity-thinking and negative dialectics is synonymous with critical theory.¹⁰⁶ The push toward a negative dialectics is impelled by the fact that the dialectic historically has been suspended.¹⁰⁷ This distinction leads to Adorno’s (1973 [1966]: 3) opening statement of *Negative Dialectics* that philosophy lives on because the moment to realize it was missed.

According to Adorno,

¹⁰⁶Consider, for example, the following statements from Adorno’s (1965) lecture course on negative dialectics:

“I would suggest that the two terms – critical theory and negative dialectics – have the same meaning. Perhaps, to be more precise, with the sole difference that critical theory really signifies only the subjective side of thought, that is to say, theory, while negative dialectics signifies not only that aspect of thought but also the reality that is affected by it. In other words, it encapsulates not just a process of thought but also, and this is good Hegel, a process of affecting things” (Adorno, 2008 [2003]: 20).

¹⁰⁷ In the words of J.M. Bernstein (2004: 21), the idea of negative dialectics is “a response to the historical dialectic at a standstill.”

It is not that there has been an arbitrary change in styles of thought or philosophical fashions, as aesthetics or psychologists views of the history of philosophy like to portray it. Instead, idealism has been forgotten, or has at least become a mere cultural commodity, both out of compulsion and out of necessity; through the compulsion of critical reflection and out of necessity in the development of a society that has less and less fulfilled Hegel's prognosis that it would become absolute spirit, that it would be rational. (Adorno, 1993 [1963]: 55)

In his lectures on negative dialectics, Adorno (2008: 7) explains that the shift toward a specifically *negative* dialectics (as opposed to the systematic integrative dialectic of Hegel) is necessitated by the relationship between contradiction *in* the (dialectical) concept, on the one hand, and the socio-historical content (whose essence *is* by virtue of its contradictions) to which the concepts refer, on the other. Indeed, Adorno's negative dialectics emphasizes this twofold meaning of the concept of contradiction, namely, the relationship between "a contradiction in the realm of ideas and concepts" and the fact that "the world itself is antagonistic in its objective form" (Adorno, 2008: 9).¹⁰⁸ As he explains,

The factors that define reality as antagonistic are the same factors as those which constrain mind, i.e. the concept, and force it into its intrinsic contradictions. To put it in a nutshell, in both cases we are dealing with the principle of mastery, the mastery of nature, which spreads its influence, which continues in the mastery of men by other men and which finds its mental reflex in the principle of identity, by which I mean the intrinsic aspiration of all mind to turn every alterity that is introduced to it or that it encounters into something like itself and in this way to draw it into its own sphere of influence. (Adorno, 2008: 9)

2.1.1 Critique of Identity Thinking

According to Adorno, the relationship between concepts and the historical context to which they refer has become reified under modernity. "[C]oncepts," Adorno (2008: 23) explains, "are no longer measured against their contents, but instead are taken in isolation, so that people take up attitudes toward them without bothering to inquire

¹⁰⁸ The model for the objective antagonistic world, according to Adorno, is "the fact that we live in an antagonistic society" (Adorno, 2008: 8; see also Adorno 1973 [1966]). As he explains, "the essence of this model of an antagonistic society is that it is not a society *with* contradictions or *despite* its contradictions, but *by virtue of* its contradictions. In other words, a society based on profit necessarily contains this division in society because of the objective existence of the profit motive. This profit motive which divides society and potentially treats it apart is also the factor by means of which society reproduces its own existence" (Adorno, 2008: 8-9).

further into the truth context of what they refer to.” Such hypostasis, Adorno claims, comes at a price:

This means that the less the mind possesses predetermined so-called substantial, unquestioned meanings, the more it tends to compensate for this by literally fetishizing concepts of its own devising which possess nothing that transcends consciousness. In short it makes absolutes of things it has created. And it achieves this by tearing them from their context and then ceasing to think of them further. (Adorno, 2008: 24)

In this passage, Adorno’s critique of meaning as immutably given sheds light on the significance of one of Adorno’s central theoretical maneuvers: his critique of identity thinking. According to Adorno, once the identity between concept and object has been reached, the need for critical self-reflection grows as the capacity for critique becomes impoverished. (It becomes impoverished because as reified consciousness the subject reflects upon concept and object as identical; in other words, the subject misapprehends concepts to be corresponding to the truth of what they identify). Exchange value, which has come to be the measure of all things (Adorno, 1997: 310), is the social model for what Adorno calls identity thinking (Adorno, 1973 [1966], 2008; see also Cook, 2011: 19). The genesis of identification parallels Marx’s category of commodity, which renders both use-value and value identical and thereby concretizes two distinct, yet related, dimensions into a single form.¹⁰⁹

Gillian Rose’s superb (1976) essay, “How is Critical Theory Possible? Theodor W. Adorno and Concept Formation in Sociology,” is instructive here since she provides a succinct reconstruction of Adorno’s critique of identity-thinking. Rose explains that concepts involve defining and, as such, are always contradictory. Concepts identify properties of an object, but properties do not exhaust what an object is. Identity-thinking, which in modern capitalist society is our normal mode of cognition, is in this sense totalizing – it makes unequal things equal. Yet, as Brian O’Connor argues, recognition of nonidentity is not a matter of logic or epistemology but rather an essentially normative

¹⁰⁹ According to J.M. Bernstein’s (2004: 32) interpretation of Adorno, “Logic and modern science are the quintessential expression of conceptual unification theoretically, while practically it is the relegation of use value to exchange value that performs the task.” On the relationship between Adorno’s theory and Marx’s materialism, see Cook (2006, 2011), Jarvis (2004), and Stone (2006). On the relationship between Adorno and Marxism, see Cutrone (2013).

commitment. Recognition of nonidentity, according to O'Connor (2013: 82 [emphases added]), "is directed specifically at *what ought not to be*", which is why "In the unreconciled condition, nonidentity is experienced as negativity" (Adorno, 1973 [1966]: 31).

Rose outlines three aspects of identity thinking: (1) pragmatic identity-thinking, (2) utopian identity-thinking, and (3) rational identity-thinking. Pragmatic identity-thinking refers to the "nature-controlling function of thought" (Rose, 1976: 70). The utopian aspect of identity-thinking refers to the fact that concepts also always relate to their objects by "the conditions of their ideal existence" (Rose, 1976: 70). Furthermore, under existing social conditions the utopian aspect of identity-thinking is antagonistic to itself. As Rose (1976: 71) explains, "For the concept to identify its object in this [utopian] sense the particular object would have to have all the properties of its ideal state." This condition marks the third aspect of identity thinking—rational identity-thinking. Although rational identity-thinking is constitutive of the utopian moment of identity thinking, it is problematic precisely because the utopian moment is barred from actuality due to the inherent violence of rational identity-thinking. In other words, under present social conditions it is impossible for the concept to identify its true object (Rose, 1976: 71).

Rose suggests that Adorno confronts this problem by way of negative dialectics, which, as she explains, is a mode of cognition as non-identity thinking. Although non-identity thinking is different from identity-thinking, it is neither external nor separate from identity-thinking. If this were the case, then Adorno's negative dialectics would be theoretically and logically inconsistent. Adorno's (1973 [1966]: 146-148) discussion of the dialectics of identity highlights the importance of immanent critique in his approach to critical theory as negative dialectics. As a dialectics of non-identity, negative dialectics approaches a mode of thinking that allows us to recognize the non-conceptual to which all concepts refer and become aware of the immanently non-identical.

For Adorno (1973 [1966]: 147), the possibility of a different mode of cognition is intrinsically tied to identity thinking: "Totality is to be opposed by convicting it of

nonidentity with itself—of the nonidentity it denies, according to its own concept.” Adorno’s negative dialectics employs concepts (the concept of which Adorno critiques) to “break out” of the strangle-hold of the concept itself. “The cognitive utopia,” according to Adorno (1973 [1966]: 10), “would be to use concepts to unseal the nonconceptual with concepts, without making it their equal.” That the whole is, in contrast to Hegel, quite literally wrong is what necessitates a specifically *negative* dialectics: “In the unreconciled condition, nonidentity is experienced as negativity” (Adorno, 1973 [1966]: 31). (Negative) dialectics as critique, according to Adorno, is the “anti-method” most appropriate to a totalizing “administered” world. Not coincidentally, the aim of Adorno’s (1973 [1966]: 11) theory is characterized by an uncompromising commitment to social emancipation: “Regarding the concrete utopian possibility, dialectics is the ontology of the wrong state of things. The right state of things would be free of it: neither a system nor a contradiction.”

2.2 *Negative Philosophy of History*

Adorno’s 1964 lecture notes on “Progress or Regression?” bear the historical specificity of the atomic bomb and the resultant threat of mass planetary destruction. “Even if the murder of millions could be described as an exception and not the expression of a trend (the atom bomb),” writes Adorno (2006 [1964]: 4), “any appeal to the idea of progress would seem absurd given the scale of the catastrophe.” While Adorno echoes Hegel in asserting that history is meaningful insofar as it is the story of freedom, he departs from Hegel’s lead when he argues that the theory of historical progress ‘as an advancement in freedom’ is “highly vulnerable” (Adorno, 2006 [1964]: 5)

Adorno describes the “spell” of capitalist society—the “eternal sameness of the historical process” (Tiedemann, 2006: xvi)—that is, the objective course of history—in the following way:

[W]hat Hegel calls the world spirit is the spirit that asserts itself despite people’s wishes, over their heads, as it were. It is the primacy of the flow of events in which they are caught up, and it impinges on them no less than do the facts. Only it does so less painfully, and is therefore the more easily repressed. What is important here is that you should not regard this idea of the spirit prevailing over people’s heads as a kind of speculative prejudice and hence dismiss it all too readily. It is important, I say, that you

should realize that this is a process in which what prevails always passes not merely over people's heads, but *through* them. (Adorno, 2006 [1964]: 25)

For Adorno (2006 [1964]: 26), “the spirit that prevails *over* mankind as something that also prevails *in* them (...) the objective course of history asserts itself over human beings (...) And, at the same time, it asserts itself *through* them.” Given that Adorno is interested in what the objective historical process that asserts itself means in and through the individual it ensnares, this clearly has implications for comprehending history.

I refer to Adorno's philosophy of history as a negative philosophy of history for two interrelated reasons. First, for Adorno (2006 [1964]: 26), comprehending the meaning of history involves recognizing the history of the present as “something meaningless.” Secondly, insofar as Adorno advances a philosophy of history he does so in and through a social critique of history as such. On this basis, Adorno's negative philosophy of history pivots upon the *meaning* of the objective course of history in and through the corporeal human being.

Aspects of Adorno's negative philosophy of history can be seen in his critique of historicism. Take, for example, Adorno's (2006 [1964]: 29) contention that, “Facts that have become a counterweight to mere illusion (...) reinforce the impression of mere illusion.” The power of facts to penetrate illusion, via disenchantment of the Enlightenment, became illusory because after the world had been divested of meaning the “power” of facts were mistakenly taken to be something other—*something more*—than what they actually are—the nonidentical is thereby rendered identical. It is through this process of violent abstraction that positivism gains a momentum of its own as “socially-necessary semblance.”¹¹⁰ As such, both the defense and critique of the importance of historical “facts” presupposes that historical processes have some sort of meaning (Adorno (2006 [1964]: 11). The aim and goal of Adorno's negative philosophy of history is critical recognition of the meaninglessness of the history of the present; he contends

¹¹⁰ Adorno's (1993 [1963]: 137) immanent critique of positivism has its corollary in his aesthetic theory: “As something set off from empirical reality, art requires for its constitution something indissoluble, nonidentical; art becomes art only through its relation to something that is itself not art.” This distance is less harmful in the arts, as Adorno (1993 [1963]: 137) explains, “This semblance is less harmful in art insofar as art posits itself as semblance and not as actualized reason.”

this recognition of meaninglessness is the only way the meaning of history becomes possible. On this basis, Adorno seeks to grasp the damage of the objective course of history in the particular and, in the process, to illuminate what history is not.

The primacy of the objective course of history takes precedence over particular individuals who create history as “isolated” particulars. Note that Adorno is not saying that the objective course of history *should* be primary; he is, however, saying that the objective course of history *in its actuality* is primary and that as social scientists we should—indeed, must—be able to take this into account if we are to do justice to our object of study (see Dahms, 2011). Positivism, including the dominant historical methods that focus on isolated specificity, is false because it does not realize that this mode of historical analysis is itself determined by history and, as such, says nothing about history. In other words, our comprehension of historical facts is itself a product of the objective course of history operating in and through us. History is impossible if we fail to recognize this condition.

How, then, can we say anything at all about history? Adorno is fully aware of this dilemma. Indeed, his emphasis on the non-identical might even be seen as a response to this problematic, one which requires an immanent critique of identity. Adorno (2006 [1964]: 10, 29-38) maintains that history is only objectively possible as philosophy of history and that in order to do justice to socio-historical reality we must be able to deal with the complex issues involved in mediating between the universal and the particular.

In his 1964 lecture on the concept of mediation, Adorno explained to his students what must, at the very least, be included in an adequate explanation of historical factors:

In short you need to grasp the complexity of the pattern, by which I mean the overall process that asserts itself, the dependence of that global process on the specific situation, and then again the mediation of the specific situation by the overall process. Furthermore, in addition to understanding this conceptual pattern, you need to press forward to the concrete, historical analysis I have hinted at and that goes beyond the categories I have been discussing. (Adorno, 2006 [1964]: 37)

Adorno’s analysis of historical content employed an interpretive sociology, an approach he likened to that of physiognomy. From this perspective, the sociologist must

study surface phenomena as manifestations of social structure.¹¹¹ As Adorno (1972 [1969]: 32) explains, “In sociology, *interpretation* acquires its force both from the fact that without reference to totality—to the real total system, untranslatable into any solid immediacy—nothing societal can be conceptualized, and from the fact that it can, however, only be recognized in the extent to which it is apprehended in the factual and the individual.” As will become apparent below, my (interpretive) approach to analyzing what I refer to as the cold war regime of critique containment in chapter four is indebted to Adorno’s approach.

It should be stressed that the concept of totality for Adorno is a critical category that, by its very nature, has a double meaning—“the concept both applies and does not apply” (Rose, 1976: 79).¹¹² Rose (1976: 78) explains, “To perceive the mediation of the individual by the totality and of the appearance by the essence, is to perceive how the existence of individuals, or the façade of society, does not fulfill its concepts, how unequal things are made equal by the prevailing form of commodity exchange and by the corresponding conceptual apparatus of that society.”

Rather than emphasizing a one-sided focus on totality, Adorno’s approach to engaging the primacy of the objective course of history aims to grasp the mediation of the totality in the particular. Adorno (1973 [1966]: 303) suggests, “totality over phenomenality is to be grasped in phenomenality.” The key, then, is to shed light on how the particular *expresses* the totality. Gillian Rose’s (1976) description of the methodological role played by mediation in Adorno’s approach is worth quoting at length.

A view of the totality, of the mediation of each category, will show how these categories developed. This is the critical approach: to show how categories have arisen by deriving them from the historical process. It is to see that these concepts are not fulfilled by the object they cover, to see the non-identity in the concept. In this case the historical process is commodity exchange. The commodity falls under the abstract formula of social static and hence appears to exist in itself. It has not been examined: it has simply arisen from the process of exchange. (Rose, 1976: 82)

¹¹¹ See, e.g., Adorno, 1938.

¹¹² “The concrete form of the total system requires everyone to respect the law of exchange [value] if he does not wish to be destroyed, irrespective of whether profit is his subjective motivation or not” (Adorno, 1972 [1969]: 14).

Adorno's (1998) contention that in order to speak of progress the social conditions for progress (i.e. the actuality of freedom) would first have to be established is informed by his negative philosophy of history. As indicated, Adorno develops his approach to history via critique of the philosophy of history. From this perspective, the history of the present is recast in terms of the relation between history and meaning, between heteronomy and the individual.

2.3 Subject, Object, Nature

Adorno (1998: 246) insists that we cannot "define away" the meaning of the concepts "subject" and "object."¹¹³ As he explains, "Defining means as much as subjectively, by means of a rigidly applied concept, capturing something objective, no matter what it may be in itself. Hence the resistance of subject and object to the act of defining" (Adorno, 1998: 246). Yet Adorno's critique is, at its basic level, an epistemological critique:¹¹⁴

The separation of subject and object is both real and semblance. True, because in the realm of cognition it lends expression to the real separation, the rivenness of the human condition, the result of a coercive historical process; untrue, because the historical separation must not be hypostatized, not magically transformed into an invariant. This contradiction in the separation of subject and object is imparted to epistemology. Although as separated they cannot be thought away, the *ψεύδος* of the separation is manifested in their being mutually mediated, object by subject, and even more differently, subject by object. As soon as it is fixed without mediation, the separation becomes ideology, its normal form. (Adorno, 1998: 246)

To define what subject or object is is ideology, and to say what the subject is is both real and semblance. The philosophical problem of the transcendental subject (i.e. the [transcendental] subject as the condition for the origin of consciousness), in this sense, is that the separation of subject and object "is both real and semblance" (Adorno, 1998: 246). The idea of the transcendental subject as the condition for the origin of

¹¹³ According to Vogel (1996), Adorno's resistance to total concepts and defining is precisely where his approach to nature falls short. Vogel (1996: 79) explains, "To say, as the theory of nonidentity does, that 'the object always escapes the concept's grasp' requires being able to make sense of an object independent of the conceptual, which in this sense means independent of the subject's activity; yet this 'making sense' would itself have to be an operation of thought and hence yet another activity of the subject." Not only does Vogel's criticism miss the point entirely – namely, that the conceptual is not something static – he also overlooks that it is precisely this point where I am suggesting Adorno provides us with a tremendous amount of insight regarding the environment-society problematic.

¹¹⁴ On Adorno's (meta)critique of the contemporary discipline of epistemology, see Adorno (1982 [1956]).

consciousness “presupposes precisely what it promises to establish: actual, living individuals” (Adorno, 1998: 247).

In relation to the societal realm, the transcendental subject *is* society: “The living individual, such as he is constrained to act and for which he was even internally molded, is as *homo oeconomicus* incarnate closer to the transcendental subject than the living individual he must immediately take himself to be” (Adorno, 1998: 248). The idea of subjectivity as abstracted from the particular “discloses the precedence of the abstract, rational relations that are abstracted from individuals and their conditions and for which exchange is the model” (Adorno, 1998: 248). The following passage is key to understanding the significance of Adorno’s refusal to define the subject from the outset:

If the standard structure of society is the exchange form, its rationality constitutes people: what they are for themselves, what they think they are, is secondary. They are deformed at the outset by the mechanism that was then philosophically transfigured into the transcendental. What is supposedly most obvious, the empirical subject, would actually have to be considered as something *not yet existing*. (Adorno, 1998: 248 [emphasis added])

This obviation is present in Adorno’s resistance to totalizing concepts discussed above. The unreflected use of total concepts not only cancels the possibility that things could be otherwise it also, via nominalism, constructs an “ontology of ‘the’ human being,” thereby “den[ying] society in its concepts by degrading it into an abbreviation for the individual” (Adorno, 1998: 258). On this basis, Adorno (1998: 252) contends that identity thinking “no longer poses as the absolutization of the subject,” as it had in idealism, but is “the characteristic form of reified consciousness.” Writing after the Second World War, Adorno asserted that identity thinking as reified consciousness is “a type of seemingly anti-subjective, scientifically objective identity thinking” (Adorno, 1998: 252).

The interaction of subject and object has a determinate affinity with *this* (modern capitalist) society that Adorno termed *exchange society*. “Cognition,” says Adorno (1998: 252), “must be guided by what exchange has not maimed or—since there is nothing left unmaimed anymore—by what is concealed within the exchange processes.” Adorno (1998: 253) explains, “If the dialectical primacy of the object is acknowledged, then the

hypothesis of an unreflected practical science of the object (...) after the subject has been subtracted away collapses.” Yet without the object dimension the subject dimension is meaningless, as Adorno explains:

Object is no more a subjectless residuum than it is posited by subject. The two conflicting determinations fit together: the residue, which science settles for as its truth, is a product of its manipulative procedures that are subjectively organized. To define what object is would in turn be itself part of that organization. *Objectivity can be made out solely by reflecting, at every historical and cognitive stage, both upon what at that time is represented as subject and object as well as upon their mediations.* (Adorno, 1998: 253 [emphasis added])

Many have dismissed Adorno because they underappreciate this pivotal moment. Steven Vogel (1996: 79), for instance, dismisses Adorno because, as he sees it, the basis for Adorno’s critique of identity thinking is at the same time that which “critique shows cognition to be incapable of ever knowing.” Vogel overlooks what Adorno is trying to do: Adorno attempts to elucidate a reciprocity between subject and object whose mutual mediation is what makes experience possible (see O’Connor, 2006). This mediation is why Adorno (1998: 256) says, “The difference between subject and object slices through subject as well as through object. It can no more be absolutized than it can be removed from thought.”

With regard to the actual damage inflicted by real ecological despoliation, this damage is not and cannot be identical to our conception of “nature”: “Potentially, *though not actually*, objectivity can be conceived without a subject; but not likewise object without subjectivity” (Adorno, 1998: 249). Based on the very concepts of “subject” and “object” we could, for example, potentially conceive of the total destruction of mankind (e.g. nuclear war) wherein humankind is exterminated and the planet earth survives. The actualization of such a concept (i.e. the rational identity of this concept to its object), however, is impossible because such actualization implies the destruction of the subject. To conceive of modern society’s objectification of “nature” without subjectivity is a performative contradiction. As Adorno (1998: 256) explains, “Subject in its self-positing is semblance and at the same time something historically exceedingly real. It contains the potential for the sublation of its own domination.”

Although Vogel's (1996) aforementioned impatience with Adorno's refusal to define the concepts he nonetheless employs is certainly understandable, Adorno's resistance to definition is nonetheless of great theoretical import and is in line with his negative dialectics. Cook (2011: 12) explains, "It may appear contradictory to refer to the heterogeneous character of nature in the context of discussing our affinity with the natural world. But to acknowledge our affinity with nature by no means implies that we are fully identical with it." Adorno's "anti-system" resists total concepts (Durkheim's notion that society is a reality *sui generis*, for instance) because in purporting to explain everything total concepts explain nothing. Sociologies based on total concepts are "constructed on the basis of a desire for control (*Herrschaftsanspruch*)" (Rose, 1976: 77).

Theories that take for granted the severance of the objective dimension and the subjective dimension of the environment society problematic (i.e. theories that root the critique of actual existing ecological destruction in some preexisting past organic unity that has been torn apart via "history") are therefore ideological because the truth content of such theories rest on an intrinsic affinity with the existing state of affairs.¹¹⁵ For example, the truth content of traditional Marxist environmental sociology is found in its emphasis on actual ecological conditions and the objective socio-structural drivers of environmental destruction. Yet from the perspective of Adorno's critical theory, this emphasis is false insofar as it is unable or unwilling to account for the subject as an essential moment of the objective dimension. Values-based, as opposed to Marxist-oriented environmental sociology, which was discussed in chapter one above, relies on a positivistic misrecognition of the subject and the relationship between social subjectivity and the material contradictions of social reality.

¹¹⁵ See Nelson, 2011.

2.4 *Natural History as Critique*¹¹⁶

Adorno's (2006 [1932]) published essay, "The Idea of Natural-History," comes from a lecture he delivered at the Frankfurt chapter of the Kant society on July 15, 1932.¹¹⁷ The essay is organized in three parts. Part one begins with a critique of the then-current formulation of ontology (i.e. fundamental ontology and the work of Heidegger, in particular), which Adorno (2006 [1932]: 253) indicates in his introduction is analogous to the term "nature" as he will be using it. Adorno (2006 [1932]: 254) explains that the ontological question of being can be articulated in two forms. The first, "the question of being itself," in Kant is the thing-in-itself, which simultaneously becomes the second, the question of the *meaning* of being, or, as Adorno puts it, "the meaningfulness of the existing or of the meaning of being as, simply, possibility."

This double form of the question of being is where autonomous reason begins, according to Adorno's (2006 [1932]: 254) interpretation of ontology. He explains that "only when reason perceives the reality that is in opposition to it as something foreign and lost to it, as a complex of things, that is, only when reality is no longer immediately accessible and reality and reason have no common meaning, only then can the question of the meaning of being be asked at all" (Adorno, 2006 [1932]: 254). The insight derived from this, which led to an initial crisis in phenomenology and which would later impel the fundamental ontological turn in contemporary phenomenology, is that "the question of the meaning of being is nothing more than the insertion of subjective meaning into the existing" (Adorno, 2006 [1932]: 254). Fundamental ontology (e.g. Heidegger, 1926) seeks to correct the dialectic of history and nature by eliminating the antithesis of being and history altogether (Adorno, 2006 [1932]: 256).¹¹⁸ According to Adorno (2006 [1932]:

¹¹⁶ In what follows, I analyze Adorno's treatment of natural history as a critical concept. Instead of focusing on a single work that employs the concept of natural history, I will identify some defining features of natural history as a critical concept throughout Adorno's works. It is also important to be aware that, as others have argued (for instance, Hullot-Kentor, 2006; Pensky, 2004), Adorno's concept of natural history changes from the time of his 1932 lecture to his discussion of natural history in *Negative Dialectics* (1966).

¹¹⁷ Although Adorno used stopped using "natural-history" as a double entendre (Hullot-Kentor, 2006: 241), the concept of natural history can be found throughout Adorno's later works (see Pensky, 2004).

¹¹⁸ According to Hullot-Kentor (2006: 250), the concept of dialectical nature that Adorno develops in this lecture is "a code word for Marxism," which is at the same time "a form of interpretation that delineates the possibility for the comprehension of all signification precisely in its meaninglessness."

256), this move has resulted in contemporary ontology's "turn toward tautology" as "History itself (...) has become the basic ontological structure. At the same time, historical thought itself (...) is reduced to a philosophically based structure of historicity as a fundamental quality of human existence (*Dasein*).” A related consequence Adorno identifies is that contemporary ontology is unable to deal adequately with particularity. “Neo-ontology,” tries to collapse the nature-history dialectic into historicity, but it is unable to move beyond idealism. Adorno ends the first section of his lecture with the following corrective:

If the question of the relationship of nature and history is to be seriously posed, then it only offers any chance of solution if it is possible *to comprehend historical being in its most extreme historical determinacy, where it is most historical, as natural being, or if it were possible to comprehend nature as a historical being where it seems to rest most deeply in itself as nature* (...) The retransformation of concrete history into dialectical nature (...) is the task of the ontological reorientation of the philosophy of history: the idea of natural-history. (Adorno, 2006 [1932]: 260)

In the second part of his lecture Adorno situates the concept of natural-history within the context of philosophy of history by focusing on the work of Lukács and Benjamin. In Lukács, the problem of natural history, “as the question of how it is possible to interpret this alienated, reified, dead world” (Adorno, 2006 [1932]: 2651), produces a “shock”—in other words, a change in perspective. According to Adorno, Lukács’s discussion of second nature in the *Theory of the Novel* (his reference to the charnel house in particular) effectively grasps the retransformation of the historical into nature. For Adorno, Lukács leaves “the resurrection of second nature” (Adorno, 2006 [1932]: 262) in “infinite distance.” Sharing this concern with nature and history, Benjamin, in *The Origin of the German Play of Lamentation*, implicates nature itself as history, as transience. Commenting on Benjamin’s “resurrection of second nature” into “infinite closeness” and into “an object of philosophical interpretation,” Adorno (2006 [1932]: 262) asserts, “The deepest point where history and nature converge lies precisely in this element of transience. If Lukács demonstrates the transformation of the historical, as that-which-has-been into nature, then here is the other side of the phenomenon: nature itself is seen as transitory nature, as history.” The issue at hand, according to Adorno (2006 [1932]: 263), “is a historical relationship between what appears—nature—and its meaning, i.e.,

transience.” The meaning of this historical relationship, Adorno insists (2006 [1932]: 263), “cannot develop these concepts in a traditional fashion.” For this reason, Adorno indicates *constellation* as the alternative logical structure for deciphering natural-history.

In the third part of his talk Adorno provides a somewhat cryptic elaboration of the relationship between immanent criticism and second nature, on the one hand, and the recuperation of illusion, on the other.¹¹⁹ Adorno concludes his lecture by moving toward a concept of materialism:¹²⁰

With this I refer you to the structure of the original-historical in semblance itself, where semblance in its thusness (*Sosein*) proves itself to be historically produced or, in traditional philosophical terms, where semblance is the product of the subject/object dialectic. Second nature is, in truth, first nature. The historical dialectic is not simply a renewed interest in reinterpreted historical materials, rather the historical materials transform themselves into the mythical and natural-historical.

I wanted to speak about the relationship of these matters to historical materialism, but I only have time to say the following: it is not a question of completing one theory by another, but of the immanent interpretation of a theory. I submit myself, so to speak, to the authority of the materialist dialectic. It could be demonstrated that what has been said here is only an interpretation of certain fundamental elements of the materialist dialectic. (Adorno, 2006 [1932]: 268-269)

In a 1965 lecture on the history of nature, Adorno explains the idea of second nature as follows:

The concept of a second nature remains the negation of whatever might be thought of as first nature (...) it is the totality of whatever has been so completely trapped by social and rational mechanisms – the two cannot be distinguished – that nothing differing from it can manifest itself. And because there is nothing else outside it, it acquires the appearance of the natural, in other words, of what simply exists and is given. There is not even the possibility of something outside it becoming visible, something that is not caught up in the general inclusiveness. The exclusion of possibility which converts this second nature into the only reality is what also turns it into the substitute for possibility, and it is in this way that the semblance of the natural comes into being. (Adorno, 2005 [1965]: 120-121)

We see that, in the aforementioned passage, Adorno views both “history” and “nature” as thoroughly dialectical concepts. By juxtaposing these two concepts, Adorno sheds light on an historical dynamic in order to critique the present. In the “Natural History” section in *Negative Dialectics* (Adorno, 1973 [1966]: 354-358), Adorno’s elaboration of this theme resonates with his negative dialectics:

¹¹⁹ See Hullot-Kentor, 2006: 248-251 for an elaboration of Adorno’s somewhat cryptic elaboration.

¹²⁰ On Adorno’s “critical materialism,” see Cook, 2006, 2011.

The objectivity of historic life is that of natural history. Marx, as opposed to Hegel, knew this and knew it strictly in the context of the universal that is realized over the subjects' heads (...) Ideology is not superimposed as a detachable layer on the being of society; it is inherent in that being. It rests upon abstraction, which is the essence of the barter process. Without disregard for living human beings there could be no swapping. What this implies in the real progress of life to this day is the necessity of social semblance. Its core is value as a thing-in-itself, value as "nature." The natural growth of capitalist society is real, and at the same time it is that semblance. That the assumption of natural laws is not to be taken *à la lettre*—that least of all is it to be ontologized in the sense of a design, whatever its kind, of so-called "man"—this is confirmed by the strongest motive behind all Marxist theory: that those laws can be abolished. The realm of freedom would no sooner begin than they could cease to apply. (Adorno, 1973 [1966]: 354-355)

In this passage, it is clear that what Adorno finds compelling in Marx is his notion of natural history as essentially critical. The question that natural history, as a critical concept in Marx's analysis, then begs "is the question of freedom or unfreedom in history" (Tillack, 2006 [1965]: 116). In this section of *Negative Dialectics*, Adorno (1973 [1966]: 355; cf. Adorno, 2006 [1965]: 118) notes that it is ironic that Marx was a "Social Darwinist" before quoting the following passage from Marx's *Foundations of Political Economy*, which according to Adorno, "leaves no doubt that his [Marx's] view of natural history was critical in essence" (Adorno, 1973 [1966]: 355).

Much as the whole of this motion appears as a social process, much as the single moments of this motion take their departure from the conscious will and from particular purposes of individuals—the totality of the process does appear as an objective context arising by natural growth. It is indeed due to the interaction of conscious individuals, but neither seated in their consciousness nor subsumed under them as a whole. (Marx, quoted in Adorno, 1973 [1966]: 355; see also Marx, 1974 [1857/58]: 196-197)

Such "natural laws of society" are ideology as soon as they are "hypostatized as immutably given by nature" (Adorno, 1973 [1966]: 355; Adorno, 2006 [1965]: 118). Adorno goes on to note how Marx, in his chapter on fetishism, "mocks the false consciousness that acts like a mirror to the parties involved in the process of barter, reflecting back to them as characteristics of things what in reality is a social relation" (Tillack, 2006 [1965]: 118). Here ideology speaks the truth about society as heteronomous (Tillack, 2006 [1965]: 118). These somewhat cryptic insights will be important to bear in mind in my discussion of Postone below.

2.5 Adorno and the Environment

Before discussing Adorno's potential contribution to a critical theory of the environment, it will be helpful to restate the basic parameters of the environment-society problematic this dissertation addresses. The environment-society problematic refers to the seemingly "paradoxical" synchronicity of increased environmental destruction amid growing environmental attention and concern throughout the latter half of the twentieth century. We can decipher an objective dimension and a subjective dimension of the environment-society problematic. Recall that the objective dimension includes actual, concrete human-ecological transformation, which rose to historically unprecedented levels following the Second World War and has been increasing exponentially ever since; whereas the subjective dimension expresses itself via the widespread concern for and attention to the well-being of the biophysical world, which has also been growing fairly steadily throughout the latter half of the twentieth century. Another related characteristic of the environment-society problematic is reflected in the fact that modern society posits nature as an external "object" which may then be quantified, manipulated, and controlled. Taking both the subject-object dimensions of the environment-society problematic as well as modern society's treatment of nature into consideration, I noted that one of the most unnerving characteristics of the environment-society problematic is that although societally-induced environmental degradation is becoming increasingly visible, it is at the same time becoming less and less understandable (as evidenced by the paradox between increased ecological destruction amid wide-spread environmental attention and concern following the Second World War). Finally, I've shown that the seemingly "paradoxical" nature of the environment-society problematic is indicative of this severance of the subject-object dimensions of the problematic itself.

In the investigation of contemporary American environmentalism in chapter four, it will be helpful to bear in mind Adorno's critique of identity thinking, in addition to the aspects of his concept of mediation discussed above. Because the implications of Adorno's critique of identity thinking and his concept of mediation for the investigation below will only become apparent through the unfolding of that investigation, I will, at

this point, simply indicate the relation between the significance of Adorno's critique to one element of the examination pursued in chapter four by referring to the term "American society." As will become clear, "American society" is not a society; rather, what we refer to as "American society" is, in fact, a historically-specific configuration of social relations that are problematic and in direct conflict with the promises of an unified America. The depth of this problem is linked to the problem of reification.

Gillian Rose (1976: 72) suggests that for Adorno the origin of reification is marked by "the idea that value appears to be the property of a commodity" while in actuality, Marx has emphasized, "exchange value is the only *form* in which the value of a commodity can manifest itself or be expressed" (Marx, quoted in Rose, 1976: 72).

Rose explains,

Thus to say that something is reified is not to emphasize that a relation among men appears as a relation among things. It is to emphasize that a relation among men appears in the form of a property of a thing. To be non-reified, then, is really to be a property of a thing or, by analogy with Marx, to be a use-value. In Marx's terms, 'it is through its own properties, its own qualities that a thing is a use-value', or, in Adorno's terms, when the concept is identical with its object, then something is non-reified. (Rose, 1976: 73)

Recognition of today's worldwide ecological crises is not real (critical) recognition if it is confined to the appearance of growing attention and concern for ecological destruction within existing social conditions (made possible by increasingly sophisticated measurement technologies) without recognizing itself as such. To claim that the concept "recognition" correctly describes a state of affairs when it is not, in fact, real recognition is to make unequal things equal (Rose, 1978: 72; Adorno, 1973 [1966]). As I explain below in chapter four, contemporary environmentalism (and contemporary American environmentalism in particular) is a reified manifestation of contemporary ecological subjectivity—a manifestation that takes shape differently in different societal contexts. In this sense, real (critical) recognition would involve recognizing itself as a category of alienation mediated by this reification.

3. Moishe Postone: Critique of Traditional Marxism

In his 1993 book, *Time, Labor, and Social Domination*, Moishe Postone presents the most sophisticated reinterpretation of Marx's critical theory of modern society to

date. Postone goes well beyond a simple restatement of Marx's ideas by indicating the historical specificity and critical core of the Marxian approach through a critique of traditional Marxism. Although Marx's work represents a systematic critical theory of modern society, Postone contends that Marx's ideas have been appropriated through a traditional theoretical lens. I shall elaborate throughout my discussion the key aspects of Postone's critical Marxian theory and how they differ from traditional Marxism (a brief summary can be found below in Table 4). While these are by no means the only or most significant elements of traditional Marxism and critical Marxian theory, Table 4 is included to assist the reader in situating Postone's object of critique with regard to his critique of traditional Marxism.

Table 4. Traditional Marxism and Critical Marxian Theory

Traditional Marxism	Postone's Critical Marxian Theory
Critique of capitalism rooted in the standpoint of labor (the proletariat)	Critique of labor rooted in the potential generated by capital's accumulated history
Transhistorical conception of labor -Labor constitutes the social world and is the source of all wealth in all societies -Social relations, such as class exploitation and forms of social domination within capitalism veil the "true" (transhistorical) nature of labor	Historically specific conception of labor -Labor constitutes the social world and is the source of all wealth only in capitalist society -Capitalism's historically specific form of abstract domination and its social relations are structured by such labor
Categorical appropriation of Marx's categories -Interpretation of Marx's categories, such as commodity, value and capital, as categories of the opposition between owners and workers, proletariat and bourgeoisie	Categorical appropriation of Marx's categories -Interpretation of Marx's categories, such as commodity, value and capital, as categories of both the subjective and objective forms of modern social life

In contrast to traditional Marxism, which affirms the centrality of labor in capitalist society, Postone argues that Marx's focus on the central role played by labor in capitalist society is fundamental to his *critical* theory of modern society. Marx's critical theory, according to Postone (1993: 307), conceptualizes labor as "a determinate mode of social mediation" that also structures a form of abstract domination unable to be grasped adequately when approached in traditional terms. It is important to be aware of the historical significance of Postone's critique of traditional Marxism because Postone's critique is all the more pertinent today after the historical failures of Marxism as a political project. One effect of this failure has been an increased skepticism regarding the applicability of Marx's theory to the current historical moment, as expressed, for example, by theories of post-structuralism and deconstructionism, which, as Murthy (2009: 9-10) explains, "seem to have the advantage of giving up totalizing narratives and grandiose projects of human emancipation." These theories are correct to emphasize the inadequacies of traditional Marxism, particularly the focus on the proletariat as the historical subject (a narrow, often economistic conceptualization of "class") and a similarly narrow concern for concrete forms of capitalist exploitation (Murthy, 2009). Unfortunately, the inadequacies of this approach are frequently equated with those of Marx himself. Postone's engagement with Marx's critical theory, however, grasps the historical specificity of capital in history. Postone's more nuanced reading of Marx allows for an understanding of larger processes of social domination in light of both state-centric capitalism and "socialism" during the second and third quarter of the twentieth century as well as the most recent incarnation of capital, which is expressed through the advent of neoliberalism during the 1970s and accelerated in and through the more recent processes of globalization.

Postone is significant for both the overall aim of this dissertation and in light of the preceding discussions of Lukács and Adorno, in particular. With regard to Adorno, recall that Lukács's (1971 [1923]) conclusion, which regarded the proletariat as the identical subject-object, fell victim to the traditional form of theorizing that the critical impetus of his own theory pointed beyond. Instead of simply discarding Lukács's

approach as a failed, outmoded attempt to categorially appropriate the categories Marx puts forth in his theory of capital, I contend that Postone's (1993) reinterpretation of Marx's critical theory may be seen as the critical appropriation of that which remains analytically vexing in Lukács's critique of the commodity form.¹²¹ This approach allows for an analysis more in line with the dynamics of capitalism at the beginning of the twenty-first century. Whereas both Lukács and Adorno employ Marx's critique of capitalism to develop their own systematic critiques of the *effects* of the capitalist mode of production on patterns of political, social, and cultural reproduction during the years following the First World War (Lukács's critique of reification) and the first two decades following the Second World War (Adorno's critique of identity thinking), Postone's critical Marxian theory grasps the intrinsic relationship between the changing nature of the interaction between underlying dynamics of the development of capitalism *and* its effects in determining patterns of political, social, and cultural reproduction (Dahms, 2011: 9).¹²²

Postone is significant for the aims of this dissertation in large part because his critical Marxian theory has an enormous potential contribution to produce an environmental sociology theoretically informed by a critical theory of the environment. This contribution becomes clearer in my explication of reification and production of value below. At the same time, I would suggest that Postone's potential contribution to an environmental sociology theoretically informed by critical theory is enhanced if and when situated in light of the potential contributions of both Lukács and Adorno that I discussed above.

3.1 Nature of the Contradiction: Value and Material Wealth

Postone's reinterpretation of Marx's critical theory of modern society begins with the *Grundrisse rise der Kritik der politischen Ökonomie*, an unfinished manuscript

¹²¹ Postone deals explicitly with a critical appropriation of Lukács in his 2003 essay, "Lukács and the Dialectical Critique of Capitalism," and in his 2009 essay, "The Subject and Social Theory: Marx and Lukács on Hegel." Although I will make references to these essays, my focus will be on Postone's (1993) book, *Time, Labor, and Social Domination*.

¹²² This point is developed by Dahms (2011: 3-41), who provides a critical analysis of the early Frankfurt School critique of capitalism and Postone's related contributions.

written by Marx in 1857/58 though left unpublished until 1939 (and first published in English in 1973). Postone contends the *Grundrisse* indicates the categories of Marx's analysis are historically specific: "that his critique of capitalism is directed at both its mode of producing and its mode of distribution, and that his notion of the basic contradiction of capitalism cannot be conceived of simply as one between the market and private property, on the one hand, and industrial production on the other" (Postone, 1993: 21-22). For Postone (1993: 22), Marx's mature theory is not a critique of capitalism from the standpoint of labor but rather a critique of labor itself.

Postone focuses his explication on one particular section of the *Grundrisse*, the "Contradiction between the foundation of bourgeois production (value as measure) and its development. Machines, etc." Marx (1973 [1857/58]: 704) begins this section with the following statement: "The exchange of living labour for objectified labour time – i.e. the positing of social labour in the form of the contradiction of capital and wage labour – is the ultimate development of the value-relation and of production resting on value." Postone (1993: 24) argues that the title and first sentence of this section indicate that "for Marx, the category of value expresses the basic relations of production of capitalism—those social relations that specifically characterize capitalism as a mode of social life—as well as that production in capitalism is based on value." In other words, value is not simply a market category, not simply a mechanism whereby equilibrium is achieved.¹²³

That value is "both a determine form of social relations and a particular form of wealth" (Postone, 1993: 24) is the backbone of Postone's rereading of Marx. "The exchange of living labour," Postone stresses, does not refer to circulation but to the production process itself. Postone (1993: 24) emphasizes that when Marx (1974 [1857/56]: 705-705) states, "the quantity of labour employed, as the determinant factor in the production of wealth," he indicates that what characterizes value as a determinate form of social relations and a particular form of wealth is that it is a social form that

¹²³ The traditional Marxist interpretation of the theory of surplus value, codified in introductory texts to Marx's theory, interprets the theory of surplus value by emphasizing the source of profit-making in labor exploitation where the value produced by labor in excess of the value of labor power goes to the capitalist class as profit (see e.g. Albritton, 2007: 61-82).

expresses and is based on the expenditure of direct labor time. Marx (1974 [1856/67]: 704) continues, “But to the degree that large industry develops, the creation of real wealth comes to depend less on labour time and on the amount of labour employed than on the power of the agencies set in motion during labour time, whose ‘powerful effectiveness’ is itself in turn out of all proportion to the direct labour time spent on their production, but depends on the general state of science and on the progress of technology, or the application of this science to production.”

It is in this passage that the contradiction between value and what Marx calls “real wealth” is most apparent. The difference between value and “real wealth,” as Postone (1993: 25) explains, is that value is a form of wealth that depends on labor time and the amount of labor employed whereas “real wealth” does not. That is to say, value is a historically-specific form of wealth—it is not a trans-historical form of wealth that could be distributed differently in different societies (Postone, 1993: 25). Similarly, the labor that constitutes value is not a property of labor in general but rather a historical specificity of labor that constitutes value as a form of wealth.¹²⁴ Postone (1993: 27) argues that in Marx’s analysis of value “the basic social relations of capitalism, its form of wealth, and its material form of production” are interrelated.

Postone (1993: 27) points out that in this section of *Grundrisse* Marx continues to indicate the increasingly anachronistic character of value as a measure of wealth vis-à-vis the immense wealth-producing potential of the industrial process of production:

Labour no longer appears so much to be included within the production process; rather, the human being comes to relate more as watchman and regulator to the production process itself. (What holds for machinery holds likewise for the combination of human activities and the development of human intercourse.) No longer does the worker insert a modified natural thing [*Naturgegenstand*] as the middle link between the object [*Objekt*] and himself; rather, he inserts the process of nature, transformed into an industrial process, as a means between himself and inorganic nature, mastering it. He steps to the side of the production process instead of being its chief actor. In this transformation, it is neither the direct human labour he himself performs, nor the time during which he works, but rather the appropriation of his own general power, his understanding of nature and his mastery over it by virtue of his presence as a social body – it is, in a word, the development of the social individual which appears as the great foundation-stone of

¹²⁴ By trans-historical labor I am referring to Marx’s notion of labor in general as the basic metabolic interaction between humanity and nature. Following Postone (1993), the explanatory power of such a general notion of labor is rather limited.

production and of wealth. The *theft of alien labour time, on which the present wealth is based*, appears a miserable foundation in face of this new one, created by large-scale industry itself” (Marx, 1973 [1857/56]: 705).

Gleaning insight from this section of the *Grundrisse*, Postone (1993: 24-25) argues that, for Marx, as capitalist industrial production develops value becomes an increasingly less adequate measure of material wealth. Marx (1974 [1857/58]: 705) does, however, recognize that the persistence of value as a measure of material wealth produced, despite being increasingly anachronistic, remains a necessary structural precondition of capitalist society even though the potential embodied in the forces of production increasingly render production based on value obsolete (Marx, 1974 [1857/58]: 704-711).¹²⁵ Postone (1993: 27) explains that because production remains tied to value, where labor time is the sole measure of wealth, the abolition of value would signify the end of (capitalist) labor.¹²⁶ The contradiction between wealth and value, which, following Postone (1993), I shall elucidate below, therefore points toward capital’s *historically-determinate* and dynamic socio-ecological domination.

3.2 The Categorical Framework of a Marxian Critical Theory of Modern Society

Postone’s *categorical* analysis, as opposed to the *categorical* analysis of traditional Marxism, is grounded in the historically-specific (“dual”) character of labor in capitalism. Such labor, according to Postone, constitutes a determinate mode of social mediation in and through which capital’s basic social relations (and therefore the subjective-objective forms of modern social life) are both structured and structuring forms of social practice. On the basis of this categorical appropriation, Postone unfolds the categories of Marx’s mature theory. Postone’s theoretical analysis shows how the double-sided nature of

¹²⁵ See also Postone, 1993: 25.

¹²⁶ This is substantiated by Marx’s (1974 [1857/58]) statements below:

Its [the value-relation and of production resting on value] presupposition is—and remains—the mass of direct labour time, and the quantity of labour employed, as the determinant factor in the production of wealth. But to the degree that large industry develops, the creation of real wealth comes to depend less on labour time and on the amount of labour employed than on the power of the agencies set in motion during labour time, whose ‘powerful effectiveness’ is itself in turn out of all proportion to the direct labour time spent on their production, but depends rather on the general state of science and on the progress of technology, or the application of this science to production (...) Real wealth manifests itself, rather—and large industry reveals this—in the monstrous disproportion between the labour time applied, and its product, as well as in the qualitative imbalance between labour, reduced to a pure abstraction, and the power of the production process it superintends. (Marx, 1974 [1857/58]: 704-705)

capital's basic social forms underlies the fundamental contradiction between value and wealth (Marx also referred to the latter as "real wealth"). The historically specific property of labor in modern capitalist society, as Postone explains, is its double character, which constitutes the basis for a historically-specific, abstract, and impersonal form of social domination (Postone, 1993: 30). Postone (1993: 30) contends that with his categories of commodity and capital Marx sought to grasp the historical specificity of this form of abstract domination. As we shall see, Postone's approach is both similar to and different from that of Lukács, who also appropriated Marx's category of the commodity to elucidate the dual character of capital's basic social forms.¹²⁷

Because Marx's discussion of the commodity in the first chapter of *Capital Volume I* is notoriously difficult and because an adequate understanding of the structuring principles of the commodity form of social relations is central to understanding Marx's critical theory of modern society, I will begin, following Postone, by engaging Marx's discussion of the commodity and the double character of commodity-determined labor before discussing their determinate role in structuring a form of abstract domination specific to the capitalist social formation. While my aim is to illuminate the significance of Postone's categorial framework, the reader should bear in mind Marx's unique mode of presentation, which was mentioned above in chapter two.

3.2.1 The Commodity

In the first chapter of *Capital, Volume I*, Marx (1976 [1867]) distinguishes between two aspects of the commodity: use-value and exchange-value. Use-value refers to the "usefulness of a thing"—it is entirely "conditioned by the physical properties of the commodity, and has no existence apart from the latter" (Marx, 1976 [1867]: 126). Use-values also "constitute the material content of wealth, whatever its social form may be"

¹²⁷ The category of capital will be elucidated below, but, to jump ahead for a moment, capital includes a directional dynamic, which, as Postone convincingly argues, can only be discussed with reference to the dialectic of labor and time: "The fundamental form of social domination characterizing modern society, that which Marx analyzed in terms of value and capital, is one that generates a historical dynamic beyond the control of the individuals constituting it" (Postone, 1993: 31). According to Postone's reinterpretation of Marx's critical theory, the category of capital constitutes the dynamic and contradictory nature of this totality: "Marx's critical theory of capital is a theory of the nature of the history of modern society" (Postone, 1993: 31).

(Marx, 1976 [1867]: 126). Use-values do not, however, make a thing a commodity: “A thing can be a use-value without being a value” (Marx, 1976 [1867]: 131). To become a commodity the product must be transferred to another person through the medium of exchange.¹²⁸ Different use-values between commodities refer to *qualitative* differences and are therefore incommensurable. In order to be exchanged the incommensurability of commodities (as use-values) must somehow be rendered commensurable.

Commensurability requires an objective measure of comparison, and the common property that allows commodities to be compared is what Marx calls value.¹²⁹ Abstracted from the utilities (use-value) of commodities, the only common characteristic left, according to Marx, is labor. As Derek Sayer (1979: 15-16) notes, “What the exchange value of a commodity expresses is therefore the *labour* bestowed in, or more accurately *socially necessary to*, its production. Value is simply expended labour.”¹³⁰

But why must value be expressed in the form of exchange value? Value, as expended labor, is not immediately apparent. Value “is not phenomenally evident”; in other words, it “has no *phenomenal* existence” independent of the “corporeal reality”, the natural form of the commodity” (Sayer, 1979: 16).¹³¹ Exchange-value expresses value as that which transcends differences of commodities as use-values. Value necessarily

¹²⁸ Engels added the following note to the fourth German edition of *Capital I* in order to “avoid the misconception that Marx regarded every product consumed by someone other than the producer as a commodity” (Marx, 1976: 131).

¹²⁹ I will return to the category of value and the problem of the magnitude of value below when I discuss Postone’s categorial unfolding. At this point it should be noted that while not explicit in Marx’s initial discussion of the commodity in *Capital, Volume 1* value is not simply a market category that makes “objects” commensurable. Value, which for Marx is a category of mediation, becomes apparent retrospectively in the course of Marx’s mode of presentation in *Capital*. It is important to note here that money, as a universal equivalent, presupposes a world in which everything is up for exchange. The historical condition for the universality of exchange is wage labor, where a significant proportion of the population does not consume what they produce but instead use their wages in order to buy objects to consume. The category of “object,” as well as “labor” (as a general category), is historically constituted. Both exclusively emerge in capitalism.

¹³⁰ More accurately, value is objectified time—that is, the objectification of labor time expenditure. As we shall see, the notion of value as objectified time is central to Postone’s notion that in capitalism people are dominated by time.

¹³¹ According to Marx (1976 [1867]: 138): “Not an atom of matter enters into the objectivity of commodities as values; in this it is the direct opposite of the coarsely sensuous objectivity of commodities as physical objects. We may twist and turn a single commodity as we wish; it remains impossible to grasp it as a thing possessing value.”

assumes a distinct, two-fold phenomenal form: “the value of any given commodity is manifested as first, independent of that commodity’s use-value, and second, common to that commodity and all others” (Marx, 1976 [1867]: 139). Value, for Marx, is a category of mediation (as understood in terms of the methodological function of mediation in chapter two above). I shall return to the objectification of abstract labor, the magnitude of value, and the social necessity of labor time below.

3.2.2 The Double Character of Commodity-Determined Labor

Marx distinguishes two dimensions of labor embodied in the commodity: concrete labor and abstract labor. These two dimensions of labor parallel and correspond to the use-value and value dimensions of the commodity. The specific use-values of commodities differ qualitatively as a result of the different types of laboring activity required to bring them into existence; as Marx (1976 [1867]: 132) puts it, a “specific kind of productive activity is required” in order to bring a commodity’s use-value into existence. Marx (1976 [1867]: 132) refers to this “specific kind of productive activity” as concrete (useful) labor. As such, concrete labor “is determined by its aim, mode of operation, object, means and result” (Marx, 1976 [1867]: 132).¹³² Like the use-value dimension of the commodity, the category concrete labor implies different types of laboring activities (e.g. weaving, molding, tailoring, spinning, etc.). The qualitative heterogeneity of differing types of laboring activities also means that such labor is inherently incommensurable.

Recall that the common property that allows commodities to become commensurable is value, which, abstracted from the heterogeneity of use-values, Marx (1976 [1867]: 136) reduces to “human labour pure and simple.” Value as such cannot provide the basis for exchange because using labor as the basis for exchange assumes that the labor embodied in commodities is itself commensurable and thus quantifiable (Sayer, 1979: 18). From the perspective of its use-value dimension (concrete labor), it certainly is

¹³² The use-values of commodities, as Marx (1976 [1867]: 133) explains, “are combinations of two elements, the material provided by nature, and labour. If we subtract the total amount of useful labour of different kinds which is contained in the coat, the linen, etc., a material substratum is always left. This substratum is furnished by nature without human intervention. When man engages in production, he can only proceed as nature does herself, i.e. he can only change the form of the materials.”

not. Therefore, in order to establish what is common to all commodity-producing labor, Marx argues that it is necessary to abstract from the qualitative differences of the concrete labor embodied in the use-value dimension of the commodity. This dimension of commodity-producing labor is designated by Marx's category "abstract labor." Marx explicates the necessity of this abstraction as follows:

Just as, in viewing the coat and the linen as values, we abstract from their different use-values, so, in the case of the labour represented by those values, do we disregard the difference between its useful forms, tailoring and weaving. The use-values coat and linen are combinations of, on the one, productive activity with a definite purpose, and, on the other, cloth and yarn; the values coat and linen, however are merely congealed quantities of homogeneous labour. In the same way, the labour contained in these values does not count by virtue of its productive relation to cloth and yarn, but only as being an expenditure of human labour-power. Tailoring and weaving are the formative elements in the use-values coat and linen, precisely because these two kinds of labour are of *different qualities*; but only in so far as abstraction is made from their *particular qualities*, only in so far as both possess the same quality of being human labour, do tailoring and weaving form the substance of the values of the articles mentioned. (Marx, 1976: 135 [emphasis added])

Although Marx invokes the category of abstract labor to explain the value-form of the commodity, the value form and the commodity form are not synonymous. According to Marx,

Not an atom of matter enters into the objectivity of commodities as values; in this it is the direct opposite of the coarsely sensuous objectivity of commodities as physical objects. We may twist and turn a single commodity as we wish; it remains impossible to grasp it as a thing possessing value. However, let us remember that commodities possess an objective character as values only in so far as they are all expressions of an identical social substance, human labour, that their objective character as values is therefore purely social. (Marx, 1976 [1867]: 138-139)

Value therefore appears as the expenditure of human energy, a category which would therefore apply to all societies. However, the objective character of commodities common to all particular forms of productive activity is socially and historically determinate. A characteristic of value under capitalism—its historical specificity—is its abstract generality. With use-values (concrete) labor differs qualitatively, yet "with reference to value, it counts only quantitatively, once it has been reduced to human labour pure and simple" (Marx, 1976 [1867]: 136).¹³³ The phrase "human labour pure and

¹³³ In this section of *Capital, Volume 1* Marx (1976 [1867]) first introduces the contradiction between wealth and value:

simple” is therefore far from straight forward and can, in fact, be misleading. Marx appears to be defining the category of abstract labor with reference to the expenditure of human energy, which, understood trans-historically, is then quantified under the capitalist social formation. In other words, abstract labor may appear as a trans-historical category alongside that of concrete labor. Sayer (1979) indicates some of the problems involved in Marx’s discussion of value and abstract labor:

It is in this context, that of a definite *kind* of problem, that Marx introduces the concepts of value and abstract labour. This problem is defined in such a way that it allows only one kind of solution. The goal of the analysis must be to elucidate not only those conditions of existence of the commodity form which coincide with those of products of labour generally; it must be, quite specifically, to enumerate those conditions which allow the product to assume the value-form. And if this form is a historical one, then so too must be its conditions. In so far as the concepts of value and abstract labour purport to articular these conditions, therefore, they must be historical categories. Conversely, if their reference is transhistorical, they will be unable to explain the historically specific value-form, and in consequence the commodity form itself will remain a mystery. *Prima facie* then, we would expect abstract labour to be a historical category and this no mere ‘mental generalisation’ but the concept of a definite social form (...) both these conditions are violated as soon as we equate abstract with physiologically equal labour. (Sayer, 1979: 20)

Postone further explicates the significance of this problematic in terms echoing Marx’s immanent critique of the commodity form of social relations:¹³⁴

In itself, an increase in the quantity of use-values constitutes an increase in material wealth. Two coats will clothe two men, one coat will only clothe one man, etc. Nevertheless, an increase in the amount of material wealth may correspond to a simultaneous fall in the magnitude of its value. This contradictory movement arises out of the twofold character of labour. By ‘productivity’ of course, we always mean the productivity of concrete useful labour; in reality this determines only the degree of effectiveness of productive activity directed towards a given purpose within a given period of time. Useful labour becomes, therefore, a more or less abundant source of products in direct proportion as its productivity rises or falls. As against this, however, *variations in productivity have no impact whatever on the labour itself represented in value*. As productivity is an attribute of labour in its concrete useful form, it naturally ceases to have any bearing on that labour as soon as we abstract from its concrete useful form. The same labour, therefore, performed for the same length of time, always yields the same amount of value, *independently* of any variations in productivity. But it provides different quantities of use-values, during equal periods of time; more, if productivity rises; fewer, if it falls. For this reason, the same change in productivity which increases the fruitfulness of labour, and therefore the amount of use-values produced by it, also brings about a reduction in the value of this increased total amount, if it cuts down the total amount of labour-time necessary to produce the use-values. The converse also holds. (Marx, 1976 [1867]: 136-137)

I will return to the contradiction between wealth and value on the basis of Postone’s categorial unfolding of Marx’s categories. As we shall see, this contradiction, which is operative at the level of society as a whole, gives rise to the socioecological tensions underlying the production of value.

¹³⁴ The following passage, quoted from Postone (1993: 124), and the previous passage, quoted from Sayer (1979: 20) should be read in terms of the comparative differences between Sayer’s and Postone’s interpretation of Marx’s socio-historical theory of knowledge, which I discussed in chapter two. To

Marx's analysis of the commodity is not an examination of a product that happens to be exchanged regardless of the society in which that takes place; it is not an investigation of the commodity torn from its social context or as it contingently may exist in many societies. Instead, Marx's analysis is of the "*form of the commodity* as the generally necessary social form of the product," and as the "*general elementary form of wealth*." According to Marx, though, the commodity is the general form of the product *only* in capitalism. (Postone, 1993: 128)

In order to pinpoint value as a determinate form of social mediation, I will next turn to the historical specificity of commodity-determined labor. My discussion of the historical specificity of commodity-determined labor—namely, its double character—is in line with Postone's (1993: 124) attempt to "reformulate value as a historically specific form of wealth, different from material wealth." Marx (1976 [1867]: 132) himself was quick to point out that the dual character of labor embodied in commodities was "crucial to an understanding of political economy" when he modestly asserts that "I was the first to point out and examine critically this twofold nature of the labour contained in commodities."

3.2.3 The Historical Specificity of Labor's Double Character

Following Marx, Postone explains that what distinguishes the capitalist mode of production is that relative to previous social formations labor is abstract and universal; that is, it is no longer directly social. Expressed through the exchange of commodities, the social character of labor, as Sayer (1979: 22) notes, "is accordingly expressed only in the oblique (and mystifying) form of an apparently objective feature of those products, their exchange-value." Discussing abstract labor, Marx (1976 [1867]: 135 [emphases added]) explains, "The various proportions in which different kinds of labour are reduced to simple labour as their unit of measurement are established by a social process that goes *on behind the backs of the producers*; these proportions therefore appear to the producers to have been handed down by tradition." The tendency to treat labor as a trans-historical category (as traditional Marxism does) is an understandable misrecognition because

reiterate, Sayer (1979) stresses a Kantian impulse in Marx's theory but one that emphasizes the historical relativity of the categories of Marx's critical theory; Postone (1993) argues Marx's theory of knowledge is essentially other and more than a relativized Kantian epistemology.

labor, conceptualized trans-historically, is the form of appearance of what is historically specific. In other words, labor's historically-specific character is that it is general.

Inadequate attention to historical specificity is related to the traditional Marxist interpretation of value as a market-mediated category where the relations of production are conceptualized in terms of the market and private property:

These relations, so conceived, supposedly are the means by which labor and its products are socially organized and distributed; they are, in other words extrinsic to labor itself. Consequently, labor in capitalism can be taken to be labor as it is commonly understood: a purposive social activity involving the transformation of material in a determinate fashion which is an indispensable condition for the reproduction of human society. Labor is thus understood in a transhistorical fashion; what varies historically is the mode of its social distribution and administration. (Postone, 1993: 124)

As indicated in the above passage, traditional Marxism begins with an undifferentiated notion of labor imposed on society from the outset. In distinction to this approach where critique of capitalism assumes the analytic standpoint of labor, Postone's critical Marxian theory is rooted in the critique of such labor. This distinction requires Postone (1993: 124) to examination of the historical specificity of capitalist labor from within the context of the capitalist social formation in terms of Marx's distinction between wealth and value in order to "reformulate value as a historically specific form of wealth, different from material wealth." In contrast to traditional Marxism, Postone (1993) argues that value is not *necessarily* tied to a historically-specific mode of distribution. As Postone (1993: 45) explains, "Once fully established socially, it [value] can be distributed in various ways," including non-market modes of distribution such as planning. The implications of Postone's position are especially pertinent at the beginning of the twenty-first century, that is, after the official end of the cold war and the collapse of "actually existing socialism."

Reworking Marx's position, Postone identifies value as the central problem of capitalist production. If value is a historically-specific form of social wealth, then, within the framework of Marx's critical theory, the labor that creates value is historically specific as well. The specificity of this labor, as an expression of alienated social relations, cannot be adequately grasped in terms of energy expenditure or concrete forms of exploitation and domination *within* modern society, and it most certainly cannot be

grasped by relying on an undifferentiated notion of labor as the metabolic interaction between humans and the natural environment (*à la* Foster, 2000). Following the critical Marxian approach put forth by Postone, we must instead grasp the specificity of labor in capitalism, which structures a form of abstract social domination. According to Postone's categorial interpretation of Marx, conceptualizing commodity-determined labor as intrinsically linked to a historically-specific form of abstract domination would also allow for an analysis of the specific form of modern society itself.¹³⁵

The double character of labor indicates the historical specificity of commodity-determined labor and the form of wealth (value) it produces. In order to indicate the historical specificity of value (and the commodity-determined labor that constitutes it), Postone returns to *Grundrisse*, where Marx (1974 [1857/58]: 158) retrospectively outlines three historically determinate social forms:¹³⁶

- 1) Various forms that precede capitalist production: "Relations of personal dependence (entirely spontaneous at the outset) are the first social forms, in which human productive capacity develops only to a slight extent and at isolated points."
- 2) The capitalist social formation, which, according to Marx, creates conditions for
- 3) Capital's possible supersession; i.e. a social formation presupposed by "Free individuality, based on the universal development of individuals and on their subordination of their communal, social productivity as their social wealth."

Recall that, for Marx, the distinguishing feature of the capitalist mode of production relative to previous social formations is that labor under capitalism is no longer directly social but rather abstract and universal. In the various pre-capitalist social formations, labor is social insofar as "various labors are imbued with meaning by the

¹³⁵ Postone (1993: 123) contends, "Marx's statement that in capitalism 'direct labor time [is the] decisive factor in the production of wealth,' suggests that his category of value should be examined as a form of wealth whose specificity is related to its temporal dimension. An adequate reinterpretation of value must demonstrate the significance of the temporal determination of value for Marx's critique and for the question of the historical dynamic of capitalism."

¹³⁶ It is important to note the retrospective manner in which Marx outlines these three historically-determinate social forms in order to avoid the mistaken assumption that Marx's theory is one of logical historical progression.

social relations that are their context”—in other words, laboring activities are “determined as overtly social and qualitatively particular” (Postone, 1993: 151). In the pre-capitalist social formations where labor is communal labor is directly social. In the middle ages, for example, the expropriation of labor is embedded in particular social relations of domination and exploitation, which are external to labor as such. In the capitalist mode of production, “exploitation and domination are integral moments of commodity-determined labor” (Postone, 1993: 160). If labor is bonded in feudalism, then in the capitalist mode of production abstract labor is the bond (Stoetzler, 2004: 263).

In the pre-capitalist social formation labor is mediated socially, whereas in the capitalist social formation, where the commodity is the dominant form, labor itself constitutes a social mediation. To say that in capitalism labor itself constitutes a social mediation means that in capitalism “one’s labor has a dual function: On the one hand, it is a specific sort of labor that produces particular goods for others, yet, on the other hand, labor, independent of its specific context, serves the producer as the means by which the products of others are acquired” (Postone, 1993: 149). What is specific about capitalism—the social formation based on the commodity form—is, as Postone emphasizes, “*Personal independence* in the framework of a system of *objective* [*sachlicher*] *dependence*” (Marx, quoted in Postone, 1993: 125). Citing Marx’s *Grundrisse* (see Marx, 1974 [1857/58]: 164), Postone (1993: 125) stresses that the “‘objective’ dependence is social; it is ‘nothing more than social relations which have become independent and now enter into opposition to the seemingly independent individuals; i.e., the reciprocal relations of production separated from and autonomous of individuals.’”¹³⁷

3.2.4 Abstract Domination

On the basis of the historical specificity of labor’s double character, Marx recognizes that what distinguishes capital in history is abstract domination. As a historically-specific form of domination, capital’s abstract domination is tied to the

¹³⁷ Marx (1974 [1857/58]: 164 [emphasis in the original]) continues, “individuals are now ruled by *abstractions*, whereas earlier they depended on one another.”

double character of commodity-determined labor: “social labor is not only the object of domination and exploitation but is itself the essential ground of domination” (Marx, quoted in Postone, 1993: 125). Commodity-producing labor is both particular (as concrete labor, a determinate activity that creates specific use-values) and socially general (as abstract labor, a means of acquiring the goods of others) (Postone, 1993: 151). Labor is abstracted from its concrete particularity as useful labor, which, as Postone (1993: 152) stresses, indicates that the category of abstract labor is “a real social process of abstraction; it is not simply based on a conceptual process of abstraction.”¹³⁸ What makes labor general, and thus makes abstract labor the social mediation in capitalist society, is its social function. Incorporating the socially-mediating function of labor into his analysis, Postone returns to Marx’s distinction between wealth and value:

Corresponding to the two forms of labor objectified in the commodity are two forms of social wealth: value and material wealth. Material wealth is a function of the products produced, of their quantity and quality. As a form of wealth, it expresses the objectification of various sorts of labor, the active relation of humanity to nature. Taken by itself, however, it neither constitutes relations among people nor determines its own distribution (...) Value, on the other hand, is the objectification of abstract labor. It is, in Marx’s analysis, a self-distributing form of wealth: the distribution of commodities is effected by what seems to be inherent to them—value. Value is, then, a category of mediation: it is at once a historically determinate, self-distributing form of wealth and an objectified, self-mediating form of social relations. (Postone, 1993: 154)

According to Postone (1993), Marx’s mature critical theory indicates that abstract labor is the primary form of socially-mediating activity specific to capitalism. To reiterate, it is this so-called “double-character” that, as a defining feature of labor under capitalism, expresses alienated social relations. As an expression of alienation (understood as social mediation as discussed in chapter two), commodity-determined labor consists of isolated individual labor while simultaneously assuming “the form of abstract generality” (Marx, quoted in Postone 1993: 47). As a particular use-value the commodity is the product of a particular concrete labor; as a value it is the objectification of abstract human labor (Postone, 1993: 154). This is the theoretical premise for Postone’s (1993: 125) contentions that, echoing Marx, labor under capitalism structures a

¹³⁸ Cf. Sayer, 1979: xx.

form of abstract social domination and that, more generally, “Capitalism is a system of abstract, impersonal domination.”

3.3 Time, Labor, and Social Necessity

For Marx, the measure of value is very different from the measure of material wealth. Postone (1993) explains that measurement of material wealth includes objectifications of its use-value and concrete labor. The mode of measurement of material wealth “is a function of the qualitative specificity of the product, the activity that produces it, the needs it may satisfy, as well as custom—in other words, the mode of measurement of material wealth is particular and not general” (Postone, 1993: 188). Material wealth, as the dominant measure of wealth in a society, requires a social mode of mediation that is *overtly* social, meaning “it is ‘evaluated’ and distributed by overt social relations—traditional social ties, relations of power, conscious decisions, considerations of needs, and so forth” (Postone, 1993: 188).

In capitalism, where value is the dominant form of wealth, the measure of value is not overtly social; rather, value “*is itself a mediation*” (Postone, 1993: 188). Postone (1993: 188) explains the difference: “Although value, like material wealth, is an objectification of labor, it is an objectification of abstract labor.” As such, value acts as “the self-mediating dimension of commodities”; its measure “is *not* a direct function of the amount of good produced” (Postone, 1993: 188). Departing from the traditional Marxist interpretation of the labor theory of value, Postone (1993: 188-189 [my emphases] indicates that abstract labor “constitutes a general, ‘objective’ social mediation” that is “neither expressed in terms of the objectifications of particular concrete labors nor measured by their quantity. *Its objectification is value*—a form *separable* from that of objectified concrete labor, that is, particular products.”

Against this background, Postone (1993: 189) reworking Marx, returns to the problem of the magnitude of value (i.e. the “quantitative measure of the objectification of abstract labor”).¹³⁹ According to Marx (1976 [1867]: 129), the magnitude of value is to be measured “By means of the quantity of the ‘value-forming substance’, the labour,

¹³⁹ See Marx, 1976 [1867]: 129.

contained in the article. This quantity is measured by its duration, and the labour-time is itself measured on the particular scale of hours, days, etc.” Yet this measure, Marx (1976 [1867]: 129) indicates, cannot be a function of the quantity of labor expended to the commodity because if it were then we would run into the same problem that we did when trying to compare use-values: specifically, we cannot rely on concrete labor time alone as this is intrinsically heterogeneous.¹⁴⁰

Before proceeding to analyze the problem of the magnitude of value, it is first necessary to discuss Postone’s contribution to understanding the temporal dimensions of this problematic because the temporal dimension of the magnitude of value, which I engage in subsequent sections, will become clear only on the basis of this discussion.

3.3.1 The Commodification of Time

Before engaging Postone’s categorial approach to the category of time,¹⁴¹ it will be helpful to restate the overall significance of this approach. Postone’s categorial analysis appropriates Marx’s categories as categories of the intrinsic relation between the subject-object dimensions of modern social life (indicated, for example, by the double character of commodity-determined labor) as simultaneously abstract and concrete. On the basis of this approach and in line with the dual character of the commodity form of social relations, Postone focuses on two different types of time: (1) *concrete time* (time as a dependent variable) and (2) *abstract time* (time as an independent variable).

Concrete time, as Postone (1993: 201) explains, dominated conceptions of time before the rise of modern capitalist society in Western Europe. The distinguishing feature

¹⁴⁰ Marx (1976 [1867]: 129) provides the following example to illustrate the inadequacy of quantity of labor expended to produce a given product as the measure of the magnitude of value: “if the value of a commodity is determined by the quantity of labour expended to produce it, it would be the more valuable the more unskillful and lazy the worker who produced it, because he would need more time to complete the article.”

¹⁴¹ Postone’s (1993: 213) categorial approach to the category of time is one of the places where the influence of Lukács is most noticeable, particularly because Postone sees an intimate affinity between the increasing dominance of abstract time as a form of time and the “progress” of capitalism as a form of life. Lukács (1978: 40), discussing the experiential effects of the abstraction of socially-necessary labor on behalf of independent artisans in the nineteenth century, says this: “They experienced in practice the concrete consequences, without having any suspicion that what they were facing was an achieved abstraction of the social process; this abstraction has the same ontological rigour of facticity as a car that runs you over.”

of concrete time is its function as a *dependent* variable: “The fact that the time unit is not constant, but itself varies, indicates that this form of time is a dependent variable, a function of events, occurrences, or actions” (Postone, 1993: 202). Postone (1993: 201) explains that concrete time as a mode of time reckoning likely “was first developed in ancient Egypt, spread widely throughout the ancient world, the Far East, the Islamic world, and was dominant in Europe until the fourteenth century.” Concrete time was predominant in agrarian forms of social life, where “rhythms of life and work (...) depend on the cycles of the seasons and of day and night” (Postone, 1993: 202).

Abstract time is quite different than concrete time. Abstract time is not dependent on events or qualitatively different circumstances; rather, it “flows equally without relation to anything external” (Newton, 1936: 88, quoted in Postone, 1993: 202). Whereas concrete time functioned as a dependent variable, abstract time “is an independent variable; it constitutes an independent framework within which motions, events, and action occur. Such time is divisible into equal, constant, nonqualitative units” (Postone, 1993: 202). Postone (1993: 202) traces the historical development of abstract time “with the spread of the commodity-determined form of social relations.” According to Postone (1993: 214), time itself constitutes a new form of domination that was controlled socially and politically by the bourgeoisie. Unlike Lukács, Postone (1993: 214) emphasizes that time as a form of domination should not be viewed as a form of objectivity that veils concrete particularity. Although the development of abstract time is tied to power, Postone (1993: 214) stresses that temporal social forms “have a life of their own, and are compelling for all members of capitalist society—even if in a way that benefits the bourgeois class materially.”¹⁴²

Postone (1993) argues that the emergence of abstract time must be understood socially and cannot be understood solely with reference to technological developments. In other words, the origins of abstract time as a particular mode of time reckoning must

¹⁴² The notion that abstract time compels all members of capitalist society is significant and will become clearer when I return below to the category of socially-necessary labor time and the category of value as the continual necessity of the present. This is also related to the mention of vested “interests” and external social necessity in chapter one above where I distinguished a critical theory of the environment from a critical sociology of the environment.

“be examined in terms of the circumstances under which constant invariable hours became *meaningful* forms of the *organization of social life*” (Postone, 1993: 207 [emphasis added]). Postone (1993: 204) indicates that the development of waterclocks in ancient China, which functioned on the basis of a more or less uniform process (the flow of water), indicated *variable* hours. The function of measuring variable hours as opposed to constant time, was, as Postone (1993) indicates, not a matter of technical ability. It was, rather, a matter of sociocultural significance: “although the rate of the water’s flow remained constant, the indicator varied with the seasons. Less frequently, a complicated mechanism was devised that allowed the flow of water itself to be varied seasonally” (Postone, 1993: 204). The development of the mechanical clock in Western Europe between the thirteenth and fourteenth centuries, in keeping the Church’s time, shared a similar variance.

Postone (1993) argues that the transition from variable to constant hours originated in urban centers of Western Europe in the beginning of the fourteenth century. Here the development of constant time emerged as a form of work-time discipline typically monitored by ringing bells in the urban centers in order to signify the opening and closing of markets and work. Postone (1993: 210) argues the significance of the work bells as an important organizing principle of the medieval textile industry can be understood as “an early form of the capital-wage labor relationship.” Since the merchant’s goal was profit, increased significance was placed on the productivity of the labor hired, which depended on the “degree to which it could be disciplined and coordinated in a regularized fashion” (Postone, 1993: 210).

3.3.2 *The Magnitude of Value*

According to Marx,

the labour that forms the substance of value is equal human labour, the expenditure of identical human labour-power. The total labour-power of society, which is manifested in the values of the world commodities, counts here as one homogeneous mass of human labour-power, although composed of innumerable individual unites of labour-power. Each of these units is the same as any other, to the extent that it has the character of a socially average unit of labour-power and acts as such, i.e. only needs, in order to produce a commodity, the labour time which is necessary on average, or in other words is socially necessary. (Marx, 1976 [1867]: 129)

Marx implies that the magnitude of value is the objectification of labor time expenditure. Because this quantitative measure cannot be based on concrete labor alone, it must instead be based on abstract (i.e. socially-necessary) labor. To put it another way, the magnitude of value is the quantitative measure of the objectification of abstract labor (Postone, 1993: 189). Marx (1976: 129) defines socially-necessary labor time as follows: “the labour-time required to produce any use-value under the conditions of production normal for a given society and with the average degree of skill and intensity of labour prevalent in that society.” Postone (1993: 189) argues that this form of time Marx identifies is historically specific: it is a determinate *abstract time*.

Marx’s category of socially-necessary labor time, according to Postone (1993, 1978), refers to an abstract quasi-objective form that confronts individuals as an external social necessity; that is, socially-necessary labor time is an external social norm that compels social action accordingly. Socially necessary labor time, as Postone (1993: 191) explains, “entails the constitution by individual action of a general external norm that acts reflexively on each individual.” It is part of a social process that, as Marx (1976 [1867]: 135) explains, “goes on behind the backs of the producers,” thereby confronting these individuals as an external “objective” necessity.¹⁴³

Postone (1993: 152 [original emphases]) emphasizes that the reference point for socially-necessary labor time, as the determination of a commodity’s magnitude of value, is society as a whole: “Viewed from the perspective of society as a whole, the concrete labor of the individual is particular and is *part* of a qualitatively heterogeneous *whole*; as abstract labor, however, it is an individuated *moment* of a qualitatively homogenous, general social mediation constituting *a social totality*.” This is crucial for understanding the role time plays in the capitalist mode of production as an external necessity (i.e. in constituting a form of abstract social domination) as well the linkage between time,

¹⁴³ In the full statement from which I have extracted these phrase, Marx (1976 [1867]: 135) states: “The various proportions in which different kinds of labour are reduced to simple labour as their unit of measurement are established by a social process that goes on behind the backs of the producers; these proportions therefore appear to the producers to have been handed down by tradition.”

productivity, and the nature of the contradiction between value and material wealth. It is therefore worth quoting at length one relevant passages from Postone (1993):

The time expended in producing a particular commodity is mediated in a socially general manner and transformed into an average that determines the magnitude of value of the product. The category of socially necessary labor time, then, expresses a general temporal norm resulting from the action of the producers, to which they must conform (...) As a category of the totality, socially necessary labor time expresses a quasi-objective social necessity with which the producers are confronted. It is the temporal dimension of the abstract domination that characterizes the structures of alienated social relations in capitalism. The social totality constituted by the labor as an objective general mediation has a temporal character, wherein time becomes necessity (...) Although value is constituted by the production of particular commodities, the magnitude of value of a particular commodity is, reflexively, a function of a constituted general social norm. The value of a commodity, in other words, is an individuated moment of a general social mediation; its magnitude is a function not of the labor time actually required to produce that particular commodity but of the general social mediation expressed by the category of socially necessary labor time. Unlike the measure of material wealth, which is a function of the quantity and quality of particular goods, then, the measure of value expresses a determinate relation—namely, a relation between the particular and the abstract-general that has the form of a relation between moment and totality. Both terms of this relation are constituted by labor functioning as a productive activity and as a socially mediating activity. This double character of labor underlies the quasi-objective, abstract temporal measure of social wealth in capitalism; and it also gives rise to an opposition between the range of particular products or labors and an abstract general dimension that constitutes and is constituted by those particular labor. (Postone, 1993: 191-192)

That “the commodity as a dominant social form necessarily implies” (Postone, 1993: 192) that people are dominated by their labor—because the reference point for socially necessary labor time is society as a whole, this also indicates “a tension and opposition between individual and society which points to a tendency toward the subsumption of the former by the latter.” Postone (1993: 192) aptly describes this domination: “When labor mediates and constitutes social relations, it becomes the central element in a totality that dominates individuals—who, nevertheless, are free from relations of personal domination.” As Postone is keen to point out, this antagonism between individuals (as mere organs) and the whole is an antagonism intrinsic to the capitalist social formation. The antagonism between these two moments, in other words, is not an antagonism between non-capitalist and capitalist moments. As Postone (1993) emphasizes, Marx’s analysis does not champion the organs against the whole; rather it is a critique of the whole, which includes this antagonism itself.

3.4 Material Wealth, Value, and Productivity

It should be recalled that the crux of Postone's categorial reinterpretation can be found in the fundamental contradiction between value and "real wealth" in modern capitalist society. As will be elaborated below, the persistence of this contradiction is linked to the dynamic and contradictory interactions between capital, wealth, and value. Marx's concept of capital as self-valorizing value indicates a built-in dynamic to accumulate, which in developed capitalism (i.e. where relative surplus value is the dominant form) tends toward accelerating rates of increases in productivity (i.e. not only a tendency for productivity to increase over time but also a tendency for the rate at which productivity increases to accelerate over time). The full elaboration of this dynamic will become apparent only after incorporating Marx's category of capital.¹⁴⁴

If we examine the contradiction between value and wealth, then we can see that "the magnitude of value is a function of the expenditure of abstract labor time" whereas "material wealth is measured in terms of the quantity and quality of products created" (Postone, 1993: 193). Viewed categorially, value is a function of the value dimension of commodity-determined labor, whereas wealth is a function of the use-value dimension of commodity-determined labor. If the magnitude of value depends on socially-necessary labor time, then when average productivity is increased "the average number of commodities produced per unit time" is increased as well, which thereby decreases "the amount of socially necessary labor time required for the production of a single commodity and, hence, the value of each commodity" (Postone, 1993: 193). As Marx (1976 [1867]: 131) notes, "The value of a commodity (...) varies directly as the quantity, and inversely as the productivity, of the labour which finds its realization within the commodity." The magnitude of total value produced, however, is a function only of the objectification of abstract labor time expenditure (measured in terms of constant time units). Postone (1993), commenting on the inverse correlation between average productivity and the magnitude of value of each commodity, writes,

This indicates that the total value yielded in a particular period of time (for example, an hour) remains constant. The inversely proportional relationship between average

¹⁴⁴ I will return to the category of capital below.

productivity and the magnitude of value of a single commodity is a function of the fact that the magnitude of total value produced depends only on the amount of abstract human labor time expended. Changes in average productivity do not change the total value created in equal periods of time. Thus, if average productivity doubles, twice as many commodities are produced in a given time period, each with half the previous value, because the total value in that time period remains the same. The only determinate of total value is the amount of abstract labor time expended, measured in constant temporal units. It is, therefore, independent of changes in productivity. (Postone, 1993: 193)

While seemingly redundant, it is important to emphasize (following Marx, 1976 [1867]: 126 as well as Postone, 1993: 194) that value and (material) wealth are two very different forms of wealth. They differ both qualitatively and quantitatively, and, as Postone (1993: 194) explains, they can be opposed to one another.

Postone (1993) elaborates the particular qualities of material wealth as follows:

Material wealth is created by concrete labor, but labor is not the sole source of material wealth (...) Material wealth, then, arises from the interactions of humans and nature, as mediated by useful labor (...) its measure is a function of the quantity and quality of what is objectified by concrete labor, rather than of the temporal expenditure of direct human labor. Consequently, the creation of material wealth is not bound necessarily to such labor time expenditure. Increased productivity results in increased material wealth, whether or not the amount of labor time expended is increased. (Postone, 1993: 194)¹⁴⁵

The nature of value, however, is quite different. As Postone (1993) explains:

Value is peculiar in that, though a form of wealth, *it does not express directly the relations of humans to nature* but the relations among people as mediated by labor. Hence, according to Marx, nature does not enter directly into value's constitution at all. As a social mediation, value is constituted by (abstract) labor alone: it is an objectification of the historically specific social dimension of labor in capitalism as a socially mediating activity, as the "substance" of alienated relations. Its magnitude is, then, not a direct expression of the quantity of products created or of the power of natural forces harnessed; it is, rather, a function only of abstract labor time. In other words, although increased productivity does result in more material wealth, it does not result in more value per unit of time. As a form of wealth that is also a form of social relations, value does not express directly the acquired productive abilities of humanity (...) If value is constituted by labor alone, and the only measure of value is direct labor time, it follows that the production of value, unlike that of material wealth, necessarily is bound to the expenditure of direct human labor. (Postone, 1993: 195)¹⁴⁶

Reworking Marx's (1976 [1867: 137) position, Postone (1993: 195) stresses that while the forces of production of labor are analogous to the use-value dimension productivity, as an expression of "the acquired productive abilities of humanity"

¹⁴⁵ This is in accordance with Marx's explanation as well (see Marx, 1976 [1867]: 134, 136-137).

¹⁴⁶ This is in line with Marx's discussion of value (see Marx, 1976 [1867]: 137).

(Postone, 1993: 195), is socially constituted in alienated form because value is the dominant form of social wealth in capitalist society. Instead of being appropriated and controlled by people, the acquired productive abilities of humanity dominate and control people as an alienating force.¹⁴⁷ Increases in productivity do *not* correspond to growing amounts of value per unit time; in capitalism products function simply as material bearers of objectified time (Postone, 1993). As we shall see in chapter four, advances in productivity, as exemplified by the post-World War II explosion in science and technology, “do *not* increase the amount of value yielded per unit of time, but they *do* increase greatly the amount of material wealth produced” (Postone, 1993: 197). It is important to be aware that the peculiarity of this dynamic, which can only be explained by the temporal dimension of value, emerges only when relative surplus value becomes the dominant form of wealth (as it did during the nineteenth century). In other words, the tendency toward accelerating rates of increases in productivity¹⁴⁸ (and therefore accelerating rates of increases in biophysical throughput) becomes apparent only when the working day has been limited.¹⁴⁹ Before returning to the peculiarity of this dynamic, I must first provide a brief sketch of Postone’s approach to Marx’s category of capital and the sphere of production.

3.4.1 *Capital*

As mentioned in the preceding discussion of the commodity, Marx argues that a product must be transferred to another person through the medium of exchange in order for it to become a commodity. Marx also notes that the incommensurability of commodities (as use-values) must somehow be rendered commensurable in order for an exchange to happen. This commensurability requires an objective measure of comparison, which Marx reduces to value. In chapter two I noted that in Marx’s

¹⁴⁷ Postone (1993: 195) indicates that these productive abilities also become attributes of capital.

¹⁴⁸ By “accelerating rates of increases in productivity,” I am referring not simply to the tendency for productivity to increase over time, but rather to the tendency for the rate at which productivity increases to accelerate over time, which implies a virtually exponential increase in levels of biophysical throughput.

¹⁴⁹ This is what Marx means by his statement that society can be poor even though it is enormously rich: more and more “stuff” is being produced, yet poverty still exists. For Marx, this cannot be explained in distributional terms but only in terms of the form of wealth (i.e. value) itself. The system is not driven by the “interests” of those at the top of the social pyramid who stand to benefit from its operations, though this is not to deny that certain individuals do in fact benefit in extreme disproportion to the vast majority.

discussion of the commodity in the first chapter of *Capital, Volume I*, the commodity appears to be the exchange of external objects mediated by the market. I also noted that the commodity as something other and more than that indicated by such market exchange only becomes apparent retrospectively, particularly in the latter half of *Capital, Volume I*. On the basis of his initial (categorical) approach to the commodity, Marx begins the second part of *Capital, Volume I* with an analysis of money before he presents his category of capital. According to Postone (1993: 265), it is here that “Marx unfolds a dialectical reversal in his treatment of money: it is a social means that becomes an end.”

Postone’s (1993) gloss on Marx’s analysis of money is instructive and is worth quoting at length:

In Volume I of *Capital* Marx develops an analysis of money and then capital on the basis of his initial determinations of the commodity. He begins by examining the process of exchange, arguing that the circulation of commodities differs formally and essentially from the direct exchange of products. The circulation of commodities overcomes the temporal, spatial, and personal barriers imposed by the direct exchange of products. In the process, a quasi-natural network of social connections develops; although constituted by human agents, it lies beyond their control. The commodity form of social mediation historically gives rise to the independent private producer, on the one hand, and it constitutes the social process of production and the relations among producers as an alienated system independent of the producers themselves, a system of all-round objective dependence, on the other. More generally, it gives rise to a world of subjects and a world of objects. This sociocultural development proceeds with the development of the money form. (Postone, 1993: 264)

Postone (1993) further explicates the implications of Marx’s analysis of money by showing that, according to Marx, value is not a market category and, far from rendering commodities commensurable, money is “a necessary form of appearance” of their commensurability:

Marx structures his investigation of money as a dialectical unfolding, in the course of which he logically derives both the social form of money, leading to his analysis of capital, as well as the forms of appearance that veil that social form. Proceeding from his analysis of the commodity as the duality of value and use value, Marx initially determines money as the externalized manifest expression of the value dimension of the commodity. He argues that in a society where the commodity is the universal form of the product, money does not render commodities commensurable; rather, it is an expression, a necessary form of appearance, of their commensurability, of the fact that labor functions as a socially mediating activity (...) because the circulation of commodities is effected by the externalization of their double character—in the form of money and commodities—they seem to be mere “thingly” objects, goods circulated by money rather than self-mediating objects, objectified social mediations. Thus, the peculiar nature of

social mediation in capitalism gives rise to an antinomy—so characteristic of modern Western worldviews—between a “secularized,” “thingly” concrete dimension and a purely abstract dimension, whereby the socially constituted character of both dimensions, as well as their intrinsic relation, is veiled. (Postone, 1993: 264-265)

How is it that in and through the circulation of commodities “a quasi-natural network of social connections develops” which, “although constituted by human agents, lies beyond their control” (Postone, 1993: 264)? In his discussion of money, Marx (1976 [1876]: 207-210) outlines how the true nature of money in capitalism may be concealed.¹⁵⁰ Postone’s gloss (1993: 265) on Marx’s discussion of money is in line with his critique of traditional Marxism: money, as the externalized expression of “abstract labor objectified as value” is “an externalized expression of the form of social mediation that constitutes capitalist society.” Consequently, money appears to be natural (i.e. non-social). It is important to bear in mind, as Postone (1993) indicates in the passage above, that the distinction between the use-value dimension (material wealth, concrete labor, concrete time, productivity) and the value dimension (value, abstract labor, abstract time) of the commodity form is not evident at the level of immediate experience.¹⁵¹ The commodity both (1) has a form and (2) is a form. These two elements are intrinsically related. The content of commodity’s value dimension form is a social relations—the product (commodity) is brought into being through objectifying activity (labor). Yet, as a social form, the commodity has another content—namely, abstract labor—and it is this latter, substantive dimension that underlies the formalism of the capitalist system.

¹⁵⁰ Cf. Postone, 1993: 265.

¹⁵¹ The elusively dynamic nature of the commodity form of social relations is evident in the distinction between values and prices, an issue that has been a source of fundamental confusion among the majority of Marxist economists. Postone (1993: 196) suggests that in order to flesh this out, one would have to “elucidate how a categorial distinction—such as that between value and material wealth—is indeed operative socially, although the actors may be unaware of it. One would need to show how people, acting on the basis of forms of appearance that disguise the underlying essential structures of capitalism, reconstitute these underlying structures. Such an exposition would need to show how these structures, as mediated by their forms of appearance, not only constitute practices that are socially constituting, but do so in a way that imparts a determinate dynamic and particular constraints to the society as a whole.” My discussion of the relationship between the development of contemporary ecological subjectivity and contemporary American environmentalism in chapter four is an attempt to move toward this type of analysis.

According to Postone (1993: 268), this abstract, formalistic dimension allows Marx to put forth his formalistic account of the logic of capital: M-C-M' is not the formula for a process whereby “*wealth* in general is increased”; rather, it is the formula for a process whereby “*value* is increased.” As Postone (1993) elaborates,

With capital, the transformation of (the commodity) form becomes an end and (...) the transformation of matter becomes the means to this end. Production, as a social process of the transformation of matter which mediates humans and nature, becomes subsumed under the social form constituted by labor’s socially mediating function in capitalism. (Postone, 1993: 267)

According to Postone’s (1993: 267) interpretation, this immanent dynamic violence is why the difference between M and M', which Marx calls *surplus value*, is “necessarily only quantitative.” The logic of capital, according to Marx (1976 [1867]), is characterized by an endless dynamic. According to Postone (1993: 268), Marx’s category of capital as self-valorizing value is an attempt to grasp modernity in a way that is much more rigorous than the term “modernity” allows for:

Value becomes capital, according to Marx, as a result of a process of the valorization of value, whereby its magnitude is increased (...) the motivating force of the circuit M-C-M', its determining purpose, according to Marx, is value itself, an abstract general form of wealth in terms of which all forms of material wealth can be quantified. This abstract quantitative character of value as a form of wealth is related to the circumstance that it also is a social means, an objectified social relation. With the introduction of the category of capital, another moment of the determination of value as a means is introduced: value, as a form of wealth abstracted from the qualitative specificity of all products (hence their particular uses), and whose magnitude is a function of abstract time alone, receives its most adequate logical expression by serving as the means for more value, for the further expansion of value. With the introduction of the category of capital, then, value is revealed as a means to a goal that is itself a means, rather than an end (...) This social form is alienated, quasi-independent, exerts a mode of abstract compulsion and constraint on people, and is in motion. (Postone, 1993: 268-269)

3.4.2 Production

Having introduced Marx’s category of capital as self-valorizing value, we can now return to the temporal dimensions of the production of value. The contradiction between wealth and value, including the socio-ecological tensions underlying this contradiction, is linked intrinsically with the dynamic and contradictory interactions between capital, wealth, and value. In the *Grundrisse*, Marx (1974 [1857/58]: 705) explains how the persistence of value as a measure of material wealth produced remains a

necessary structural precondition of capitalist society even though the potential embodied in the forces of production increasingly renders production based on value obsolete (Marx, 1974 [1857/58]: 704-711).¹⁵² Because the labor time that serves as the measure of value is not individual and contingent but rather social and necessary, labor time forms an objective totality whose coherence then becomes sensuous reality (Mészáros, 2005 [1970]: 87). According to Postone (1993), this abstract domination is structured by labor insofar as the double character of labor under fully-developed capitalist society is understood as structuring forms of social practice, which, embodied in and mediated through the commodity form, are simultaneously abstract and concrete.¹⁵³ That is to say, under fully developed capitalism, where relative surplus value is the dominant form, labor is both a productive activity and a socially-mediating activity.¹⁵⁴

Capital drives the tendency toward accelerating rates of increases in productivity, which mark the development of relative surplus value, as a self-valorizing value. As Postone (1993: 283) explains, “With the development of relative surplus value, then, the directional motion that characterizes capital as self-valorizing value becomes tied to ongoing changes in productivity. An immanent dynamic of capitalism emerges, a ceaseless expansion grounded in a determinate relationship between the growth of productivity and the growth of the value form of the surplus.” The magnitude of *total* value produced depends only on the amount of abstract human labor time expended. Recall that abstract time, by definition, is measured in terms of constant time units, whereas productivity corresponds to labor’s use-value dimension—value remains a form of social necessity despite the fact that its determination (abstract labor time expended) operates independent of changes in productivity. Value becomes increasingly

¹⁵² See also Postone, 1993: 25.

¹⁵³ Regarding the relationship between the double character of labor and the production of value, Postone (1993: 281) asserts, “Labor, then, as a result of its dual character in capitalism, becomes ‘objective’ in a double sense: its purpose, because constituted by labor itself, becomes ‘objective,’ separate from the qualitative specificity of particular labors as well as from the actors’ wills; relatedly, labor in the process of production, because separated from its purpose, is reduced to the object of that process.”

¹⁵⁴ Postone (1993: 282) explains, “the nature of value is such that the process of its creation transforms labor into the object of production while confronting it with a goal outside of its purpose.”

anachronistic as a form of social wealth because of the tendency toward accelerating rates of increases in productivity.

When discussing the category of socially-necessary labor time above, I indicated that, according to Postone (1993: 191), Marx's category of socially-necessary labor time "expresses a general temporal norm resulting from the actions of the producers, to which they must conform." In other words, "Socially necessary labor time is the temporal dimension of the abstract domination that characterizes the structures of alienated social relations in capitalism" (Postone, 1993: 191). Socially-necessary labor time has an additional social necessity because, insofar as surplus value is the dominant form in fully-developed capitalism, the social whole "is structured by value as the form of wealth and surplus value as the goal of production" (Postone, 1993: 302). On the basis of Postone's categorial reinterpretation of Marx's critical theory, the opposition of the categories of value and material wealth illustrates "a form of social life in which humans are dominated by their own labor and are compelled to maintain this domination" (Postone, 1993: 302).

3.5 Dialectic of Labor and Time

One of the most analytically vexing aspects of Postone's (1993) reinterpretation of Marx's critical theory is his analysis of the dialectic of labor and time. As we shall see, this is also one of the most potentially useful aspects of Postone's work for environmental sociology. Here Postone (1993: 286) incorporates Marx's unfolding of the category of capital in light of industrial production and labor's double character in order to elaborate the linkage between the temporal dimension of value, on the one hand, and the interrelationship between productivity and commodity-determined labor, on the other. Here Postone (1993) illustrates how the distinction between the double character of capital's basic social forms is itself an intrinsic dialectical dynamic.¹⁵⁵ What is remarkable about this analysis is that, in contrast to Lukács's categorial approach, Postone grasps the interaction between the value dimension and the use-value dimension

¹⁵⁵ For the sake of clarity, it should be noted that in his analysis of the dialectic of labor and time Postone (1993: 287) takes a step back, as it were, when he refers to the two-fold character of these (abstract) social forms as "the value dimension of the forms" and their (concrete) "use value dimension."

(of capital's basic social forms) as a dynamic in motion in and through time-space: under Postone this interaction becomes a movement in accordance with the directional dynamic of Marx's category of capital.

Postone (1993) explains that in Marx's discussion of the inverse relationship between productivity and value (increased productivity yields an increase in material wealth while the magnitude of total value yielded remains static within a given unit of time) labor's value dimension (i.e. the objectification of abstract labor time expenditure as the magnitude of value) and labor's use-value dimension appear to be nonaligned. In other words, at first sight the inverse relationship between productivity and value (these two processes (use-value and value) appear to operate independent of one another) appears to indicate a static opposition between the use-value and value dimensions of the commodity form of social relations.¹⁵⁶ However, Postone (1993: 287) points out that behind the opposition between these two (apparently static) dimensions "is a dynamic interaction."

Postone (1993) elaborates this thesis by examining the following passage, taken from Marx's discussion of the magnitude of value in the first chapter of *Capital, Volume I*:

The introduction of power-loom into England, for example, probably reduced by one half the labour required to convert a given quantity of yarn into woven fabric. In order to do this, the English hand-loom weavers in fact needed the same amount of labour-time as before; but the product of his individual hour of labour now only represented half an hour of social labour, and consequently fell to one half its former value. (Marx, 1976 [1867]: 129)

According to Postone (1993: 287-288), because the magnitude of value is determined by socially-necessary labor time as the objectification of abstract labor expenditure at the level of society as a whole,¹⁵⁷ once an increase in productivity becomes generalized the magnitude of value falls back to its previous level. Postone

¹⁵⁶ The appearance of this static opposition is what Lukács, for example, mistakes for underlying essence. In contrast to Lukács's position, Postone contends that within the framework of Marx's mature critique the opposition between value and use-value does not indicate an opposition between capitalist and non-capitalist moments but is, in fact, a critique of that opposition itself.

¹⁵⁷ Here it worth emphasizing that, as Postone (1993: 287-288) explains, Marx's example of the power loom "indicates that when the commodity is the general form of the product, the actions of individuals constitute an alienated totality that constrains and subsumes them."

(1993: 288) refers to Marx's example of the power loom in *Capital, Volume 1* as indicative of the fact that "the initial determination of the magnitude of value also implies a dynamic." In a similar gesture, Postone (1993) uses the passage from Marx quoted above to extract what he contends is a peculiar dialectic of labor and time:

[N]ot only does increased productivity yield a greater amount of material wealth, but it effects a reduction of socially necessary labor time. Given the abstract temporal measure of value, this redetermination of socially necessary labor time changes the magnitude of value of the individual commodities produced rather than the total value produced per unit time. That total value remains constant and is simply distributed among a greater mass of products when productivity increases. What has changed is not the *amount* of time which yields a value of x but, rather, the *standard* of what constitutes that amount of time (...) The amount of value yielded per unit of abstract time by the new level of productivity is equal to that yielded by the older general level of productivity. In this sense, the level of productivity, the use value dimension, is also determined by the value dimension (as the new base level). (Postone, 1993: 288-289)

Postone (1993: 289) contends that the insidiousness of this dynamic is continuously enacted by way of its peculiar "treadmill effect." According to Postone (1993: 289-290), the interaction of the linkage between concrete labor and abstract labor, on the one hand, and the linkage between productivity and the abstract temporal measure of wealth, on the other, gives rise to a dialectic of transformation and reconstitution whereby "the socially general levels of productivity and the quantitative determinations of socially necessary labor time" change in and through time-space. Here Postone emphasizes that the dialectic of transformation and reconstitution operates at the level of society as a whole.

In ways strikingly similar to Adorno's (1973 [1966]: 354-356) appraisal of Marx's notion of natural history in *Negative Dialectics*, Postone (1993) asserts,

The reciprocal redetermination of increased productivity and the social labor hour has an objective, lawlike quality that is by no means a mere illusion or mystification. Although social, it is independent of human will. To the extent that one can speak of a Marxian "law of value," this treadmill dynamic is its initial determination (...) it describes a pattern of ongoing social transformation and reconstitution as characteristic of capitalist society. The law of value, then, is a dynamic and cannot be understood adequately in terms of an equilibrium of the market. Once one considers the temporal dimension of value—understood as a specific form of wealth that differs from material wealth—it becomes evident that the form of value implies the above dynamic from the outset. (Postone, 1993: 290)

Postone (1993: 290) incorporates his analysis of the commodification of time in order to further examine the “treadmill dynamic,” whose initial determination “delineates the form growth *must* take in the context of labor-mediated social relations.” In doing so, Postone (1993) unfolds the category of time as a commodity whose abstract and concrete dimensions are synchronous with the intrinsic interaction between the abstract and concrete dimensions of the aforementioned dialectic of labor and time. Only after incorporating the category of time as a commodity whose dimensions parallel the dialectic of labor and time is Postone able to indicate how these dynamics interact to transform and reconstitute capital’s social totality.

3.5.1 Value as the Continual Necessity of the Present

Postone distinguishes between abstract and historical time and indicates a dialectic between the two. Historical time is analogous to the use-value dimension and may be considered a form of concrete time as constituted in capitalism. Historical time, according to Postone (1993: 294), “is the movement *of time*, as opposed to the movement *in time*.” As Postone (1993: 294) explains, “The social totality’s dynamic expressed by historical time is a constituted and constituting process of social development and transformation that is directional and whose flow, ultimately rooted in the duality of the social relations mediated by labor, is a function of social practice.” Abstract time, on the other hand, is a function of the measure of value. In contrast to historical time, Postone (1993: 293) points out that “Although the measure of value is time, the totalizing mediation expressed by ‘socially necessary labor time’ is not a movement *of time* but a metamorphosis of substantial time into abstract time *in space*, as it were, from the particular to the general and back.”

With regard to the temporal dimension of the production of value, Postone (1993: 293) indicates that although the abstract temporal measure of value remains constant, it has a changing constant whereby “both the social labor hour and the base level of productivity are moved ‘forward in time.’” This “substantive redetermination of the abstract temporal constant” involves an exponential increase in the rate at which productivity increases (Postone, 1993: 292). As Postone (1993: 292) explains, in this

sense the constant hour becomes “denser” as the amount of products produced increases. This “substantive redetermination” is not immediate, however, and is therefore not apparent at the level of appearances despite the fact that a substantive redetermination (as indicated in increases in productivity) has actually occurred (Postone, 1993: 292). The process through which the hour becomes “denser” cannot be expressed in abstract time because, as Postone (1993: 292) explains, the social labor hour (abstract time), although redetermined, is the “form against which change is measured.” According to Postone (1993: 292-293), “The entire abstract temporal axis, or frame of reference, is moved with each socially general increase in productivity; both the social labor hour and the base level of productivity are moved ‘forward in time.’”

Because productivity is rooted in the use-value dimension of labor, it is possible to conceive of the “forward” movement of the abstract temporal frame of reference “as a mode of concrete time” (Postone, 1993: 293). That the interaction between capital’s use-value and value dimensions can be conceived in this way is itself indicative of capitalism. As Postone (1993: 293 [original emphasis]) explicates, the interplay of abstract labor and concrete labor sheds light on the foundation of Marx’s analysis of capital, especially the fact that “*a feature of capitalism is a mode of (concrete) time that expresses the motion of (abstract) time.*” Historical time within capitalist society, then, is socially constituted (via praxis) insofar as it is mediated by value.¹⁵⁸

As mentioned previously, Postone analyzes the dialectic interplay between capital’s dual forms as giving rise to an immanent dynamic—a dialectic of transformation and reconstitution between the abstract and concrete dimensions. This dialectic of transformation and reconstitution, according to Postone (1993: 294), is also operative between two forms of social necessity: 1) ongoing surface-level transformations and 2) the continuing reconstitution of the underlying conditions necessary for the production of

¹⁵⁸ In contrast to the concept of “agency” in structuralism, post-structuralism, and many of the recent developments in contemporary sociological theory (e.g. Giddens, etc.), “agency” within a critical Marxian framework is always constrained, which is to say that “structure” is not the opposite of agency but is rather constitutive of agency.

value.¹⁵⁹ The dialectic of transformation and reconstitution implies that, as Postone (1993: 295) explains, “the Marxian analysis elucidates and grounds socially the historically dynamic character of capitalist society in terms of a dialectic of abstract and historical time.”

While both forms of time are intrinsically related, the abstract temporal unit is distinct in that “it does not manifest its historical redetermination—it retains its constant form as *present time*” (Postone, 1993: 295). Like the commodity form, the “social ‘content’ of the abstract temporal unit remains hidden” (Postone, 1993: 295). Moreover, value, as an expression of time as the present, represents an external social norm (Postone, 1993: 295).

Postone (1993) applies this insight to Marx’s example of the power loom as follows:

The social labor hour in which the production of 20 yards of cloth yields a total value of x is the abstract temporal equivalent of the social labor hour in which the production of 40 yards of cloth yields a total value of x : they are equal units of abstract time and, as normative, determine a constant magnitude of value. Assuredly, there is a concrete difference between the two, which results from the historical development of productivity; such a historical development, however, redetermines the criteria of what constitutes a social labor hour, and is not reflected in the hour itself. In this sense, then, *value is an expression of time as the present*. It is a measure of, and compelling norm for, the expenditure of immediate labor time regardless of the historical level of productivity. (Postone, 1993: 296 [original emphasis])

Insofar as substantive changes effected by the use-value dimension, including, for example, societally-induced environmental degradation, remain nonmanifest in terms of the abstract temporal frame of value, these changes cannot be recognized within the framework of the present.¹⁶⁰ The unfolding of capital’s historical dynamic implies that as

¹⁵⁹ Postone (1993: 294) indicates some of the basic determinations of the historical process specific to capital’s dynamic totality (as analyzed by Marx). These include but are certainly not limited to: 1) the continual development of productivity, which entails 2) “massive transformations in the mode of social life of the majority of the population” and 3) “the constitution, spread, and ongoing transformation of historically determinate forms of subjectivity, interactions, and social values.”

¹⁶⁰ This obviously raises the question of the possibility of critique. Here it is important to note that, as Postone (1993: 295) emphasizes, both abstract time and historical time are expressions of alienated social relations, which is the reason the opposition between these two moments is not an opposition between capitalist and noncapitalist moments. Postone’s position here is consonant with that elaborated in chapter two. Postone (1993: 17-18) notes that Marx’s position “neither affirms the existence of a transhistorical logic of history nor denies the existence of any sort of historical logic. Instead, it treats such a logic as

productivity increases value as a form of social wealth becomes increasingly anachronistic. The dynamic of capital gives rise to an ever-increasing disparity between the accumulated historical potential of scientific knowledge and the production of value. As Postone (1993) explains,

The dynamic of capitalism, as grasped by Marx's categories, is such that with this accumulation of historical time, a growing disparity separates the conditions for the production of material wealth from those for the generation of value. Considered in terms of the use value dimension of labor (that is, in terms of the creation of material wealth), production becomes ever less a process of materially objectifying the skills and knowledge of the individual producers or even the class immediately involved; instead, it becomes ever more an objectification of the accumulated collective knowledge of the species, of humanity—which, as a general category, is itself constituted with the accumulation of historical time. In terms of the use value dimension, then, as capitalism develops fully, production increasingly becomes a process of the objectification of historical time rather than of immediate labor time. According to Marx, though, value, necessarily remains an expression of the latter objectification. (Postone, 1993: 298)

The growing disparity between the accumulated historical potential of humanity and the production of value, however, does not automatically undermine the necessity represented by value; that is, the necessity of the present (Postone, 1993: 299), but rather changes the “concrete presuppositions of that present, thereby constituting its necessity anew” (Postone, 1993: 299). Value, as an expression of time, indicates that capitalism's historical dynamic is simultaneously dynamic and static: “It entails ever-rising levels of productivity, yet the value frame of reference is perpetually reconstituted anew” (Postone, 1993: 299). Historical time, as constituted by capital's dynamic totality, is invariably naturalized “into the framework of the present, thereby reinforcing that present” (Postone, 1993: 300).

The dialectic of transformation and reconstitution is simultaneously static and dynamic. This dialectic, as Postone (1993: 300) indicates, gives rise to, and is operative on, two different, yet synchronous, levels of social necessity: 1) the ongoing *transformation* of social life (e.g. “of the nature, structure and interrelations of social classes and other groupings,” the nature of production, transportation, circulation, etc.);

characteristic of capitalist society which can be, and has been, projected onto all of human history.” Postone (1993: 18) continues this discussion by explaining that it is in this way that—and this is important for the critical theoretical approach advanced in this dissertation—Marx's theory “reflexively attempts to render plausible its own categories”: “Theory, then, is treated as part of the social reality in which it exists.”

and 2) the ongoing *reconstitution* of “its own fundamental condition as an unchanging feature of social life” (Postone, 1993: 300).

3.6 Postone and the Environment

The critical Marxian approach put forth by Postone (1993) demands that we reexamine the socio-ecological tensions underlying the fundamental contradiction between value and “real wealth” in capitalist society. In *Grundrisse*, Marx (1974 [1857/58]: 705) explains how the persistence of value as a measure of material wealth produced remains a necessary structural precondition of capitalist society even though the potential embodied in the forces of production increasingly renders production based on value obsolete (Marx, 1974 [1857/58]: 704-711).¹⁶¹ Postone (1993: 27) explains that the abolition of value would signify the end of (capitalist) labor because production remains tied to value where labor time is the sole measure of wealth.¹⁶² The contradiction between wealth and value therefore points toward capital’s *historically-determinate* and dynamic socio-ecological domination. However, because the labor time serves as the measure of value and is not individual and contingent but rather social and necessary, time as such forms an objective totality whose coherence then becomes sensuous reality (Mészáros 2005 [1970]: 87). For Postone (1993), this abstract social domination is structured by labor insofar as the double-character of labor under fully-developed capitalist society is understood as structuring forms of social practice, which, embodied in and mediated through the commodity form are simultaneously abstract and concrete. That is to say, under fully-developed capitalism, where surplus value is the dominant form, labor is both a productive activity and a socially-mediating activity (Postone, 1993).

As a primary form of social mediation and abstract socio-ecological domination, the objectification of abstract labor is a necessary structural precondition for the capitalist production of value. As reification *à la mode*, this abstract social domination is not experienced as such in everyday life. It is therefore important that we analytically distinguish between the transformation of the objective dimension of the environment-

¹⁶¹ See also Postone, 1993: 25.

¹⁶² See also Marx, 1974 [1857/58]: 704.

society problematic (i.e. actual human ecological transformation of the biophysical via labor), on the one hand, and the subjective dimension of the environment-society problematic (i.e. the social conception and understanding of this transformation), on the other. As Postone (1993) notes:

In capitalism, both moments of people's relation to nature are a function of labor: the transformation of nature by concrete social labor can, therefore, seem to condition the notions people have of reality, as though the source of meaning is the labor-mediated interaction with nature alone. Consequently, the undifferentiated notion of "labor" can be taken to be the principle of constitution, and knowledge of natural reality can be presumed to develop as a direct function of the degree to which humans dominate nature. (1993: 222)

As discussed above, Adorno's critical theory exemplifies a level of socio-historical reflexivity capable of acknowledging the necessary reciprocity between the subjective and objective dimensions of the environment-society problematic while at the same time recognizing their distinction. Engaging this dialectic is necessary in order to pinpoint alienation and reification as key mediating processes between the subject-object dimensions. If environmental sociology fails to grasp alienation and reification, then the distinction between the subjective and the objective becomes unrecognized and conflated in the commodity form, thereby becoming subsumed under the identity principle of exchange society. In this sense, the notion of an unmediated relationship between people's transformation of the biophysical world and our conception and understanding of this transformation fails to recognize these two moments as non-identical as it also perpetuates the contradictory dynamic of capital insofar as it fails to recognize alienation and reification as structuring concrete social practices that produce and reproduce the subjective/objective severance in space-time.

According to Postone (1993: 191), Marx's category of socially-necessary labor time "expresses a general temporal norm resulting from the action of the producers, to which they must conform." Or, to put it differently, "Socially necessary labor time is the temporal dimension of the abstract domination that characterizes the structures of alienated social relations in capitalism" (Postone, 1993: 191). Socially-necessary labor time has an additional social necessity because, insofar as surplus value is the dominant form in fully-developed capitalism, the social whole "is structured by value as the form

of wealth and surplus value as the goal of production” (Postone, 1993: 302). Hence, the opposition of the category of value and material wealth illustrates “a form of social life in which humans are dominated by their own labor and are compelled to maintain this domination” (Postone, 1993: 302). The possibility and ground for Postone’s (1993) critique of alienated labor is located in these double-sided social forms rather than between these social forms and “labor.”

One of the most provocative and potentially useful aspects of Postone’s (1993) approach for environmental sociology is his explication of how the interrelations between the subjective/objective and abstract/concrete aspects of capitalist social forms produce “an immanent dialectical dynamic” between productivity and value, a dynamic he contends is at the heart of Marx’s analysis of the dynamic of capital. Here the temporal aspect of productivity and value is conceptualized alongside the two dimensions of the commodity form. The magnitude of value—that is, the quantitative measure of the objectification of abstract labor (i.e. socially-necessary labor time) operates at the level of society as a whole, as mentioned above (Marx, 1976 [1867]: 135; Postone, 1993: 289). The use-value and value dimensions do not simply form a static opposition.¹⁶³ Rather, both dimensions interact through an ongoing ‘process of reciprocal determination,’ effecting “a directional dynamic in which (...) concrete labor and abstract labor, productivity and the abstract temporal measure of wealth, constantly redetermine one another” (Postone, 1993: 290). This ‘ongoing pattern of social transformation and reconstitution,’ according to Postone (1993: 290), is perhaps the best estimate of a so-called Marxian “law of value.”

Although in fully-developed capitalism relative surplus value is acquired by way of increasing levels of productivity, and although increases in productivity outturn greater quantities of material wealth and reduce socially-necessary labor time, these developments do not change the total-value-produced per abstract-time-unit (i.e. labor expenditure as measured by the independent variable, abstract time) because the “constant” time unit itself is a dependent variable whose determination is dictated by the

¹⁶³ Cf., Lukács, 1971 [1923].

concrete use-value dimension of labor. Postone (1993) analyzes the category of time itself as a commodity whose abstract and concrete dimensions interact with the abstract and concrete dimensions of labor to transform and reconstitute capital's social totality. The insidiousness of this process, as Postone (1993) explains, is continuously enacted by way of a particular "treadmill effect":

Increased productivity increases the amount of value produced per unit of time—until this productivity becomes generalized; at that point the magnitude of value yielded in that time period, because of its abstract and general temporal determination, falls back to its previous level. This results in a new determination of the social labor hour and a new base level of productivity. (Postone, 1993: 289)

Postone (1993: 308) extends his elaboration of the dialectic of transformation and reconstitution to capital (which, as self-valorizing value is "the drive toward increasing levels of productivity and the necessary retention of direct human labor in production") to an analysis of the self-valorization of value.¹⁶⁴ Recalling Postone's "treadmill effect" discussed above, which necessitates accelerating rates of increases in productivity (and therefore a virtually exponential increase in the level of biophysical throughput), the expansion of relative surplus value furnished can never approximate the amount of the total-value-produced per unit-time. According to Postone (1993), Marx's analysis indicates that

The more closely the amount of surplus value yielded approaches the limit of the total value produced per unit time, the more difficult it becomes to further decrease necessary labor time by means of increased productivity and, thereby, to increase surplus value. This, however, means that the higher the general level of surplus labor time and, relatedly, of productivity, the more productivity must be further increased in order to achieve a determinate increase in the mass of surplus value per determinate portion of capital. (Postone, 1993: 310-311)

Thus, while accelerating rates of increases in productivity simultaneously yields increased quantities of material wealth, surplus value (the goal of capitalist production) is increased only indirectly: "*in the society in which the commodity form is totalized, there is an underlying tension between ecological considerations and the imperatives of value as the form of wealth and social mediation*" (Postone 1993: 313 [emphasis added]). Moreover, as the passage above indicates, the expansion of surplus value necessitated by

¹⁶⁴ See Marx, 1976 [1867]: 714-725.

capital illustrates a specific proneness toward the acceleration of increases in productivity (Postone, 1993: 311), which necessitates a virtually exponential increase in the quantity of biophysical throughput.

4. Critique of (Modernist) Sociobiophysicality

Lukács (1885-1971), Adorno (1903-1969), and Postone (1942 -) each wrote successively. In this sense, I would like to suggest, with regard to the potential contribution these theorists might make toward a critical theory of the environment, that we view the core critique of each theorist, as outlined above (i.e. critique of reification, critique of identity thinking, critique of traditional Marxism), as an attempt to “name” central aspects of the nature-society relationship at different, successive stages of the development of modern capitalist society. In order to further a critical theory of the environment in line with this critical theory tradition, I advance the concept of *sociobiophysicality* (SBPh). SBPh is an attempt to “name” central aspects of the nature-society relationship, including its elusively dynamic nature, particularly with regard to the fact that the nature-society relationship is fundamentally other and more than our conceptualization of it. In other words, SBPh is less a category or concept to be applied than it is an attempt to “name” an inherently dynamic process intrinsic to its “object” of study as an historical *experience* whose contradictions and tensions are entwined with those of the thought attempting to comprehend it.

Situated within the critical theoretical scaffolding provided by the three critical theorists outlined above, SBPh is rooted in alienation and reification, which, constituted by the capitalist mode of production, are understood as key mediating processes between the subject-object dimensions of the environment-society problematic. Drawing on Marx—an insight furthered by Lukács, Postone, and Adorno, albeit in different ways—this theoretical understanding of mediation is also a theory of praxis whereby (*à la* alienation) people create structures through social practice that in turn dominate them¹⁶⁵ while processes of reification (*à la* alienation as “second nature”) simultaneously *rewrite reality* so as to inhibit these very same humans from “consciously” recognizing that this

¹⁶⁵ On alienation as self-generated domination, see Postone (1993: 30-33, 68, 126, 158-159).

is indeed the case.¹⁶⁶ Understood dialectically, this implies that people are both producer and product of alienated socio-ecological relations of domination.

The concept of SBPh combines Lukács's focus on the subjective dimensions of the commodity form with Postone's categorial appropriation of Marx's categories, which allows us to capture both objective socio-“structural” drivers of human-ecological transformation as synchronous with the historical development of the commodity form of social relations. Gleaning insight from Adorno, SBPh underscores the reciprocal need of both the subjective and objective dimensions of the environment-society problematic while emphasizing the disproportionate priority of the objective dimension, which, under existing social conditions, operates in and through individuals as isolated particulars via the unfolding of “the inner composition of elements of nature and elements of history within history itself” (Adorno, 2006 [1964/65]: 116). Such an approach therefore illuminates the constellation of social forces which make up a form of abstract (sociobiophysical) domination that effectively operates in and through actual social and ecological destruction while recognizing these processes as non-identical to, yet simultaneously shaping the possibilities of subjective experience.

Drawing on Postone's critique of the double character of commodity-determined labor, the concept of SBPh allows for a dynamic reconceptualization of reification in terms of the sociobiophysical tensions underlying the production of value; i.e., the necessary social-ecological destruction underlying value as the continual necessity of the present, where the continual necessity of the present is recognized as immanently dynamic. That is to say, capital, as self-valorizing value, tends toward accelerating rates of increases in productivity, which in turn necessitates virtually exponential levels of biophysical “throughput,” thereby effecting quantitative increases in “material wealth” output, even though the resultant increases in value are effected only indirectly. The increasingly anachronistic character of value as a measure of material wealth *and* as a structural precondition of capitalist mode of production is precisely the point at which

¹⁶⁶ On alienation as “second nature”, see Dahms (2011).

value (as the necessity of the present) points beyond itself: the social necessity of *this* present is the historically-determinate nature of *modernist sociobiophysicality*.

In this sense, the necessity of virtually exponential levels of biophysical throughout—the form so-called “economic growth” must take—is a form of social necessity within and through which sociobiophysicality *is* to the extent that both the social and the biophysical are material bearers of objectified time. In other words, the ontology of the material realm—a realm so defended by environmental “realists”—is, quite literally, the ontology of the social *mediation* of time, labor, and social domination, or, to use Adorno’s words, “the ontology of the wrong state of things.” On this basis, the concept of SBPh redirects our attention to the “social mediatedness” of materiality, which, as stated above, is rooted in an understanding of the reciprocal dynamism of the subject-object dimensions of the environment-society problematic whereby the (heteronomous) objective dimension takes priority insofar as this heteronomy is *always already* defined (and being defined) as such. SBPh makes recognition of this priority explicit because without such explicit recognition, research efforts are unfortunately at the inherent risk of becoming ideology.¹⁶⁷ Research rooted in an understanding of SBPh, on the other hand, scrutinizes the present via critique of this continuous heteronomy, which is in line with critical theory’s attempt to explode the analytic/political boundary. Critique of (modernist) SBPh is simultaneously analytic, normative, and political.

On this basis, we can rethink the paradox of increased environmental degradation amid wide-spread attention and concern during the latter half of the twentieth century by analyzing the social constitution of subjectivity and objectivity—that is, by examining the synergy of structure and practice in terms of the dynamic and contradictory nature of capital (see Postone, 1993: 224). We can then explain the synchronous development of *objective* human-ecological transformation and *contemporary ecological subjectivity* after the Second World War as an expression of “the social constitution and historical

¹⁶⁷ This is because, insofar as the priority of the objective dimension is always already defined as heteronomous, failure to recognize this priority as such, and/or failure to make such recognition an explicit and integral part of the activity of social research, *de facto* risks becoming a reflection of the present in reified, alienated form.

development of needs and perceptions—both those that tend to perpetuate the system and those that call it into question” Postone (1993: 224). On this basis, both the post-World War II American model of economic “growth,” as well as recent discussions of so-called “de-growth,” are elucidated as a projection of historically specific circumstances.

Specifically, the post-World War II configuration of economy, society, and state that impelled an unprecedented global flow of capital and an exponential level of resource extraction during the second half of the twentieth century, which in turn necessitated new efforts to control human and non-human natures.

The post-World War II configuration of business, labor, and government, which is deeply engrained at the beginning of the twenty-first century (Chomsky, 2003; Dahms, 2006b), can therefore be grasped as “the constitution of historically specific deep social structures by forms of social practice that, in turn, are guided by beliefs and motivations grounded in the forms of appearance engendered by these structures” (Postone, 1993: 224)—namely, global expansion and the growth of ecological knowledge required to control an unprecedented level of resource extraction amid an anxiety-ridden global arena. Assuming there is something to the concept of SBPh, which underscores the reciprocal need of both the objective and subjective dimensions of the environment-society problematic, the interaction of structure and practice in terms of the post-World War II configuration not only led to historically unprecedented levels of global ecological despoliation—it simultaneously facilitated the contemporary conception and understanding of the natural environment as well, including the development of contemporary environmentalism and the more general growth in concern for the well-being of the biophysical world in recent decades. This provides us with a much more sober perspective—one which relativizes the recent antagonism between “growth” and “degrowth” by locating this opposition in ‘a form of social life dominated by the historical necessity of capital’ (Postone, 1993: 314).

Consequently, it is not possible to conceive of the relationship between society and the biophysical independent of alienation and reification, regardless of the fact that, empirically speaking, this has eluded the attempts of most environmental sociologists.

The fact that today we are able to perceive the potentially catastrophic effects of human-induced environmental degradation more precisely than at any other point in human history, yet remain incapable of reducing the rate at which this destruction continues to increase, is the most important case in point. The concept of SBPh requires directing our efforts toward the constellation of social forces that operate in and through not only the biophysical, or so-called “external nature,” but the human body/consciousness, or so-called “internal nature,” as well. This is significant for sociology because it allows us to identify the social mediations that structure concrete human-ecological transformations and our conception and understanding of the natural environment so as to acquire insight into how current environment-society interactions might become less destructive. The scope of related research ranges from the development of a critical theory of the environment to the social-psychologically embodied consequences of the environment-society problematic for individuals and the moral and ethical implications involved. Interdisciplinary work in these and related areas remains important and salient as global environmental problems continue to advance at an increasingly rapid pace—often more rapidly than societal, institutional, and/or individual responses to them can be formed.

**PART II. CONTEMPORARY ECOLOGICAL SUBJECTIVITY:
CONTEXTUALIZING SOCIOBIOPHYSICALITY**

CHAPTER 4: COLD WAR ORIGINS OF CONTEMPORARY ECOLOGICAL SUBJECTIVITY

Against the background of chapter three, which situated the environment-society problematic in theoretical context, this chapter employs a theoretical understanding of sociobiophysicality with systematic and interpretive intent in order to contextualize further the environment-society problematic in historical and societal context. The purpose of the chapter is to elucidate aspects of the environment-society problematic as manifested in American society throughout the latter half of the twentieth century.

Introduction

Instead of suggesting that the rise of contemporary American environmentalism is directly linked to “conscious” concern for the environment at home, the following chapter investigates the linkages between the emergence of contemporary American environmentalism and American’s unprecedented global economic, political, and ideological role following the Second World War. The full scale development of big business-state symbiosis throughout the twentieth century (McQuaid, 1994), the strategic political economic importance of oil during war, and the shift from a productive to a consumptive based economy are inextricably connected to the development of a specifically contemporary social conception of nature. These developments, which required an exponential increase in America’s fossil fuel emissions, more resource extraction, and an unprecedented flow of global capital, in turn necessitated new forms of scientific management and technological control over human and non-human natures. For example, the development of systems analysis, originally for war (Amadae, 2003) as well as the scientific field of ecology parallels the rise of an interconnected, “ecological” worldview (Luke, 1997). Such knowledge production involves breaking the earth into systems and subsystems, creating the possibility for orderly scientific inquiry and control (Luke 1997). At the same time, these new forms of control may actually produce a social conception of nature, which in turn gives rise to new environmental needs and desires. In this sense, the contemporary social conception of nature and the recent growth of widespread concern for the well-being of the biophysical environment is a product of ideology and violence and should therefore not be interpreted as somehow akin to an altruistic concern for the biophysical world.

Research Aims

By situating the environment-society problematic historically with reference to large scale structural transformations since the end of the Second World War, we can divide the latter half of the twentieth century into two halves: 1) the decades after the Second World War (1950-1973); and 2) the remaining final quarter of the twentieth

century.¹⁶⁸ These two periods also comprise the expanse of the cold war. With this in mind, and from within the categorial framework of critical theory, the environment-society problematic can be contextualized historically and restated in terms of the following two interrelated questions:

How do we explain the fact that contemporary environmentalism—which emerged in the late 1960s and early 1970s as a response to the historically unprecedented spike in societally-induced environmental degradation during the third quarter of the twentieth century—failed to engender changes in social structure conducive to its expressed need and desire to move beyond the societally-induced environmental degradation which characterized this period?; and relatedly, how do we explain the fact that, from the perspective of the beginning of the twenty-first century, the exact opposite occurred, as evidenced by the onset of neoliberalism in the 1970s and its continuation, which defines our current moment in the face of persisting increases in environmental attention and concern?

This chapter attempts to move toward addressing these (historical) questions by situating them within the (societal) context of American society. More specifically, the following investigation aims to elucidate the conditions of possibility of a contemporary (i.e. post-World War II) social conception of nature through an immanent critique of contemporary American environmentalism's misrecognition of its own sociohistorical context. As I will return to note again below, it is important to be aware that this misrecognition is not the result of American environmentalism's inherent fallibility, quite the contrary. Rather, I shall argue that such misrecognition is the result of the objective context within which contemporary American environmentalism emerged, as this sociohistorical context is defined by an apparent decontextualization.

Chapter Organization

The first section of the chapter distinguishes the contours of contemporary American environmentalism's objective sociohistorical context by focusing on the emergence of I refer to as the post-World War II configuration—a particular

¹⁶⁸ This periodization is adapted from Hobsbawm's *Age of Extremes* (see Hobsbawm, 1994: 226).

configuration of business-labor-government relations that took hold following the end of the Second World War. Section two pinpoints the development of what I call the cold war regime of critique containment, which emerged in and through the post-World War II configuration. Section three examines the linkage between patterns of change and patterns of continuity from 1) the first half of the cold war characterized by state centric capitalism to 2) the last quarter of the twentieth century characterized by neoliberalism. I argue that, despite the official end of the cold war in 1991, the cold war regime of critique containment persisted throughout these two periods and that its continuation—far from being static—is perhaps best grasped as a process of “sedimentation,” whereby the containment of social critique has effectively penetrated the very fabric of American society and is therefore unrecognized as such. On this basis, the fourth and final section of the chapter engages an immanent critique of contemporary American environmentalism’s misrecognition of its own sociohistorical context. I do so by situating the development of contemporary American environmentalism within the context of critique containment, focusing on the conditions of possibility of a contemporary (i.e. post-World War II) social conception of nature, which today remains central to contemporary environmentalism.

Delimitations

The following investigation relies solely on secondary literature, much of which is rooted in various theoretical and methodological assumptions. In attempting to apprehend the post-World War II, cold war era, I was confronted with an endless list of literature. The primary delimitation of the chapter has less to do with the use of secondary literature and more with the fact that this literature comes from different methodological and theoretical backgrounds. Although it would have been impossible to read all the relevant literature, I did work my way through a sizable portion. In wading through this material (much of which was superfluous), I found myself struggling to keep sight of the significance of historical pattern amid tremendous historical detail. While this is perhaps the crux of historical sociology, I was unable to scrutinize the compatibility of the various

literatures in terms of their various theoretical and methodological assumptions.¹⁶⁹ Instead, this chapter treats the results of different studies and historical analyses as “data,” which I interpret from within the methodological and theoretical framework advanced in the previous two chapters. I therefore ask the reader to bear this in mind.

The chapter’s focus on American society throughout the latter half of the twentieth century is delimited in terms of scale and scope. Although the following investigation does on occasion refer to the global context, my aim is to situate the environment-society problematic in historical and societal context and, delimited as such, does not focus on the intricate nuances of the various interconnections frequently subsumed under the heading “globalization.” One must therefore be aware that that the post-World War II, cold war world was characterized by a historically unprecedented level of international interconnectedness, at least in terms of the speed with and through which these interconnections were made. At the same time, a focus on the American societal context during the post-World War II, cold war period is appropriate for at least two fundamental reasons. First, as Westad (2000, 2006) has shown, America’s unprecedented global role, both politically, economically, and ideologically during this time turned out to be of extreme significance in the shaping the world, economically and ideologically. Second, American society during this time is a thoroughly modern society, as defined by the saliency of the commodity form. My discussion of Lukács, Adorno, and Postone is therefore pertinent in dealing with this societal context and I would ask that the reader be cognizant of this theoretical discussion while working through the following investigation.

Lastly, it should be noted that the chapter is not a history of the cold war, nor is it a history of twentieth century American society. While I incorporate elements from the “real course of history,” I also ignore much historical detail, highlighting only those patterns I consider crucial to my aim of deciphering the conditions of possibility of a contemporary (i.e. post-World War II) social conception of nature through an immanent

¹⁶⁹ This is perhaps most obvious in the first sections of the chapter where I discuss the configuration of business, labor, and government relations in American society.

critique of contemporary American environmentalism's misrecognition of its own sociohistorical context. Against the claim that I am reducing complex and unrelated phenomena to a narrow area of historical development, the chapter's focus is an attempt to elucidate the historical conditions that may have paved the necessary ground for contemporary environmentalism and contemporary American environmentalism in particular.

Assumptions

While the following investigation shifts from the abstract theoretical discussion of chapter three toward a more empirical examination, the shift toward the empirical is informed by and must be understood from within the framework of critical theory discussed in chapters two and three. Specifically, as will become clear in my discussion of contemporary ecological subjectivity and American environmentalism, I engage the categorial framework, which aims to grasp the intrinsic relationship between social subjectivity and social objectivity as structured by the commodity form of social relations. Although my discussion refers to decisions made by particular individuals within specific social organizations and social institutions, I have sought to describe these decisions as either necessary; as decisions of practical necessity; or decisions which were perceived as necessary – where such necessity is understood along the lines of the necessity of reconstituting the present (e.g. the necessity of capital and its relation to value as the continual necessity of the present). This is important to bear in mind because I do not, for the most part, reiterate the theoretical complexity of this assumption when discussing the more empirical processes below. Agency, from within the critical theoretical framework of this dissertation does in fact exist. However, agency is also always already constrained. Therefore, agency must be understood in its historical determinateness. As I see it, this assumption is in line with the theoretical perspectives of both Adorno and Postone, although in different ways.

1. The Post-World War II Configuration

We can locate the antecedent to the configuration of business-labor-government relations that took hold in American society following the Second World War (referred to

as “post-World War II configuration” hereafter) in a qualitative transformation that occurred throughout the 1930s, when business-labor-government relations were strategically reconfigured for the first time.¹⁷⁰ This reconfiguration was the response to structural transformations brought about by the rise of finance capitalism.¹⁷¹ The first two decades of the twentieth century saw the modern business enterprise transform from the entrepreneurial form to the large-scale industrial corporation. Scientific and technological management and administration became a prime organization and control ingredient in factory production and mass distribution. Far from being a passive observer, the US

¹⁷⁰ It should be noted that the U.S. government first attempted to control the economy with the onset of WWI when it shifted more than twenty percent of national production to wartime needs (Peterson and Gray, 1969: 357). According to Rockoff (2005), the rapid conversion of the U.S. economy from neutrality to war was made easier by the fact that the additional infrastructure needed for war was added in those sectors that had already been prepared to respond to the production demands from other countries already in the war. During the war, the War Industries Board determined industrial priorities, fixed prices, and converted plants to meet Federal Government needs (Vangiezen and Schwenk, 2003). Many government functions that would tacitly be accepted fifty years later originated during at this time (Reich, 1992: 39). The objective economic necessities of war that spurred these organizational shifts also impelled the government to embark on its first extensive propaganda effort. President Wilson created the Committee on Public Information (CPI), also known as the Creel Committee, whose members included Edward Bernays and Walter Lippmann. The committee was tasked with getting a largely pacifist American public to support the entry of the U.S. into WWI. To this end, the CPI embarked on the first nation-wide propaganda effort, including propaganda coordinated by foreign consultants abroad, visual material (drawings, moving pictures, stereopticon slides, and photographs), printed material, public advertising and speakers estimated to have cost taxpayers 4,912,553 U.S. dollars. Walter Lippmann later sought to apply the ICP’s propaganda effort to democracy with his notion of the “manufacture of consent” (a phrase Noam Chomsky and Edward Hermann [1988] later borrowed in their well-known book on the political economy of media). At the start of WWI, the U.S. was in a recession, in part due to the state’s failure to regulate the money supply. In 1914, the Europeans began purchasing U.S. goods for the war, which brought the economy out of recession and sparked an economic boom from 1914-1918. The American Federation of Labor (AFL), established in 1886, saw its unions’ members increase tenfold by the end of WWI. The federal government granted mild concessions to labor during the beginnings of the twentieth century, including the Clayton Antitrust Act in 1914. At the state level, worker’s compensation, the first major social insurance program in the U.S., was undertaken in Ohio and Washington first in 1911.

¹⁷¹ According to Veblen (1923), finance and industry initially operated according to two different logics: industrial logic was driven by a concern for the extraction and supply of natural resources whereas finance logic was geared toward profit-making above all else. These logics had merged by the beginning of the twentieth century. Although this merging was anything but smooth, the profit-making logic of finance displaced the logic of industry, which was exemplified by the first merger wave in American society during the 1890s. According to Veblen (2000 [1923]: 57), this shift in logic was a result of absentee ownership in “key industries” that were “progressively taken over into the absentee ownership of the country’s credit institutions” and thereby “consolidated and arranged in manageable shape.” Additionally, the scientific and technological frontier of finance capitalism was accompanied by the growth of large-scale investment banks, which moved to the center of economic activity to play the dominant role in the economy.

government actively celebrated the success of the modern corporation in all its regality, as indicated by President Coolidge's statement quoted above.

Although finance capitalism generated levels of productivity and manufacturing output never before seen, the side effects of unrestricted prosperity culminated in the 1929 stock market crash, which reverberated throughout American society and other industrialized nations around the world. The subsequent decade was scarred by the most severe worldwide economic depression of the twentieth century. During this time, the U.S. unemployment rate rose from an estimated annual rate of 3.3 percent during 1923-1929 to a peak of 25 percent in 1933 (VanGierzen and Schwenk, 2003). Prime interest rates fell to one-tenth of their 1920s peak; 40 percent of U.S. banks went bankrupt in only four years; 30 percent of savings deposits were lost (McQuaid, 1994: 4). The American stock market declined by an estimated 90 percent from 1929 to 1932, forcing a slew of banks and businesses into insolvency (VanGierzen and Schwenk, 2003). Levels of spending and production as well as the gross national product (GNP) were greatly reduced as capital investment and consumer demand declined at an astonishing rate (VanGierzen and Schwenk, 2003).

The Great Depression all but guaranteed the failure of the Republican incumbent (Herbert Hoover) in the 1932 election. President Franklin D. Roosevelt, inaugurated in 1933, soon embarked on a series of relief measures in response to the Depression. These initiatives, collectively known as the New Deal, effected historically-unprecedented federal government involvement in the economy. Although the New Deal administration put an end to the U.S. tradition of federal minimalism and (implicitly) questioned laissez-faire economic doctrine, it did so out of necessity in order to save "corporate America," which greatly influences American society, from the destructive effects of finance capitalism. It is often said that Roosevelt saved capitalism, and this is true.

Two days after his inauguration, Roosevelt temporarily closed all the banks, suspending the transactions of all federally-chartered banks and loan associations (Arrington, 1983: 3). After four days, about five thousand banks were reopened and pronounced healthy for business (Arrington, 1983: 3). Although these banks resumed

business, about 25 percent of members of the Federal Reserve System remained closed. FDR called upon Congress, along with these member banks and loan associations, to embark on an immediate emergency economic recovery designed to stop financial panic and save capital markets and private investment (McQuaid, 1994: 7). The federal government oriented their actions toward various institutions, such as The Federal Deposit Insurance Corporation (FDIC), which was created in 1933 as part of the Glass-Steagall Act and acted to guarantee the debts of owners of firms in the commercial banking industry in the case of bankruptcy (McQuaid, 1994: 7). In turn, commercial bankers (reluctantly) accepted federal regulations. For example, investments banks were prohibited from engaging in commercial banking (McQuaid, 1994: 7). Under the New Deal administration, the Reconstruction Finance Corporation (RFC), which had been created under Hoover in 1931 as an investor of last resort, was expanded. Through the RFC, the federal government invested in financial markets, stepping in to help states with their relief efforts. The RFC rescued companies in high-fixed-cost industries, such as banking, railroading, and energy production (McQuaid, 1994: 7). The administration also invested heavily in public works, including massive public projects, such as the Tennessee Valley Authority (TVA); New Deal agriculture and energy programs; and Social Security, which was established in 1935.

Part of Washington's new regulatory function was its role as middleman between business and labor. In 1935 labor union organization transformed¹⁷² when the Congress of Industrial Organizations (CIO) began organizing workers in traditionally nonunion industries.¹⁷³ That same year the National Labor Relations (or Wagner) Act was passed, which guaranteed workers' rights to organize and bargain collectively. The federal government established the National Labor Relations Board (NLRB) to guarantee labor

¹⁷² The American Federation of Labor (AFL), whose members had increased tenfold by the end of World War I (McQuaid, 1994), started to decline in membership throughout the 1920s. According to McQuaid (1994) only seven of every hundred workers were union members at the beginning of the 1930s. Part of the reason for the AFL's stasis was due to its skilled-only approach to labor organizing. This approach was relatively unsuccessful in the mass production industries that dominated the economy (McQuaid, 1994).

¹⁷³ The CIO received harsh opposition from the American Federation of Labor (AFL) whose membership had remained static since about 1914, primarily because of their crafts-based union organization had become anachronistic in an economy dominated by large-scale industrial production and deskilled labor.

standards and to conduct representation elections. Through the Davis-Bacon Act of 1931 and the Walsh-Healy Act of 1936, the federal government established wage standards.

While some, namely big business and the Republican Party, felt that the nation's core values, such as free enterprise and political liberty, were under attack amid such change, increased government involvement during this time, objectively speaking, was brought about insofar as it was a perceived necessity. Prior to 1929, it was generally accepted that the "market" corrected deviations from full employment. The Great Depression was a clear sign that a capitalism dominated by large-scale corporations operated quite differently than the capitalism espoused by Smith's *Wealth of Nations* (Dahms, 2000: 12). Moreover, the so-called "self-regulating" market proved incapable of healing the wounds inflicted on an economy dominated by such organizations.¹⁷⁴ In summary, the federal government took on the role it did during the Great Depression to *manage* the destructive effects of finance capitalism and not to solve the problems that had effected this destruction (Dahms, 2000, 2006).

1.1 World War II as Big Business

It was not the New Deal but rather America's war effort during the Second World War that brought the U.S. economy out of depression. More specifically, the heightened need for rapid and large-scale armament production, accelerated the growth of large-scale economic organizations. The organizational foundations for the business-government symbiosis¹⁷⁵ that had been geared toward the New Deal welfare state was expanded, refined, and redirected toward military production.¹⁷⁶ Such action was, once again, perceived as one of practical necessity because it was far easier and more efficient for Washington to deal with large corporations with whom they had already established lines

¹⁷⁴ See, e.g., Polanyi 1947, referenced in Dahms, 2000: 12.

¹⁷⁵ Business-government "symbiosis" is a technical term put forth by McQuaid (1994) to denote the necessary entwinement of big business and government in American politics throughout the twentieth century.

¹⁷⁶ McLauchlan (1992: 102) notes that "It was during the war that the processes of constructing the New Deal welfare state were eclipsed by the emerging national security state. The institutions of the latter were oriented to provision of the scientific research, military technology and social organization necessary for the requirements of a new, expansive concept of 'national security.'"

of credit with banks and were therefore able to obtain large amounts of money quickly and cheaply (McQuaid, 1994: 15).¹⁷⁷

State development and war-making grow in and through one another; indeed, this is among the few hypotheses that have been confirmed consistently by sociologists from a variety of empirical and theoretical backgrounds.¹⁷⁸ America's war effort during the Second World War facilitated such state-war mediated evolution as both war and state developed through a complex web of institutions and scientific expansion. In fact, the so-called "golden age" of capitalism (i.e. the post-WWII economic boom), which I discuss below, was less spectacular in America (relative to other comparable modern societies) because this growth was essentially a continuation of the economic expansion of the war years (Hobsbawm, 1996). The war effort intensified big business-government symbiosis, which would later become refined and further ingrained in the fabric of American society during the latter half of the twentieth century. I shall return to further elaborate the entwinement of state, military, industry, and science in my upcoming discussion of the cold war regime of critique containment.

Two business organizations—the Business Committee (BC) and the Committee on Economic Development (CED)—recognized that the post-World War II business-government symbiosis was a necessary symbiosis and, because of this, were able to take control of the postwar situation to a significant extent. The BC originated within the institutional transformations enacted through the New Deal administration. It was created as an agency affiliated with the Commerce Department in 1933 in order to maintain advisory contacts with the new institutions tasked with implementing New Deal economic reforms. The CED had no formal connection with the state, although, as McQuaid (1994: 19-20) explains, its "informal relations with federal power barons" was quite extensive. It is difficult to exaggerate the significant role played by these two business organizations in shaping the post-war situation at home and abroad. The BC and

¹⁷⁷ According to McQuaid (1994: 14), "The federal government eventually spent \$245 billion in five years: more than it spent between 1789 and 1940. By the end of the war, 60 percent of all manufacturing output went to the military."

¹⁷⁸ See, e.g., Bella, 1992; Hooks, 1992; Mann, 1988; McLauchlan, 1992; Mills, 2000 [1956]; Rosa, 2013; Shaw, 1988; Wolfe, 1982.

the CED, like most business organizations, did not like Washington's involvement in the economy, but, unlike their fellow businessmen who voiced reactionary, anti-government responses, the BC and CED recognized that state involvement had become a reality—a “necessary evil,” as it were.¹⁷⁹

The BC and the CED used this knowledge to their strategic advantage. According to McQuaid (1994: 23), “By 1944, economists rich with federal experience had completed or gotten underway a dozen CED-sponsored ‘Transition from War to Peace’ studies on subjects like the removal of wartime economic controls, manpower demobilization and reemployment, postwar international economic relations, and the sale of ‘government surplus’ war goods and government-owned defense plants.” Such efforts paid off, as the BC and CED’s proposals for postwar reconversion were, for the most part, a success. McQuaid (1994) describes the payoff as follows:

Two-thirds of the total value of all federal plant and equipment was eventually sold to only eighty-seven large firms. One company, US Steel, got 71 percent (by value) of all government-built integrated steel plants. High-technology synthetic rubber (polymers) facilities mostly went to the four largest rubber companies. Chemical plants were purchased by leading oil companies. Sale prices were minimal, often pennies on the dollar. Competitive bids from firms other than those that had run the plants in wartime were rarely allowed. Reconversion was therefore fine for big business—an almost unnoticed American version of Japan, Inc., that is, state-sponsored oligopoly. (McQuaid, 1994: 24)

The CED also worked with local and state business organizations to ensure peacetime economic reconversion. The organization’s strategy was to limit the threat of new labor unions and the New Deal administration. As McQuaid (1994: 24) explains, “Businesses’ interests in such uncustomary collective work was fundamental: if private companies failed to provide full-employment economic growth after largely risk-free war capitalism ended, social and political upheaval might revive the New Deal.” As inflation rose, the memory of the Great Depression and war remained fresh in the minds of many Americans, leading business to respond to a wave of labor strikes in 1946 with a massive

¹⁷⁹ This reality was most obvious in the interrelationships established through the entwining of war-making and state development mentioned above. McQuaid (1994: 23) cites one such example: “Washington had paid for one-third of all plants and equipment built in the United States during wartime; one-third of all war workers labored in these plants. Washington owned 10 percent of America’s postwar industrial capacity, dominating major trades like aircraft, machine tools, synthetic rubber, shipbuilding, and nonferrous metals.”

public relations campaign that described an overly-militarized and communist labor force. Meanwhile, Truman's indecisiveness on postwar reconversion issues, such as price controls and the appropriate role of government in labor relations, effectively made him an enemy in the eyes of many working-class voters who had supported him previously (Freeman, 2012: 45).

In this context, conservatives saw the potential to seize control of the situation and reign in labor. In 1946, the GOP took control of both House and Senate for the first time since 1930 (McQuaid, 1994: 27). Passage of the Taft-Hartley Act in 1947 was the nail in organized labor's coffin. The Act effectively "moved the balance of power away from unions toward employers" by rolling back many of labor's formal gains achieved through the Wagner Act just twelve years prior (Freeman, 2012: 47).

Organized labor effectively imploded during this time, in large part because of Taft-Hartley. The act made labor organizing by alleged communists illegal, and the long-standing in-fighting between AFL and CIO members was reignited as the AFL raided radical CIO unions to ensure anticommunism. McQuaid (1994) explains the deterioration of organized labor during this time:

What was branded as anti-Americanism in the house of Labor clearly weakened unions' ability to collect on political debts. Democrats whom labor had helped elect wanted to avoid being branded radical or their party being branded as a class party, and they therefore made no strong effort to either repeal or revise Taft-Hartley. Truman-era Democrats became bastards, with a southern and western antiunion wing they wouldn't purge. But union leaders realized that Truman Democrats were *their* bastards, and that their own political position would weaken even further without them. (McQuaid, 1994: 33)

Having reeled in labor, the next obstacle confronting corporate expansionist efforts abroad was business itself. Although smaller businesses did not favor the Marshall Plan, the CED worked to encourage an economic-oriented approach to foreign policy. In fact, it was in both government and corporate interests (the dividing line between the two had by this time become quite unclear) to engage economic expansion internationally. There was still the problem of overproduction from the war: America is estimated to have been producing as much as two-thirds of the total manufacturing output of the world during this time. Economic expansion overseas would provide international outlets for

such historically-unprecedented levels of U.S. industrial output, and Washington would benefit from favorable U.S. balance of payments. In comparison to war-torn Europe, America was incredibly affluent. America's post-World War II affluence and assurance, as McQuaid (1994: 35) explains, was "combined with foreign fears and global military power to shift political energy and attention away from struggles over redistributing income, wealth, and power at home and toward the new frontiers of defending America and the world against the spread of communism abroad."¹⁸⁰

1.2 Cold War

The triumphalism following the Second World War was expressed explicitly in the Allied Force's victory over fascism. However, both Western and Eastern Europe, whose territories housed the two Allied superpowers (England and Russia), were in ruins. America was the only superpower to have escaped the war virtually unscathed. One key economic and geopolitical strategic concern for the United States was the establishment a new international economic order favorable to its domestic market, which is estimated to have been producing anywhere from about half (McQuaid, 1994) to three-quarters (Hobsbawm, 1994) of the world's total manufacturing output by the war's end. As mentioned previously, it was also within this context that the CED worked to encourage foreign intervention,¹⁸¹ because business, along with U.S. balance of payments, would benefit from an economic approach implemented and made legitimate through U.S. foreign policy. There were no competitors abroad since the international economic infrastructure had been destroyed and the previously powerful trading nations were now in ruins. In 1944, forty-four nations met in Bretton Woods, New Hampshire, to negotiate international economic relations. The result was the founding of a set of three interconnected banking and trade institutions: (1) the International Monetary Fund (IMF),

¹⁸⁰ For a recent assessment of the Marshall Plan, see Hitchcock (2012).

¹⁸¹ In terms of U.S. foreign policy, the design for post-war intervention was greatly shaped by America's colonization of the Philippines in the 1920s and 1930s and the restructuring of Japan during U.S. occupation from 1945-1952 (Westad, 2006). In both cases, the idea was that "good," successful development required these countries to become more like the United States. In this sense, the "other" was capable of good or bad. It was therefore America's responsibility to ensure that "good," successful development be channeled in the appropriate direction. Obviously this ideology also functioned to quell the alternative, communist development path. See Westad (2006) for a comprehensive discussion of America's Third World intervention during the cold war.

(2) the International Bank for Reconstruction and Development (World Bank), and (3) the International Trade Organization (ITO). The ITO's influence was negligible, mainly because American business objected to tariff reductions, full employment policies, and improved labor standards (Freeman, 2010: 57). The ITO was replaced with the General Agreement on Tariffs and Trade (GATT).

The Bretton Woods system was strategically designed to favor rich member nations. Because the veto power of member nations was proportional to their monetary contributions, the United States (the only nation whose infrastructure had not been damaged by the war) became de facto the key player. The aim of the IMF was to advance currency exchange, promote trade, and assist countries with balance of payments problems. To this end, member nations fixed the value of their currency in relation to gold, which was set at a fixed-dollar price (Freeman, 2010: 57). The aim of the World Bank was to facilitate post-war reconstruction through private bank loans for investment in productive and infrastructural development.

Although the Bretton Woods system that tied the value of currency to a fixed-dollar rate remained the international standard system until the early 1970s, the IMF and World Bank – at least in the initial postwar years – were less active in their said institutional aims of facilitating trade and advancing international economic relations. Western Europe sought to rebuild its war-torn economies through the continuation of colonial trade agreements that included barriers to cheap American exports; the United States wanted open markets for the free flow of its own goods (Freeman, 2010: 56). Freeman (2010) describes how, during the post-war years, America used its strategic position to oppose the imposition of European trade barriers:

[T]he United States did not send the bulk of its reconstruction aid to Europe through the World Bank, and until the late 1950s the IMF remained relatively inactive. Instead, American officials used their country's overwhelming wealth to try to directly counter the postwar retreat from free-trade principles. In 1945, Britain, desperate for cash reserves to fund imports, borrowed \$3.75 billion from the United States, agreeing in return to allow the free convertibility of its currency, sterling, into dollars, to facilitate trade between its huge colonial empire and the United States. (Assistant Secretary of State for Economic Affairs William Clayton, who had cofounded the world's largest cotton trading firm, told financier Bernard Baruch, "We loaded the British loan negotiations with all the conditions that the traffic would bear.") Similarly, the United States conditioned a large loan to France on that country's agreement to reduce subsidies

and currency arrangements that favored its exports in the world market. (Freeman, 2010: 56)

At the same time, as Westad (2006) has shown, America's postwar intervention abroad cannot be reduced to economic considerations alone. The establishment of an international system geared toward the "American way of life" was just as important. Of course, overproduction at home and the much-needed outlet for capital were key concerns for the BC and CED at home, but the push to expand the "free market" globally is also a reflection of America's unique history and ideology.

Central to the unique ideational context of American society is the idea of liberty. But, like the other core ideas of what Lipset (1997) refers to as the "American Creed," the power of the idea of liberty in American society is that its bearing on historical reality is entirely ideological. Throughout its history the American concept of liberty was "not for everyone, but for those who, through property and education, possessed the necessary independence to be citizens of a republic" (Westad, 2006: 10). This belief in liberty has impacted the American view of the world outside of itself, often by instilling a deep sense of responsibility to create that world in its own image. America's approach to so-called "free trade" is also an expression of this unique ideology. As Westad (2006: 30) explains, "in American history (...) the concept of *free trade* has been a domesticated term: it was good for trade within the United States and for American access to foreign markets. But it was *not*, overall, admissible for foreign exports *to* the United States."

During the years immediately following the end of the Second World War, the issue of reparations among the Allied powers was another crucial issue, one that is typically cited as one of the key factors leading up to the so-called "cold war."¹⁸² The Soviet Union, which had lost an estimated 26.6 million men in the Second World War, was chiefly concerned about Germany. The Soviets felt they deserved something in light of the suffering they underwent during the war. At the famous Yalta meeting in February, 1945, Stalin, Churchill, and Roosevelt tacitly agreed to a mutually-recognized sphere of influence in which Britain and the U.S. yielded the Soviets control over Eastern Europe

¹⁸² George Orwell was the first to use the term "Cold War" in 1945 to criticize both the Soviet Union and the United States.

on the condition that Stalin allow free elections in the region (Freeman, 2010: 58). Roosevelt, whose aim was, above all, the establishment of an “American-led liberal world” (Freeman, 2010: 58), was uneasy about accepting Soviet control of Eastern Europe.

Following the election of Truman, the tensions between the U.S. and the Soviet Union became more pronounced; these tensions were, undoubtedly, exacerbated by his inept approach to foreign affairs (Freeman, 2010: 60). News of the first successful test of the atomic bomb in 1945 reinforced Truman’s standoffish approach to Soviet involvement in Eastern Europe, Iran, and Turkey. In 1946, tensions mounted over Soviet demands that Turkey cede its bases on the Dardanelles strait (Freeman, 2010: 61). The Soviets rejected Truman’s proposed internationalization of the waterway and proposed instead a joint Turkish-Soviet responsibility for defending the strait, which was rejected in turn by the U.S., Britain, and Turkey.

Truman, however, stood strong and began sending naval task forces to the region. The Soviet Union eventually withdrew its forces from Bulgaria but kept insisting on defending the strait. It soon became clear that the world was dividing into two blocs—the capitalist West, headed by the U.S., and the communist East, headed by the Soviet Union. In 1946, Churchill, speaking in Missouri, announced that an “iron curtain” had descended across Europe. Churchill explained that the U.S., Britain, and Canada had knowledge of atomic armament production and insisted on the importance of such knowledge for national self-preservation, calling for “an Anglo-American alliance to prevent war” (Freeman, 2010: 63).

Soviet Communism did represent a threat—not militarily, to be sure, but ideologically—because communism represented an alternative form of social organization. Indeed, the U.S. had been fighting an ideological battle against the alternative, socialist form of modernity since 1917 (Westad, 2006). No doubt the memory of the Russian Revolution just twelve years prior to the 1929 stock market crash figured on the minds of American elites’ decision to implement state involvement in order to save finance capitalism. Ironically, it was largely the East/West division itself that

allowed the Soviet and other Eastern bloc economies to survive by insulating themselves from international pressure (Hobsbawm, 1994). For it was only during détente and the increase of East-West trade that the Soviet economy began to falter. Moreover, the cold war sustained a certain level of international conflict control. This is not to say that the decades of the cold war were marked by peace—far from it. Rather, as Hobsbawm (1994: 253) notes, “conflicts were controlled, or stifled, by the fear that they might provoke an open – i.e. a nuclear – war between the superpowers.” The result was a frozen international situation that “stabilized what was an essentially unfixed and provisional state of affairs” (Hobsbawm, 1994: 252).

America’s “deification of the market” in U.S. foreign policy was primarily a result of the right wing’s opposition to the New Deal’s extension of the government as well as of the threat posed by the alternative, collectivist development path expressed by the Third World and the Soviet Union (Westad, 2006: 31). As Westad (2006: 31) explains, “Both the domestic campaign and the international challenges led to a reaffirmation of the market in US foreign policy, but more as ideology than as exploitative practice” (see also Amadae, 2003). After the fall of French, Dutch, and British colonial rule, rival resistance groups represented a threat to the American way of life insofar as these newly decolonized nation-states were perceived as having the potential to embark on an alternative (i.e. non-capitalist) development path. Since war-torn Europe was lacked a position of strength, it was up to America to ensure the future direction of newly-decolonized nations—the so-called “third world”—or so thought America’s elite decision-makers.

Within this context the scaffolding for a robust ideological apparatus, which, grounded in an already entrenched belief in the actuality of “America” (i.e. the actuality of liberty and free enterprise), meant that at home the contours of “legitimation” was always already de facto determined (cf. Habermas, 1973) while the solidification of this apparatus also justified America’s intervention abroad.¹⁸³

¹⁸³ See Boltanski and Chiapello (2005: 26) for more on the justification of capitalism via reference to a common good and their derivations of the term “legitimate” (legitimation and legitimacy). Boltanski and Chiapello (2005: 26-27) explain how these two derivations express an opposition between (a) legitimation

1.3 The “Golden Age”

The so-called “golden age” of capitalism comprises the two decades following the end of the Second World War, which were characterized by historically-unprecedented levels of economic growth, productivity, and affluence.¹⁸⁴ According to Glyn et al. (1990: 47-48), the “macroeconomic pattern” during the golden age was marked by “(i) rapid and parallel growth of productivity and capital stock per worker, and (ii) parallel growth of real wages and productivity.” Together, these two dynamics yielded a more or less steady profit rate and synchronous growth rates of consumption and production, thereby perpetuating the initial rate of accumulation (Glyn et al., 1990: 48). In order to illustrate the historically-unprecedented growth rate of labor productivity, consider the following:

Simple economic estimates based on the experience of capitalist countries over the last 100 years suggest that for every 1 per cent growth of capital stock per worker employed, hourly labour productivity increases by 0.75 per cent. Given that on average capital per worker grew around 2.5 per cent p.a. faster over the period 1950-73 than during 1870-1913, this would account for about two-thirds of the 3 percentage points increase (from about 1.5 per cent p.a. to almost 4.5 per cent p.a.) in productivity growth actually observed. (Glyn et al, 1990: 48)¹⁸⁵

During the first half of the cold war, unemployment in most parts of the industrialized West went down, although this reduction was less dramatic in American society (Hobsbawm, 1994: 266-267). In fact, only North America had failed to all but eliminate mass unemployment (Hobsbawm, 1994: 267). However, America’s disproportionate welfare state (relative to its European counterparts) was counterbalanced by corporate-heavy welfare benefits that simulated the appearance of a society willing to take care of the poor.¹⁸⁶

as concealment that must be unmasked and (b) legitimacy as expressive of communicative argumentation, which has marked the sociological and philosophical literature for the past thirty years.

¹⁸⁴ For a more nuanced analysis of the golden age, see Webber and Rigby (1995), who question the conventional assumption that this period was one of exuberant prosperity.

¹⁸⁵ This data is based the largest six advanced capitalist countries during this period (the US, the UK, Japan, Germany, Italy, and France). It is important to note that such growth took place at different rates in different countries (Glyn et al., 1990: 48).

¹⁸⁶ This is not to deny the fact that real gains were effected during this period, but that this effort was essentially ideological as an effort to secure social stability, particularly in light of what was perceived as an impending communist threat. For a critical assessment of “economic growth” during this time, see Hodgson (1974).

During the years immediately following the Second World War, inflation was a major concern for both liberals and conservatives. For conservatives and business groups unemployment was the preferred method of inflation control, whereas Democrats, who were allied with powerful unions, “preferred the longer economic risks of inflation to the shorter-term political risks of unemployment” (McQuaid, 1994: 64). For nearly two decades after the end of the Second World War, Keynesian-esque demand management guided policy that, in economic terms, delivered real gains in distributional equity and stability. According to Godfrey Hodgson (1974),

The essential promise of the Keynesian system was that it would allow government to guarantee low and diminishing unemployment without inflation. It could thus banish at a stroke the worst terrors of both liberals and conservatives. At the same time, thus managed, the economy would also be able to deliver growth. (Hodgson, 1974: 79)

Even during its high time prior to the 1930s, the American labor movement, in contrast to labor movements in other Western industrialized nation-states, was overwhelmingly anti-statist; yet labor’s support for the New Deal administration’s social democratic affinities was gradually increased from 1945 to 1980 (Lipset, 1997). This change was primarily a result of long-term prosperity and of considerable economic growth during this time; this prosperity and growth also led to a refurbishing of the classical liberal ideology characteristic of American conservatism (Lipset, 1997).¹⁸⁷ For the most part, qualitative distinctions between the political left and the political right in American politics were smoothed over. The political left – to the extent the Left existed in American society – was effectively eclipsed by liberalism by the late 1950s (Hodgson, 1974: 89). Hobsbawm (1994) describes the reactions of socialist parties and labor movements in the industrialized West during this period:

They fitted readily with the new reformed capitalism (...) the Left concentrated on improving conditions of their working-class constituencies (...) Since they had no alternative solutions except to call for the abolition of capitalism, which no social-democratic government knew how to, or tried to, abolish, they had to rely on a strong wealth-creating capitalist economy to finance their aims. In effect, a reformed capitalism which recognized the importance of labour and social-democratic aspirations suited them well enough. (Hobsbawm, 1994: 272)

¹⁸⁷ During this period class tensions produced by the Depression lessened, as reflected in the decline of the labor movement and lower expected correlations between class position and voting choices (Lipset, 1997).

Keynesianism, tax cuts, and economic growth were all encouraged by cold war tensions. As historian Kim McQuaid (1994: 125) recalls, “Krushchev regularly boasted that the USSR would ‘bury’ the United States economically by 1970.” The so-called “golden age” of capitalism (i.e. the postwar economic boom) was a truly worldwide phenomenon. World manufacturing output quadrupled between the 1950s and early 1970s (Hobsbawm, 1994: 262). Total energy consumption in the U.S. alone tripled between 1950 and 1973 (Rostow, 1978: 256, in Hobsbawm, 1994: 262). The alliance between government and corporations, which had emerged before and during WWII and which was refined in the years immediately following the end of the war in 1945, culminated and became ingrained in the fabric of American society throughout the four decades of the cold war.

Once firmly rooted, the new organizational forms that laid the foundations for the emergence of the regulatory state established the limits of (what was perceived as) the possible. Indeed, these transformations were a result and expression of what I analyze below as the cold war regime of critique containment. It is telling, for example, how during this time, John Kenneth Galbraith, whose name is synonymous with American liberalism, railed against the popular notion that American politics involved a clear dividing line between government and private business. Galbraith (1967) urged American citizens to hone in on the reality of “the political,” advice which was perhaps especially well-warranted given the impending Communist threat:

The position of this line – what is given to the state and what is accorded to private enterprise – tells whether the society is socialist or non-socialist. Nothing is so important. Any union between public and private organization is held, by liberal and conservative alike, to be deviant sin. To the liberal it means that public power has been captured for private advantage and profit. To the conservative it means that high private prerogative has been lost to the state. In fact, the line between public and private authority in the industrial system is indistinct and in large measure imaginary, and the abhorrent association of public and private organizations is normal. When this is perceived, the central trends in American life become clear. On few matters is an effort to free the mind more rewarding. (Galbraith, 2000 [1967]: 168)

Whereas Lukács (1923) had stressed recognizing the reified social mediation between social structure and subjectivity after the First World War, Galbraith espoused freeing one’s mind via recognition of the imaginary line between public (socialist) and

private (non-socialist). The difference between these two critiques and what is at stake is indicative of the distinct socio-historical contexts within which each was penned.

The 1950s was marked by a renaissance of American welfare capitalism. By 1959, fringe benefits accounted for 21.5 percent of the total payroll costs of manufacturing (McQuaid, 1994: 83). In 1949 Washington ruled to back labor in the collective bargaining of fringe benefits. In exchange, companies that provided benefits to their employees, such as health benefits, would receive tax exemption benefits in return.¹⁸⁸ The story of fringe benefits is an instance of a more general pattern of business-labor-government compromise integral to the corporate order referred to as “managerial capitalism.”¹⁸⁹

McQuaid (1994) explains America’s corporate reorganization during this time:

Corporate reorganizations came in waves, particularly as technologically advanced companies became progressively multiindustrial. International Harvester, Allied Chemical, GE, Ford, and Chrysler, for instance, all changed to decentralized management between 1945 and 1950. Other companies swiftly followed. The fashion was for firms to undertake four or five major product lines, coordinated by as many as a dozen functional specialists in the head office of the corporation and responsible to the CEO. A signature of the managerial capitalist’s new industrial state was investment plans reaching as much as four years into the future. In the late 1940s, only 20 percent of large U.S. corporations had such plants, but by the early 1960s, 90 percent did. Such dry administrative changes were important. They brought new corporate leaders to the forefront of both business and political life. (McQuaid, 1994: 92)

Managerial science became an integral part of business-labor-government relations throughout the 1950s. In 1943, University of Chicago Booth School of Business established the first executive MBA program, which has since become an established degree program in nearly every business school in the United States. Although industrial-organizational (IO) psychology had been around since the first merger wave during the turn of the twentieth century,¹⁹⁰ new IO psychology doctrines took off in the post-World War II years in accordance with the changing context.¹⁹¹ The existence of big unions and

¹⁸⁸ On the development of the Social Security and its significance to American welfare capitalism, see McQuaid (1994: 84-90).

¹⁸⁹ See, e.g., Mizruchi and Bey, 2005.

¹⁹⁰ See, e.g., Scott, 1911.

¹⁹¹ One of the chief differences between IO psychology before the Second World War and post-WWII IO psychology is that before the war IO psychology was simply discourse on the social whereas in the post-World War II context this distance was effaced as IO psychology became *the* social discourse (Lefort,

federal agencies, such as the NLRB, during the postwar period meant that “unilateral force had to be replaced with multilateral negotiation and consent” (McQuaid, 1994: 95). IO psychology, according to McQuaid (1994), served as an effective counterweight to union power and federal regulation both in the 1950s and in subsequent decades. As McQuaid (1994: 95) explains, “Knowing what workers thought and why they thought it paid dividends. It allowed management to identify and solve labor problems before unions or federal regulators did.”

The overall mood of the 1950s was against the Left (see Hobsbawm, 1994: 283). The affluence produced by the war and the postwar boom hit labor unions the hardest (McQuaid, 1994: 96) because rising wages during the 1950s and the movement of workers into the “middle class” segregated them from unorganized and unskilled workers. McQuaid (1994: 96) notes, “High-tech workers labored at GE or IBM, bought houses, and hoped to send the kids to college one day, while their low-tech counterparts worked in laundries, rented apartments, and often lacked even savings accounts.” During the 1950s job security, as opposed to working conditions or wages, increasingly became the key issue in collective bargaining (McQuaid, 1994: 96-97). Indeed, organized labor never recovered from the reorganization of productive labor associated with the shift from a manufacturing to a service economy. As international trade expanded rapidly during the 1960s, production firms went abroad in search of lower labor costs. In America the percentage of people employed in manufacturing began to decline in 1965, a decline that increased at a more rapid pace after 1970 (Hobsbawm, 1994: 302). The nature of work in American society also changed during this period as the number of people working part-time increased dramatically.¹⁹² By the end of the 1980s even service workers were vulnerable to automation.¹⁹³

1986). I will discuss some of the implications of this shift in my discussion of the cold war regime of critique containment. For a recent discussion of managerial domination, see Boltanski (2011) and Boltanski and Chiapello (2005).

¹⁹² On the reorganization of labor and the related ideological function of “middle class,” see Kolko (1988 [2000]). According to Kolko (1988 [2000]: 276), “More income for workers does not change their relations of exploitation or their vulnerability as a commodity.” Kolko’s claim here is instructive. A more adequate analysis of class would also need to incorporate the needs and perceptions of workers as a category of

Since the decline of the golden age in the mid-1970s, business-government symbiosis developed in and through the acceleration of these trends,¹⁹⁴ especially during the 1980s when capitalist democracies, one after the other, began to restructure their economies in neoliberal mold. The irony, in light of the achievements of state-centric capitalism, is that free market triumphalism “is today the single greatest legacy of the end of the Cold War” (Lichtenstein, 2004: 103). Section three below reexamines the issue of neoliberalism in light of the nature of the linkage between patterns of change and patterns of continuity from the state-centric capitalism of the third quarter of the twentieth century to the neoliberal model of the last quarter of the twentieth century. My argument, to jump ahead for a moment, is that the nature of the linkage between patterns of change and continuity from the first of these periods to the next is mediated by the cold war regime of critique containment. It is to this phenomenon that I now turn.

2. The Cold War Regime of Critique Containment: Cold War Infrastructure and Capitalist Democracy in Social Structure and Social Subjectivity

The discussion of post-World War II American society thus far has pinpointed the emergence and highlighted the contours of the post-World War II configuration as a particular configuration of business-labor-government relations that took hold following the Second World War. I have argued that labor organization was stifled as the post-World War II configuration become solidified within and through the context of “American society.” I also suggested that business-government symbiosis was simultaneously restructured in accordance with the needs of an economy geared toward perpetual war.

The second section of this chapter distinguishes the formation and development of what I call “the cold war regime of critique containment,” which, on the basis of the

alienation and relate them to changes in social structure as these two (subject-object) dimensions transform and reconstitute one another in and through space-time.

¹⁹³ Although it is not the aim of this dissertation to engage an analysis of these changing dynamics, such an analysis could be greatly enhanced from within the framework of Postone’s categorial approach to critical Marxian theory discussed in chapter three. This approach could, by focusing on the temporal dimension of value, labor, and productivity, explain the persistent structural necessity of value-producing labor despite its increasingly anachronistic character in light of emerging historical contradictions.

¹⁹⁴ One such example: the establishment of a global capitalist network in which the transnational corporation has become the key economic organizational form.

foregoing discussion, must be understood as having emerged in and through the post-World War II configuration. I delineate the cold war regime of critique containment as inherently connected yet fundamentally distinct from the objective business-labor-government social relations, which served as the referent for distinguishing the post-World War II regime in the previous section. I do so by analyzing key passages of the NSC 68 report, published by the U.S. National Security Council on April 14, 1950.¹⁹⁵ The report is in many ways the quintessential cold war document because it outlines the strategy of containment that would define U.S. foreign policy for the next twenty years.¹⁹⁶ My analysis of this 58-page top secret paper demonstrates that the NSC 68 report is also indicative of a cold war regime of critique containment—in other words, something fundamentally other and more than the containment traditionally understood as the U.S. foreign policy strategic objective.¹⁹⁷

More specifically, I shed light on key passages of the NSC 68 that clearly rationalize two key developments during the post-WWII, cold war era, which I interpret as indicative of critique containment: 1) the development of the infrastructure commonly referred to as the military-industrial complex and 2) the so-called “American Century.”¹⁹⁸ While others have written on the rationalization provided by the NSC 68 for these two key developments, no one (to my knowledge) has examined the relationship between the report’s rationalization of these two developments and the strategy of containment outlined in the report as indicative of the phenomenon I refer to as critique containment. The most proximate analysis that I am aware of is Amadae’s (2003) *Rationalizing*

¹⁹⁵ References to (NSC 68, 1950 [1778]) refer to Etzold and Gaddis (eds) *Containment: Documents on American Policy/Strategy, 1945-1950* (Columbia University Press, 1978), pp. 385-442, where the NSC 68 is reprinted in toto. The full text of NSC 68 was first made available to the public in 1975, where it was published in the *Naval War College Review*, XXVII 6(25): 51-108.

¹⁹⁶ According to the report’s authors, the policy of containment is one which seeks by all means short of war to (1) block further expansion of Soviet power, (2) expose the falsities of Soviet pretensions, (3) induce a retraction of the Kremlin’s control and influence, and (4) in general to foster the seeds of destruction with the Soviet system that the Kremlin is brought at least to the point of modifying its behavior to conform to generally accepted international standards (NSC, 1950 [1978]: 401).

¹⁹⁷ For a comprehensive critical assessment of the six main perspectives on early cold war U.S. foreign policy, including the traditionalist perspective, see Hurst (2005).

¹⁹⁸ The term “American century” was coined in 1941 by Henry Luce, publisher of *Time* magazine, who used the term to advocate America as the world proselytizer of democracy in lieu of America’s previous isolationism.

Capitalist Democracy, which I shall draw on extensively in my discussion of the American Century. I suggest the American Century, when understood as mediated by critique containment, provides a clear rationalization of capitalist democracy.

Against this background, the purpose of my analysis of the NSC 68 strategy of containment as critique containment is to show both the infrastructural regime associated with a permanent war economy and the rationalization of post-World War II capitalist democracy as it developed in and through a cold war regime of critique containment. Therefore, both 1) an infrastructure conducive to and in-line with an economy geared toward perpetual war and 2) the rationalization of capitalist democracy, as they have developed throughout the latter half of the twentieth century and into the twenty-first century, must be understood as mediated in and through a cold war regime of critique containment.

Although the significance of this implication will become clear only as the investigation proceeds (in sections three and four below), for the sake of clarity I would like at this point to provide a preliminary indication of why understanding the continuation of the military-industrial complex and the rationalization of capitalist democracy as mediated by critique containment is crucial to the argument that will be developed throughout this chapter. First, if we are able to grasp the nature of the linkage between the third and fourth quarters of the twentieth century as they were mediated in and through the Cold war regime of critique containment, then it becomes possible to recognize the persistence of this regime despite the fact that the cold war officially ended in 1991. In section three I argue that the persistence of the linkage between these two periods, when grasped in its critique containment mediation, is perhaps best understood as a process of sedimentation wherein the cold war regime of critique containment has become ingrained in the very fabric of “American society” to an increasing extent throughout the latter half of the twentieth century and into the twenty-first century and is therefore unrecognized as such.¹⁹⁹ I will return to the issue of the sedimentation of

¹⁹⁹ Here I put “American society” in quotes to indicate that American society, as the sedimentation of the cold war regime of critique containment, is something fundamentally other than what we mean by the term. Viewed from within the framework of Adorno’s critique of identity thinking, the sedimentation of critique

critique containment in my discussion of the specific contemporary social conception of nature produced by cold war science and technology without which contemporary environmentalism would arguably not have been possible. I shall then explicate the related theoretical and empirical issues through an immanent critique of contemporary American environmentalism. The overall significance of my argument for understanding the environment-society problematic will become apparent only at the end of the chapter.

2.1 Cold War Infrastructure

The 1950 National Security Council report “United States Objectives and Programs for National Security”—commonly referred to as NSC 68—outlines the American strategy of containment and is credited for having provided the rationale for both the dramatic and historically-unprecedented increase in defense spending.²⁰⁰ The study was initiated in the wake of the Soviet Union’s successful deployment of an atomic weapon and the Communist victory in the Chinese Civil War.²⁰¹ The Second World War had undermined the prospect that either Western Europe or Japan would regain power, at least in the immediate term. The post-World War II world had two superpowers: the United States and the Soviet Union.²⁰²

With this context in mind, Nitze and his team argue that

[T]he Soviet Union, unlike previous aspirants to hegemony, is animated by a new fanatic faith, antithetical to our own, and seeks to impose its absolute authority over the rest of the world. Conflict has, therefore, become endemic and is waged, on the part of the Soviet Union, by violent or non-violent methods in accordance with the dictates of expediency. With the development of increasingly terrifying weapons of mass

containment in terms of its increasing penetration into the very fabric of American social relations implies that the domination of human and non-human nature and the result of this domination for how we live our lives is proportional to the degree to which we refer to what is mediated by critique containment as “American society.”

²⁰⁰ On defense spending see, e.g., Leffler, 2010; Gaddis, 2005, 2010; on the so-called “American Century” see, e.g., Slater, 1999.

²⁰¹ Secretary of State Dean Acheson oversaw the production of the NSC 68 report, which was led by Paul Nitze, head of the Policy Planning Staff. Acheson had been Secretary of the Treasury under the FDR administration and became Assistant Secretary of the State for Economic Affairs in 1941, where he later oversaw the U.S. oil embargo of Japan. He played a key role in the negotiations that precipitated the creation of United Nations Relief and Rehabilitation Administration, the Food and Drug Organization, and the International Monetary Fund. He became Secretary of State under Truman in 1949.

²⁰² This was explicitly recognized by the report’s authors. See, for example, the NSC 68 statement that “the defeat of Germany and Japan and the decline of the British and French Empires have interacted with the development of the United States and the Soviet Union in such a way that power has increasingly gravitated to these two centers” (NSC 68, 1950 [1978]: 385).

destruction, every individual faces the ever-present possibility of annihilation should the conflict enter the phase of total war. (NSC 68 1950 [1978]: 385)

Although the authors of the NSC 68 stress the pressing need for America to lead the world, they conclude that the only way to securely control the Communist threat was for President Truman to support a massive effort aimed toward the continual preparedness for war. Nitze and his team stress that a massive military build-up was, in fact, economically feasible. As the authors of the report state,

[T]he United States could achieve a substantial absolute increase in output and could thereby increase the allocation of resources to a build-up of the economic and military strength of itself and its allies without suffering a decline in its real standard of living (...) With a high level of economic activity (...) Progress in this direction would permit, and might itself be aided by, a build-up of the economic and military strength of the United States and the free world; furthermore, if a dynamic expansion of the economy were achieved, the necessary build-up could be accomplished without a decrease in the national standard of living because the required resources could be obtained by siphoning off a part of the annual increment in gross national product. These are facts of fundamental importance in considering the courses of action open to the United States. (NSC 68, 1950 [1978]: 406, 407-408)

The report's authors detail how the Soviet's allocation of resources to bolster its economic and military strength has become an increasingly-pressing threat to the United States (and therefore the world).²⁰³ The authors stress the United States' military strength, relative to that of the Soviet Union, was "becoming dangerously inadequate" (NSC, 1950 [1978]: 411) and that the fate of the free world was in jeopardy "unless more positive government programs" were enacted (NSC, 1950 [1978]: 410). The recommendations of NSC 68, which were implemented over the course of the so-called "American Century," were rooted in a religious commitment to the "maintenance of a strong military posture" (NSC, 1950 [1978]: 401), which required enhancing U.S. military bases around the world, creating an infrastructure to enhance global military lines of communication, and

²⁰³ Consider, for example, the following statements by the authors of the NSC 68: "[T]he Soviet Union is widening the gap between its preparedness for war and the unpreparedness of the free world for war. It is devoting a far greater *proportion* of its resources to military purposes than are the free nations and, in significant components of military power, a greater *absolute* quantity of resources" (NSC, 1950 [1978]: 409).

enhancing the technical superiority of the United States through “an accelerated exploitation of [its] scientific potential” (U.S. Department of State).²⁰⁴

During the latter half of the twentieth century, cold war tensions led societies around the world to “maintain and refine a perpetual state of readiness for war” (McNeill, 2010: 443). Within the socioeconomic and political context of America’s technoscientific war economy, new systems of knowledge production and administrative-management emerged. New systems of knowledge production were effected through the successful deployment of rational choice decision-theoretical technologies (Amadae, 2003) through which new expert knowledge (“technopolitics”) displaced old-style military decision-theoretical technologies (“geopolitics”) (Hooks and McLauchlan, 1992).²⁰⁵

Recall that it was America’s war effort during the Second World War and not the New Deal that brought the U.S. economy out of depression and that the organizational foundations for the business-government symbiosis that had been geared toward the New Deal welfare state were expanded, refined, and redirected toward military production. I also noted that America’s war effort during the Second World War facilitated state-war mediated evolution wherein both war and state developed through a complex web of institutions and scientific expansion. More specifically, the Manhattan Project laid the administration-management foundation for an infrastructural regime that would continue well into the post-WWII period. The formation of a specifically scientific military-industrial-complex, as McLauchlan (1992) notes, originated with the advent of nuclear weapons during the Second World War. The Manhattan project and the advent of nuclear weapons ushered in a new era of mass destruction and a new kind of science-intensive, national security state (McLauchlan, 1992). According to Hooks and Smith (2005: 20), weapons of mass destruction are “qualitatively more dangerous” than convention

²⁰⁴ “MILESTONES: 1945-1952, NSC-68, 1950” available at: <http://history.state.gov/milestones/1945-1952/NSC68> (accessed 1 July, 2013).

²⁰⁵ There is no shortage of literature on the so-called “military-industrial-(academic) complex,” it is important to be aware of the debate regarding the direction of influence between scientists/individual personnel and the larger social institutions within which the activity of science is carried out. Robin (2003), for example, does not paint this knowledge production as a “one-way street” but rather shows how social scientists actively participated in the military-industrial-complex. See also Herman (1996), who focuses on psychology as a new discipline and important source of ideology in post-WWII American society.

weapons because (1) “input materials (nuclear, chemical, and biological) are selected for their potential to create toxic materials” and (2) “these materials are processed until they can be deployed to make an enemy’s environment inhospitable.”²⁰⁶

According to McLauchlan (1992: 103), the Manhattan Project was a “learning experience for state managers” since it acted as a model of state expansion in terms of providing a model at both the material level (i.e. the constructed part of the infrastructure of the scientific-intensive state) and the organizational level (i.e. it offered a prototype for the scientific-intensive state). At the organization level, state managers saw science and technology as the means for continual preparedness for war during the post-WWII period. This shift in perception is marked by a shift from “geopolitics” to “technopolitics” (McLauchlan, 1992), meaning control of technology becomes the primary means for expanding power and thereby rendering technology control crucial for the post-WWII development of the science-intensive state (McLauchlan, 1992). According to McLauchlan (1992), at the material level the shift from geopolitics to technopolitics helped create an infrastructure in which the dividing line between science and the military was increasingly blurred. The core social institutions comprising this infrastructure are science, industry, and the military. These institutions were integrated through a system of national laboratories (e.g. Oak Ridge and Los Alamos) that originated during the Manhattan Project. McLauchlan (1992) explains the formation and continuation of the institutional base of this post-WWII big science “military-industrial-complex” infrastructure:

The national laboratories spawned by the Manhattan Project were themselves managed by new administrative structures consisting of multi-university corporations, or consortiums, formed by major universities in each geographic region. These were part of a ‘coordinated national program’ by the Manhattan Project leadership to continue and

²⁰⁶ Taking a lead from Schnaiberg’s treadmill of production theory (see chapter one above) while also drawing on C. Wright Mills’s concept of “power elite,” Gregory Hooks and his colleagues have recently put forth the concept of the “treadmill of destruction.” According to Hooks and Smith (2005), the treadmill of destruction operates through the logic of militarism, which is seen as connected to yet distinct from the treadmill of production, which operates under the logic of “capitalism.” The concept of the treadmill of destruction has been used in a number of empirical studies documenting the environmental effects of militarism (see, for example, Clark and Jorgensen, 2009; Jorgensen and Clark, 2009; and Jorgensen, Clark, and Kentor, 2010). In chapter five below I return to discuss treadmill of destruction and how my dissertation relates to and potentially furthers such research endeavors.

expand the institutions and relations constructed during the Manhattan Project into the postwar. (McLauchlan, 1992: 108)

Those occupying top positions in the management-administration network that linked the university with the scientific nuclear state were among an elite group of political-scientific state managers. The cold war regime of critique containment would continue through the interrelationships between institutions of state, university, and business well after the official end of the cold war. The new organizational structure formed during the Manhattan Project involved a new method of administration that linked science and government. Research and development in universities were supported on a contract basis that ensured a certain social space between universities and national laboratories. The contract system allowed scientists to work in their own laboratories at major universities. Instead of creating new facilities or expanding those in existence, the science-intensive state was able to make use of existing facilities. This system was not only cost effective but also beneficial in that it constructed a reality in which the state was *not* seen as an intrusive threat, which was especially important given the American value system. The integration of the university and the industrial plant was thus developed in and through the advent of nuclear weapons (McLauchlan, 1992: 114).

Technopolitics also involved a compression of time and space. Time was a crucial factor in the Manhattan Project and in the arms race. Time itself – not the Germans or Russians – was the opponent the speed of production was fighting against. The enemy was unknown; therefore, developing nuclear weapons as fast as possible was the most important thing to do. This ethos of rapid production also meant that the effects (social/environmental/etc.) of such production were always recognized in hindsight, after the goal had been met. This emphasis also marked a strategic shift from “the strategy of mobilization to the policy of deterrence”; this shift required (and necessitated) “a greatly expanded military and scientific effort in peacetime” (McLauchlan, 1992: 115). The shift to technopolitics also necessitated continual preparedness during times of so-called “peace.” The worldview associated with technopolitics can be termed “remote control” (McLauchlan, 1992: 118).

In other words, the military-industrial-academic complex increasingly penetrates society while becoming less and less visible in terms of the social space it occupies. This is consonant with Hooks and Smith's (2005: 31) contention that the environmental effects of militarism are becoming increasingly expansive amid a decreasing social space within which the cause of such destruction might be located. As McLauchlan (1992) notes,

With the advent of nuclear weapons it is no longer *geography* that separates the United States from potential attack, it is *time*: the hours (and later minutes) it would take bombers (later missiles) with nuclear weapons to reach the United States. Time, as it relates to security, is no longer a function of geography, but of technology. In these trends we see a breakdown in the distinction between war and peace, between wartime and peacetime. (McLauchlan, 1992: 116)

Here it is important to recall that this acceleration of objectified time is a process whereby time literally becomes denser at an accelerating rate, as a virtually exponential acceleration in the rate at which biophysical throughput increases is necessitated by the production of value. In other words, the production of more and more "stuff" is required to effect less and less (indirect) increases in value. Although beyond the scope of this dissertation, research on militarism and the environment could be furthered by investigating the interaction between Postone's (1993) analysis value in terms of the dialectic of labor, time, and its treadmill effect, on the one hand, and the increasingly expansive destruction of militarism amid its diminishing social space, on the other.²⁰⁷

2.2 Capitalist Democracy

Thus far my discussion has indicated how the external threat of communism produced the need for American society to remain in a state of perpetual preparedness for war, as rationalized in the NSC 68 report. This need was facilitated and reinforced through the continuation and development of the military-industrial-academic complex. The communist threat also sustained America's commitment to economic growth and "social security." The affluence of the "golden age" saw the reorganization of productive labor and the emergence of a "new class" of technicians responsible for strategically managing the new work regime with sophisticated administration technologies.

²⁰⁷ I will return again to elaborate this connection and area for future research in chapter five.

Another key development rationalized in the NSC 68 is the so-called “American Century.” The report explicitly affirms the need for American world leadership in order to stave off the communist threat. Implicit in this responsibility is a belief in America’s intrinsic superiority and the desire to create the world in the image of American society. Many have detailed the “American Century” in terms of America’s expansionist efforts abroad.²⁰⁸ I analyze an equally important yet often overlooked aspect of the “American Century”: the problem of American democracy at home.²⁰⁹ The need to create a rational capitalist democracy in American society is historically specific. Retrospectively, we can see that this need was necessitated by the cold war international context and the apparent impending threat of communism.

It does not take an effort of great abstraction or keen interpretive skill to recognize the NSC 68 report as an official battle cry for the so-called “American Century.” The report represents an explicit break from America’s “isolationism” during the 1920s and 1930s. The belief that NSC 68 served to rationalize the “American Century” is substantiated by numerous statements in the report that articulate the beliefs that the future of the world community depended on the triumph of American liberal capitalist democracy and that it was up to the United States to pave the road for such victory.

The report’s authors explain,

Our overall policy at the present time may be described as one designed to foster a world environment in which the American system can survive and flourish. It therefore rejects the concept of isolation and affirms the necessity of our positive participation in the world community.

This broad intention embraces two subsidiary policies. One is a policy which we would probably pursue even if there were no Soviet threat. It is a policy of attempting to develop a healthy international community. The other is the policy of “containing” the Soviet system. These two policies are closely interrelated and interact on one another. (NSC, 1950 [1978]: 401)

²⁰⁸ See e.g. Kolko, 1969, 1976, 1988; Kolko and Kolko, 1972; McCormick, 1995; Slater et al., 1999.

²⁰⁹ My discussion here is influenced by Amadae’s (2003) superb analysis of the origins of rational choice theory.

The authors of NSC 68 describe the inherent superiority of America's capitalist democracy and suggest that this superiority could be, at least in principle, capable of deterring the Soviet threat:

[O]ur democracy (...) possesses a unique degree of unity. Our society is fundamentally more cohesive than the Soviet system, the solidarity of which is artificially created through force, fear and favor. This means that expressions of national consensus in our society are soundly and solidly based. It means that the possibility of revolution in this country is fundamentally less than that in the Soviet system (...) The essential tolerance of our world outlook, our generous and constructive impulses, and the absence of covetousness in our international relations are assets of potentially enormous influence (...) The full power which resides within the American people will be evoked only through the traditional democratic process: This process requires, firstly, that sufficient information regarding the basic political, economic and military elements of the present situation be made publicly available so that an intelligent popular opinion may be formed. Having achieved a comprehension of the issues now confronting this Republic, it will then be possible for the American people and the American Government to arrive at a consensus. Out of this common view will develop a determination of the national will and a solid resolute expression of that will. The initiative in this process lies with the Government. (NSC, 1950 [1978]: 402-403)

But what is the nature of the connection between the policy of containment, which the report's authors later described as "a policy of calculated and gradual coercion" (NSC, 1950 [1978]: 402), and the American system (i.e. capitalist democracy)? For calculated and gradual coercion would seem to be at odds with the central message of the American system, whose "revolutionary message" since its inception was "free men and free enterprise" (Westad, 2006: 9-10). Of course, the policy of advancing a healthy international community made in the image of American democracy presupposes that American society is a healthy, functioning democracy. The fact that the authors of NSC 68 express what might be described as anxious skepticism regarding Americans' psychological capacity to support a protracted war against communism lends credence to the contention that American democracy, as it is understood today, is a specifically contemporary production that developed in and through the post-WWII, cold war regime of *critique containment*.

According to the report's authors,

The democratic way is harder than the authoritarian way because, in seeking to protect the individual, it demands of him understanding, judgment and positive participation in the increasingly complex and exacting problems of the modern world (...) A free society is vulnerable in that it is easy for people to lapse into excesses—the excesses of a permanently open mind wishfully waiting for evidence that evil design may become

noble purpose, the excess of faith becoming prejudice, the excess of tolerance degenerating into indulgence of conspiracy and the excess of resorting to suppression when more moderate measures are not only more appropriate but more effective. (NSC, 1950 [1978]: 403)

The type of ideology and its tensions, which the authors of NSC 68 describe above and which I have been referring to as critique containment, can also be elaborated in terms of what political theorist Claude Lefort (1986) calls “invisible” ideology. In order to provide a better grasp of the elusive nature of critique containment, I will outline the general contours of Lefort’s (1986) analysis of ideology.²¹⁰ I will then situate the “invisible” ideology of critique containment in the American societal context by focusing on the specific forms of decision-making technologies through which this type of ideology is diffused.

2.2.1 “Invisible” Ideology

In his work on ideology Lefort aims to provide an outline of the genesis of ideology in modern society.²¹¹ Lefort is concerned with *modern* ideology, which is indicated by a specific type of discourse on politics and society that emerged during the fourteenth and fifteenth centuries. What is unique about modern ideology, according to Lefort, is that, in contrast to the ideational context(s) of previous periods whose validity was rooted in an extra-social reference point, modern ideology legitimates itself *within* the social domain. At the same time, modern ideology obscures its origins (modern society) and, in this sense, functions to conceal the inherent contingency of modern social life. Lefort (1986: 201) explains, “[modern] ideology is the sequence of representations which have the function of re-establishing the dimension of society ‘without history’ at the very heart of historical society.”

Lefort (1986) outlines three forms of modern ideology: 1) bourgeois ideology, 2) totalitarian ideology, and 3) “invisible” ideology. Bourgeois ideological discourse, which

²¹⁰ Lefort (1986: 219) insists that his outline of an analysis of ideology is necessary *before* the examination of particular ideologies in historically determinate conditions: “Any attempt to analyse them [concrete forms of ideology] as empirical, socio-historical formations will be limited, however rich the documentation may be, for such an attempt will fail to see that it is the question of the existence of the social, of the historical as such which is brought into play in particular forms of modern ideology.”

²¹¹ My discussion of Lefort’s work on ideology is drawn primarily from his essay, “Outline of the Genesis of Ideology in Modern Societies” (Lefort, 1986).

peaked in the nineteenth century, is distinct from the discourse of previous periods because it relies on the ideal of positive knowledge and “thrives on challenging, explicitly or implicitly, any reference to an ‘elsewhere’ from which knowledge about the social order and the order of the world might be gathered” (Lefort, 1986: 205). What is unique about the discourse of bourgeois ideology, according to Lefort (1986: 205), is the mechanism by means of which it attempts to fulfill its function. This mechanism is ordered “in terms of a split between *ideas* and the supposed *real*” (Lefort, 1986: 205). So, the discourse of bourgeois ideology debunks the “external character” of mythical ideas, for example, “but the discourse refers back to itself only via the detour of the transcendence of ideas” by opening up the possibility of “an objectification of the social, no matter what point of view is adopted” (Lefort, 1986: 205). Accordingly, the text of bourgeois ideology, Lefort (1986) tells us, is written in capital letters (e.g. Humanity, Progress, Nature, Life, Science, Art, the Republic, Property, Order, Society, Nation, and so on). Lefort (1986: 205) stresses that “The double nature of the idea as both representation and norm cannot be over-emphasized; nor can the double character of the argumentation, which attests to a truth inscribed in the real and to the conditions of acting in accordance with the nature of things.” This twofold element implies appropriate actions in accordance with the idea, thus giving rise to the opposition between the subject whose actions conform to the rule and the Other, who, “not having access to the rule, does not have the status of subject” (Lefort, 1986: 206). Lefort (1986) explains this aspect of bourgeois ideology:

In so far as it is presented as a discourse on the social, extricating itself from the social, ideological discourse develops in an impersonal way; it conveys a knowledge which is supposed to arise from the order of things. But it is essential for it to bring out the distinction, at every level, between the subject, who establishes himself by his articulation with the rule and expresses himself in expressing the rule, and the *other* (...) Thus there emerges (...) the artifice by means of which social division is dissimulated: the positing of reference points which enable a difference to be established between the social and the sub-social, order and disorder, the world and the underworld (...) in such a way that what reality conceals from discourse can be identified and mastered. Thus discourse can cover up the question of its genesis. (Lefort, 1986: 206, 207)

The discourse of bourgeois ideology is therefore an impossible project because it “claims to represent the transparency of the social and to be, *qua* social discourse,

discourse on the social” (Lefort, 1986: 209). On the one hand, the divisions expressed by the subject in relation to the rule and to the Other allow bourgeois ideology to conceal any divisions within society. On the other hand, the discourse of bourgeois ideology is vulnerable because insofar as it seeks “to extract itself from the social and to affirm itself as discourse” its intrinsic contingency is exposed (Lefort, 1986: 213). Bourgeois ideological discourse, according to Lefort (1986), has no “safety catch,” no recourse, from this intrinsic contingency.

Totalitarian ideology develops out of bourgeois ideology and, Lefort (1986) argues, must be seen as a response to bourgeois ideology’s intrinsic contingency. In its response totalitarian discourse “denies all the oppositions that bourgeois ideology dealt with in a representation which was constructed in each case in order to defuse their effects and which threatened the foundations of each term by exposing it to the necessity of account for itself” (Lefort, 1986: 215). The most significant opposition totalitarianism erases is the opposition between state and civil society, yet totalitarian ideology remains dependent on bourgeois ideology. Lefort (1986) illustrates how this dependence is exemplified in the concept of the total state:

The discourse of the organization, arranged in such a way that anonymous knowledge governs the thought and practice of its agents, is thus only supported by constant reference to the authority in which the decision is concentrated. It is on this double condition that the contradiction of bourgeois ideology is “overcome” by the concept of the total state. (Lefort, 1986: 219)

Yet totalitarian ideology too suffers from its own internal contradiction. The contradiction of totalitarianism, according to Lefort (1986: 221), emerges from “the fact that, on the one hand, power is doubly masked therein, as representative of the society without division and as agent of the rationality of the organization, whereas, on the other hand, power appears there, as in no other society, as an apparatus of coercion, the bearer of naked violence.” Because totalitarian ideology is “engendered in ‘historical society’” (Lefort, 1986: 222), the effacement of the oppositions of bourgeois ideology is bound to fail. Totalitarian discourse, Lefort (1986: 224) explains, “runs the risk of appearing as a generalized lie, as discourse in the service of power, the mere mask of oppression.”

“Invisible” ideology, according to Lefort (1986), is the new form of ideology in Western democratic societies. Like totalitarian discourse, this new ideological discourse seeks to secure the homogenization of the social domain: it aims to eliminate “the distance between the discourse on the social and social discourse” (Lefort, 1986: 225). Unlike totalitarianism, invisible ideology achieves this unification of the social by severing itself from the affirmation of totality and thereby rendering itself “invisible” (Thompson, 1986: 19).²¹² For Lefort (1986), this invisibility is the defining aspect of this new ideological discourse: invisible ideology seeks to merge itself, as discourse on the social, with the social discourse of everyday life. In doing so, “invisible” ideology provides constant assurance of the social bond and thereby hides temporal and social divisions.

Western democracies in which “invisible” ideology is infused develop a “new strategy”²¹³ to “represent society” from the danger of totalitarianism, from the danger of eschewing the image of a diffusion of power (Lefort, 1986: 224, 225). This new

²¹² “Invisible” ideology must be situated within the socio-historical context of critique containment. It is in relation to this problematic and in light of the foregoing discussion that the following passage from Adorno’s (1951) *Minima Moralia*, written during his time in exile in the U.S., is strikingly pertinent:

Fascism is itself less ‘ideological’, in so far as it openly proclaims the principle of domination that is elsewhere concealed. Whatever humane values the democracies can oppose it with, it can effortlessly refute by pointing out that they represent not the whole of humanity but a mere illusory image that Fascism has had the courage to discard. So desperate have people become in civilization, however, that they are forever ready to abandon their frail better qualities as soon as the world does their worse ones the obligation of confessing how evil it is. The political forces of opposition, however, are compelled to make constant use of lies if they are not themselves to be completely wiped out as destructive (...) Only the absolute lie now has nay freedom to speak the truth (...) The conversion of all questions of truth into questions of power, a process that truth itself cannot escape if it is not to be annihilated by power, not only suppresses truth as in earlier despotic orders, but has attacked the very heart of the distinction between true and false, which the hirelings of logic were in any case diligently working to abolish. (Adorno, 1951 [2005]: 108-109)

²¹³ Although Lefort sometimes uses language that may imply the “conscious” use of ideological discourse, he stresses that this is not the case. He explains, “I do not mean to say that the discourse emanates from a particular agent, or from a series of agents who would simply be representative of the dominant class. In so far as it is presented as a discourse on the social, ideological discourse develops in an impersonal way; it conveys a knowledge which is supposed to arise from the order of things” (Lefort, 1986: 206). This applies to Lefort’s use of the term “strategy” as well.

“strategy,” according to Lefort (1986: 225), is a new social significance attached to the “group.”²¹⁴

[T]he ‘group’, set up as a positive entity and treated as both the expression and the objective of social communication, becomes a screen which obscures the separation of the apparatus of domination from the mass of those without power. The representation of a structure of the group, indifferent to the conditions which dictate the status of its members, tends to exclude from its domain the question of the origin, the legitimacy and rationality of the oppositions and hierarchies instituted in each sector. A new faith is invested in this representation: the faith in a ‘mastery’ of the social in the very experience of socialization *here and now*, that is, within the perceptible boundaries of each institution, in each situation where the individual finds himself situated by virtue of the ‘natural’ necessity of production or of economic activity more generally, but also of education or leisure, of political, trade union or religious practice. (Lefort, 1986: 225-226)

Lefort (1986) explains that the various instruments (e.g. television, radio, etc.) through which the representation of the group (and the faith in the present) is dispersed make the new ideology so practicable:

With the constant staging of public discussions turned into spectacles, encompassing all aspects of economic, political and cultural life, ridiculing everything from the most trivial to the most revered, an image of reciprocity is imposed as the very image of social relations (...) The effectiveness of discourse such as that transmitted by radio and television lies in the fact that it is only partially manifested as political discourse – and it is precisely because of this that it acquires a general political significance. It is the things of everyday life, questions of science and culture, which support the representation of a realized democracy where speech seems to circulate without obstruction (...) In this way, the subject finds himself (almost) lodged in the system of representation, in an altogether different way than in totalitarian ideology, since he is now invited to incorporate the terms of every opposition. And at the same time, he is lodged in the group – an imaginary group in the sense that individuals are deprived the power to grasp the actual movement of the institution by taking part in it, by confronting the fact of their differentiated relation to one another (...) It is in this light that one may assess, for example, the efficacy of a mechanism which, from commercials to programmes on politics or culture, provides the constant illusion of a *between-us*, an *entre-nous*. (Lefort, 1986: 226-227)

According to Lefort (1986), the discipline of psychology and the fascination with the present are at the center of this ideology. Another feature of this ideology that Lefort (1986) points out is the fusion of scientific discourse and social discourse. This fusion combines with the spell of the *entre-nous* (referred to above) and “renders everything sayable” (Lefort, 1986: 233). Lefort (1986) explains,

²¹⁴ Cf. Reisman, 1950.

Just as social communication is content to be realized here and now, knowledge is exhibited here and now, bearing the solution to the secret of nature and the secret of man, giving rise to the fascination with the present. Thus, not knowing means not coinciding with the time, not coinciding with the being of the social as it manifests itself. Not knowing means incurring the tacit sanction of society, excluding oneself from the legitimate social bond. The 'new', then, is nothing more than the materialized proof of temporal difference, of the historical, and hence of its concealment beneath the illusion of a difference in time, of a controllable relation to present as such. Invisible once again is the operation which defuses the effects of the institution of the social, which attempts to prohibit the question of the sense of the established order, the question of the *possible*. (Lefort, 1986: 233-234)

This “thrusting forth of the new” (Lefort, 1986: 235) is precisely what represents the historical, which is why an understanding of the empirical manifestations of this “invisible” ideology is significant. The concrete forms through which this ideology became infused into American society proliferated during the interwar and postwar period. The superior “unity possessed by American society” and the “expressions of national consensus” that the authors of the NSC 68 so fondly exalted emerged in a socio-historical context where they were mediated by critique containment, which is illustrated in the decision-making and scientific technologies through which they were diffused. Mediated in and through the cold war regime of critique containment, this socio-historical context is simultaneously defined by an apparent decontextualization expressed by the ahistorical statements regarding “American society” and “national consensus” of the NSC 68 report. The persistence of the cold war regime of critique containment throughout the latter half of the twentieth century and into the twenty-first century is perhaps more accurately described as a process of sedimentation wherein critique containment becomes ingrained into the very fabric of American society and is therefore unrecognized as such. The corresponding reified worldview, as facilitated through cold war warriors and Industrial psychologists and made manifest in sustained military-industrial-academic efforts to control the external world, ultimately comes at a price, specifically the restriction of reflexivity, which is both real and semblance, whereby that which is needed most—namely, a *critique of the present*—becomes that which is most difficult to obtain.

In the next section I elaborate critique containment as a category of mediation by focusing on how post-World War II democracy in American society based on a system of legitimate governance is mediated in and through the cold war regime of critique containment. I argue that the origins of “legitimate governance” are intimately connected to the (perceived) threat posed by the Communist alternative.

2.3.1 Critique Containment in Legitimation

The system of knowledge production and decision-making technology through which a new “invisible” ideology is dispersed emerged as a result of fear of the Communist alternative. This knowledge and decision-making production is defined by its goal of *control*. Although I will discuss this subject in connection with contemporary environmentalism in more detail below, at this point it is important to recognize retrospectively that it is clear that the recent increase in attention and concern for the well-being of biophysical nature would not have been possible without the cold war communications and technological explosion and cold war science, which effected a specifically contemporary social conception of nature. That the contemporary social conception of nature is a product of cold war science and technology implies that contemporary environmentalism developed in and through the postwar, cold war regime of critique containment. (Note that when I speak of contemporary environmental consciousness as being reified, I am referring to the fact that the meaning of environmentalism is not measured in relation to this context.)

The reification of contemporary environmental consciousness is in line with Adorno’s discussion of reified consciousness. For example, Adorno’s (2008 [1965]: 24) critique of so-called “first philosophy”—specifically, Heidegger’s fundamental ontology—is a critique of the hypostasis of mind: “The mind literally fetishizes concepts of its own devising which possess nothing that transcends consciousness. And it achieves this by tearing them from their context and ceasing to think them further.” The following passage from Adorno’s (1965) lectures on negative dialectics speaks to the post-war, cold war regime of critique containment, namely, that “American society” exists by virtue of—not despite—critique containment:

[I]t is probably true that today almost the entire economy can be sustained only because a very large part of the social product is devoted to the production of weapons of mass destruction, in particular, nuclear weapons and everything connected with them. This holds good in every country, in both the capitalist nations and the countries belonging to the Russian and Chinese power blocs. This means that the ability of our society to withstand crises, an ability that is generally held to be one of its finest achievements, is directly linked to the growth in its potential for technological self-destruction. (Adorno, 2008 [1965]: 9)

In retrospect, it is clear that America's twin commitment to *economic management* and *social stability*, particularly during the first two decades of the cold war, was a significant—yet unintended—consequence of the *internal* Communist threat. Although the conventional understanding of the cold war era in the United States tends to paint a picture of the struggle against an external enemy (the Soviet Union), the external threat of Marxism was inverted throughout the twentieth century. The fact that today Marxism does not is not represented a serious internal threat to the socioeconomic or political order of American society (Amadae, 2003) is an indication that the sedimentation of critique containment has become ingrained within the social fabric of American society during the latter half of the twentieth century. While today the failure of political Marxism may seem quite obvious, it is important to bear in mind that the triumph of capitalist democracy was not always so apparent.

Throughout the twentieth century, many Western leaders worried about the possibility that, in the wake of the 1917 Revolution in Russia and in light of the threat of global extermination brought about through the cold war, alternatives to capitalist democracy would become increasingly enticing to the American population, particularly to those already disenfranchised. Even Joseph Schumpeter (1943)—a political conservative—predicted that capitalism would not survive in the postwar world and that socialism was inevitable.²¹⁵ Yet this supposedly inevitable rise of socialism never occurred. According to Amadae (2003: 3), Marxism was defeated by “a new approach to democracy [that] emerged in cold war America, one based on the notion of the ‘rational

²¹⁵ According to Schumpeter (1943: ix), “a socialist form of society will inevitably emerge from an equally inevitable decomposition of capitalism.”

actor,' which was quickly assimilated into the traditions of political and economic liberalism that underlie the modern experiment with democracy and capitalism.”

Amadae (2003: 41) traces the conceptual scaffolding of rational choice theory to the systems analysis developed by the RAND Corporation in the 1940s and 1950s: “Systems analysis studies originated as tools used by the aircraft trade to prepare contract bids for the Air Force” and soon became a mainstay at the RAND corporation, where it was promoted and utilized as “a comprehensive and rigorous science of war” (Amadae, 2003: 43). The infamous “missile gap” between the Soviet Union and the United States during the beginning of the cold war and America’s strategy of containment (outlined in the NSC 68) were both based on prescriptions derived from systems analysis. Robert McNamara would later use these techniques in the implementation of rational defense management, which allowed him to establish complete control over the Pentagon during the 1960s (Amadae, 2003). As Amadae (2003: 30) explains, “RAND’s decision theoretical tools first in the department of defense, and then later throughout the federal government via President Johnson’s Great Society programs” led to the effective installment of “a knowledge production regime that would revolutionize government policymaking in the United States.”

Like other systems of knowledge (and technology) during the cold war, management techniques that had originally been produced as decision theoretical technologies for a global nuclear standoff were transferred to the civil sphere. Think tanks and consulting agencies proliferated while “Public Policy” programs and curricula were implemented at top universities (Amadae, 2003). The new field of policy analysis, according to Amadae (2003: 71-72), was rooted in distinct ideas about legitimation and fairness standards:

The key to success of the dual conceptual and institutional revolution was that the new methods gained a de facto legitimacy before they had been tried and debated in public forum. The decision technologies did not filter into mainstream practice from the world of academia, but were designed in a hands-on manner to revolutionize national security decisionmaking and to integrate budgeting with strategic planning in order to centralize control (...) The de facto legitimacy acquired by systems analysis and RAND’s program budgeting is contrary to the common understanding that acceptance presupposes that legitimacy has already been established. With “scientific knowledge,” or at the intersection of politics and processes of knowledge production, it is often believed that

superior explanatory power is the criterion for successful promulgation (...) A concept of legitimate governance served as the rationale anchoring the evolving practice of public sphere democracy. (Amadae, 2003: 72)

The ungovernability and legitimization crisis debates during the 1970s and 1980s, while seemingly critical of the postwar regime, are themselves products of cold war dualisms.²¹⁶ John Kenneth Galbraith (as I mentioned previously) sought to expose as illusory the conventional public/private distinction, which by 1960 had taken the form of a clear dividing line between government and private business. That Galbraith saw recognizing the illusory nature of the public/private distinction as an activity of freeing one's mind is itself a reflection of the degree to which critique containment had become sedimented in "American society." As a reference point, we might compare Galbraith's critique of the public/private distinction to Lukács's critique of reification, which also aimed at the emancipation of mind, but for Lukács this required overcoming capital.

Arguing against Galbraith's assertion that the public/private distinction was illusory, Habermas (1973) asserts that the public/private line was the consequence of a class structure he saw as being kept latent. Offe (1981) argues that the creation of the modern welfare state functioned as a "peace formula" in advanced capitalist democracies and that by the mid-1970s the welfare state was established and had reconfigured society according. The irony, as Offe (1981) points out, is that both the political left and right leveled their critiques of the welfare state for different reasons and yet both failed to acknowledge the empirical fact that the welfare state had become an integral aspect of contemporary democratic societies, including the very process of making claims for or against its worth.

Although these scholars engaged sophisticated critiques of "the political" in late capitalism, the critiques themselves typically presupposed "free" normative action by misrecognizing the category of legitimacy itself as produced by and mediated through the cold war regime of critique containment. Their analyses are therefore unable to grasp the fact that legitimacy is always already determined. Moreover, these theorists assumed a rational connection between social democracy and efforts aimed toward ameliorating

²¹⁶ See e.g. Habermas, 1973; O'Connor, 1973; Offe, 1981 (cf. Postone, 2006).

structural problems at the expense of recognizing social democracy as an attempt to ameliorate structural problems within a framework that is itself generative of these problems (cf. Postone, 2006: 95). Amadae (2003: 4) perceptively notes that “It is not without historical irony that the ideological front of American society’s hard fought war against communism and the Soviet Union may, inadvertently, have eroded the meaningfulness of the term ‘American society.’”

3. Critique Containment Penetration as Sedimentation: “American Society” after the “Golden Age”

This section examines the nature of the linkage between patterns of continuity and change from 1) the first half of the cold war, which was characterized by state centric capitalism, and 2) the last quarter of the twentieth century, which was characterized by neoliberalism. I argue that the cold war regime of critique containment persists throughout these two periods even though the cold war officially ended in 1991. Moreover, I suggest that the continuation of critique containment, far from being static, is perhaps best understood as a process of sedimentation whereby critique containment becomes engrained in the very fabric of American society and, therefore, becomes increasingly difficult to recognize.

Our discussion has shown that the political, economic, and ideational elements that facilitated and sustained the golden age in the West, and in American society, in particular, would not have been possible without America’s commitment to containing the communist threat, which, as discussed above, required ensuring a certain degree of social stability for at least a portion of the population. Yet by the early 1970s the golden age was showing signs of failure. The oil shocks of 1973, an initial slowdown in productivity growth, underutilized productive capacity, and higher levels of unemployment all pointed toward a change in nearly two decades of capitalist success. During the 1960s the U.S. dollar went from being an internationally undervalued to an internationally overvalued currency (Marglin, 1990: 21). Simultaneous with the war in Vietnam, America’s period of sustained growth began to decline during the late 1960s,

and the U.S. finally abandoned the Bretton Woods system in 1971. Marglin (1990) explains,

The consequences were momentous, if somewhat delayed: faced with an external constraint for the first time since the war, the United States could no longer play a leadership role in the management of aggregate demand internationally. In the late 1970s when the United States attempted to induce a global expansion by stimulating aggregate demand, the rest of the world was no longer willing to accept a flood of US dollars, except at a price which sent shudders through the financial community from New York to Zurich and from London to Tokyo. (Marglin, 1990: 21)

As with the stock market crash of 1929 and the subsequent institutional reconfiguration, the crisis in the 1970s is an example of how the success of a historically-specific configuration eventually leads to the different elements of the configuration undermining the configuration itself (Marglin, 1990). The early 1970s economic downturn was the first since the Second World War and was followed by a shift away from Keynesian demand management toward supply-side economics. This shift was signaled by Paul Volcker's appointment by Carter as Chairman of the Federal Reserve in 1979. Volcker changed U.S. monetary policy with the aim of fighting inflation (even when counter-inflationary measures hurt employment metrics). Volcker's appointment as Chairman of the Federal Reserve "symbolized the triumph of monetarist policies and ushered in a period of deliberate, heavy deflation, widely imitated abroad, especially in the U.K." (Glynn et al., 1990: 40).

The neoliberal state is characterized by its sole role in creating and preserving an institutional framework conducive to "strong private property rights, free markets, and free trade" (Harvey, 2005: 2). In the Washington political arena, the neoliberal shift was signaled by Ronald Reagan's victory over Jimmy Carter in the 1980 presidential election. Reagan promoted a conservative supply-side approach to the economy (also known as "trickle-down economics" or "Reaganomics"), which consisted of major tax cuts, scaled back government regulation, and inflation-reducing money supply policies. It was argued that "high levels of government spending, high taxation of income and extensive government regulation of economic affairs" stifled economic growth and the inherent

fruits of the free enterprise system (Bernstein, 2004: 130). Michael A. Bernstein (2004) explains,

Excessive income taxation, Reagan's adviser's argued, stifled productive effort, for example, by discouraging overtime work. It robbed individuals of the fruits of enterprise and risk-bearing. Finally, it distorted economic decision-making so as to slow growth and create the very fiscal pressures that contributed to the problems of "stagflation" in the first instance. The purported solution involved a radical reduction in taxes, a systematic shrinking of government spending programs and, thus, federal agency budgets, and the elimination of what were claimed to be costly regulatory measures. In this respect, Reaganomics involved, among other things, the systematic dismantling of the Cold War political economy of the United States. (Bernstein, 2004: 130)

While the Reagan administration cut taxes, especially the top income tax rate, military spending skyrocketed due to "the largest peacetime increase of American armed forces and weapons systems" (Bernstein, 2004: 131). Debt held by the public as a share of GDP increased from 26.2 percent in 1980 to 41 percent by the end of the 1980s.²¹⁷ With the fall of the Berlin Wall in 1989 and the official end of the cold war two years later, the conservative right used the "victory" of the cold war to justify a renaissance of laissez-faire ideology. The irony, which has already been mentioned yet is worth repeating here, is that this triumphalism was "indifferent to the fact that it was a uniquely nontraditional capitalist system that had made the nation so prosperous after World War II" (Bernstein, 2004: 133). Democrats basically followed the Republicans' lead and reacted by emphasizing tax relief for the middle-class. Bernstein (2004: 134) explains, "So dependent had Cold War liberalism been on sustained growth as a vehicle of redistributive betterment and justice that the first signs of macroeconomic instability, with its inevitable stroking of racial and class divisions in American society, robbed it of its voice and authority."

It is, then, perhaps misleading to characterize neoliberalism as a "class project," as David Harvey (2005) does, since the entrenchment of neoliberalism is a result of the continued absence of a Left politics and of the failure of liberal Democrats during the third quarter of the twentieth century to secure social welfare gains made in the decades prior to the entrenchment of neoliberalism. Bernstein (2004) argues,

²¹⁷<http://www.cbo.gov/publication/21728>

In many respects, the collapse of the Cold War coalition that brought conservatives determined to confront Soviet influence in the wider world together with liberals focused on social needs at home was the direct result of the “success” of the Cold War itself. Liberals themselves, ironically enough, contributed to this remarkable script of political economic deconstruction. Eager to criticize the errors of American foreign policy in the wake of the debacle of the Vietnam war, the left nonetheless neglected to explore, in a thorough and rigorous fashion, the close economic and political connections between military-industrial spending, anticommunist containment strategy, and social welfare initiatives that had defined the “New Deal order” since the end of World War II. As a result, the primary mechanisms of fiscal and monetary control that had fostered the progressive social agendas of the Cold war era were ripe pickings for a conservative insurgency determined to destroy the vestiges of the New Deal while remaining committed to the anticommunist containment goals of the past. (Bernstein, 2004: 141-142)

The contention that the postwar regime has become “sedimented”²¹⁸ must be understood as the increasing penetration of a regime of *critique containment* into the very fabric of American social relations: As Bernstein (2004: 129) notes, “The legacies of Cold War triumphalism reveal themselves in almost every aspect of American social and political life: in an uncritical celebration of major events in the history of the Cold War; in a virtual amnesia that surrounds discussion of the great political purges of the 1950s and 1960s, and a resultant acceptance of the quite narrow range of acceptable political discussion that passes for debate in the present.” In other words, the revival of laissez-faire and anti-statist ideology during the 1980s does not represent a fundamental break with the post-World War II regime insofar as this regime is also understood as inherently connected to a regime of critique containment.

There are, of course, a number of differences between the first two decades of post-World War II capitalist development and the entrenchment of neoliberalism throughout the late 1970s and 1980s. For example, with the shift away from Keynesian style economic policies to neoliberalism, technical systems of control became more extensive (Marglin, 1990: 12). This change was exemplified by “financialization” during the 1980s and facilitated by the shift toward monetary, supply side economics and “the empowerment of finance capital vis-à-vis the nation state” (Harvey, 1989: 168).²¹⁹ There

²¹⁸ On the notion of “sedimentation,” see Adorno, 1997 [1970]; on the sedimentation of the post-World War II configuration, see Dahms, 2006.

²¹⁹ According to Harvey (1989), the defining element of the post-1970 regime of accumulation is “flexible accumulation.”

are also a number of indicators that would seem to support the claim that the post-World War II regime, as inherently connected to a regime of critique containment, has become even more ingrained throughout the last quarter of the twentieth century and into the beginning of the twenty-first century. For example, with the shift from manufacturing to a service-based economy, the last vestiges of the American working class have been successfully integrated “into the moral order of capitalist society” (Dahms, 2000: 16); the so-called military-industrial-academic complex is today alive and well; the welfare state, although its parameters are debated, continues to be refined, albeit in ways quite different from those in the 1950s and 1960s; and, perhaps most important for the purposes of this dissertation, the political legitimacy of the nation-state continues to depend upon “economic growth,” which, as indicated in chapter three, necessitates exponentially increasing levels of biophysical throughput.

Even with these traces of the regime of critique containment, most political and economic sociologists agree that the early 1970s economic crisis does in fact mark a period of qualitative transformation.²²⁰ Giovanni Arrighi (1994), for example, argues that the post-1973 downturn is indicative of the decline of U.S. hegemony. Arrighi’s analysis, which he lays out in his 1994 book, *The Long Twentieth Century*, is an attempt to grasp both the international development of capitalism and the growth of the system of nation-states (Arrighi, 1994: xi). Combining Braudel’s understanding of capitalism with Polyani’s critique of the self-regulating market, Arrighi (1994: 11 [original emphasis]) follows the Braudelian (Braudel, 1977: 64-65) notion that “Capitalism only triumphs when it becomes identified with the state, *when it is the state*.”

On the basis of his understanding of finance capital and the state, Arrighi (1994) engages a comparative analysis of systemic cycles of accumulation and hegemonic states:

Our analysis is essentially a comparative analysis of successive systemic cycles of accumulation in an attempt to identify (1) patterns of recurrence and evolution, which are reproduced in the current phase of financial expansion and of system restructuring; and (2) the anomalies of this current phase of financial expansion, which may lead to a break with past patterns of recurrence and evolution. Four systemic cycles of accumulation will be identified, each characterized by a fundamental unity of the primary agency and structure of world-scale processes of capital accumulation: a Genoese cycle, from the

²²⁰ See, e.g., Arrighi, 1994; Harvey, 1989; Jessop, 1990; Offe, 1985; Sassen, 1988.

fifteenth to the early seventeenth centuries; a Dutch cycle, from the late sixteenth century through most of the eighteenth century; a British cycle, from the latter half of the eighteenth century through the early twentieth century; and a US cycle, which began in the late nineteenth century and has continued into the current phase of financial expansion. (Arrighi, 1994: 10)

Arrighi's (1994: 214-215) "temporal profile" consists of "three distinct segments or periods" that can be identified across each cycle of accumulation: (1) an initial period of financial expansion that develops "a new regime of accumulation within the old," (2) "a period of consolidation and further development of the new regime of accumulation," (3) another period of financial expansion through which "the contradictions of the fully developed regime of accumulation create the space for, and are deepened by, the emergence of competing and alternative regimes, one of which will eventually become dominant."²²¹ The upward trajectory of each hegemon occurs through the development of production and the expansion of trade. This material expansion ultimately results in a crisis of over-accumulation, which is resolved through "financial intermediation and speculation" (Arrighi, 1994: 215). The shift from the period of material expansion to the period of financialization is what Arrighi (1994) calls the signal crisis of the regime of accumulation. The "signal crisis" is distinguished from what Arrighi (1994: 215) calls the "terminal crisis" of the dominant regime of accumulation, which signifies the "final supersession" of the long century and regime by a rising new hegemon.

Arrighi (1994) dates the era of U.S. hegemony from 1939 to its decline during the crisis of the 1970s. Key to the decline of U.S. hegemony, according to Arrighi, is the collapse of the "warfare-welfare state"²²²: 1) increased inter-capitalist competition and the rise of raw materials prices; 2) the fiscal crisis of the U.S. state which eventually led to 3) the collapse of the Bretton Woods system of fixed exchange; leading to and combined with 4) the unpopular war in Vietnam (Arrighi, 2010: 28-29). However, as Postone (2009: 96-101) argues, Arrighi's (1994) account of the rise and fall of U.S. hegemony does not quite fit within the framework of systemic cycles of accumulation Arrighi himself puts forth.

²²¹ See Figure 1 in Arrighi, 1994: 364.

²²² Arrighi (2010: 24) appropriates this term from O'Connor (2001 [1973]).

Because Arrighi's (1994) analysis is the occasion and not the point of this discussion,²²³ I would like to indicate that, echoing Postone (2009), Arrighi (1994) fails to adequately theorize the category of capital and, as Postone (2009: 97) points out, Arrighi conflates the historical dynamic of capitalism with the rise and fall of hegemons. As a result, Arrighi "substitutes a description of a pattern for an analysis of what grounds the dynamic, and does so in a way that also brackets consideration of the ongoing structuring and restructuring of labor and, more generally, of social life in capitalism" (Postone, 2009: 97). Arrighi's (1994) explanation of the fall of U.S. hegemony is rooted in his interpretation of Marx's falling rate of profit thesis. According to Postone (2009: 98), Arrighi (1994) interprets the tendency for the rate of profit to fall within the confines of political economy and therefore (mis)interprets Marx's theory as political economy as opposed to a *critique* of political economy. This misinterpretation puts forth an explanation of surface-level processes effectively severed from a more fundamental dynamics (Postone, 2009: 98). Here the reader should recall Lukács's (1971 [1923]: 110) critique of Tugan-Baranovsky (who was Kondratiev's mentor) because Postone's (2009) critique of Arrighi (1994) (who draws heavily from Kondratiev) is nearly identical to it.

Taking my lead from Hobsbawm's (1994) writings on the latter half of the twentieth century, I am less interested in explaining the economic boom during the 1950s and (to a lesser extent) the 1960s than I am in understanding the "unprecedented social consequences" of the expansion of the capitalist system after the Second World War.²²⁴ What is important for the purposes of this dissertation is the response to the ecologically-destructive effects of the post-World War II period. I shall return to this issue below.

At this point I would like to claim that the rise of neoliberalism, as Postone (1999, 2009) suggests, may be seen as an historically-specific illustration of a dialectic of transformation and reconstitution whereby 1) "surface level" processes (e.g. the

²²³ It should be noted that many aspects of Arrighi's (1994) work are illuminating and quite useful.

²²⁴ What needs to be explained is not the successive "long waves" (illustrated by the sustained "upswing" of the economy during the postwar period followed by a sustained economic "downswing") that have been a characteristic dynamic of capitalist development for at least the past 200 years; these cycles have been identified and analyzed by economists (see, for example, Kondratiev, 1925) for quite some time (Hobsbawm, 1994: 268). "What needs explaining," according to Hobsbawm (1994: 268), is "the extraordinary scale and depth of this secular boom," especially in terms of lasting social effects.

economic collapse of “Fordism” and the rise of neoliberalism) undergo constant *transformation*, which 2) *reconstitutes* the underlying structural preconditions for the capitalist production of value. Postone (1993) explains that these two processes of transformation and reconstitution interact with one another by way of a *dynamic* dialectic. Moreover, the rate at which these processes of transformation and reconstitution change actually accelerates.²²⁵ It is important to recognize that the rate at which these changes occur is central to the pattern Marx identified with his notion of capital as self-valorizing value, meaning the tendency toward accelerating rates of increases in productivity exhibits a “treadmill” pattern (Postone, 1993).

Postone’s (1993) analysis of the dialectic of transformation and reconstitution is thus significant for my purposes here because it is an attempt to offer an alternative explanation of capital’s historical dynamic—one that is able to account for non-linearity, especially in light of post-WWII economic expansion and developments in recent decades. On this basis, the postwar regime did not expire in the 1970s but instead has become engrained as critique containment through a process of sedimentation. In this sense, neoliberalism, far from representing a fundamental break from the post-World War II, cold war regime, is a manifestation of the *social acceleration* of the effects of the postwar regime of critique containment—a regime that today defines and continues to be defined by American society and much of the industrialized West.

To say that critique containment, has exhibited a remarkable degree of staying power in American society does not mean, however, that critique containment has remained static or that social critique flourished during a time long gone. Taking a lead from Postone’s (1993) reinterpretation of Marx’s category of capital as structuring a dynamic and contradictory social totality, I contend that critique containment has been transformed and reconstituted in and through the entrenchment of neoliberalism at the same time that neoliberalism has been transformed and reconstituted in and through critique containment. I also contend that these two processes of transformation and reconstitution interact synchronically. From within the categorial framework of Marxian

²²⁵ Cf. Rosa, 2013.

critical theory, we can elucidate the subjective dimension of this dialectical dynamic as intrinsically interrelated to its objective dimension and therefore understand this dialectical dynamic as a historically-specific process grounded in historically-determinate processes of social mediation.

At a basic level I suggest that the interrelation between the subject-object dimensions of this dialectical dynamic (thus conceived) could be illustrated in the opposition between proponents of laissez-faire ideology, on the one hand, and advocates of a so-called “new New Deal,” on the other. The expressed opposition between these two positions is intrinsic to the reproduction of the present insofar as the present insulates itself from critique. In this sense, the affirmation of either position (i.e. laissez-faire or “new New Deal”) actually transforms and reconstitutes critique containment *in time*. We can see that the present insulates itself from critique, at least in part, through this type of binary thinking, which itself is, to a significant extent, a consequence of the cold war. Theoretical sociology—insofar as theoretical sociology claims to scrutinize the present—must be able to grasp another form of social necessity that is non-identical to the present (as critique containment), namely, that which would be necessary for society were it not for the necessity of this present (Postone, 1978).

The long period of stagflation²²⁶ that came to define a good portion of the latter half of the twentieth century is a consequence of the success of the post-World War II configuration of business-labor-government relations, which coalesced—as the configuration became “sedimented”—as a regime of critique containment. The success of the post-World War II configuration has also produced new threats that cannot adequately be conceived in purely economic terms. The environment-society problematic, whose most manifest expression today is the threat posed by societally-induced global climate change accompanied by the growth of public concern over this issue, is certainly one of the most pressing consequences of the continuation (and acceleration of) an ecologically-destructive form of society. Although the detrimental effects of the postwar regime are becoming increasingly visible, “solutions” to these

²²⁶ The term “stagflation” refers to the combination of rising inflation and slowing growth rate.

problems continue to be put forth in terms of the post-World War II regime, which implies that these “solutions” are themselves mediated by critique containment. At the same time, the subjective dimension of the environment-society problematic—that is, the growth of widespread environmental attention and concern during the latter half of the twentieth century—expresses a (historically-specific) growing need that (implicitly) points beyond the present as continually redefined. If this need is historically specific, then we must ask why environmental attention and concern emerged when it did in the late 1960s and early 1970s, at the time when the postwar period of stability was ending.

4. Cold War Origins of Contemporary Ecological Subjectivity

Following the Second World War, the scale and scope of technological development—facilitated in and through cold war infrastructure, especially the full-scale development of various military-industrial-academic complexes—expedited unprecedented levels of resource extraction, productivity, and global capital flows. Total energy consumption in the U.S. alone nearly tripled from 1950 to 1973. The rise of contemporary environmentalism as a global phenomenon during the late 1960s and 1970s was a response to the tremendous spike in environmental degradation effected in and through the exacerbation of the contradiction between wealth and value, which, as discussed in chapter three, necessitates accelerations in the rate at which productivity increases and, therefore, leads to an acceleration of exponential increases in the quantity of biophysical throughput. Although the socio-ecological effects of the “golden age” were quite significant, public concern for the environment was not widely expressed until after 1970.

Contemporary American environmentalism emerged after the postwar period of stability amid a generational and ideological shift marked by the questioning of authority. The deployment of the atom bomb brought to light for the first time on a massive public scale the possibility of civilizational collapse. This new prospect was joined by writings that contended that the American free enterprise system was based on a flawed understanding that humans were somehow separate from the biophysical world. Authors such as Osborn, Vogt, Bookchin, and Commoner criticized American society’s

misrecognition of the environmentally-destructive effects of industrial society (Opie, 1998: 405). It is certainly no coincident that this criticism was articulated at the time when the material expansion of the postwar regime had developed to such an extent that it became possible to question its necessity.

Following two decades of historically-unprecedented expansion of industrial production, the rise of contemporary environmentalism clearly expresses the fact that the industrial mode of social organization is not adequate to biophysical well-being. Yet the rise of contemporary environmentalism did not correspond to a related shift in how society was organized. In fact, the exact opposite happened as the growth of environmentalism throughout the 1970s and 1980s corresponded with the advent and continuation of neoliberalism.

The final portion of this chapter examines the environment-society problematic in societal context. I am interested in the linkages between specific patterns of continuity and change between the decades following the Second World War (the period of state-centric capitalism, from 1950-1973) and the last quarter of the twentieth century, on the one hand, and the rise of contemporary environmentalism in American society, on the other. The purpose of this investigation is to make better sense out of not only why contemporary environmentalism's response to the environmental destruction of the 1950-1973 period did not correspond with a more environmentally-oriented shift in social structure but also *why* the exact opposite occurred. A better understanding of this problematic is particularly relevant today as environmental destruction continues to accelerate despite the widespread growth of environmental attention and concern. Although the second half of the twentieth century represents a shift in the organization of productive activity, the postwar configuration of business-labor-government relations has in fact become even more ingrained in American society. Additionally, a specific cold war regime of critique containment took hold within and through the postwar configuration. On this basis, the following examination argues contemporary American environmentalism emerged within and through the context of the postwar, cold war regime of critique containment. One aim of the following investigation is to elucidate the

conditions of possibility of a specifically contemporary social conception of nature, which I shall unfold in and through an immanent critique of contemporary American environmentalism's misrecognition of its own socio-historical context. It is important to be aware that this misrecognition is not the result of an inherent fallibility located within American environmentalism itself. Rather, this misrecognition is the result of the objective context within which contemporary American environmentalism emerged: this socio-historical context is defined by an apparent decontextualization exemplified in and through the postwar, cold war regime of critique containment.

Drawing on an early essay by Moishe Postone (1978), I will theoretically ground the historical specificity of what I call "contemporary ecological subjectivity." Contemporary ecological subjectivity is in line with both Lukács's (1923) and Postone's (1993) categorial approaches, which attempt to elucidate the intrinsic interrelationships between social structure and subjectivity that is grounded in determinate processes of social mediation. From within this framework, contemporary ecological subjectivity is grounded in the socio-ecological tensions underlying the production of value, which became increasingly exacerbated in and through the postwar, cold war regime of critique containment during the latter half of the twentieth century.

4.1 Contemporary Ecological Subjectivity as an Instantiation of Class-Transcending Consciousness

In his analysis of the immanent source of capitalism's possible negation,²²⁷ Postone distinguishes between class-constituting consciousness, on the one hand, and class-transcending consciousness, on the other hand. This distinction, as Postone explains, is an historical distinction. Class-constituting consciousness is "capital immanent"; it "calls into question the *conditions* of labor and of remuneration, but not the

²²⁷ Recall that for Postone, the negation of capital entails the negation of value, and hence, the abolition of commodity-determined labor based on the production of value. Postone explains that if "the course of capitalism is analyzed as a qualitatively changing development leading to the possibility that capital-determined labor be abolished, then the development of class consciousness can also be analyzed historically—as having a qualitatively changing content. *Revolutionary class consciousness could then be considered as the historical reversal of class-constituting consciousness, which has the latter as its historical assumption.* If class is in fact a category of alienation, then revolutionary class consciousness could only mean the desire to abolish and transcend itself" (Postone, 1978: 781).

fact of doing immediate productive labor itself” (Postone, 1978: 782). Marx’s discussion of the struggle over the working day is an example of the expression of class-constituting consciousness, as it is in and through this struggle that the workers affirm their commodity-mediated labor. (In other words, struggles over the working day presuppose and thereby affirm the fact of a working day).

Class-transcending consciousness, in contrast to class-constituting consciousness, calls into question immediate productive labor itself. Class-transcending consciousness, as a historically specific form of subjectivity, assumes that the development of the use-value dimension has reached a point where it becomes possible to question the technical, instrumental control of nature. As Postone (1978: 784) explains, “*The thesis is that value-creating labor can, on the mass level, be directly experienced as alienating (rather than as underpaid or oppressive) only once that historical point is reached where such labor has become socially anachronistic in terms of the potential accumulated in the objectified use-value dimension and, nevertheless, is maintained—albeit not “consciously”—only because of the necessity for capitalism that value-producing labor continue to exist.*”

To say that the distinction between the development of class-constituting consciousness and class-transcending consciousness is a historical distinction does not, however, as Postone explains, imply a linear trajectory between the two whereby “class-constituting consciousness is linearly superseded by class-transcending consciousness” (Postone, 1978: 782). As Postone (1978) explains,

[C]rises in capitalism, by dramatically reestablishing the ‘necessary’ connection of labor as presently defined and material reproduction, have the tendency to roll back elements of class-transcending consciousness and to reinforce elements of class-constituting consciousness—even if in militant form. The development is anything but linear. (Postone, 1978: 782)

By focusing on the “*contents of needs and consciousness*” (Postone, 1978: 783)—for example, struggles over the working day versus struggles against the harmful effects of pesticides—Postone further distinguishes between the “*historical possibility*” of socialism and the “*probability of revolution*” and suggests that the distinction between the two can be conceptualized as occupying different axes of historical time (Postone, 1978: 783). Within this framework, the problem of the possibility of socialism is clarified

horizontally, as it were, “as the historical changing content, independent of degree of militance” (Postone, 1978: 783). The problem of the probability of revolution, on the other hand, is clarified vertically, “moving from an abstract analysis of the metahistory of the social formation to a consideration of more immediate, concrete, and contingent factors” (Postone, 1978: 783).

As discussed in chapter three above, Postone reconceptualizes the contradiction between the forces of production and the relations of production as a contradiction “between the actuality of the form of production constituted by value, and its potential” (Postone, 1993: 28). Applied to the relationship between objective social structure, contemporary ecological subjectivity as an instantiation of class-transcending consciousness can be conceptualized as an attempt to mediate “social objectivity in which a certain structure of labor has become anachronistic (...) even when this experience is not politically articulated” (Postone, 1978: 784). Indeed, the attempt to relate the actual recognition of contemporary ecological subjectivity in its relation to “historically emergent contradictions of the social totality” (Postone, 1978: 785) is not direct.

Although the early environmentalist criticism was articulated at the time when the material expansion of the postwar regime had developed to such an extent that it became possible to question its necessity, the rise of contemporary environmentalism (as an expression of contemporary ecological subjectivity) did not correspond to a related shift in how society was organized. In fact, the exact opposite happened as the growth of environmentalism throughout the 1970s and 1980s corresponded with the advent and continuation of neoliberalism. Contemporary ecological subjectivity as an instantiation of class-transcending consciousness is grounded in the socio-ecological tensions underlying the production of value, which became increasingly exacerbated in and through the postwar, cold war regime of critique containment during the latter half of the twentieth century. Following Postone’s (1978: 781) contention that class-transcending consciousness is a category of alienation, contemporary ecological subjectivity must be understood in terms of alienation as well. Regarding the possibility of recognizing

contemporary ecological subjectivity in its mediatedness, Postone (1978: 781) explains that this implies “the desire to abolish and transcend itself” as a category of alienation.

Drawing on Postone’s distinction between class-constituting consciousness and class-transcending consciousness, the category of contemporary ecological subjectivity as an instantiation of class-transcending consciousness is significant because it allows us to situate the emergence and growth of contemporary environmentalism as a global phenomenon in relation to large scale structural transformations. In order to further this understanding, I propose the following distinctions, which help us specify the widespread growth of ecological consciousness at both the global and societal levels: 1) contemporary ecological subjectivity as an instantiation of class-transcending consciousness; 2) contemporary environmentalism as an expression of contemporary ecological subjectivity; and 3) contemporary American environmentalism as a particular societal manifestation of contemporary environmentalism. Table 5 below depicts contemporary ecological subjectivity, contemporary environmentalism, and contemporary American environmentalism in reference to their mode of existence and level of analysis.

Table 5. Contemporary Ecological Subjectivity

	Contemporary Ecological Subjectivity	Contemporary Environmentalism	Contemporary American Environmentalism
Mode of existence	Instantiation of class-transcending consciousness	Expresses contemporary ecological subjectivity	Particular societal manifestation of contemporary environmentalism
Level of analysis	Global	Global	Societal

Understood categorially, contemporary ecological subjectivity is a category that delineates the contours of specific social mediations between social structure and subjectivity. On this basis, contemporary environmentalism as a global phenomenon and as an expression of contemporary ecological subjectivity allows us to further specify the social mediations between social structure and subjectivity. Finally, we must specify further still the particular manifestations of contemporary environmentalism, which will be different within different sociohistorical contexts (e.g. contemporary American environmentalism vs. contemporary French or German environmentalism, etc.). The distinction between contemporary ecological subjectivity (as an instantiation of class-transcending consciousness); contemporary environmentalism, which as a global phenomenon is an expression of contemporary ecological subjectivity; and particular societal manifestations of contemporary environmentalism (e.g. contemporary American environmentalism) can also be thought of in terms of levels of analysis: contemporary ecological subjectivity circumscribes the more abstract, whereas particular societal manifestations of contemporary environmentalism pinpoints the more concrete manifestations of the abstract.²²⁸

By considering contemporary ecological subjectivity as an instantiation of class-transcending consciousness we are able to make better sense out of the paradoxical nature of the environment-society problematic. For precisely when it became possible to question socio-ecological destruction of the capitalist work regime during the 1970s, the necessity of this regime reasserted itself: as unemployment rates skyrocketed, “work” became a matter of increasing social necessity. At the (global) level of contemporary ecological subjectivity, productivity expanded rapidly following the end of the Second World War—a development which, in many ways, would continue to accelerate throughout the latter half of the twentieth century. Contemporary environmentalism as an expression of contemporary ecological subjectivity is reflected in some of the early

²²⁸ However, when thought of in these terms, one must bear in mind that contemporary ecological subjectivity is a categorial category referring to both the subject-object dimensions, which must be understood in terms of mediation.

environmentalist critiques of the domination of nature by technology and industrial society more generally. Because the conditions of possibility which allow us to circumscribe something like contemporary ecological subjectivity emerged within and through an accelerating international arena of socio-ecological relations and exchange, it is no coincidence that the development of contemporary environmentalism as a global phenomenon around the late 1960s and early 1970 corresponds with these larger structural transformations.

These distinctions (contemporary ecological subjectivity, contemporary environmentalism, and contemporary American environmentalism) inform my discussion below, which focuses directly on contemporary American environmentalism. More specifically, I focus on the linkage between cold war science and technology, on the one hand, and a specifically contemporary social conception of nature, on the other. In order to elucidate the significance of this linkage, my discussion aims to ground and elaborate the following three propositions: 1) cold war science and technology are mediated by a regime of critique containment; 2) cold war science and technology were crucial in the production of a contemporary social conception of nature, which today remains central to contemporary environmentalism; 3) contemporary American environmentalism as mediated by critique containment does not recognize itself as such and therefore misrecognizes its own sociohistorical context, including the immanent possibility of moving beyond the environmental destruction that characterizes this context.

4.2 Contemporary American Environmentalism

Throughout the latter half of the twentieth century, the post-World War II form of “economic growth” increasingly outstripped the organizational ability of the nation-state to control its environmental and social effects, which therefore necessitated the need for more effective ecological management and control (Luke, 1997). This dynamic is illustrated by the tremendous growth of technologies produced by and for the American military-industrial-academic complex, many of which would later play a significant role in climatology, earth science, and ecology. Without this knowledge production, it is unlikely that awareness of global climate change, for example, would have occurred as

rapidly as it did (Edwards, 2010, 2006). The cold war infrastructural boost in scientific knowledge concerning biophysical nature (as mediated through the military-industrial-academic complex's role in actively perpetuating a techno-scientific permanent war economy) was instrumental in the production and development of contemporary American environmentalism in the late 1960s and early 1970s. The contemporary earth sciences, for example, are a product of military patronage during the first decades of the cold war.²²⁹

McNeill and Unger (2010) explain,

The fear of communism and its inherent threat to individual liberty, economic prosperity, and political freedom defined Western views of the environment to a large degree. The effort to stabilize one's individual and national standing vis-à-vis an apparently totalitarian enemy resulted in the attempt to exercise as much control as possible over all aspects of life – including the wild, unpredictable environment. This kind of applied fear management clearly depended on science's ability to understand the ways the environment worked, and once scientists had made this knowledge available, it seemed possible to influence even the behavior of the environment. (McNeill and Unger, 2010: 16)

Although politically- and ideologically-active environmentalists and scientists alike attacked this technocratic view in the late 1960s and early 1970s, the very success of environmentalism was actually facilitated by the cold war (McNeill and Unger, 2010: 17). In this sense the postwar, cold war regime produced a specifically contemporary social conception of nature characterized by the need and desire to move beyond the environmental destruction occurring from the 1950s to the 1970s while simultaneously remaining bound intrinsically to this social structure.

The development of the contemporary American environmental movement is complex and multifaceted. Although the growing debate over nuclear fallout during the 1960s (Divine, 1978), the growth of so-called “new social movements” (such as the civil rights and antiwar movements) (Coontz, 1992), and the actual post-World War II expansion of production and consumption (McNeill, 2000; Schnaiberg, 1980; Schnaiberg and Gould, 2000) are important factors to consider, I will focus my analysis on the

²²⁹ The earth sciences and the biological sciences are the two scientific disciplinary forerunners of contemporary American environmentalism (Doel, 2003). Doel (2003: 636) uses the term military patronage to refer to “the assimilation of science into the highest levels of national security and foreign policy planning.”

contemporary social conception of nature produced by the rapid expansion of cold war science and technology, whose direction was determined by the the military-industrial-academic complex mediated in and through the cold war regime of critique containment. In other words, the social conception of nature crucial to contemporary American environmentalism is an indirect product of the cold war regime of critique containment. Due to the detailed and multifaceted nature of the connections between critique containment, science, and the contemporary social conception of nature within the postwar context, my discussion is limited to a brief sketch of the contemporary notion of “limits” to growth and the related concept of “sustainability.” The purpose of this discussion is to illustrate the linkage between cold war science and technology and a contemporary social conception of nature, on the one hand, and contemporary American environmentalism, on the other, as both were mediated by the postwar, cold war regime of critique containment.

Aside from its initial expression with the founding of Earth Day,²³⁰ contemporary American environmentalist discourse in the early 1970s took its lead from the Club of

²³⁰ When considering the significance of the first Earth Day in 1970, it is important to note the relationship between the so-called “New Left” and environmentalism during the 1960s when the Left became increasingly involved in environmental issues. Like the “old” social movements of the past, the contemporary environmental movement is divided internally between so-called “radical” and “mainstream” adherents. Today, for example, environmental politics remain situated in an uneasy relation to the Marxian Left. On the one hand, the rise of the environmental movement in the 1980s, particularly in Europe, marked the sharp migration of people drawn to Marxism in the 1970s to Green politics. On the other hand, a common theme of environmentalism is to impose limits to growth; this theme is sometimes expressed in conservative sentiments against things that the Marxian left historically took to be signals of progress, such as technology, urbanization, and cosmopolitanism. The radical/mainstream division has characterized the contemporary environmental movement since its inception. This division can be seen in the development of the anti-nuclear movement in the United States, which (as mentioned above) is one of the most immediate precursors of the contemporary American environmental movement. Gottlieb (2005 [1994]: 135), in his history of the American environmental movement, initially presents a relatively optimistic view of the anti-nuclear movement: “By focusing on environmental impacts and dismissing the incessant ideological messages of the Cold War, the protesters raised the possibility of a new politics that opposed both sides of the Cold War equally for their nuclear testing.” Yet Gottlieb (2005 [1994]) also argues that the signing of the 1963 Nuclear Test Ban Treaty indicated the anti-nuclear movement posed a serious threat to the established order (i.e. the postwar regime) and had to be contained. In fact, most scholars agree that contemporary American environmentalism had become more or less institutionalized by the late 1960s, citing the first Earth Day in 1970 and the subsequent proliferation, institutionalization, and fragmentation of environmental organizations as evidence (Brulle, 2000). According to Gottlieb’s (2005 [1994]) account, the first Earth Day in 1970 represented a transition away from the tumultuous and destructive New Left activist actions of the 1960s. As Gottlieb (2005 [1994]: 158) puts it, “With the banners folded up, the street

Rome's (1972) *Limits to Growth* and defined itself around limits and survival (Dryzek et al., 2003). In doing so, American environmentalism, according to Dryzek et al. (2003: 58), challenged the state's "core economic imperative." American environmentalism was initially incorporated into the state during the early 1970s (with, for example, the creation of the EPA in 1970) because in the context of continuing civil rights issues and protests against the Vietnam War environmentalism "appeared to be the least radical and threatening aspect of the counter-culture" (Dryzek et al., 2003: 59).

Both the discourse of "limits" and the related concept of sustainability are products of the postwar, cold war regime of critique containment. Taken together, these two cold war products play a significant role in the development of a specifically contemporary social conception of nature that, in turn, facilitated the emergence of contemporary American environmentalism as a societal manifestation of contemporary environmentalism, which as a global phenomenon, is an expression of contemporary ecological subjectivity as an instantiation of class-transcending consciousness. The complexity of the linkages between cold war science and technology, contemporary environmentalism, and contemporary American environmentalism cannot be understood within a uni-linear-causal framework that identifies a point from which social action begins.²³¹

barricades taken down, and the activists dispersed, the legacy of Earth Day remained to be found in the continuing debates over what kind of environmental change was desired, how differing groups would seek to shape a movement, and how such a movement would define itself in relation to the contemporary urban and industrial order." One of the key organizers and proponents of the first Earth Day in 1970 was Wisconsin senator Gaylord Nelson, who wanted to stress the increasing importance of the environmental agenda while at the same time to distance it from radical New Left countercultural activists (Gottlieb, 2005 [1994]: 148-149). "Radical" New Left environmentalists saw the event as a betrayal. President Richard Nixon saw the event in terms of potential voters and shortly thereafter proclaimed the environment a key issue, glorifying the new environmentalism as noble cause to be supported (Gottlieb, 2005 [1994]: 152). Nixon wanted to link his presidency and administration to the environmental cause and advocated the importance of searching for technology-based solutions to environmental problems (Gottlieb, 2005 [1994]: 152). At the same time, the business community began to embrace environmentalism over fear of possible environmental legislation (Gottlieb, 2005 [1994]: 153). Companies in the early 1970s began to associate themselves with environmentally-friendly pollution control technologies, and a number of large-scale corporations gave financial contributions to help organize Earth Day.

²³¹ Moreover, the linkages between cold war science and technology, contemporary environmentalism, and contemporary American environmentalism involve an array of mediations, which compound one another.

Neither the idea of “limits” to growth nor the related notion of sustainability (the two hallmarks of contemporary environmentalism) would have been possible without satellite photography and systems analysis—two quintessential cold war inventions. Satellite photography brought the finitude of the spherical earth into view from space for the first time in 1972.²³² The Club of Rome’s *Limits to Growth*—also published in 1972— was the first study based on systems analysis and simulation modeling to acquire the attention of a large number of the general populous (Edwards, 2010: 366). *Limits*, which went on to sell over four million copies worldwide, became *the* document around which the contemporary environmentalist discourse of limits and survival would form. When taken together the image of earth from space and the idea of ecological limits are central to the contemporary concept of sustainability, which gained widespread notoriety only in the 1980s with the publication of the *Brundtland Report* in 1987.

Both satellite photography and systems analysis have a common cold war origin at the RAND Corporation. The Air Force was the first to come up with systems analysis studies as a way to prepare contract bids (Amadae, 2003: 41). Systems analysis soon became a mainstay at the RAND Corporation, where it was promoted and utilized as “a comprehensive and rigorous science of war” (Amadae, 2003: 43). America’s strategy of containment and the so-called “missile gap” between the Soviet Union and the United States are two examples based on prescriptions derived from systems analysis (Amadae, 2003).

My contention that both the idea of “limits” to growth and the related notion of sustainability should be understood as products of the cold war regime of critique containment does not imply that these technologies are somehow “bad” in and of themselves. I want to emphasize that there is no doubt that without systems analysis and computer simulations our knowledge about global climate change would be impossible (see Edwards, 2010). However, the social mediatedness of such knowledge production (e.g., the ideological context within which this knowledge is produced) raises the issue of

²³² On computers and the cold war, see Edwards (1996). On satellites and the communications revolutions, the “spin off” benefits of military-initiated technology in the private sector, and the creation of the so-called “information society,” see Reynolds, 2010.

the relationship between the centrality of science in identifying global environmental problems and the socioeconomic, political, and ideational context within which such problems are produced and reproduced. Although today's worldwide ecological crises (and the relation between people and biophysical nature more generally) are a consequence of social relations, the importance of science in shaping actual environmental problems, including our knowledge and discourse about these problems, makes it seem as if the issue (and therefore the "solutions") are simply technical rather than social. Within a socio-historical context defined by the ever-increasing objectification of nature via instruments of control, *management* is the *raison d'être* of nature. The affinity with the strategic manageability of nuclear attack and mass panic via civil defense measures,²³³ which brought home for the first time on a massive public scale the "semblance"²³⁴ of the possibility of civilizational collapse, on the one hand, and cold war public policy decision technologies (Amadae, 2003), on the other hand, is difficult to exaggerate. Within this socio-historical context, "nature" is posited as an *external* object that can be quantified, manipulated, and *controlled*.²³⁵

4.2.1 "Limits", Degrowth, and Sustainability

That contemporary environmentalism, in both its mainstream and "radical" forms, misrecognizes its own socio-historical context cannot and should not be explained with reference to some inherent fallibility within contemporary environmentalism itself. This misrecognition must be placed within socio-historical context. Insofar as contemporary American environmentalism (in particular) is a product of the postwar, cold war regime of critique containment, this socio-historical context is also one of apparent decontextualization. This decontextualization implies that the notions of "limits" to

²³³ See Oakes, 1994; Orr, 2006.

²³⁴ I use the term "semblance" here in the sense discussed above in connection with Adorno: that is, socially necessary semblance is both artifice and real. For a discussion of the dynamic logic between these two points of semblance, see Dahms (forthcoming).

²³⁵ It appears that efforts to assert control over the natural environment have given rise to new ecological problems on a scale never before seen, thereby necessitating more control; hence, a dialectic of control appears to be at work.

growth and sustainability as well as recent discussions of “degrowth”²³⁶—so central to contemporary environmentalism—do not, in and of themselves, constitute an opposition to runaway growth.

The discourse of “limits”²³⁷ and recent discussions of “degrowth” serve as indicators of the extent to which environmental thought misrecognizes its own socio-historical context (i.e. its conditions of possibility). On the basis of the critique of SBPh developed in this dissertation, the antagonism between runaway growth and “degrowth” as a condition for ecological sustainability is itself relative to a historically-specific form of social life dominated by capital and the commodity form of social relations. Efforts to move toward ecological sustainability via “degrowth” that fail to recognize the opposition between growth and degrowth as relative to the commodity form also fail to recognize how this reification is integral to the transformation and reconstitution of capital in and through space-time.

4.2.2 “Invisible” Ideology in Contemporary American Environmentalism

Although today’s environmentalist discourse is concerned with an essentially ecological, interconnected view of the relationship between humans and the environment, contemporary American environmentalism was initially concerned with the local (Jasanoff, 2001). Rachel Carson’s (1962) *Silent Spring*, often cited as marking the beginnings of contemporary American environmentalism, sparked scientific research into the hazards of pesticide use, fueled public concern for the environment, and helped make the issue of environmental degradation an issue concerning the quality of one’s life (Gottlieb, 2005 [1994]). Not coincidentally, community health also emerged in the 1960s as a new topic for inquiry and action, as “experts in occupational health were drawn upon for scientific and professional advice” (Hays, 2000: 30).

²³⁶ See e.g. Kallis, 2011; Martinez-Alier et al., 2010. “Degrowth” is different from “decoupling” economic growth from environmental impacts. On “decoupling,” see Naess and Hoyer (2009).

²³⁷ According to Dobson (2000: 62-63), we can identify three elements of the limits to growth thesis that have become crucial for what he calls “the radical green position”: 1) technological solutions will not in themselves bring about a sustainable society; 2) “the rapid rates of growth aimed for (and often achieved) by industrialized and industrializing societies have an exponential character, which means that dangers stored up over a relatively long period of time can very suddenly have a catastrophic effect”; and 3) “the interaction of problems caused by growth means that such problems cannot be dealt with in isolation – i.e. solving one problem does not solve the rest, and may even exacerbate them.”

The environmental issues Americans mobilized, at least initially, were related to their immediate surroundings. According to Jasonoff (2000: 324), “These local events added up to a problem of concededly national proportions.” The Environmental Protection Agency (EPA) was created soon thereafter under President Nixon. Even the “not in my backyard” movement (or NIMBY), ushered in by discovery of Love Canal in 1978 and seen as a hallmark of the environmental justice movement, has deep roots in the ideational context of American society, particularly in the intense evaluative weight given to private property. Related to this particularly American concern for private property is the fact that valuation of public concern (i.e. the “publicity” of a given environmental issue) is much more important in the American societal context (Thevenot, Moody, and Lafaye, 2000: 253-54).

Like many other “new” social movements, contemporary American environmentalism, as it developed in the 1960s, sought to address what it perceived as quality of life issues.²³⁸ According to Lanthier and Olivier (1999: 67-68), environmentalist discourse emerged from a critique of positivism, which had reached its apex by the first half of the twentieth century. At the same time the politicization of science, which had been incited during the Second World War and quickly receded thereafter, was reignited in the 1970s (Hobsbawm, 1994: 250-257). The political and ideological resuscitation of the natural sciences during this time was one of the “natural consequences of the secular economic superboom” (Hobsbawm, 1994: 552). The so-called “greenhouse effect,” for example, only started to be seriously discussed in 1970 (Hobsbawm, 1994: 551).

The political question science found it could not side-step asked about the relation between research and “the social consequences of the technologies it now, and almost immediately, generated” (Hobsbawm, 1994: 555). The issue, as Hobsbawm (1994: 556) indicates, is who sets the limits and directions of scientific research. According to Hobsbawm (1994), the aforementioned question pertains to the political economy of

²³⁸ Within the sociological literature, the ideal type new social movement is largely cultural in character, loose in organizational structure, and oriented toward life-style rather than conventional political issues (Scott, 1990: 14).

scientific research because scientific research is not unlimited and free and because research is conducted in and through social institutions. While these concerns are valid, the question of who sets the limits and directions of scientific research must be placed within the context of alienated social relations as they structure and are structured by the logic of capital.

4.2.3 *American Environmental Politics*

According to Opie (1998: 405-406) two crucial ingredients were required for the emergence of a contemporary environmental perspective in the USA: 1) scientific ecology and 2) the idea that government must intervene as environmental regulator “because the private sector failed to correct abuses and provide answers.” The idea that government must intervene as environmental regulator is itself a product of the postwar, cold war regime of critique containment and is expressive of the “invisible” ideology I discussed previously.

As with other Western industrialized nation-states, the political legitimacy of the United States is contingent upon constant economic growth, which (as indicated in chapter three) tends toward the acceleration of increases in levels of productivity and therefore necessitates virtually exponentially increasing levels of biophysical throughput. In American society, the state can maintain its core growth imperative while ceding to environmental demands in the policy arena because, while there is likely to be much debate from opposing viewpoints, the growth imperative is not necessarily incompatible with, and may even be facilitated through, environmental policy.

The United States is perhaps the best example of what Dryzek et al. (2003) refer to as a “passively inclusive” state. As the authors explain,

A passively inclusive state accepts and accommodates whatever constellation of interests, groups, and movements that social forces generate. Acceptance can take the form of lobbyists on behalf of interest groups walking the corridors of the legislature, a social movement forming a political party to contest elections, representation of a movement’s activists in the organizational structure of an established political party, or responsiveness of a legal system to actions on behalf of a group’s interest (for example, by providing a class action option). (Dryzek et al., 2003: 7)

While it is certainly the case that the United States may be classified as “passively inclusive,” the critical theoretical framework put forth in this dissertation requires that we

rethink what constitutes “successful” environmental politics. There is an overwhelming tendency in capitalist democracies to determine the success or failure of environmentalism on the basis of whether or not the movement “can penetrate the state’s core” and achieve “entry into the state” (Dryzek et al., 2003: 2). Indeed, this assumption is reflected in the contemporary social movement’s literature. Critical reflection on this issue is not meant to downplay the role of the state in relation to contemporary environmental issues and problems, to be sure. While the failure of the political system to adequately deal with environmental problems is particularly acute in the American context, this failure does not negate the fact that the nation-state is likely to be the *necessary* means through which environmental action can be taken even though today’s environmental problems are global in scope. In order to do justice to the intricacies of the environment-society problematic today, analyses of environmental politics must recognize both the possibilities of contemporary ecological subjectivity and the repression of these possibilities within a regime of critique containment while at the same time acknowledging that a society’s ability to confront today’s worldwide ecological crises will differ from one society to another.

Claudia Jauß’s (2001) analysis of the American Clean Air Act illustrates the exceptional character of environmental politics in the United States quite well. Jauß (2001) explains that a particularly American dilemma results when attempts at environmental regulation come into contact with American political culture:

The dilemma has its roots in an understanding of democracy that considers the participation of individual citizens in political decisions to be ideal. According to this idea, every member of the political unit should be able to introduce his or her position and interests into the political process. The individual citizen is the final and decisive authority; his or her will is essential in reaching collectively binding decisions. (Jauß, 2001: 129)

Although not every individual has the necessary resources to participate in the decision-making process, the practical consequence of the aforementioned dilemma is that the “legitimacy of the decision making processes is opposed to their efficiency” (Jauß, 2001: 129). Stated hyperbolically, environmental regulation in the U.S. is “functionally dysfunction.” For example, the said aim of the Clean Air Act is to improve

air quality nationwide “with the help of ambient air quality standards that primarily aim to protect human health and secondarily to protect the environment and other goods” (Jauß, 2001: 130). This goal is to be pursued at individual emission sources only, and it is typically approached by installing specific technologies at each particular source (Jauß, 2001: 130). Although this goal is in clear, direct conflict with the primary goal of economic growth, “solutions” to this conflict, as Jauß (2001) notes, are implemented via economic incentives. When compared to the regulations found in European industrialized nations, the United States relies on market incentives to a far greater extent (Jauß, 2001: 130).

While new and imaginative ways of thinking about the “environmental state” are indeed needed, we must not lose track of the fact that the separation of “the political” from the social, economic, and cultural is in fact ideology.²³⁹ My discussion of the cold war regime of critique containment as developing in and through the postwar configuration, on the one hand, and the mediation of an infrastructure of perpetual war and an “invisible” ideology conducive to the rationalization of capitalist democracy, on the other, highlights the increasingly porous nature of such distinctions. With this in mind, we must not lose sight of the fact that social democracy, and the so-called “environmental state” in particular, refers to attempts to ameliorate environmental destruction “*within* the framework of the necessity imposed structurally by capital” (Postone, 1993: 95 [emphasis added]).

²³⁹ Much of the current literature on the so-called “environmental state” overemphasizes the normative dimension of “the political” and, as a result, fails to recognize how this dimension also is enacted by way of effacing the concrete socio-ecological suffering currently preventing the actuality of ideals such as “sustainability” (see e.g. Ekersley, 2004; Ekersley and Dobson, 2006). For a promising corrective, see Chari’s (2008) political critique of reification.

CHAPTER 5: ENVIRONMENTAL SOCIOLOGY, SOCIOBIOPHYSICALITY, AND CRITIQUE

This chapter discusses the dissertation's contribution and elaborates the implications of the previous two chapters. The project's theoretical and empirical implications are discussed as well. I conclude by indicating some areas for future research.

1. Sociobiophysicality and Critical Theory

The central theoretical contribution of the dissertation is the development of the critical concept of “sociobiophysicality” (SBPh), which was advanced in chapter three against the background of my exegesis of Lukács’s critique of reification, Adorno’s critique of identity thinking; and Postone’s critique of traditional Marxism. It was suggested that in light of the fact that Lukács (1885-1971), Adorno (1903-1969), and Postone (1942-) each wrote successively we might view the core critiques these theorists engaged as attempts to “name” crucial aspects of the nature-society relationship at different successive stages of the development of modern capitalist society. The contribution of SBPh should be viewed in terms of an attempt to further this type of critical theoretical research by moving toward a critical theory of the environment. As such, SBPh is an attempt to “name” crucial aspects of the nature-society relationship, and the critique of modernist SBPh is an attempt to “name” the elusively dynamic nature of the environment-society problematic in particular. In this sense, SBPh is less a category or concept to be applied than it is an attempt to “name” an inherently dynamic process intrinsic to its “object” of study—an historical *experience* whose contradictions and tensions are entwined with those of the thought attempting to comprehend it.

Relatedly, SBPh is rooted in alienation and reification, which, constituted by the capitalist mode of production, are understood as key mediating processes between the subject-object dimensions of the environment-society problematic. This theoretical understanding of mediation—an insight developed by Marx and furthered by Lukács, Adorno, and Postone, albeit in different ways, is also a theory of praxis. Because mediation effects theory as well, the conceptualization of mediation must be adequately contextualized to include an immanent and reflexive critique of its involvement in the process whereby *alienation*²⁴⁰ and *reification* (*qua* alienation as “second nature”)²⁴¹ simultaneously *rewrite reality* so as to inhibit these very same humans from “consciously” recognizing that this is indeed the case. Understood dialectically, this

²⁴⁰ On alienation as self-generated domination, see Postone (1993: 30-33, 68, 126, 158-159).

²⁴¹ On alienation as “second nature”, see Dahms (2011).

implies that people are both producer and product of alienated socio-ecological relations of domination. The concept of SBPh combines Lukács's focus on the subjective dimensions of the commodity with Postone's categorial appropriation of Marx's categories. This allows us to capture both objective socio-“structural” drivers of human-ecological transformation as synchronous with the historical development of the commodity form of social relations. Gleaning insight from Adorno, SBPh underscores the reciprocal need of both the subjective and objective dimensions of the environment-society problematic while emphasizing the disproportionate priority of the objective dimension, which, under existing social conditions, operates in and through individuals as isolated particulars via the unfolding of “the inner composition of elements of nature and elements of history within history itself” (Adorno, 2006 [1964/65]: 116). Such an approach therefore illuminates the constellation of social forces which make up a form of abstract (sociobiophysical) domination that effectively operates in and through actual social and ecological destruction while recognizing these processes as non-identical to, yet simultaneously shaping the possibilities of subjective experience.

Drawing on Postone's critique of the double character of commodity-determined labor, the concept of SBPh allows for a dynamic reconceptualization of reification in terms of the sociobiophysical tensions underlying the production of value; i.e., the necessary social-ecological destruction underlying value as the continual necessity of the present, where the continual necessity of the present is recognized as immanently dynamic. That is to say, capital, as self-valorizing value, tends toward accelerating rates of increases in productivity, which in turn necessitates virtually exponential levels of biophysical “throughput,” thereby effecting quantitative increases in “material wealth” output, even though the resultant increases in value are effected only indirectly. The increasingly anachronistic character of value as a measure of material wealth indicates that the necessity of the present (i.e. value) points beyond itself. At the same time, value remains a structural precondition of the capitalist mode of production. Value, as the social necessity of the present, is the historically determinate nature of *modernist sociobiophysicality*. In this sense, the necessity of virtually exponential levels of

biophysical throughout—the form so-called “economic growth” must take—is a form of social necessity within and through which sociobiophysicality *is* to the extent that both the social and the biophysical are material bearers of objectified time (see Postone, 1993). In other words, the ontology of the material realm—a realm so defended by environmental “realists” emphatically *is* the ontology of the social *mediation* of time, labor, and social domination, or, to use Adorno’s words, “the ontology of the wrong state of things” (Adorno, 1973 [1966]: 11). On this basis, the concept of SBPh redirects our attention to the “social mediatedness” of materiality, which, as stated above, is rooted in an understanding of the reciprocal dynamism of the subject-object dimensions of the environment-society problematic whereby the (heteronomous) objective dimension takes priority insofar as this heteronomy always already *is* under existing social conditions. SBPh makes recognition of this priority explicit because without such explicit recognition, research efforts are unfortunately at the inherent risk of becoming ideology.²⁴² Research rooted in an understanding of SBPh, on the other hand, scrutinizes the present via critique of such heteronomy, which is in line with critical theory’s attempt to explode the analytic/political boundary. Critique of (modernist) SBPh is simultaneously analytic, normative, and political.

Within environmental sociology, there is no critical theory of the environment and I view my dissertation as a step toward remedying this deficit. SBPh is a needed effort in this regard because it allows for a critical, dynamic, and reflexive account of the entwinement of interhuman domination and the domination of the biophysical environment. For example, critique of modernist SBPh draws our attention to the socioecological tensions underlying reification and the production of value, and in this way, provides a critical, dynamic, and reflexive account of so-called “economic growth” in terms of the inextricable connection between the intensifying domination of people by time, on the one hand, and the necessity of accelerating rates of environmental

²⁴² This is because, insofar as the priority of the objective dimension is always already defined as heteronomous, failure to recognize this priority as such, and/or failure to make such recognition an explicit and integral part of the activity of social research, *de facto* risks becoming a reflection of the present in reified, alienated form.

destruction, on the other. In other words, SBPh allows us to understand, theoretically, the history of the present in which both people and biophysical nature, as constituted by the capitalist mode of production, are increasingly rendered material bearers of objectified time at an accelerating rate. SBPh is significant in this regard because it provides an analytically vexing account of 1) the objective drivers of environmental destruction; 2) why this destruction increases exponentially; and 3) how such destruction is intrinsically related to subjectivity. SBPh therefore provides an account of the interrelationship between the subject-object dimensions of the environment-society problematic in terms of a theoretical understanding of mediation that is also a theory of praxis. Although this theoretical understanding of mediation has its roots in Marx, the attempt to further such an understanding via SBPh represents a significant contribution to both sociology and environmental sociology, in part because it provides a much more adequate and theoretically rigorous account of what is today typically subsumed under the framework of “structure” and “agency.”

2. Critique Containment and Contemporary Ecological Subjectivity

Although still theoretically informed, the more empirical contribution of the dissertation revolves around critique containment, cold war, and contemporary ecological subjectivity. I view my analysis of the cold war regime of critique containment and contemporary ecological subjectivity as a critical intervention into the growing environmental discourse—one which provides a theoretical and empirical explanation for why contemporary environmentalism and contemporary American environmentalism in particular fails to engender the types of changes expressed by its needs and desires to move beyond the environmental destruction that characterizes its own sociohistorical context.

2.1 Cold War and the Contemporary Social Conception of Nature

One of the most significant indirect effects of the post-World War II, cold war scientific and technological explosion was a new, sophisticated understanding of biophysical nature.²⁴³ Without the cold war infrastructural boost in scientific knowledge

²⁴³ See, e.g., Edwards, 2006, 2010; Luke, 1997; McNeill and Unger, 2010.

about biophysical nature—mediated through the military-industrial-academic complex and directed toward the active perpetuation of a techno-scientific war economy—the growth of wide-spread environmental attention and concern, including the development of contemporary American environmentalism in the late 1960s and 1970s arguably would have taken much longer (Edwards, 2010, 2006). In the previous chapter I focused on the concepts “limits” and “sustainability” because of the significant role these concepts play in defining contemporary environmentalism and the related criticism of societally-induced environmental degradation. Neither “limits” nor would “sustainability” would have been possible without systems analysis and satellite photography. As products of the cold war regime of critique containment, both systems analysis and satellite photography emerged in and through—that is, are mediated by—the rationalization of capitalist democracy and the military-industrial-academic complex.²⁴⁴ Here the theoretical contextualization of chapter three was extended and specified at the institutional level. On the basis of this contextualization I was able to investigate further the failure of contemporary American environmentalism, in terms of its inability to approach the said aim of effecting social change toward less environmental destruction. In fact, we can see that, from the perspective of the early twenty-first century, the rate at which societally-induced environmental degradation increases has been accelerating since the emergence of contemporary American environmentalism in the late 1960s and early 1970s. However, it is important to recall that the failure of contemporary American environmentalism cannot and should not be understood with reference to some inherent fallibility. Rather, the failure of contemporary American environmentalism must be grasped in relation to the objective sociohistorical context within which it emerged. However, insofar as this sociohistorical context is one of critique containment, it is characterized by an apparent decontextualization and is therefore misrecognized as such. Hence, my immanent critique of contemporary American environmentalism provides a theoretical and empirical explanation for why contemporary American environmentalism

²⁴⁴ My analysis in chapter four focused on 1) systems analysis, which was developed at RAND in order to better facilitate cost-benefit analyses for the Air Force, and was later central in the development of the self-guiding missile; and 2) satellite photography, which is perhaps the quintessential cold war invention.

fails to engender the types of changes expressed by its need and desire to move beyond the environmental destruction that continues to mark its sociohistorical context.

My focus on the relationship between cold war science and technology and the social conception of nature within the context of critique containment is not causal, to be sure. I am not implying that cold war science and technology cause(d) contemporary environmentalism. For the sake of clarity, it will be helpful to restate here some of the more fundamental aspects of the dissertation's theoretical orientation. First, recall that the understanding of mediation advanced throughout this dissertation is also a theory of social practice, whereby people create and are created by social "structure."²⁴⁵ To critique contemporary environmentalism, then, is to critique a specific form of social mediation structured by the commodity form of social relations. Such critique requires a certain degree of self-reflexivity in order to recognize its own active involvement in a social context constituted by alienated social relations. Reification, as social mediation thus understood, produces and is produced by *compounded* levels of social mediation.²⁴⁶ As such, reification plays an important role in terms of key processes of mediation through which people relate to other people and the biophysical environment. Similarly, the linkage between cold war science/technology, a contemporary social conception of nature, and contemporary environmentalism is structured by the commodity form of social relations. This implies that the problem of the development of contemporary environmentalism as a product of cold war science and technology is a social development, which cannot be understood solely in terms of the effects of technology.²⁴⁷ Although science and technology scholars have produced impressive accounts of the social history of science and technology, this work tends to focus more on outcomes with

²⁴⁵ I use "structure" in quotes because the conventional notion of structure tends to imply structure as somehow separate from social actors. Here it is important to recall that social action is constituted and constitutive of social structure. In other words, social structure is not separate from social action. Critique of contemporary environmentalism logically extends to include critique of various societal manifestations of contemporary environmentalism, such as contemporary American environmentalism.

²⁴⁶ See Mészáros (2005 [1970]: 99-114) for a discussion of compounded levels of alienation in relation to science.

²⁴⁷ Here I am indebted to Postone's superb analysis and discussion of the relationship between abstract mathematical time and the commodity form of social relations (1993: 200-217), which parallels my approach of cold war science/technology and contemporary environmentalism in important respects.

reference to technical developments.²⁴⁸ Consequently, the significance of social mediation tends to be either downplayed and unrecognized, or ignored altogether. Following Postone (1993: 203), I would suggest that this work might be enhanced by incorporating 1) a reflexive account of sociohistorical context within which specific technical developments emerged; and 2) a critical and dynamic account of how such developments interrelate to a sociohistorical process that they, in turn, reinforce.²⁴⁹

2.2 Contemporary Ecological Subjectivity

My discussion of contemporary ecological subjectivity aimed to draw attention to the fact that, as an instantiation of class-transcending consciousness, contemporary ecological subjectivity emerged after nearly two decades of global expansion and increases in productivity; in other words, precisely when it became possible to call immediate productive labor itself into question. Although global, particular societal manifestations of contemporary environmentalism (which express contemporary ecological subjectivity) will likely differ in accordance with differing sociohistorical contexts. At this more concrete level—the level of particular societal manifestations of contemporary environmentalism—my immanent critique of contemporary American environmentalism directs researchers toward a more pointed focus on specific social institutions in terms of mediation between the more abstract category of contemporary ecological subjectivity, on the one hand, and the concrete societal manifestation of contemporary environmentalism, on the other.²⁵⁰ The nuanced elements of this approach resist the conceptualization of “globalization” as a singular, unifying process (let alone one driven by a monolithic cause). My position is also at odds with approaches that aim to critique grand historical narratives and place primacy on the role of historical

²⁴⁸ See, e.g., Basalla, 2006.

²⁴⁹ Paul Edwards’s (1996) impressive analysis of cold war technology and political discourse can be seen as an attempt to move in this direction, although this work is perhaps less theoretically coherent (Edwards himself is not a social theorist, to be fair). For a thoroughly contextualized analysis, see Jackie Orr’s (2006) semi-autobiographical genealogy of panic disorder in post-World War II American society.

²⁵⁰ Here I would ask the reader to recall my mention of Adorno’s 1964 lecture on mediation in chapter three above. In this lecture, Adorno identifies three conceptual elements, which, in addition to empirical analysis of the concrete, he contends are central to historical analysis: 1) “the complexity of the pattern”—that is, “the overall process that asserts itself”; 2) “the dependence of that global process on the specific situation”; “and then again the mediation of the specific situation by the overall process” (Adorno, 2006 [1964]: 37).

contingency, focusing instead on the multifaceted nature of sociohistorical and cultural relativity.²⁵¹ Such an approach should be amendable to a variety of methodologies and empirical research efforts rooted in a critical and reflexive perspective. I therefore view the concept of *critique containment* and the category of *contemporary ecological subjectivity* as a critical intervention into the growing environmental discourse—one which furthers recent historical work on the relationship between cold war and contemporary environmental thought by recasting the significance of this linkage in terms of social mediation.

3. Sociobiophysicality and the Treadmill of Destruction

My discussion of critique containment and contemporary ecological subjectivity is consonant with recent environmental sociology literature on the treadmill of destruction (see e.g. Clark and Jorgenson, 2012; Hooks and Smith, 2005, 2012). Drawing on C. Wright Mills (see Mills, 2000 [1956]), Hooks and Smith (2005) put forth the idea of the “treadmill of destruction” in an attempt to specify the environmental impact of militarism as separate, yet related to the treadmill of production identified by Schnaiberg et al. While stressing the distinction between the inner logic of militarism and capitalist production, (Hooks and Smith, 2005: 23) also indicate the need for researchers to “examine the manner in which these two treadmills intersect (often amplifying environmental impacts) in specific times and places.” Of course, the relationship between these two treadmill logics depends on how one conceptualizes capitalism, on the one hand, and political and military power, and the other—and how researchers utilize these conceptualizations to better understand how such processes relate to degradation of the social and biophysical environment. I will return to this in a moment.

As discussed above, treadmill of production theorists justify their focus on the capitalist production process, in part because of the tremendous decision-making power exercised by economic elites, especially with regard to decisions concerning biophysical

²⁵¹ Admittedly, this raises a complex set of issues, which I do not intend to address in detail. However, my position is in line with critical theory’s emphasis on the significance of reflexivity. That is, modern capitalist society is directionally dynamic, and this dynamic is immanent. This dynamic is also what allows reflexivity, including concepts such as social and cultural distance and relativity.

throughput. From this perspective, insofar as they are confined to the logic of profitability, elite decision-making regarding the production process is antithetical to social and biophysical well-being. Viewed in this light, military decision-making regarding actions that can (and do) have devastating social and biophysical consequences, such as the use of nuclear weapons amid geopolitical competition, or the recent spike in “drone” (unmanned aerial vehicles) strikes, cannot be reduced to the logic of profitability, even though these decisions as well as their socio-ecological consequences, may indeed be interconnected with the treadmill of production.

However, if we conceptualize capitalism in terms of its historically specific form of abstract domination, as structured by labor (*à la* Postone), which directs our attention toward the socio-ecological tensions underlying reification and the production of value (see chapter three above), then the focus on elite decision-making within social institutions such as the military, state, or economy is redirected away from these particular individuals and social groups and toward a more pointed focus on social institutions as mediators of a historically specific form of social organization. In other words, a critical theory perspective indicates a shift of focus away from vested “interests” as operating in and through social institutions and toward a conceptualization of social institutions as operating in and through people. For neither the logic of militarism, nor economic decision-making by corporate actors can be adequately understood if confined to an understanding of the decision-making efforts of individual actors. My dissertation points toward a reconceptualization of social institutions, such as the military, university, corporation, and state, in terms of the facilitation of social action.²⁵² Elite decision-making within these institutions could then be reconceptualized in terms of an “external” social necessity (e.g., the type of social necessity that Postone talks about in his reinterpretation of Marx’s notion of socially necessary labor time). This is not to deny the fact that certain individuals benefit from the way the system is organized, to be sure. However, we must recognize that the inner workings of the system cannot be explained by this fact.

²⁵² Cf. Boltanski, 2011.

A more pointed focus on social institutions in terms of mediation is in line with my analysis and discussion of the relationship between the cold war regime of critique containment and the contemporary social conception of nature. The theoretical understanding of mediation advanced here has the potential to enhance recent treadmill of destruction research (see e.g., Hooks and Smith, 2005, 2012) by examining the ways in which militarism impacts concrete human-ecological transformation *and* the social conception of nature, including the conceptualization of human-ecological transformation. Future research in this area might include empirical work grounded in a reflexive recognition of the simultaneous domination of human and non-human natures and focused on the specificity of the treadmill of destruction. For example, this work might examine the defining institutional infrastructure of the treadmill of destruction in terms of the cold war regime of critique containment, thus shedding light on both the subjective and objective dimensions of the environment-society problematic. This research is likely to have an increasing amount of theoretical and empirical purchase as the environmental effects of America's military efforts abroad continue.²⁵³ In this sense, the dissertation's focus on American society quickly becomes global, as the artifacts of American militarism are crucial elements of modernist sociobiophysicality, most of which take the form of weapons of mass destruction.

It appears as though the treadmill of destruction has accelerated since the end of the Second World War. However, as its environmental effects are becoming increasingly expansive, the social space militarism occupies appears to be shrinking (Hooks and Smith, 2005: 31). According to Hooks and Smith (2005: 31), this contradiction between expansions of environmental destruction amid a shrinking social space within which such destruction might be located is of utmost significance in an era of scientific and technological explosion. As the authors explain,

It is counterintuitive to think of the military as posing a greater threat to the environment as its "social space" shrinks. Nevertheless, this contradiction is at the heart of the treadmill of destruction in an era of science-intensive WMD [weapons of mass destruction]. Moreover, this contradiction stands in sharp contrast to the dynamics

²⁵³ Indeed, this is an area of research that has received little to no attention, in part because of the various problems involved in obtaining transparent, reliable information about this problem.

propelling the treadmill of production. The contradictory features of contemporary militarism are driven by a treadmill dynamic. That is, the military is not shrinking because the pressures of geopolitics and arms races have abated. Rather, the declining social space and the concomitant growth in its insulation from democratic oversight are driven by strategic planning and efforts to stay ahead of military rivals. But this smaller military force wields weapons that are increasingly horrific and military research and development is working to make still deadlier weapons. (Hooks and Smith, 2005: 31)

The aforementioned contradiction is currently in the process of unfolding. Barack Obama's presidency, for example, has been defined in part by his endorsement of the military's usage of drones as a new model for targeted counterterrorism. While military drone usage does decrease the number of certain (irreplaceable?) foot soldiers, there is little evidence that the social and environmental impact of drone strikes is less than conventional counterinsurgency techniques. There is need for future research investigating the complexities of such processes. No doubt a consideration of the linkage science/technology and the social conception of nature in terms of mediation will likely enhance related research efforts.

Another related implication of my dissertation, which promises to shed light on the contradiction between expansions of environmental destruction amid a shrinking social space, involves (re)considering and incorporating a critical theoretical understanding of temporality. Here I would suggest that treadmill of destruction research could be furthered by considering Postone's work on the temporal dimensions of productivity and value and my discussion of the socio-ecological tensions underlying reification and the production of value in particular. As already mentioned, Postone's analysis provides an immanent critique and analytically vexing account of the dynamic whereby both people and biophysical nature are increasingly rendered material bearers of objectified time at an accelerating rate. Another related consideration, which is likely to advance theoretical understanding of the contradictory global dynamics of the treadmill of production, is Postone's reinterpretation of Marx's notion of socially necessary labor time in terms of an external social norm impelled via the acceleration of objectified time. Here it is important to recall that this acceleration of objectified time is a process whereby time literally becomes denser at an accelerating rate, as a virtually exponential acceleration in the rate at which biophysical throughput increases is necessitated by the

production of value. In other words, the production of more and more “stuff” is required to effect less and less (indirect) increases in value.²⁵⁴

4. Cold War and Critique

The concept of critique containment and the dissertation’s focus on cold war is potentially significant for the discipline of sociology more generally, which, with few exceptions,²⁵⁵ has not paid adequate attention to the cold war. Such inattention is significant because, as this dissertation makes clear, the lingering effects of the cold war continue to define the present in significant, often unrecognized ways.²⁵⁶ For example, issues of social democracy, governance, and legitimacy, as well as the linkage between economic growth and political legitimacy are issues that cannot be adequately understood unless situated within the context of the cold war, including the significance of its lingering effects. The social discourse on both society and democracy, for instance, is historically specific and quite actually quite recent. For it was only after the Second World War and during the Cold War in particular that democracy became a social issue. Here my dissertation indicates the more general significance of theoretical, historical, and societal contextualization. Such contextualization is particularly important in light of the fact that issues such as economic growth and political legitimacy are likely to become increasingly pertinent vis-à-vis the continual looming threat posed by global warming, which will no doubt require more theoretically rigorous and empirically exact understandings of the politics of global climate change.

²⁵⁴ Hartmut Rosa is another contemporary social theorist working on what he calls the temporal structures of social life. The English translation of Rosa’s theory of social acceleration, which is also a theory of modernity, is likely to be a source of insight in this regard (for a discussion of the state and military as institutional accelerators, see Rosa, 2013: 195-207). According to Rosa (2013: 198), the institutions of the nation-state and the military, which were previously driving forces of acceleration, are, at the beginning of the twenty-first century “threatened with erosion (...) by the very forces of acceleration it [the institutional ensemble of nation-state and military] set in motion.” Cf. Mann’s (2013: 361) contention that the advancement of processes of globalization are complete, having “hit up against the limits of the earth and then ricocheted back on us,” as it were, in a sort of boomerang effect. Perhaps the most obvious indicators of the “limits of globalization” can be seen in terms of the current threats posed by global climate change (see Mann, 2013: 361-399).

²⁵⁵ See, e.g., Abbott and Sparrow, 2007; Dahms, 2006b; Steinmetz, 2005)

²⁵⁶ Here I would direct the reader to Postone (2006), who indicates some of these lingering effects, especially in terms of the absence of a critique of the present. Müller (2010) provides a fruitful account of the cold war in terms of how we today understand the late twentieth century.

The dissertation has implications for the recent ongoing debate within critical theory regarding social critique (see e.g. Boltanski, 2011; Boltanski and Chiapello, 2005; Boltanski and Thévenot, 1999, 2006; Celikates, 2006, 2012; Jaeggi, 2005). Put simply, my project suggests that this debate might be circumvented altogether via a return to the early Frankfurt School tradition of critical theory, which would require confronting and working through the intricate nuances of the subject-object paradigm. While this move is perhaps most obvious for a critical theory of the environment, the *critical* confrontation with materiality via subject-object has the potential to ground the recent critical theory discourse on critique in a way that is more empirically relevant. Unfortunately, critical theory has suffered from a severe Habermasian hangover for quite some time now, hence critical theory's recent discourse on the failure of its discourse on discourse.²⁵⁷ I would suggest Postone's (1993) critical assessment of Habermas as a starting point to begin rethinking the communicative turn along the lines pursued in this dissertation.²⁵⁸

What is striking about the recent critical theory discourse on critique is that what is perhaps most obvious—namely, the absence of a critique of the present—has not been addressed, at least not adequately. Boltanski and Chiapello's (2005) *The New Spirit of Capitalism* is perhaps the most proximate example that I am aware of. My discussion of critique containment in the previous chapter is similar in many ways to the issues Boltanski and Chiapello engage in their book. In fact, I had initially thought about drawing on Boltanski and Chiapello (2005) in order to frame what became my analysis of "critique containment," only later to discover that their analysis was too confined to the French experience to be applicable to my focus on American society. Boltanski's (2011) *On Critique* is also in line with many of the issues pursued in this dissertation, although much of what I find interesting in this work is more or less a restatement of what he and

²⁵⁷ Readers should take this somewhat tounge-in-cheek comment with a grain of salt, as it is certainly not my intention to minimize the breadth or depth of Habermas's rather expansive theoretical work.

²⁵⁸ Such reconsideration would need to provide an assessment of the first generation of critical theorists associated with the Frankfurt School in light of patterns of sociohistorical continuity and change from the 1930s to today (see, e.g., Dahms, 2011).

Chiapello discussed previously in *The New Spirit of Capitalism*.²⁵⁹ One could, for example, use Boltanski's discussion of critique in terms of truth tests and reality tests (Boltanski, 2011: 103-110) to describe the critique of environmentalism (e.g. the critique of "growth"). In this way one could show that the validity claims of environmentalism depend on the science of ecology, whereas environmentalism's positive counterpoint (i.e. its proposals for effective action) depends on the regulatory state. In this sense, one could then describe the "tests" that environmentalism employs—the science of ecology and the regulatory state—as institutionalized. On this basis, one might be able to explain how the critique of environmentalism actually reinforces the existing order, including its environmental destruction.

While my dissertation might have benefited from an engagement with Boltanski's recent work on critique, I should also note that, in my view, Boltanski and his colleagues place an unwarranted primacy on the "everyday" perspectives of "ordinary" actors.²⁶⁰ Although I would certainly not be the first to acknowledge that sociology is today in disrepute, I also believe that the discipline has an important role to play and that sociology should be more relevant publically than it currently is. This is not to say that a sociological perspective (whatever this means) is "superior" to the perspective of "ordinary" actors, but sociology should be able to provide publically relevant knowledge just as geologists provide publically relevant information regarding earthquake hazards.

5. Future Research

My dissertation points toward a number of areas for future theoretical and empirical research. The project points toward future theoretical research on SBPh and a critical theory of the environment. A critical theory of the environment, as opposed to a critical sociology of the environment, is rooted in an immanent critique of the inextricable connection between inter-human domination and the domination of biophysical nature. A critical theory of the environment also involves a rather rigorous

²⁵⁹ See, for example, Boltanski's discussion of complex, or managerial domination as a new political regime of domination. What distinguishes complex, or managerial domination is a unique way of controlling critique—namely, by incorporating it into a system of expertise in order to orient change in accordance with the existing order. See Stoner (2012) for a critical assessment of Boltanski's book.

²⁶⁰ See Stoner (2012) for a succinct overview of this debate and the pertinent issues involved.

degree of self-reflexivity, as this theoretical approach must be immersed in its “object” of study (i.e. the simultaneous domination of human and non-human natures) as an historical experience whose contradictions and tensions are entwined with those of the thought attempting to comprehend it. As such, the dissertation points toward the need for empirically grounded theoretical work on mediation. I would suggest that a theoretical comparison of the concept of mediation in Adorno and Postone’s work, in light of a consideration of Adorno’s “anti-system” and his so-called “theory” of mediation, on the one hand, and Postone’s notion of capital as *Geist*, on the other, would be a distinctive place to start; specifically, a return to Adorno’s critique of identity thinking, and his notion of “socially necessary semblance” in particular, in conjunction with Postone’s critical Marxian theory. Indeed, there is presumably much to uncover by way of a careful theoretical comparison of these two contemporary critical theorists. This comparative effort would also benefit from taking on an empirically-based historical analysis in order to actively engage an encounter between Adorno, who does not put forth a systematic theory of mediation (but see O’Connor, 2006, 2013; cf. Tonon, 2013), and Postone, who for his part attempts to distance himself from early Frankfurt School theorists.

At a more methodological level, the dissertation indicates how an adequate understanding of (modernist) SBPh and the environment-society problematic in particular is impossible without dialectics.²⁶¹ An analytic approach alone simply cannot confront the elusively dynamic nature of the environment-society problematic. However, analytics is still necessary and important in circumscribing the contours of the nature-society relationship. The Anthropocene discourse is one of the most recent (and striking) examples of how an analytic perspective can help us situate the historical specificity of modern society’s increasingly destructive impact on the biophysical environment. Indeed, scientists have been able to pinpoint changes in earth system processes as a result of human behavior with an increasingly accurate degree of precision. However, although scientific research measures the severity of societally-induced environmental

²⁶¹ It should be stressed, however, that both analytics and dialectics are necessary in order to further research efforts accordingly (see Hazelrigg, 2009).

degradation, indicating the increased *visibility* of such degradation, increased visibility does not necessarily correspond with a greater ability to *understand* this degradation, let alone directly pursue action that might move toward ameliorating societally-induced environmental degradation. Although not an explicit theme of this dissertation, it would seem as though a critical theory of the environment might find itself fighting on two fronts at the same time when confronting the issue of science. That is, against the naïve championing of progress through science, as well as against an approach that may too readily dismiss science as “ideology.” However, despite the various complications (and there are many), it is clear that a critical theory of the environment must confront the issue of science head-on, especially considering the significant role played by science in the identification, definition, and legitimation of environmental problems.²⁶²

There is also the related issue of climate change denial, which, especially in the United States, tends to divide the so-called political “left” (democrats) and “right” (republicans), which has received a lot of attention recently.²⁶³ The critical theory approach of this dissertation and of Adorno in particular, sheds light on new and exciting areas for future research on the politics of climate change denial. Here I would suggest reconsidering Adorno et al.’s (1950) study on the authoritarian personality²⁶⁴ to investigate the possibility of an authoritarian element common to both climate change deniers and environmental activists in the U.S. One could then, drawing on contemporary civil society discourse and Marcuse’s notion of “repressive desublimation” and “repressive tolerance,” examine the differences and similarities between the political “right,” whose adherents are typically climate change skeptics, and the political “left,”

²⁶² Here I would again emphasize the importance of conceptualizing social institutions in terms of social mediation, as such a conceptualization directs our focus in relation to societal context. More specifically, this focus allows us to tune into social institutions as facilitators of scientific activity through which the domination of human and nonhuman nature is exercised. This is especially important when considering the interrelationships between institutions such as the state, corporation, and university, within and through which the activity of science takes place. As mentioned, the dissertation’s emphasis on cold war, science, and the social conception of nature, in terms of a focus on social institutions conceptualized in terms of mediation is in line with recent treadmill of destruction research, which, as indicated above, could be enhanced by the critical theoretical approach advanced here.

²⁶³ See, e.g., Gauchant, 2012; McWright, 2011; Poortinga et al., 2011.

²⁶⁴ See Stoner and Lybeck (2011) for an example of the contemporary relevance of Adorno et al.’s original study.

whose adherents generally insist on the reality of climate change and the severity of its consequences. On this basis, one could then argue that “progressive” forces, instead of moving toward their said goal of ameliorating environmental degradation, may actually be transforming and reconstituting societal processes of environmental degradation, insofar as their stance on climate change is defined solely via their opposition to the “right.” In this sense, one could provide a critique of the political “left” and their response to climate change as a reified response to a reified understanding of the problem. Additionally, one might examine the issue of global climate change and public trust in science by questioning the qualitative difference between the political “left” and the political “right.” If the separation between these two political positions is less distant than analysts typically assume, then the issue of climate change and public trust in science can be pursued further. For example, under perfect conditions (i.e., an unalienated and un-alienating society), science would be x . In current reality, however, science is x' —a version of science largely, but not entirely, bound to the existing structure of politico-economic power (i.e., a “lesser” version of science as x). “Leftist” critics point this out, and “rightist” critics recognize this too, but at a very different level. Because the left/right political dichotomy refers to apparently opposite reference frames, we get similar diagnoses, yet radically different conclusions. “Leftists” want to transcend existing conditions and science as x' in order to move toward science as x ; whereas “rightists” want to force existing conditions to be conducive to science as x , but refuse to understand the contradiction between existing conditions and this ideal of science, let alone how existing conditions create and maintain science as x' . In reaction to the cognitive dissonance “rightists” experience, they turn on science as x' , taking it to be science as x , and reject both science as x and as x' without differentiation. Future research in this area promises to contribute to an understanding of the current irrationality of American politics. This work might also provide valuable insight into some of the underlying ideological dynamics currently fueling America’s failure to adequately address environmental issues at home and abroad.

Regarding the continual looming threat of global warming and the need for related research mentioned previously, my dissertation points toward future cross-national comparative research focusing on the linkages between political legitimacy and the form of economic growth that emerged in the advanced industrialized democracies following the Second World War.²⁶⁵ Although today's worldwide ecological problems require global solutions, the nation-state is likely to remain important as the ability of different societies to confront current and future ecological problems will likely differ in accordance with different sociohistorical contexts,²⁶⁶ including differing manifestations of contemporary environmentalism within these sociohistorical contexts.²⁶⁷

²⁶⁵ These nations continue to have a disproportionate impact on global ecological despoliation (see Barnes and Gilman, 2012), although China is not far behind.

²⁶⁶ Münch et al. (2001) provide an excellent example of this type of comparative research.

²⁶⁷ Thévenot, Moody, Lafaye (2000) comparative analysis of French and American forms of valuing nature and modes of justification in environmental disputes is in line with the type of comparative work on societal manifestations of contemporary environmentalism I am suggesting here.

CONCLUSION

The purpose of this dissertation has been to provide a better grasp of the environment-society problematic by situating it in theoretical, historical, and societal contexts. An important concern of this contextualization has been to elucidate the significance of a critical theory of the environment in helping us comprehend humanity's predictable ecological apocalypse. My investigation of sociobiophysicality has shown that a critical theory of the environment focuses our attention on the co-determination of the destruction of biophysical nature as well as our inner nature, whereas my critique of modernist sociobiophysicality has shown the increasing need to scrutinize the simultaneous destruction of the planet and of ourselves in a radical, immanent manner.

Central to the critique of modernist sociobiophysicality developed in the dissertation has been the concept of social mediation. My investigation has shown alienation and reification as key mediating processes through which both the objective destruction of human and non-human natures as well as the subjective misrecognition of such destruction is continuously perpetuated anew. My investigation of cold war, critique containment, and contemporary ecological subjectivity has shown these processes of alienation and reification to be compounded further by additional levels of historically specific social mediations such as the post-World War II configuration of business-labor-government relations, which continues to be geared toward perpetual war, the rationalization of capitalist democracy, and environmental destruction while becoming increasingly less recognizable via the sedimentation of critique containment.

Although some of the greatest risks associated with societally-induced environmental destruction (e.g., sea-level rise) are predictable (Oppenheimer, 2008), the possibility that humans might rationally confront the actuality of these risks in a manageable way is continuously precluded by the *acceleration* of an array of social mediations, such as those just mentioned. Research efforts aimed at advancing a critical theory of the environment have an important role to play in confronting this situation by scrutinizing these mediating processes and their effects in terms of how our lives are

organized and how we relate to the planet. For if we are able to grasp the historically specific social mediations that structure the entwinement of inter-human domination and the domination of biophysical nature, then we will be in a much better position to critically recognize the alienated core of our modern being. Such recognition is a necessary precondition for the possibility of moving beyond human-ecological transformation in its current self-destructive form.

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