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The Walls at the Ends of Empires: Towards a Political Ecology of the Imperial Border

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THE WALLS AT THE ENDS OF EMPIRES:

TOWARDS A POLITICAL ECOLOGY OF THE IMPERIAL BORDER

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ABSTRACT

THE WALLS AT THE ENDS OF EMPIRES:

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This dissertation study investigates the intricate and complicated interplay between the border walls of imperial states, environmental change, and dispossession. Employing a multidisciplinary approach rooted in Political Ecology, and drawing on the theoretical frameworks of Social Metabolism, Social Kinetics, and Green History, the study is built around an analysis of two historical examples: the Roman border walls in the north of England (Hadrian's Wall and the Antonine Wall), and the U.S.-Mexico border wall. The research uncovers two overarching conclusions: firstly, imperial border walls serve as discriminatory structures, targeting and segregating Indigenous populations while asserting control over Indigenous geographies; secondly, the study demonstrates a strong correlation between border walls and climate dynamics. Additionally, the research highlights the temporal and contextual nature of imperial border walls, elucidating their significance with relation to the historical mode of production and metabolism of the state. This dissertation is available in open access at AURA, http://aura.antioch.edu/ and OhioLINK ETD Center, https://etd.ohiolink.edu/etd.

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Keywords: border walls, imperial states, social metabolism, social kinetics, green history, climate

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INTRODUCTION

Every border implies the violence of its maintenance.

-Ayesha A. Siddiqi

Political Ecology and Imperialism

These are exciting times for students of Political Ecology. Recent years have seen the field move into a position of increasing interdisciplinarity. This dissertation, and my own work, represents one such move, cited by one nameless editor as, "the introduction of Political Ecology to the study of imperial borders."[1] The field, perhaps even more excitingly, has also grown increasingly radical. For example, a quick scan of any recent publication in the field would reveal to the reader an increasing sense of revolutionary urgency—of anti-imperialist, anti-colonial, and anti-capitalist perspectives. It is possible that we are riding the crest of what Gavin Bridge, James McCarthy, and Tom Perrault have called the "meteoric rise" of Political Ecology. It is also possible that the exigencies of the current era—the overlapping catastrophes of climate and politics—simply demand a radical turn for the field to remain relevant. Either way, the times are exciting.

For Political Ecologists working on studies in imperial borderlands, investigations and analyses pursued from a Political Ecology lens seem to uncover a world in which, as Wendy Brown has noted, "fundamental tensions between opening and barricading, fusion and partition, erasure and reinscription" materialize as "increasingly liberalized borders on the one hand, and the devotion of unprecedented funds, energies, and technologies to border fortification on the

[1] "Theories of Imperialism," Wikimedia Foundation, 15 February 2023, https://en.wikipedia.org/wiki/Theories_of_imperialism.

other."[2] The power of the field to unveil such tensions lies precisely in the dialectical nature of the field itself—the intersection of politics and ecology, of humanity and the world—and the subtle, often-disastrous ways that species and environment work upon each other, transforming each other over time. However, whether we are at a point where increasingly radical analyses within the field will lead to any real material change has yet to be determined; critique is often brushed aside until it is too late. This dissertation lends its voice to the body of Political Ecology critique on the social and environmental impacts of capitalism.

More specifically, this doctoral dissertation seeks to better understand the interconnections between militarized borders, climate change, and imperialism through a Political Ecological lens. Adopting theoretical elements, and developing a conceptual framework from, anti-imperialist and anti-colonialist politics, Kinopolitics, Green History, and Metabolic Rift Theory, this study examines how the dynamics of imperialism shape and are shaped by militarized borders, while also considering the impact of climate change and the environment on these interconnections. The objective of this research is to contribute to a more nuanced understanding of the interplay between political, economic, and environmental processes, specifically how this interplay both informs and impacts the lives and livelihoods of communities living in—and the victims of—militarized borderlands. This dissertation is ultimately a work of Philosophy; its methods of investigation and analysis are Philosophical; it is a theoretical investigation into a novel area of Political Ecology research, imperial border studies, and sets itself under the aegis of the Environmental Studies, Political Theory, and History from a position of intrinsic transdisciplinarity.

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[2] Wendy Brown, *Walled States Waning Sovereignty* (New York: Zone Books), pp. 19-20.

This study, even more specifically, focuses on the border wall of the imperial state—that looming and divisive edifice—by examining two discrete examples: the United States-Mexico Border Wall, and the Hadrian's Wall-Antonine Wall borderlands of the Roman state in northern Britannia. The imperial wall, emblematized and concretized by these two world historical examples separated by a 1700-year span of time, is simultaneously a structural position of the state and a physicalized policy of the state. To my knowledge, this dissertation is the first delve of Political Ecology into the study of the militarized and fortified imperialist border wall.

The rationale for this study emerges from a general political ethics of the oppressed; a demand for divisive, oppressive, and alienating policy positions, architectures, and geographies to be confronted by the oppressed themselves; to be better understood for the purposes of subversion. Imperial border walls are unique in that they emerge in conquered lands as a strategy of economic control; and in doing so they divide Indigenous peoples. They in fact create, by their very construction, a subaltern. Under imperialism, and imperialist strategies of border management, the militarized border wall becomes a manifestation of colonial violence and oppression. "Every border implies the violence of its maintenance," exclaimed Ayesha Siddiqi in the opening quote of the present chapter, hinting at the dark reality behind the imposed lines, walls, and fences dividing both people and lands.

Border walls, by their very existence, permanently problematize *unwinnable* imperial frontiers. As Wendy Brown observed:

> Rather than emanating from the sovereignty of the nation-state, then, [walls] signal the loss of nation-state sovereignty's *a priori* status and easy link with legal authority, unity,

> and settled jurisdiction. This condition is evident in the fact that the new walls codify the conflicts to which they respond as permanent and unwinnable.[3]

The study of border walls as representations of waning state sovereignties is particularly important in the modern, increasingly neo-liberalized and globalized era, where national and local border walls are being constructed at an increasing rate.[4] Where the imperial, colonial, and implicitly racist mode of resource extraction, production, distribution, and consumption of present-day empire finds itself in a world increasingly no longer able to sustain it, border walls at such an auspicious time have much to tell us about the empire to which we, in the United States, are subjects. However, to ruminate on the future, we must also look to the past.

The Research Process: A Look Back on 2017-2023

In 2016, with Donald Trump's election to the Presidency of the United States—carried along in part on nativist and anti-immigration platforms—the militarization of the United States border gained attention in public political discourse. While the militarized border, the outgrowth of a border strategy from 1848 and the end of the Mexican War, has in fact been undergoing a state of fortification and expansion since its inception, many began to associate border militarization with the rise and popularization of right-wing politics—as though an increasingly militarized border has not been a bi-partisan project from the onset. In 2016, in the newly released *Facing the Anthropocene*, Ian Angus brought to light a Pentagon report from 2003, *An Abrupt Climate Change Scenario and Its Implications for United States National Security*, which

[3] Ibid., 98.
[4] Ron E. Hassner and Jason Wittenberg, "Barriers to entry: Who builds fortified boundaries and why?" in *International Security* 40, no. 1 (2015): 157.

argued that, when faced with the looming threat of climate change and a rapidly changing international relations:

> Nations with the resources to do so [will] *build virtual fortresses around their countries*, preserving resources for themselves. Less fortunate nations […] may initiate struggles for access to food, clean water, or energy.[5]

This assessment caught me completely off guard. The public political discourse in the United States polarized the bipartisan border project into a dichotomy of open/closed borders; with both sides overstating the other in some regards, pointing to truths in other regards. It is no secret that xenophobia and racial homogeneity drive nativist politics, and so at least, in the dichotomizing of the project of border, border justice activists had a position against which to rally. Yet what interested me was that while public pressure was directed at the erasure of the border fortifications along the southern US border, public sentiment and defense did not align. The wall was billed as defensive; yet it clearly was not. Its militaristic character, its purported control of immigration and crime, was rhetoric, and the reasoning behind its construction appeared, considering Ian Angus' revelation, as part of a longer-term strategy, as part of a climate defense policy. But this assertion remained, at first, speculation.

In 2018, following a suspicion that border constructions might follow a deeper logic, however implicit or unspoken, I developed and completed a pilot study[6] to better understand and to test the relationship between climate change and border walls. More specifically, my study employed linear regression to analyze the relationship between Global Mean Standard

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[5] Peter Schwartz and Doug Randall, "An Abrupt Climate Change Scenario and Its Implications for United States National Security" (*Training Document* at FEMA.gov), 2, italics added.

[6] See Appendix 1 for the study referenced, entitled "Do Border Walls Respond to Climate Change? Looking for Meaningful Relationships Between Climate Anomalies and Border Wall Instances Between the Years 1900 and 2014."

Temperature (GMST) averages and border wall instances per year, for the years 1910 - 2014 (n = 104). Linear regression produced a test statistic of f = 17.94 (1,103 DF), with a p-value = 0.0000496, implying both a meaningful and a significant relationship between GMST and border wall instances for a given year, during the span of 1910-2014. In simpler terms—I promise, this will be as deep as this theorist goes into statistical analysis—what this reveals to us is this: border wall constructions over the last year were *significantly* correlated with rises in global temperature averages—surprisingly so, in fact. Even more simply put: the hotter the year, the greater the number of border wall constructions.

Considering the above two discoveries—that 1) doctrinal recommendations made to the Department of Defense both implied and asserted the coming reality of the *walled* world, a world in which the vicissitudes of climate change would drive an increasingly violent and divided geopolitics; and 2) there was a demonstrably significant link between rising temperatures and border wall constructions over the last hundred years—I was driven to develop a dissertation study that focused on the deeper theoretical, historical, and ecological reasonings behind the state-level logics of border militarization while considering not only politics, but *ecology* as well. What would an unflinchingly anti-colonial Political Ecology of the militarized imperial border look like, were it to consider critical theories of imperialism, history, movement, and metabolism? Is there a way to conceptualize the border wall as a political-ecological phenomenon, intimately connected to, shaped by, and shaping the environment?

While many studies exist on both the scope and scale of border fortifications, relatively little has been said as to *why* border walls exist; that is, not much has been written on the complex and interconnected climatological-political factors leading to the creation of border

walls—especially those constructed by the imperialist-colonialist state. On this, Ron Hassner and Jason Wittenberg noted that:

> Scholarly research has had relatively little to say about *why* a state might build a fortified boundary, preferring instead to focus on the significance of borders more generally. Many scholars elide the physicality of borders, choosing instead to emphasize the symbolic functions of boundaries rather than their impact on state power, resources, and security.[7]

Political Ecology as a field is uniquely poised to uncover the driving, overdetermined *rationale* behind the construction and fortification of the militarized border—a phenomenon tied tightly, as mentioned, to colonialism, military conquest, and the struggle for the hegemonic control of natural resources, land, and people—precisely due to the driving interdisciplinarity of the field itself. Political Ecology is a field which considers the response of human societies as species interacting with, changing, and being changed by the complex ecology of the world they inhabit. A Political Ecology of the militarized border, turned toward the growing fortifications, walls, and razor wire of the southern United States border—a border militarizing, in real time, around the logics of imperialism and climate change—has the potential to reveal 1) much about borders, more generally; and 2) much about the walls constructed by war-faring, colonizing, imperialist states, more specifically.

Do the border walls of ancient imperialist states have anything to tell us about the border walls of the modern imperialist state? In Hadrian's Wall and the Antonine Wall, I saw echoes of the US-Mexico border. I saw similarities and I saw dissimilarities, yet ultimately, I saw a prevailing logic of imperialism—a way in which the state understood itself in relationship to the

[7] Ron E. Hassner and Jason Wittenberg, "Barriers to entry: Who builds fortified boundaries and why?" in *International Security* (Cambridge: MIT Press), 161.

land it conquered and to the inhabitants of that land. The imperial state divides indigeneity by virtue of its conquest. It concretizes this division by way of its fortified borders. It creates choke points in Indigenous geographies. It controls the once free travel of populations for the sake of trade, labor, and the financial enlargement of a small sector of the imperial society itself. The border wall is *class struggle* built in iron, stone, concrete, and wood.

This dissertation study ultimately responds to a need for Political Ecology to uncover not only the impetus of the militarized border, but to a need for Political Ecology to take a *political* stance on the matter—for Political Ecology is *political* precisely because it politicizes ecological phenomena. It is an inherently radical and subversive field because it is subversive of capitalism, the driving factor, as noted by the IPCC, behind the anthropocentric sources of climate change.

Mapping the Dissertation

To engage in a dissertation level study of the imperial border, I needed to develop a conceptual map of how I would begin to tackle the somewhat vast theoretical and historical literatures; I needed to map my own discovery. To do so, I utilized a time-tested lens that acknowledged the material and historical reality of political phenomena like imperialism, capitalism, and the Marxist drive for a better world in which the transgressions of both imperialism and capitalism stood to be transcended by a more erudite and communal world. In this world, the vast majority—as opposed to a moneyed cohesion of elite capitalists, financiers, and billionaires—decided for themselves defense doctrines, environmental policies, and the practices of economies of scale. I let data guide my decision-making, yet I always remained sensitive to the real oppressions meted out by the system of imperialism; and I wrote my research up considering the suffering and immiseration heaped upon subaltern peoples, conquered

peoples, and oppressed indigenous peoples by the bordering practices of imperialist states. Human misery, and its eradication, both informed and guided my study.

Taking up the critical, Marxist dimensions of Political Ecology—what I might even call a communist Political Ecology—I surmised that to understand imperialism in the modern era, that I should look for its historical cognate. In doing so, I uncovered that Marxist historians—Marx himself, in fact—understood deeper historical processes at work in the creation, sustenance, and dissolution of imperialism. In other words, to understand the imperial border, specifically the border wall, I needed to know what the wall was built in response to—what force of politics, society, or economy dictated its construction. I needed to consider the border's geography, and, perhaps primarily, as border walls are incredibly resource-intensive and labor-intensive processes/phenomena, I need to understand the historical march of the varying economic phenomena to which border walls were a response.

The wall is not a whim; it is a careful, expensive, critical undertaking—one which is billed as defensive, yet in fact is economic in nature. The wall is an attempt to shore up a phenomenon, to assert, within a conquered territory, that the new governing power now controlled points of transgress and egress, points at which labor forces, people, and goods could move through, tallied by the empire. The empire, reliant upon conquered peoples for cheap labor, for their resources, and for their consumption, needed—and needs—ways by which it can control the numbers; it needs a way it could, through its planners, logicians, and strategists, attempt to mitigate immigration when the need for labor was low, and to boost resource inputs when demand was high.

To understand why the empire needed to do this, why it would develop such a grand, and almost ridiculous, strategy—that is, to wall off an entire landmass—I needed to understand

imperialism in its real historical context. What preceded it? What came after? While Environmental History cannot look to the past to infer prescriptive practices, Political Ecology can do exactly this. In fact, there is no *other* way to derive inferences made from historical data when working in a field of prescriptive ecologies.

CHAPTER 1

MAPPING THE FRAMEWORK

Opening Note

A border wall is the physicalized fragmentation of a once-continuous space; it is a partition, a disruption, and a geographical limit imposed upon a landscape by either economic or by political pressures. A wall—perhaps more abstractly—is also a powerful symbol of division: often cropping up where irreparable rifts in the social metabolic interactions of polity, nature, and economy occur. While often thought to act in a purely defensive capacity, the prevailing impetus of border wall construction is, in fact, tied tightly to *economics*. David Carter and Paul Poast observed that, "[T]erritorial disputes are not consistently found to be a factor pushing states to build walls,"[8] and, while periphery logics indeed exist, the dominant logic of border wall construction is in fact *economic* in nature.[9] As incredibly expensive undertakings, border walls are constructed primarily to protect the economic interests of wealthy states against those of poor states—"a strategy primarily for wealthier states to prevent illicit flows of goods and people from a poorer state."[10] Further, Ron Hassner and Jason Wittenberg have noted that:

> Contrary to conventional wisdom, states that construct such barriers do not tend to suffer disproportionately from terrorism, nor do they tend to be involved in a significant number of territorial disputes. The primary motivation for constructing fortified barriers is not territory or security but economics.[11]

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[8] David Carter and Paul Poast, "Why do states build walls? Political economy, security, and border stability" in *Journal of Conflict Resolution* (New York: Sage Publications), 259.
[9] Ibid., 246.
[10] Ibid., 256.
[11] Ron E. Hassner and Jason Wittenberg, "Barriers to entry: Who builds fortified boundaries and why?" in *International Security* (Cambridge: MIT Press), 158.

While large-scale resource depletions[12] and economic instabilities continue to emerge—*ad nauseam*—from the collision of capitalist production and an increasingly volatile climate, the economic and security practices of the world's affluent states appear to take on increasingly *protectionist* projects. Where border walls appear to respond primarily to economic pressures, then—to go out on a short limb—any economic instabilities exacerbated or caused by troubling global environmental changes could only ever increase the prevalence, frequency, scale, and scope of international (and, potentially, subnational) border fortifications.

Yet this is no short limb: in our climatologically and geopolitically unstable world, border walls are being constructed at an ever-accelerating rate.[13] Between the years of 1800 and 2014, for example, there have been at least sixty-two unique border wall constructions—with a full twenty-eight of those having been constructed since the year 2000.[14] The proliferation of border fortifications follows closely with the trajectory of environmental instability.

In an increasingly unstable and resource-deficient world, the border walls of affluent and powerful nations appear to act as concrete political manifestations of Garrett Hardin's *Lifeboat Ethics*,[15] where, to ensure their survival under circumstances of resource scarcity, the rich act in self-interest to shore themselves up against the poor to protect not only their resources but their social and political homogeneities as well. As capitalist production continues to drive wealth disparity and resource depletions, climatological and environmental changes will only exacerbate

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[12] "Indeed," Ashley Dawson noted in *Extinction: A Radical History*, "there is no clearer example of the tendency of capital accumulation to destroy its own conditions of reproduction than the sixth extinction" (14).
[13] Ron E. Hassner and Jason Wittenberg, "Barriers to entry: Who builds fortified boundaries and why?" in *International Security* (Cambridge: MIT Press), 157.
[14] David Carter and Paul Poast, "Why do states build walls? Political economy, security, and border stability" in *Journal of Conflict Resolution* (New York: Sage Publications), 240. *Articles need vol and #, not place of publication* e.g., 7. Rachel A. Bay et al., "Predicting Responses to Contemporary Environmental Change Using Evolutionary Response Architectures," *American Naturalist* 189, no. 5 (May 2017): 465, https://doi.org/10.1086/691233.
[15] Garrett Hardin, "Lifeboat ethics: The case against helping the poor," Garrett Hardin Society: Articles, accessed 17 March 2023, https://www.garretthardinsociety.org/articles/art_lifeboat_ethics_case_against_helping_poor.html.

such disparities and depletions—swelling the ranks of the poor with newly-dispossessed and landless peoples. While the predictions regarding exactly how many people will be displaced by global environmental change are "fraught with numerous methodological problems and caveats,"[16] agencies such as the Environmental Justice Foundation (EJF) have calculated that approximately 150 million environmental refugees could become displaced by the year 2050, with 26 million people "already [having] been displaced as a direct result of climate change."[17] According to the EJF, 12 million people presently live in poverty due to climate change, 250 million are presently affected by desertification, 508 million presently live in water-stressed or water-scarce areas, and 2.8 *billion* people "live in areas of the world prone to more than one of the physical manifestations of climate change: floods, storms, droughts, [and] sea level rise."[18] In light of these growing dispossessed and displaced populations, the response of the wealthy capitalist states such as the United States will not be—and is not—to welcome the growing numbers of climate refugees with open arms; the response of wealthy capitalist and imperialist nations will not be internationalist, humanitarian, or communitarian in nature. Rather, it will be protectionist—Malthusian—in nature, characterized by a "fundamental meanness"[19] of strategy. The U.S.-Mexico border wall is, and increasingly will be, an exemplar of just such a strategy.

Garrett Hardin's ecofascistic lifeboat *ethics*, affirmed by John Bellamy Foster, and taken at the level of international relations, entails not only a fundamental meanness, but an intrinsic

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[16] Frank Biermann and Ingrid Boas, "Preparing for a warmer world: Towards a global governance system to protect climate refugees" in *Global Environmental Politics* (Cambridge: MIT Press), 61.
[17] Environmental Justice Foundation, "What is a Climate Refugee?" European Parliament, EU, accessed 17 March 2023, http://www.europarl.europa.eu/meetdocs/2009_2014/documents/droi/dv/401_ejfoundation_/401_ejfoundation_en.pdf
[18] Ibid., 2.
[19] John Bellamy Foster, *Ecology Against Capitalism*, (New York City: Monthly Review Press) 150.

eugenicist quality as well, working, as it does, in the favor of wealthy, white-majority, imperialist states. Foster noted that:

> [A]ny attempt to open up international granaries to the world population would only create a situation where "The less provident and less able will multiply at the expense of the abler and more provident, bringing eventual ruin upon all who share in the commons." Charity for the poor would not help the poor, [Hardin] argued, but would only hurt the rich.[20]

In this light, border walls appear as a response to climate change are primarily an example of Hardin's anti-poor, anti-Global South ethos; walls to protect the rich from the poor; the north from the south; walls to protect powerful nations from powerless nations; walls to hoard resources and wealth—the very means of subsistence for human life itself. Further, border walls not only exemplify these Hardinesque ethical practices; they also seem to exemplify the degree to which capitalist production has *rifted* humanity both from itself and its species-level *metabolic* interaction with the Earth. A wall is a powerful symbol of not only physical rift but ecological rift as well.

For the political ecologist, border walls have the potential to reflect the pervasiveness and the progress of the metabolic rift of capitalist production by way of their existence *as a response to* a global environmental change that capitalist production itself has catalyzed. In this dissertation study, I argue that metabolic rift theory has the potential to provide Political Ecologists with a conceptual framework by which to roughly ascertain the degree to which a mode of production has rifted humanity from its metabolic interaction with the earth. Metabolic rift, an idea first introduced to us by Marx—emerging from his studies of the German chemist

[20] Ibid., 151.

Justus von Liebig—is important to us as one framework through which we as Political Ecologists can understand the intersection and the collision of extant human production and reproduction and the biosphere: of capitalism and the earth.

Yet while much work has been done with metabolic rift as a framework for theorizing and analyzing ecological, geographical, and sociological phenomena, not much at attention has been given to the intersection of metabolic rift and border studies—specifically studies on the borders of imperial and hegemonic states, emblematized by the growing unidirectional fortifications, choke-points, surveillance, fences, and razor wire of the southern United States border.

My work in the present study revolves around this driving thesis: large-scale walls crop up where metabolic rifts in the Social Metabolism of the imperialist state are irreconcilable; in so many words, walls crop up to announce the onset of the ends of empires.

To fully understand the contemporary imperialist border, we need to understand imperialist borders more generally; we need to look to other examples—the majority of which are historical or archaeological in nature. Metabolic rift is ultimately not the best way to do historical or geographical analysis given its focus solely on *rifts* and not on perennial *growths*, comings-together, and flourishings. Yet it is extremely powerful when taken as one *component* of a larger historical cycle of *Social Metabolism*: that is, the material interaction of species and environment—the human-earth symbiosis. In the development of the parameters of our thinking in this study, I propose that we understand *rift* along these lines: metabolic rift is one historical moment in the Social Metabolism of a species—a metabolism which most likely has a lifespan.

The limitation of metabolic rift is this: the process recognizes a degenerative rupture, implicitly; it *looks* for rupture. In looking for ruptures in all places, in developing this solely

entropic research mentality, we unfortunately would only ever see rifts; we would only see dissolution. Yet if metabolic rift is but a *moment* in a larger historical social-metabolism, a moment which entails a process of interaction, dynamism, and life, it must also contain moments of metabolic suture and coalescence—metabolic *amalgamations*. Metabolic rift is powerful because it describes what we are witnessing, as Political Ecologists, from the prolonged historical interplay between capitalism and the earth. Yet we are moments in a larger span of time.

The coming section, *Mapping the Framework*, will be my attempt at elaborating a novel conceptual framework for Political Ecologists entering theoretical and historical studies of the borders of empire. I do so ultimately as a student of Environmental Studies, but also as a Political Ecologist working in the dimensions of the field focusing on theory and history. Thus, the bias of the following sections—and of this study more generally—will be towards those fields.

My aim is to begin the theoretical work to historicize and situate metabolic rift within a larger conceptual framework, drawing from Marxist elements of Kinopolitics (the politics of movement), Green History, and empire cycle theory (an element of social cycle theory), undergirded by more implicit constructs of Marxism more generally, like dialectical theory and historical materialism.

Rifts and Walls

Ian Angus lamented that, "[w]e live in a time when decaying capitalism is destroying our planet's life support systems. [...] To prevent political changes that would end their destructive rule, powerful corporations and politicians actively promote misinformation about Earth System

science."[21] In our time, the governmental juncture of gargantuan corporations and paid-for politicians is in very large part responsible for the *sub rosa* defensive and economic plannings which lead to walls and national border fortifications. Walls do not emerge from the will of the people at large, but from the minds of defense planners, acting within the constraints of capitalism, swayed by all the tendencies of racism, classism, sexism, and homophobia entailed by capitalism more generally.

As border walls continue to be built and fortified in an increasingly unstable world, they at the very least provide Political Ecologists with fruitful opportunities to draw connections between politics, practice, and environment. They also hold the potential for Political Ecology to begin to draw connections between national defense planning and climate change—what appear to be siege responses to the coming climate catastrophes and displacements. Where late stage capitalism as an historical mode of production not only drives climate change through its political and economic practices,[22] but where "[t]oday's global patrimonial capitalism is characterized by a massive transfer of public wealth into private hands,"[23] "immense inequities,"[24] and a rampant environmental destruction which has catalyzed, if not caused, the Holocene-Anthropocene extinction, and where walls arise not only along national borders, but within our communities, our families, and ourselves as well, an exploration of border walls through a lens of Political Ecology could not be more timely or more important—especially as public outrage has died down over a growing border wall continuing to be built to the blind eye of one-issue-only liberals; to the blind eye of conservatives who think the borders are being

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[21] Ian Angus, *A Redder Shade of Green: Intersections of Science and Socialism*, (New York: NYU Press), 83.
[22] Intergovernmental Panel on Climate Change, "Climate Change 2014: Impacts, Adaptation, and Vulnerability," IPCC, accessed 17 March 2023. http://www.ipcc.ch/report/ar5/wg2/docs/WGIIAR5_SPM_Top_Level_Findings.pdf2014
[23] Adrian Parr, "Capital, Environmental Degradation, and Economic Externalization" in *The Oxford Handbook of Environmental Political Theory* (Oxford: Oxford University Press), 446.
[24] Ibid., 471.

opened under a mostly-liberal administration. An historical understanding of what walls mean for the state, how we can best understand their implementation in the bigger picture—both are needed if we are to escape the one-sidedness of political discourse around issues of border militarization.

A socialized and a humanized border strategy with regard to climate change would include not only an acceptance of climate refugees, but a sharing of common-pool resources with an underprivileged and a subaltern dispossessed. A siege response to climate change only seems to accentuate the damage, driving capitalism's cycle of the perpetuation of inequality, class society, alienated labor, and predatory division. The Earth itself is an interconnected system in which an essentially international humanity is but one biotic and biospheric component.[25]

Introducing the Problem(s)

Contrary to oil company rhetoric, climate science redaction, and the terminological erasure of climate discourse on the part of prevailing and past legislators of the United States, defensive and economic preparations for climate change are well underway. Not only have climate change and global environmental change been regularly factored into the Department of Defense's quadrennial defense reports since 2010,[26] but—as Ian Angus brought to light in *Facing the Anthropocene*—a Pentagon report as far back as 2003, entitled *An Abrupt Climate Change Scenario and Its Implications for United States National Security*, theorized that:

[25] Will Steffen, *Global Change and the Earth System: A Planet Under Pressure* (New York City: Springer Publishing), 3.
[26] Caitlin Werrell and Franceso Femia, "Climate Change and National Security in the 2014 Quadrennial Defense Review," The Center for Climate Security, accessed 17 March 2023, https://climateandsecurity.org/2014/03/04/climate-change-and-national-security-in-the-2014-quadrennial-defense-review/

> In the event of abrupt climate change, it's likely that food, water, and energy resource constraints will first be managed through economic, political, and diplomatic means such as treaties and trade embargoes. Over time though, conflicts over land and water use are likely to become more severe—and more violent. As states become increasingly desperate, the pressure for action will grow.[27]

In the face of such looming and ominous changes to the global environment, and as introduced in the opening pages of this study, the 2003 report also called for:

> Nations with the resources to do so [to] build *virtual fortresses* around their countries, preserving resources for themselves. Less fortunate nations […] may initiate struggles for access to food, clean water, or energy.[28]

While populist political sentiments in the United States often hold that ex-U.S. president and real estate mogul Donald Trump is responsible for the idea of "The Wall," U.S. border fortifications along the Mexican border have, in fact, been underway for quite some time—with the Secure Fence Act of 2006[29] acting as a legislative addendum to already-existing border fortification segments which have, in fact, themselves been around since at least the early 1990s. David Carter and Paul Poast have noted that, "The United States began construction of a border wall along wide stretches of the US–Mexico border in 2005, while militarization of border management more generally began in the mid-to-late-1990s."[30]

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[27] Peter Schwartz and Doug Randall, "An Abrupt Climate Change Scenario and Its Implications for United States National Security" (Training Document at FEMA.gov), 14.
[28] Ibid., 2, emphasis added.
[29] This is drawn from *Public Law 109 - 367 - Secure Fence Act of 2006*, accessed 17 March 2023, https://www.govinfo.gov/app/details/PLAW-109 publ367.
[30] David Carter and Paul Poast, "Why do states build walls? Political economy, security, and border stability" in *Journal of Conflict Resolution (*New York: Sage Publications), 263.

In a January 2018 tweet, Trump exclaimed that, "The Wall is the Wall, it has never changed or evolved from the first day *I conceived of it.*"[31] The truth of the matter is that, "the Wall" has long been in the works—the logical outgrowth of a protectionist, nativist political strategy in the face of rising resource inequalities, increasing migrancy due to political and environmental instabilities, and growing racial and class-based tensions.

Both the 2006 Secure Fence Act and the 2017 Executive Order 13767, "Border Security and Immigration Enforcement Improvements," were explicitly foreshadowed in the text of the 2003 report, *An Abrupt Climate Change Scenario and Its Implications for United States National Security*, which predicted that:

> The United States and Australia are likely to build defensive fortresses around their countries because they have the resources and reserves to achieve self-sufficiency. With diverse growing climates, wealth, technology, and abundant resources, the United States could likely survive shortened growing cycles and harsh weather conditions without catastrophic losses. Borders will be strengthened around the country to hold back unwanted starving immigrants from the Caribbean islands […], Mexico, and South America.[32]

The U.S.-Mexico border wall is not a whim of any one given U.S. presidential administration. It appears as part of a long-game defensive and economic strategy on the part of the United States ultimately in response to climate change and a changing resource environment with the explicit goal of maintaining U.S. regional—and global—dominance. Such a response is,

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[31] Donald Trump, qtd. in Ron Nixon and Linda Qiu, "Trump's evolving words on the wall," *The New York Times*, emphasis added, accessed 17 March 2023, https://www.nytimes.com/2018/01/18/us/politics/trump-border-wall-immigration.html.

[32] Peter Schwartz and Doug Randall, "An Abrupt Climate Change Scenario and Its Implications for United States National Security" (Training Document at FEMA.gov), 19.

as previously mentioned, nothing but the walled separation of the affluent from the poor; a violence both contrived and concretized by fortifications meant to secure resources for the few despite the many. Ian Angus noticed that the unethical, problematic, and aggressive nature of such a response itself was nothing more than, "a call for the use of armed force against starving people."[33] While the construction and fortification of such a large-scale border wall are presently underway, does it not call for both Political Ecologists, radicals, liberation activists to turn their attention to such a matter as not *separate* from climate change, but one which is intricately interwoven with it?

The assertion that border walls in fact respond to and emerge from economic and climatological crises which themselves emerge from a rift in humanity's "metabolic interaction with nature"[34] will require us to think, primarily, along the following lines: 1) border walls are a political response to economic and climatic crises; 2) economic and climatic crises are an earth system-level response to capitalist methods of resource extraction and production; and 3) border walls are a political-ecological response to capitalist methods of resource extraction and production. If we accept the preceding three points as valid—that is, that point 3, follows logically from the previous two premises—then border walls cannot appear in an isolated light, as simple defensive strategies, or as reflexive responses; they appear as deeply entangled with the interconnected, overdetermined, and complex factors surrounding climate change and capitalism itself—the dialectical relationship between extant human production and the earth. As we will see in the latter half of the study, the imperial border wall is, at its root, a momentous response to a position of maximum imperial growth, of maximum colonial expansion on a given

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[33] Ian Angus, *A Redder Shade of Green: Intersections of Science and Socialism*, (New York: NYU Press), 183.
[34] Kohei Saito, *Karl Marx's Ecosocialism: Capital, Nature, and the Unfinished Critique of Political Economy*, (New York: Monthly Review Press), 67.

geography within a climatologically unstable world. As we will see, the future of the imperial state's hegemony ultimately demands a hardening of its state-level limits; a concretized, expensive, and telling attempt at the control of its resources, materials, and people necessary for its dominance; the poor and the starving be damned.

Understood dialectically, border walls both *emerge from* and *give birth to* the historical epochs in which they arise. In other words, walls at once are structures in-and-of themselves and represent the unique historical characteristics of the polities from-and-within which they emerge.

Walls are a response to the material factors of production and reproduction of societies and states. These factors are, primarily, the ways in which polities engage in the sustenance and survival of their material existences: including methods of materials extraction, production, distribution, and allocation, as well as relationships of production—the ways in which labor is structured, enacted, and valued. J.E. King noted that, "[t]he productive relations are relations of ownership over the productive forces, and hence relations of social, economic and political power."[35] The ways in which social, economic, and political relationships are structured both reflect and inform the ways in which our present materials economies are structured. The accelerating emergence of border walls should signify not isolated instances detached from geopolitical and climatological affairs but should signify a deep entanglement with them: a moment in the unfolding history of the polity.

Climate change and global environmental change are not only acknowledged by defense and planning sectors, but are taken very seriously at high levels in the state, as evidenced not only by the presence of climate preparedness guidelines in the Department of Defense's quadrennial reports, but through historical and extant border fortification acts such as the

[35] J.E. King, "Marxian Economics" in *Routledge Historical Resources History of Economic Thought*, 4, accessed 17 March 2023, www.routledgehistoricalresources.com/economic-thought.

abovementioned 2006 Secure Fence Act and the 2017 Executive Order—both calling for increased border fortifications along the Mexican border. These legislative acts were themselves preceded by a 2003 Pentagon report which called for the very same "fortressification" presently occurring on the southern US border. Taken alongside political and climatological projections of an increasingly warming world, the United States border wall becomes nothing but a bulwark against the dispossessed and displaced populations of Central and South America, and the Caribbean. Further still, the United States is no exception when it comes to the construction of border fortifications. As Ron Hassner and Jason Wittenberg have noted, "the proliferation of [international] fortified boundaries shows no signs of abating. […] One opinion editorial on the barrier 'epidemic' concluded: 'If good fences make good neighbors, then the world is experiencing an unprecedented outbreak of neighborliness.'"[36]

Considering Rift and Metabolism for the Political Ecologist

It is no secret that we live in a time of great upheaval—an upheaval of both earth and society, and an upheaval characterized by the confluence of political and ecological change. As climate scientists, earth scientists, and organizations such as the Intergovernmental Panel on Climate Change (IPCC) have consistently—and alarmingly—demonstrated, such upheavals are *intricately interwoven* with the ways in which human societies organize their methods of production, reproduction, distribution, and consumption.[37] Further, the demographical, economical, sociopolitical, and technological dimensions[38] of a humanity dominated by capitalist production are not only interwoven with such rampant earth-level upheavals and changes; they

[36] Ron E. Hassner and Jason Wittenberg, "Barriers to entry: Who builds fortified boundaries and why?" in *International Security* (Cambridge: MIT Press), 190.
[37] Robert Watson, "Emissions Reductions and Alternative Futures" in *Climate Change and Biodiversity* (New Haven: Yale University Press), 375.
[38] Ibid., 375.

catalyze them. When, under capitalism, human societies produce and reproduce their material existences, they do so in far-reaching and destructive ways. They acidify the oceans, uproot the forests, and desertify the land, causing species-level extinctions so profound as to not have occurred but five times previously in all biological history. As capitalist production progresses, largely unfettered and unchallenged, the biosphere finds itself increasingly under attack for the sake of profit, power, and domination.

The changes and upheavals wrought upon the world by capitalist production will, according to the IPCC, "persist for centuries to millennia and will continue to cause further long-term changes in the climate system."[39] The IPCC's summaries demonstrate to us, rather undeniably, that we must not only curtail but strongly regulate both the means and the methods of our economic production; we must change the ways by which the dominant, now-global socioeconomic order produces and reproduces the material existence of the human species. And we must understand the mechanisms by which contemporary (and historical) capitalist production has, profoundly, "disturb[ed] the metabolic interaction between man and earth."[40] Capitalism, in an act of near ecocide, "produces conditions that provoke an irreparable rift in the interdependent process of Social Metabolism, a metabolism prescribed by the natural laws of life itself."[41] However, as Marx noted in the *Grundrisse*:

> It is not the unity of living and active humanity with the natural, inorganic conditions of their metabolic exchange with nature, and hence their appropriation of nature, which require explanation or is the result of a historical process, but rather the *separation*

[39] Intergovernmental Panel on Climate Change, *Global Warming of 1.5 C°: Summary for Policymakers* (IPCC), 7.
[40] Karl Marx, *Capital: Volume I* (New York: Penguin Random House, 1992), 637.
[41] Karl Marx, *Capital: Volume III* (New York: Penguin Random House, 1993), 949.

> between these inorganic conditions of human existence and this active existence, a separation which is completely posited only in the relation of wage labor and capital.[42]

In other words, it is not—for the political ecologist—the human Social Metabolism itself which is in need of understanding, but the *in situ* characteristics of the *rift* between human social life and the physical earth as it occurs under capitalist production. Here, Marx urged us to investigate the specific *metabolic rift* endemic to the Social Metabolism of capitalism—the relationship of wage labor, capital, and the earth tied tightly not only to the production of and reproduction of economic and social conditions, but to *ecological* conditions as well. Simply put, the rift of capitalist Social Metabolism is not only between physical beings and the physical earth, but between active human social life and the physical earth as well; a rift which is at once physical and social—producing an alienation of ecological, economical, and social import.

Metabolic rift has the potential to operate as an incredibly insightful explanatory, descriptive, and normative framework for Political Ecology precisely because it can characterize the moment at which an imperial economy as mode of production exists in decline; yet it has only recently been taken up by those working and researching in contemporary environmental politics. Metabolic rift provides Political Ecologists and policymakers with the theoretical framework through which to begin to develop successful, effective, and worthwhile pathways to climate mitigation and adaptation. The IPCC themselves recognize the necessity to enact a systemic change that itself moves beyond the capitalist paradigm. In their most recent *Summary for Policymakers*, the IPCC observed that:

> Pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including

[42] Karl Marx, *Grundrisse* (Penguin Books in association with New Left Review,1973), 489, emphasis added.

> transport and buildings), and industrial systems […]. These systems transitions are unprecedented in terms of scale, but not necessarily in terms of speed, and imply deep emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those options.[43]

Here, "system transitions" implies, while remaining carefully hesitant, a transition away from the impacts of capitalist production—a transition away from capitalism—but without the requisite language, such a high-level exhortation upon humanity will always ever fall upon deaf ears.

Marx's conception of metabolism acknowledged a dialectical interconnectedness of humanity and the earth—an interconnectedness which provides, from a political-ecological lens, an explanatory recognition of what Richard Levins and Richard Lewontin called "the interpenetration of parts and wholes."[44] If Political Ecologists and theory-minded activists are to utilize metabolism and metabolic rift theory as an analytical framework in the descriptive, evaluative, and normative sense, we must first recover and briefly recapitulate metabolic rift theory's unique philosophical foundation: what the political philosopher—and my late mentor—Scott Warren called, more generally, *dialectical theory*. Warren noted that:

> Marx's dialectical philosophy calls for reality to be viewed as the reflective and actively redirective existence of human beings in relation to a continually changing and relational world. Man as fundamentally "social man" is viewed dialectically "as a totality of social relationships, changing through history—and, in the last analysis, a being as yet undiscovered and emancipated." Man is the focal subject-object of history and reality: as

[43] Intergovernmental Panel on Climate Change, *Global Warming of 1.5 C°: Summary for Policymakers* (IPCC), 17.
[44] Richard Levins and Richard Lewontin, *The Dialectical Biologist* (Cambridge: Harvard University Press, 1985), 274.

> subject he participates in the creation of the world; as object he is created by the world. He is the creator-creature of the world.[45]

Metabolic rift is a part of Marx's larger dialectical understanding of capitalism and the interaction of humanity and earth. The idea itself rests upon a dialectical conception of humanity and the earth, where humanity is as much "creator-creature"[46] as "species being."[47] For the dialectical thinker, the relationship between humanity and earth is multi-directional; a two-way affair. Jonathan Hughes summed this up with the observation that, "the relation between human beings and non-human nature is a two-way affair. Humans are affected by non-human nature and in turn affect it. Indeed, the two elements of this relation, and their interplay, are essential to our understanding of environmental problems."[48] Like deep ecologists such as Arne Næss, James Lovelock, and even Arthur Koestler,[49] Levins and Lewontin noted three pertinent dialectical premises which seem to lend themselves most heavily to Political Ecology:

1. That, "a whole is a relation of heterogeneous parts that have no prior independent existence *as parts*"[50]
2. That, "in general, the properties of parts have no prior alienated existence but are acquired by being parts of a particular whole. In the alienated world the intrinsic properties of the alienated parts confer properties on the whole, which may in addition take on new properties that are not characteristic of the parts: the whole may be more than the sum of its parts"[51]

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[45] Scott Warren, *The Emergence of Dialectical Theory: Philosophy and Political Inquiry* (Chicago: University of Chicago Press, 1984), 69.
[46] Ibid., 69.
[47] Karl Marx, "Alienated Labour" in *Early Writings* (New York: McGraw Hill, 1964), 126.
[48] Jonathan Hughes, *Ecology and Historical Materialism* (Cambridge: Cambridge University Press, 2000), 86.
[49] Arne Næss and David Rothenberg, *Ecology, Community, and Lifestyle: Outline of an Ecosophy* (Cambridge: Cambridge University Press, 1989); James Lovelock, *Gaia, a New Look at Life on Earth* (Oxford: Oxford University Press, 1979); Arthur Koestler, *The Ghost in the Machine* (London: Hutchinson, 1967).
[50] Richard Levins and Richard Lewontin, *The Dialectical Biologist* (Cambridge: Harvard University Press, 1985), 273.
[51] Ibid., 273.

3. And that, "the interpenetration of parts and wholes is a consequence of the interchangeability of subject and object, of cause and effect. […] Organisms are both the subjects and the objects of evolution. They both make and are made by the environment and are thus actors in their own evolutionary theory"[52]

The dialectical framework rests upon the notion of *sublated interdependence*—the unity, struggle, and arrival—of opposites; on the notion that parts comprise a whole, that a whole comprises parts, and that opposing phenomena can and must coexist under the concept of the total—that internal contradictions between these opposing phenomena *define* the total, and the historical existence of the total. Dialectical thinking is also, at heart, an analysis of change in that opposing duals such as humanity and environment do not sit in static opposition to each other, but in dynamic, transformative-interactional, and kinetic opposition; where each side both posits and informs the other, over time.

Hegel argued that this dialectical relationship of opposites was comprised of an actual, or kinetic movement where:

> [t]he movement is the two-fold process and the genesis of the whole, in such-wise that each side simultaneously posits the other, and each therefore has both perspectives within itself; together they thus constitute the whole by dissolving themselves, and by making themselves into its [the whole's] moments.[53]

Elsewhere, Hegel also noted that, "[t]he two sides [i.e. subjectivity and objectivity] must be distinguished—each as independent [*für sich*]—and posited as identical."[54] The dialectical conception itself—the nuanced, progressive, and transformative unity of opposites—is one

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[52] Ibid., 274.
[53] G.W.F. Hegel, *Phenomenology of Spirit* (Oxford: Oxford University Press, 1977), 25.
[54] G.W.F. Hegel, *Elements of the Philosophy of Right* (Cambridge: Cambridge University Press, 1991), 138.

which at once acknowledges both the *part* and the *whole*; avoiding the problematic reduction of one into the other. In this regard, it is neither reductive-idealist nor reductive-materialist in nature but begins from the complex and nuanced presentation of reality itself: a two-way causation—of part and whole, species and environment, human and world. Borna Radnik elaborated on this, by stating that:

> [t]he treatment of causation in *The Science of Logic* is not a simple movement where one term encounters its antithesis and sublates itself. On the contrary, causality engenders a reciprocal action, and is what Hegel calls a *double transition* or a double movement (*gedopplete Bewegung*), where the cause determines the effect, and the effect determines the cause.[55]

Further, in *The German Ideology*, Marx and Engels proclaimed that, "In direct contrast to German philosophy [a soft reference to Hegel] which descends from heaven to earth, here we [also] ascend from earth to heaven."[56]

In short, the dialectical framework—the epistemological framework underpinning metabolic rift—is not a reductive materialist analysis which posits a one-way material causation, but a two-way, dynamic framework which serves our purposes better than either a reductive positivism/hyper-materialism or a reductive constructivism/hyper-idealism. Dialectical theory is a superior framework for Political Ecology in that it both straddles and sublates both post-positivist and constructivist positions on what I see as a fuller and more nuanced lens for investigations on the intersections of politics and ecology. V.J. McGill and W.T. Parry shed for us a little light on the history of dialectics by noting that:

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[55] Borna Radnik, "Hegel on the Double Movement of *Aufhebung*" in *Continental Thought and Theory: A Journal of Intellectual Freedom* (Canterbury: University of Canterbury, 2016), 194.
[56] Karl Marx and Friedrich Engels, *The German Ideology* (Eastford: Martino Publishing, 2011), 14.

> [t]he unity of opposites, which Lenin described as the most important of the dialectical principles, states that a thing is determined by its internal opposites. [...] The principle was first put forward by the Milesian philosophers of the sixth century B.C., and by their contemporary, Heraclitus of Ephesus. It held its own through centuries of philosophical thought, though it took various forms which were seldom clearly distinguished.[57]

McGill and Parry further noted six important theses of the dialectical framework—theses we would do well incorporating into our conceptual framework, prior to our investigations into the border:

1. (a) "The conception (or perception) of anything involves the conception (or perception) of its opposite," and (b) "The existence of a thing involves the existence of an opposite"[58]
2. "Polar opposites are identical"[59]
3. "A concrete thing or process is a unity of opposite determinations"[60]
4. "A concrete system or process is simultaneously determined by oppositely directed forces, movements, tendencies, i.e., directed toward A and -A"[61]
5. "In any concrete continuum, whether temporal or non-temporal, there is a middle ground between two contiguous opposite properties A and -A, i.e., a stretch of the continuum where it is not true that everything is either A or -A"[62]
6. "In any concrete continuum, there is a stretch where something is both A and -A"[63]

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[57] V.J. McGill and W.T. Parry. "The Unity of Opposites: A Dialectical Principle" in *Science and Society* (New York: Guilford Press, 1948), 418.
[58] Ibid., 421.
[59] Ibid., 422.
[60] Ibid., 422.
[61] Ibid., 422.
[62] Ibid., 422.
[63] Ibid., 422.

Our framework requires a dialectical method which, although obscured by recent history, flourished in the writings of such Soviet thinkers as Evald Ilyenkov, who argued that:

> [I]n order for dialectics to be an equal collaborator in concrete scientific knowledge, it must first develop the system of its own specific philosophical concepts, from the angle of which it could display the strength of critical distinction in relation to actually given thought and consciously practiced methods.[64]

Thomas Martin further observed that, "[n]ot until the nineteenth century did anyone seriously suggest that dialectic is not only the best way to *talk* about the world, but is actually the way the world *works*."[65] Martin summed up the dialectical framework quite nicely by noting the four following principles of Engels' work in *Dialectics of Nature*, from which both Levins and Lewontin and McGill and Parry derived their theses:

1. "First, Engels argued that the natural world is full of contradictions. […] Harmony is possible only in a static system, Engels wrote; the very dynamism of the world requires the existence of contradiction"
2. "Second, dialectical change is not merely the rearrangement of atoms; simple forms evolve into higher, more complex levels, displaying emergent qualities not present at an earlier stage. Engels called this a 'leap' across a 'nodal line' from quality to quantity"
3. "Third, change occurs because of the dialectical tension between opposing processes. This 'law of the interpenetration of opposites' is rather like the Taoist concept of dynamic equilibrium," and

[64] Evald Ilyenkov, *Dialectical Logic* (Gary: Pravda Media, 2014), 121.
[65] Thomas Martin, *Greening the Past: Towards a Social Ecological Analysis of History* (Brooklyn: International Scholars Publishing, 1997), 263.

4. "Fourth, each stage of the dialectic, every synthesis, contains the seeds of its own destruction. This is because each entity is made up of opposing elements […] 'the law of the negation of the negation.'"[66]

These four premises provide for Political Ecology a ground-level theoretical framework through which we can begin to explore the dialectical relationship between metabolic rift, national border walling, and theories of imperialism. Martin concluded that:

> Engels developed (mainly in the *Anti-Dühring*) his famous [dialectical] laws: the interpenetration of opposites, the transformation of quantity into quality [and vice versa], the negation of the negation. These three propositions, if we can divest them of their later accretions and apply them to an ecological world-view, can provide a suitable foundation for environmental ethics.[67]

Dialectical theory is an at-times-complicated, but always-nuanced lens through which to view phenomena that have typically been separated out for the sake of analysis, *e.g.*, mind and body, self and other, species and environment, etc. Dialectical theory, most importantly, connects metabolic rift to a larger historical process, which I shall cover in greater detail below.

At root, we can sum up by understanding that dialectical thinking strives neither to reduce overdetermined and complicated processes into a singularity, nor does it strive to needlessly separate and categorize where such phenomena only ever present themselves as nuanced singularities. In other words, as a conceptual device, dialectical thinking is a critical framework which neither reduces nor needlessly complicates; it understands that singularities and complexities are part of a greater, dynamic, and historical whole.

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[66] Ibid., 266.
[67] Ibid., 268.

Further, for Political Ecology, dialectical thinking also captures the historical movements of polities and of societies, where evolutions from one form, sphere, or category to another—from centralized to decentralized. feudal to imperial, and so on—are conceptualized in a fashion which is neither ad hoc, chaotic, nor illogical; but where futures are contained within pasts and presents, and where pasts and presents prefigure eventual *becomings*.

Marx once noted that, "Plants, animals, minerals, air, light, etc. constitute, from the theoretical aspect, a part of human consciousness as objects of natural science and art; they are man's spiritual inorganic nature, his intellectual means of life […]."[68] Here, Marx recognized that the world as-it-is comprises not only our material existences but our reactions to these existences as well—that we cannot think outside of the world itself, with concepts that come from elsewhere. We are inextricably entangled with the world and, for our sake, any analysis taking place within Political Ecology must first take place from a position recognizing the deep dialectical entanglement and interconnectedness of human and environment, and the overdetermination of all phenomena relating to that juncture.

Marx's unique view of metabolism, which followed his reading of the prevailing agricultural science of the mid-1800s—such as Justus von Liebig's work[69] on *Stoffwechsel* (material change/exchange)—rests upon a philosophical materialism that acknowledges the species-being's[70] relationship to the world. The importance of Marx's materialist reconfiguration of this type of dialectical thinking about the human-earth relationship is bound up within the idea that the truth of a given matter begins not from where humanity imagines itself to be—from cultural mythos and ideological mysticisms—but from what humanity is *in actu*; as it presents

[68] Karl Marx, "Alienated Labour," in *Early Writings* (New York: McGraw Hill, 1964), 126.
[69] John Bellamy Foster, *Marx's Ecology: Materialism and Nature* (New York: Monthly Review Press, 2000), 148-155.
[70] Karl Marx, "Alienated Labour," in *Early Writings* (New York: McGraw Hill, 1964), 126.

themselves to the silent, observing, and critical eye of the production and reproduction of physical existence.

Marx understood that an "animal is one with its life activity," and, further, that "it *is* its activity."[71] That is, the animal itself, the human animal specifically, *is* as it *does*. Given that we understand the metabolic rift as a natural course of development in the historical march of capitalism; given that "the long-distance trade in food and fiber for clothing made the problem of the alienation of the constituent elements of the soil that much more of an 'irreparable rift' [which itself was] a natural course of capitalist development."[72] Given that we can see extant border militarization and fortification as a similarly natural course of capitalist development, emblematic of its rift with nature, with regard to both a changing environment and international relations around the topic of resource sharing, all of this necessitates that we understand specifically what metabolic rift *means* with regard to our larger timescales of regional and global interaction with the biosphere. We must understand that a Social Metabolism is, most essentially, a mode of production in the Marxist sense. We must understand that modes of production change, over time and space, that every society undergoes its own historical progress with regard to the modes of its production and reproduction, and, maybe most importantly, that this progression follows, when viewed from the Marxist lens, a dialectical process of struggle, a collision of opposites over time, and, ultimately, a type of cyclical behavior with regard to political strategies of expansion and contraction, growth and collapse.

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[71] Ibid., 127.
[72] John Bellamy Foster, *Marx's Ecology: Materialism and Nature* (New York: Monthly Review Press, 2000), 156.

Metabolism, Ecology, and Nested Open Systems

Ecological systems—and this includes human systems—exist as vast and nebulous interconnections of nested and dynamic hierarchies,[73] where feedback loops and positive restraints are enacted over time by larger ecological systems upon the smaller systems nested within them, and where these systems also fall sway to the larger movements of matter itself. It is the tendency of systems to strive towards equilibrium, for biotic systems engaged in metabolism with their environment to persist in the face of entropic forces—in consumption, energy transformation, and waste production. Ideally, a biosphere founded upon complexity—with dynamic and interconnected biotic and abiotic systems interacting with and transforming energy for each other in ways that are sustaining, growth-oriented, and biophilic—will in a sense maintain, for a time, a type of patchy equilibrium. But the earth system is dynamic, and equilibrium is never long-lasting. This is especially true for human systems.

The so-called "balance of nature":

> [...] does not exist, and perhaps never existed. The numbers of wild animals are constantly varying to a greater or less extent, and the variations are usually irregular in period and always irregular in amplitude. Each variation in the numbers of one species causes direct and indirect repercussions on the numbers of the others, and since many of the latter are themselves independently varying in numbers, the resultant confusion is remarkable.[74]

As Jianguo Wu and Orie Loucks have similarly pointed out, the idea of the "balance of nature" is one which is generally no longer viable, and one which no longer follows our data-driven

[73] See, more generally, Wu and Loucks, "From Balance of Nature to Hierarchical Patch Dynamics: A Paradigm Shift in Ecology," in *The Quarterly Review of Biology* (Chicago: University of Chicago, 1995).
[74] Qtd. in Wu and Loucks, "From Balance of Nature to Hierarchical Patch Dynamics: A Paradigm Shift in Ecology" in *The Quarterly Review of Biology* (Chicago: University of Chicago, 1995), 40.

ecological observations. In its place, ecology generally entertains a new and more representative view of spatially, temporally, and scale-specific hierarchical systems and ecological patchiness: a framework in which systems are transformative, dynamic, and haphazard, eschewing balance for dynamism and change.

Pyotr Kropotkin, whom I might consider the best of the anarchist theorists of nature, once observed that, "[s]ociability and need of mutual aid and support are such inherent parts of human nature that at no time of history can we discover men living in small isolated families, fighting each other for the means of subsistence."[75] Conversely, yet not unrelatedly, Marx once also observed that, "[n]ature is the inorganic body of man; that is to say nature, excluding the body of man. To say that man *lives* from nature means that nature is his *body* with which he must remain in a continuous interchange in order not to die […] for man is a part of nature."[76] Taken together, we can, from these two statements, assume two things:

1. The individual human, as a species-being, has a *species-life*[77]—that we are, as human beings, intrinsically communitarian creatures requiring, for our survival, entangled, cooperative, and economically-supportive relationships with other members of the species—and
2. In addition to humanity's intrinsic mutualism, we—as species-beings—also require a mutualistic interchange with the earth system; with the great body of nature itself.

In a *community ecology* sense, the individual human species-being as organism lies nested within its population, populations which now thrive in most landed areas of the globe, nested amidst many of the varied biological communities of local ecosystems; larger ecosystems which lie nested within the biosphere; the biosphere itself lying nested within the fullness of the

[75] Piotr Kropotkin, *Mutual Aid: A Factor of Evolution* (Scotts Valley: CreateSpace Publishing, 2015), 118.
[76] Karl Marx, "Alienated Labour," in *Early Writings* (New York: McGraw Hill, 1964), 127.
[77] Ibid., 127.

cosmological system. It is no great stretch, then, to assert that humanity can be conceived, in a purely ecological sense, as a category within the *nested open system* of our biosphere.

At one level of this scalar framework in which humanity finds itself—nested somewhere between the species as a whole and the local community—lies the state; a hyper-organismic *political-ecological* structure in which the constituent agents—the subjects of the state—produce and reproduce their local-global organismic existence. The biological is, at one scale, *political*. Jiun-Jiun Ferng expanded this notion with the assertion that:

> The global system contains nations, each of which sustains itself by exploring resources both inside and outside of their borders. Significant amounts of international trade flows can substantially affect how a nation, either an exporting or importing nation, utilizes its land and resources and the type and amount of waste it generates. The resulting overall patterns of land/resource use and waste emissions on the Earth could be the underlying cause of the observed changes in two essential life-support functions, energy flow and the biogeochemical cycle, which shape the ecological infrastructure on which all nations depend.[78]

Where nation and state-level populations of the human species now produce and reproduce their existence on such a scale as to impact the delicate biospheric balance of the earth system—catalyzing climate change, biodiversity loss,[79] habitat fragmentation, and sea-level rise *over time* in increasingly tumultuous and catastrophic ways—the social and political organizations, as well as the economic modes of production of the human species itself now finds itself the target of the political ecologist. In an era of mass extinction, climate change, and increasing geopolitical

[78] Jiun-Jiun Ferng, "Nested Open Systems: An Important Concept for Applying Ecological Footprint Analysis to Sustainable Development Assessment" in *Ecological Economics Vol. 106* (Amsterdam: Elsevier, 2014), 107.
[79] See, more generally, Susan Kolbert, *The Sixth Extinction: An Unnatural History* (New York: MacMillan Publishers, 2015).

unrest, a metasystems, state, and nation-level view of human Political Ecology—and the history thereof—must come to light.

The political-ecological systems of human populations progress by way of what appears to be an historical dialectic of order and disorder, of centralization and decentralization. Such a dialectic is, by necessity, both systemic and energetic, *i.e*., it is both physical and biochemical; organismic and ecological. All nested ecological systems are bound to this dialectic, as such a dialectic could only ever emerge from, signify, and represent the onto-ecological structure of the earth system itself. Such a dialectic occurs not only through the Marxist lens—where, as Thomas Martin observed, "[t]hings are not separate, existent or nonexistent, right or wrong; the reality lies in their interconnections and overlappings."[80]

At the heart of metabolism is energy exchange. Metabolism—regardless of scale—comprises the transformation of matter and the circulation of energy for the purposes of life. This is true on the cellular, the organismic, the species, the state, and the planetary level. On this, Folke Günther and Carl Folke articulated that:

> [a] living system must extract exergy from its environment (either directly from solar energy photosynthesis, or indirectly through food consumption) to structure itself. Eventually, the same amount of energy as extracted will be exported from the system. According to the second law of thermodynamics, the exported energy is always of a lower quality, in the sense that it has lower exergy content.[81]

In the quest for (thermal) equilibrium, the physical quantities of the universe tend towards a dissipative function known as *entropy*. Life itself, as noted by Schrödinger seems to break:

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[80] Thomas Martin, *Greening the Past: Towards a Social Ecological Analysis of History*. (New York: International Scholars Publications, 1997), 267.
[81] Günther Folke and Carl Folk, "Characteristics of Nested Living Systems," in *Journal of Biological Systems* (Singapore: World Scientific, 1993) 3.

> the second law of thermodynamics by maintaining a state of high order within their boundaries. Increase in internal order means that exergy is stored in living systems. Living systems with their low and internally decreasing entropy content contrast with the gradually increasing entropic state that is an elsewhere universal phenomenon for close-to-equilibrium processes in isolated systems. However, living systems are neither isolated nor close to equilibrium. A living system must exchange exergy (closed systems) or both exergy and matter (open systems) over its boundary.[82]

While the general tendency of the matter itself is towards an increasing dissipation of heat in the quest for equilibrium, living systems present something of a conundrum: by way of biospheric propensities—cooperation and mutualism—living organisms survive and thrive by sequestering energy (as exergy) through a metabolic interaction with not only other components of the biosphere, but with inorganic matter as well. Thus, metabolism is not only a critical function where the existence of life is concerned; and not only does it seem, in some strange way, to persist despite what our conceptions of thermodynamics tell us is true; it slows the death of the universe by way of its energy and entropy sequestering. Life thus engages in the act, by virtue of its very existence, of maintaining the inorganic universe, of rebelling against demise and dissolution. *Life itself is revolutionary*.

As Thomas Martin so eloquently put it:

> Life itself is a rebellion against the entropic mandate of the universe. We are born in revolt, we live our lives struggling to break the second law of thermodynamics, we

[82] Ibid., 3.

> persuade ourselves that not even death is surrender. In a very real sense, resistance to authority *is* the essence of the human condition.[83]

A New Feudalism?

Many scholars might see, and in fact have commented on a similarity between the growing border wall on the southern U.S. border and a type of *feudal* defense enactment—conflated, as they are, with the castles and curtain walls of the European Middle Ages. This is, however, incorrect. I state this because it is important: in seeking to define what the border wall *means* for the imperialist state, we must do away with the notion that the wall is somehow an aspect of or a vestige of feudalism. Rather, we should begin to understand that feudalism and imperialism, related as they are, are counterposed to each other as well. In fact, a sound conception of feudalism, and an understanding of feudalism *in relationship to* imperialism, is an important component of our conceptual framework. Feudalism both follows and precedes imperialism and can thus be conceived as an epoch within the larger movement of epochs, characterized by its unique forms of oppression and class struggle. This struggle manifests as what economist Trout Rader called the *Empire Cycle*.

Many scholarly voices have made the claim that we, under the rule of capitalist production, live under a sort of *new feudalism*. While the concept of new feudalism, or neo-feudalism originally emerged during the 1960s as a critique of socialist regulative policies, the term itself has recently been directed towards the implications of social media in social and economic disparities of the late capitalist epoch. As liberal democracy's progressive and protective equities erode, as wealth disparities progress alongside an increasing chasm between

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[83] Thomas Martin, *Greening the Past: Towards a Social Ecological Analysis of History* (New York: International Scholars Publications, 1997), 132.

dominant and submissive social classes, and where capital has recreated new and inherited lineages of wealth, power, and domination, many commentators have noted the similarity between feudalism and our own late capitalist world.

In the heart of such a world—the United States—commentators such as Evgeny Morozov have argued, for example, that Silicon Valley titans such as Google and Facebook represent lordship in this new feudal reality. In "Tech Titans are Busy Privatizing Our Data," Morozov noted that: "Silicon Valley [will] usher in a new form of feudalism that would make the unhinged privatisation of the last few decades look like socialism."[84] Others have characterized wealth disparity as characteristic of the return to feudalism. "We're living in a system of new feudalism," David Degraw exclaimed, arguing that, "[a]fter analyzing the concentration of wealth within the United States, the conclusion is clear: America has become a feudalistic society. The income gap between the top 1 percent of the population and the remaining 99 per cent is now at an all-time high."[85]

Some have commented on the rise of militarism in capitalist society, the new and violent status quo, as a type of feudalism. However, in actual feudal societies, warfare was strictly limited to the fighting classes; civilians were in fact off limits; towns were rarely targeted; and there were many "Truce of God" days every year in which no fighting at all was permitted. Others believe that our unequal legal and political structures—differing social realities for dominant and subordinate social classes—are indicative of the new feudalism.

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[84] Morozov, Evgeny. "Tech Titans are Busy Privatizing Our Data." *The Guardian*, 2016. Accessed March 17, 2017. Available at: https://www.theguardian.com/commentisfree/2016/apr/24/the-new-feudalism-silicon-valley-overlords-advertising-necessary-evil.

[85] Degraw, David. "We're Living in a System of New Feudalism. Here's How to Change it." *New Statesman*, 2013. Accessed March 17, 2023. Available at: https://www.newstatesman.com/uncategorized/2013/10/were-living-system-new-feudalism-heres-how-change-it.

One defining characteristic of the contemporary summaries on "the new feudalism" is clear: when faced with problems endemic to the capitalist mode of production, scholars are tempted to write those problems off as either re-emergences or vestiges of feudalism. Where neoliberal ideologues have argued, incorrectly, that an innovative and unrestricted market economy must by necessity foster an egalitarian and anti-hierarchical, non-monopolistic system of production and distribution, the truth of the matter is that such a phenomenon has only reproduced new, consolidated forms of domination. As such, commentators on capitalism's "new feudalism" might just be correct in their assessments and warnings.

However, Jürgen Habermas has argued that capitalist society has already become *refeudalized* by the movement of bourgeois society from private to public, where a "'neomercantilism' of an interventionist administration leads to a 'refeudalization' of society."[86] For Habermas, where the prevailing liberal model of society had originally envisioned horizontal channels of exchange among discrete commodity owners, refeudalization quickly and contrarily, and under the conditions of *imperfect competition* concentrated and consolidated social power in very few, private hands. Thus, according to Habermas, capitalist society was and is, in a sense, *already feudal*—however nascent and veiled it might appear. Its insidiousness was only realized in the idea that, contrary to prior definitions of public and private under feudalism—definitions which, as the legal terms *publicus* and *privatus*, had no standard usage during the Middle Ages in Europe[87]—domination in a now-feudal capitalism was neither "purely private nor as genuinely public, nor could it be unequivocally located in a realm to which either private or public law pertains."[88] Bourgeois capitalo-feudalism was thus one in which "state and society permeated

[86] Jürgen Habermas, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society* (Cambridge: MIT Press, 1991), 142.
[87] Ibid., 5.
[88] Ibid., 151.

each other."[89] The character of feudalism as a mode of production—its social and hierarchical relations of production—thus persisted in a way which allowed it to interpenetrate its successor mode; belying the traditional Marxist notion of a discrete transition.

The conceptual term *refeudalization*, which is itself derived from Habermas' arguments in *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*, denotes a characteristic, or a spirit, of feudalism itself. This implies not only an historical periodicity, but a sociopolitical and an economic quality which can crop up in times of decentralization. As Habermas contended, "Marx denounced public opinion as false consciousness: it hid before itself its own true character as a mask of bourgeois class interests."[90] Here, Habermas leaned upon Marx's analysis of public opinion in the epoch of capitalism as a public opinion in service of the dominant ideas of the age—where such ideas are only ever the ideas of the ruling classes.[91]

The Empire Cycle Theory

"Feudalism gained its bad name from the bourgeoisie," Rader noted—"[d]ark, backward, inefficient, it was reputed to be. These qualities it most emphatically did not display. Instead, it was relatively productive, intelligent, enlightened, brutal and repressive."[92] Here, Rader touched on an important idea: from a lens of class struggle, our present-day, prevailing, and populist ideas of feudalism retain the character of the social class responsible for the feudal downfall—

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[89] Ibid., 151.
[90] Jürgen Habermas, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society* (Cambridge: MIT Press, 1991), 124.
[91] "The ideas of the ruling class are in every epoch the ruling ideas; i.e. the class, which is the ruling material force of society, is at the same time its ruling intellectual force. […] The ruling ideas are nothing more than the ideal expression of the dominant material relationships, the dominant material relationships grasped as ideas; hence of the relationships which make the one class the ruling one, therefore the ideas of its dominance" (Karl Marx and Friedrich Engels, *The German Ideology*, 39).
[92] Trout Rader, *The Economics of Feudalism. Vol. 2* (Philadelphia: Gordon and Breach Science Pub, 1971), 98.

the bourgeoisie who were themselves responsible for the overthrow of the hereditary aristocracy; the burghers, merchants, and manufacturers who thus inherited present-day rule. Popular conceptions of feudalism are thus *bourgeois* notions, where such ideas existed—and persist—as war propaganda from the days of the revolutions of and prior to the Eighteenth Century; where the bourgeoisie, to mask their own social and hierarchical machinations towards political dominance, engaged in a portrayal of feudalism as, perhaps, more regressive and archaic than it in fact might have been.

Feudalism itself, as both an historical epoch and a sociopolitical *quality* (*as* feudalization), emerged around a material economy of manorialism: where the socioeconomic dialectic of fiefdom and vassalage—complicated power relationships of property, legality, and responsibility—prevailed. On this, John Hudson wrote that, "[l]ordship was a key element in land-holding in the Anglo-Norman period. Tenure—the relationship of lord, tenant, and land—and its security have been areas of considerable interest for historians both of law and politics."[93] Hudson went on to note that, "Control of land was a crucial aspect of power in Anglo-Norman England, and land-holding has been central to legal historians' consideration of the same period."[94] The manorial system, as Rader observed, was "surrounded by small farms, [and] formed the economic core around which the social regime of feudalism was established."[95] According to Rader, the major distinguishing features of a manorial feudalism could be summed up in the following four theses: "1. a relatively self-sufficient regional economy, whose boundaries were limited by transportation costs and the nature of the market, 2. extensive economic obligation to the lords who served as the judicial and administrative government, 3. a

[93] John Hudson, *Land, Law, and Lordship in Anglo-Norman England* (Oxford: Oxford University Press, 1994), 15.
[94] Ibid., 1.
[95] Trout Rader, *The Economics of Feudalism. Vol. 2*. (Philadelphia: Gordon and Breach Science Pub, 1971), 69.

system of free individual agriculture, except that some labor was bound to the land, and 4. a level of technique which was above that of the latifundia system which the manor replaced."[96]

Further, Rader claimed that, "[t]he manorial system [could only] be sustained only under a relatively egalitarian regime. Otherwise, one must organize elaborate institutions for the exploitation of labor."[97] But if the economics of feudalism were built around a system of patriarchal and hierarchical reciprocities—the legal and social responsibilities between lords and vassals—what then is to explain the movement of such a quasi-egalitarian model to the oppressive, repressive, and ecologically destructive practices of capitalist production?

For answers to this, we must turn to *dialectical* historical thinking: the dialectic of empire and fief; of lord and vassal; and, further, of decentralization and centralization. According to Rader, and the theory of empire cycle more generally, feudalism represents a period of *building-up* from decentralization to centralization; amalgamation and violent revolution eventually paving the way for an emergent imperialization which represents the violent pinnacle of centralization, where, to feed ever-growing economic appetites, resources and environments are quickly outstripped.

We can begin to understand how this cycle ultimately leads to an irreparable rift in the social metabolism of the once-feudal, now-imperial state—a circumstance which itself prefigures a progressive return to an eventual collapse and refeudalization. Rader summed up his notion of the cyclical political movement between empire and feudalism by stating that:

> [a]n explanation of the empire cycle now appears. As the empire and the barbarian meet, the barbarian gradually learns the civilized methods of war making. Only steady technical progress in military affairs can keep the empire a step ahead of the barbarian. On the

[96] Ibid., 69.
[97] Ibid., 70.

> other hand, as the barbarian learns to defend himself against imperial slave expeditions, the slave inflow falls, causing slave-incomes at home to rise in order to preserve population equilibrium. […] Eventually, the barbarian is knowledgeable enough to use this superior strength. Small armies of barbarians are able to conquer areas of relatively large population. The empire passes over to plunder and perhaps some barbarian leaders set themselves up as rulers. The outside culture is imposed; the cities which were constructed on tribute disappear, and a "dark" age reigns.[98]

Rader went on to note that:

> [o]nly the advent of a technical improvement can give one region an advantage over another. When this finally occurs, that region spreads its domination, likely as not enslaves those who are conquered, and constructs a new capital city. There are available cities with substantial resources, which can be the basis of real economic surplus beyond a totally decentralized economy. The empire is reborn under new masters and the cycle begins again.[99]

According to empire cycle theory, there are three methods by which an end to the cycle of rift and rupture might occur. According to Rader, empires recognize their eventual downfall—they understand the pitfalls and problems endemic to their own states—and they can attempt to stop their eventual and inevitable decline in the following three ways in an attempt to maintain their political, social, and economic equilibria:

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[98] Ibid. 56-57.
[99] Ibid., 57.

1. "First, an empire may dispose of barbarian problems, whether by conquering the barbarians, by minimizing contact with them, or by having such a rapid increase in technology so as to be always a step ahead of them."
2. "Second, under a feudal regime, there may be a uniform distribution of technical progress so that changes in the balance of power are minimized. Due to the discreteness of technical progress, this appears possible only if there is either very rapid or no technical progress."
3. "Third, there may be developed new institutions to cope with the needs of population equilibrium and a high standard of living. In effect, through the development of social science, technology can be turned to the very problem of the empire cycle."[100]

The last two methods, Rader noted, were employed by the regional feudalisms of northwestern Europe, where the monastic orders and the emergent ideas of *progress* lent themselves to a type of social equilibrium which persisted in-tact for the duration of the feudal period.

However, where the above methods have been employed in the maintenance of imperialization, there have been *in actu* no imperial polities that have escaped their own demise, deconstruction, and resultant feudalizations. Imperialism emerges in part by a violent overtaking and a building up of an alternative system to feudalism.

"Although there was a Marxian assumption that political power is the instrument of the upper class and that feudalism contained the seed of its own destruction," Rader observed, "it is not the decline of the position of the upper classes under feudalism but rather the greater opportunity under an alternative system which motivated dismantling the system."[101] In the great

[100] Ibid., 57.
[101] Ibid., 128.

historical movement of feudalism, the Merovingian and Carolingian[102] dynasties which themselves fed post-Conquest (1066) feudalism, can be understood as such attempts. "The Merovingian (466-475) and Carolingian (751-987) dynasties," Rader noted, "might be thought to represent attempts to restore something of the old [Roman] order. However, accounts of its economic and political organization make it clear that at their strongest, these were the familiar folk-nations, and at their weakest, they were loose confederations led by the chief bandit turned conqueror."[103] The decline of European feudalism proper could not have occurred *but* through the mechanisms built into and outside of feudalism itself: within the mercantile, manufacturing, and banking apparatuses of the feudal era.

Regarding European feudalism, as the power of the burghers, the towns, and the industries of the towns grew, the nobility found themselves increasingly indebted to the economies of the towns. "All through the later Middle Ages, great princes and petty lords alike were in arrears to merchants, manufacturers, and bankers," Rader observed; and "[a]s the debt grew, the lords could [either] repudiate it by force and thereby lose the opportunity of borrowing again, or they could surrender their lands and grant monopolies in payment."[104] As economic—and thus political—power became centralized in the hands of the burghers—the emergent bourgeois class—technological, legal, and economic advancements flourished and began to consolidate under their class. "In the late Middle Ages, there was a gradual shift from the manorial system to tenant farming. This event opened up the possibility of a greater capitalization of agriculture. […] The movement from payment in kind (including labor) to

[102] The hereditary system endemic to feudal socio-economy takes its origins in antiquity, predating the Carolingian and Merovingian dynasties. "One element of the manorial system suggests an origin more ancient than the Carolingians. The system set obligations and granted rights according to birth. […] There was in Northwest Europe no monarch of peasant descent" (Rader, *The Economics of Feudalism*, 71-72).
[103] Ibid., 71.
[104] Ibid., 129.

sharecropping and/or rents ultimately undermined feudal society."[105] There occurred, in the movement from feudalism to capitalism, *no metabolic rift of feudal production*—no outstripping of resources or collision of kingdom and environment—rather, feudal production evolved, increasingly centralized in the hands of manufacturing guilds and influential merchant families. The modern era thus became characterized by a shift of power from the nobility to the spheres of manufacturing and trade, "whence," Rader noted, "it lost its feudal character on political as well as economic grounds."[106]

In the transition from feudalism to capitalism—decentralization to centralization—a transition which, as Claudio J. Katz noted, "can be referred back to the question of the conditions which gave rise to the accumulation of capital and facilitated it,"[107] class relationships played as much a part as the forces of production. These relationships presuppose an interest in economic advantage. Such an interest in advantage could only have driven the movement of feudalism to capitalism/imperialism, where, as Rader noted: "The economic advantages of the demise of the manorial system would seem to be two: (1) labor markets would be more highly organized, and (2) the capitalization of agriculture would proceed with greater speed."[108]

With increasingly organized production, distribution, and markets, an increasing capitalization of agriculture, and the resultant consolidation of class power by the bourgeoisie, the social metabolism of European feudalism—in whose bosom lay the seeds of empire; that dark and colonial impetus—turned increasingly imperial; a social coordination of noble and bourgeois spheres of feudal society.

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[105] Ibid., 75.
[106] Ibid., 75.
[107] Claudio Katz, *From Feudalism to Capitalism: Marxian Theories of Class Struggle and Social Change* (Westport: Praeger, 1992), 85.
[108] Trout Rader, *The Economics of Feudalism. Vol. 2*. (Philadelphia: Gordon and Breach Science Pub, 1971), 131.

Modes, Metabolisms, and Rifts

But what does Marx himself have to say about this? In *Pre-Capitalist Economic Formations*, Marx observed that the two basic structural formations of landed property were: 1) "[the] earliest form of landed property appears as a human community, such as emerges from spontaneous evolution (*naturwüchsig*): the family, the family expanded into a tribe, or the tribe created by the inter-marriage of families or combination of tribes […] Men's relation to [land] is naïve: they regard themselves as its *communal* proprietors, and as those of the community which produces and reproduces itself by living labour […] Since the *unity* is the real owner, and the real precondition of common ownership, it is perfectly possible for it to appear as something separate and superior to the numerous real, particular communities […] *The dominion of lords, in its most primitive sense, arises only at this point* […] Here lies the transition to serfdom"[109]; and "[t]he second form (of property) has, like the first, given rise to substantial variations, local, historical, etc. It is the product of a more dynamic (*bewegten*) historical life, of the fate and modification of the original tribes. […] The basis here is not the land, but *the city as already created seat* (centre) of the rural population (landowners). The cultivated area appears as the territory of the city; not, as in the other case, the village as a mere appendage to the land."[110]

While many Marxist scholars understand Marx's concept of history, from so-called primitive accumulation to capitalism and beyond, as linear, teleological, or eshcatological, what we can see in the above two points are hints of a dialectic of opposites, a progression of struggles between decentralized and centralized forms, and a historical dynamism of contradictions colliding and resolving over time. We can also see hints of Rader's empire cycle theory—a cycle, which, as we tease out Marx's fuller historical framework below, demonstrates this

[109] Ibid., 68-71, emphasis added.
[110] Ibid., 71, emphasis added.

cyclical yet progressive motion, progressing, as it does, over the grander marches of history. This, I believe, is a key piece to understanding not only Marx's contributions to history, but also to understanding the ways in which Marx's conception of metabolism and metabolic rift serve as a political-ecological assessment.

In line now with both Rader and Marx, I believe that we see an historical conceptualization which is neither teleological or cyclical; it is one which utilizes the framework of feudalization as decentralization and imperialization as centralization; and one which at once does not permit regression but makes room for a movement between poles—negations negating negations over time. It is a great breathing-in and a breathing-out of the state—far from a determinative statement; it is ultimately an assessment of the life of the state, whether viewed retroactively, as in the case of history, or from the center/middle, as we might do with the United States. Further, for the case of the present study, it allows us to conceptualize and to historically situate the moment at which the border fortifications emerge in the life cycle of the imperial state.

In Marx's modes of production—the historically-contingent collection of ways that a society or a state engages in the production and reproduction of its material existence, including its relations of production, its technologies of production, and so on—a mode of production equates to a Social Metabolism. Feudalism was a type of Social Metabolism, capitalism is a type of Social Metabolism, etc. Further, modes/metabolisms appear to move through history along the lines of the empire cycle—between decentralized and centralized poles—increasing in complexity over the variable of time. Marx's modes/metabolisms are typically listed—as in so many summary expositions on Marxist theory—as *primitive communism*, the *ancient*, or *slave*, mode of production, the *feudal* mode of production, and the *capitalist* mode of production. My

claim in this study is that while this represents an historical assessment on the one hand—it is after all ultimately an observation based on Marx and Engels' investigations and theorizations of European history—the larger takeaway I believe is that the modes/metabolisms represent a theory of history, a theory of the state (over time), and a theory of the collision between and interaction of state, environment, and time. I believe that this framework is something in which we as Political Ecologists might ultimately ground some of the strongest assessments of our field. Barry Hindess and Paul Hirst expand this work with the notion that "mode of production" is defined as "an articulated combination of a specific mode of appropriation of the social product an a specific mode of appropriation of nature,"[111] and a "complex unity of relations and forces of production."[112] Their assessment of the modes of production, in a quest to discover a general theory of the modes of production, and to relate these not only to metabolisms and rifts, but to empire cycle as well. This guides my thinking as follows:

1. *Primitive communism, or primitive accumulation.* Decentralized. Being "a mode of production governed by a mode of communal appropriation [in which] two immediate consequences may be deduced. First, there can be no social division of labour between a class of laborers or direct producers and a class of non-laborers. Second, the absence of a political level is a condition of existence of the economy in this mode."[113] In this mode, the communal mode, "there are no classes, no state and no politics, and […] the mode of production consists of the articulate combination of the economic and the ideological levels."[114] Primitive communism, for Marx and Engels, was the assessment of the communal pre-formation of the state; a state in which the society lived from a

[111] Paul Hirst and Barry Hindess, *Pre-Capitalist Modes of Production*. (Oxfordshire: Routledge, 1975), 125.
[112] Ibid., 125.
[113] Ibid., 22.
[114] Ibid., 41.

collectivized labor, in which all were fed and cared for, and in which an essential unity and sustainability with the environment—an equilibrium—was maintained in a decentralized and communal way.

2. *The Ancient/Slave Mode of Production.* Centralized. In which "[t]he ancient mode of appropriation of surplus-labour, the dominant social relation of production in the ancient world, may be defined by *right of citizenship.* This means that the extraction of surplus-labor by citizens and the distribution of productive property (especially land) take place by means of mechanisms articulated on the political and legal apparatuses of the state. These operate primarily through communal extraction by the state and subsequent distribution among the citizenry by the state apparatuses, for example, the distribution of tribute and booty, the provision of state doles of corn, bread, oil, etc., but also the distribution of taxes, liturgies, and other appropriations levied by the state on the citizens themselves."[115] According to Hindess and Hirst, the ancient mode of production may be characterized primarily by three key principles: 1) "a social division of labour between a class of direct producers and non-labourers";[116] 2) "an appropriation of surplus-labour by rights of citizenship"[117] which thus ensured the prominence of the political sphere; and 3) "limited development of productive forces,"[118] where technology remained relatively stable and the peasant producer dominated production, with some state intervention where slavery and wage-labor held limited roles.
3. *The Slave Mode of Production.* Centralized/decentralized dependent upon the contexts of production. Where "[s]lave production presupposes the existence of slavery as an

[115] Ibid., 82.
[116] Ibid., 84.
[117] Ibid., 84.
[118] Ibid., 84.

institution—slavery is always first and foremost a legal or customary *status*."[119] The slave mode of production is itself not typically listed in the reductive progression of Marxist theory's historiography; however, Hindess and Hirst make a strong case for slavery as mode of production, by arguing that: "[s]lavery is a mode of production characterized by a social division of labour into non-laborers and labourers and by private property relations. The labourers (direct producers) are the legal property of the non-labourers. As chattels they have no legal or social existence independent of their master and they are dependent on him for their maintenance. […] The *whole product* of the direct producers (slaves) goes to the non-labourers (slaveowners). The master owns the product of the slave's labour just as he owns the slave. […] The dominance of the relations in production is particularly clear in the case of the SMP [slave mode of production]."[120]

4. *The Asiatic Mode of Production.* Where feudal (based upon a tax/rent coupling), decentralized; where imperial, centralized. The Asiatic mode, as Hindess and Hirst noted, "is the most controversial and contested of all the possible modes of production outlined in the works of Marx and Engels. […] Both Marxist theorists and bourgeois scholars have disputed whether the social relations of China and India in the modern period should be characterized as 'Asiatic' or feudal."[121] For our purposes here, it will be worth noting both the similarities and the differences between the "Asiatic" mode and the feudal mode of production. Hindess and Hirst make the case for an Asiatic mode of production based upon a presupposition of a tax/rent coupling—"a state made necessary by the peculiar conditions of large-scale irrigation agriculture"[122]—where "in it, rent and taxes are

[119] Ibid., 109.
[120] Ibid., 126-127.
[121] Ibid., 178.
[122] Ibid., 207.

indistinguishable," and which serves "the function of the coupling of sovereignty and landed proprietorship in the state."[123] Hindess and Hirsh cite George Lichtheim, who noted that he was "inclined to think that in this as in most other matters [Marx] was right, and that we are to look upon European history as an evolution propelled by a dialectic of its own, to which there is no parallel in Oriental history."[124] Marx's Asiatic mode of production occupied a niche as an *Eastern* analog to a *Western* feudalism where "the stability and the uniqueness of the Asiatic mode (which is not confined to Asia) [were located] in the gulf between state and commune, not in hydraulic agriculture or bureaucrats dominance."[125]

5. *The Feudal Mode of Production.* Decentralized. In which the concept of feudal rent dominated, where "that feudal rent supposes that landed property is in the possession of a ruling class who hold the direct producers in a relation of political subordination, that the direct producers have effective possession of the means of production and that, as a consequence, the surplus-product is appropriated on the basis of extra-economic coercion. Feudal rent may be in the form of labour-service, in kind or in money. The political subordination of the direct producers to the exploiters," or of vassal to liege, "the possession by the direct producers of the means of production and the extra-economic mode of appropriation of the surplus-product are features common to the principal pre-capitalist forms of rent outlined by Marx."[126]
6. *The Transition from Feudalism to Capitalism.* Increasingly centralized, as the forces of production are amalgamated. This interim period is unique in that Hindess and Hirst,

[123] Ibid., 192.
[124] Ibid., 206.
[125] Ibid., 219.
[126] Ibid., 223.

> utilizing this unique instance of transition, argue as to how the conceptualization of a transitional period should be both represented and conceptualized. They noted that, "We shall see that they [transitional modes] cannot be conceived as linear or evolutionary developments, […] they cannot be thought of in terms of transitional modes of production and […] there can be no necessary evolutionary sequence of modes of production. There is nothing in the concepts of the feudal and of the capitalist modes of production that requires the first to evolve into the second."[127]

Above, we have six basic structures of production/metabolism—inclusive of both periphery and transitional suggestions—outlined by Hindess and Hirst, and upon which to rest the idea of the dialectical movement between decentralization and centralization.

Leaving aside the transitional modes, and, for our sake, bounding the geographical range of this framework within the European imperialist and colonialist traditions which have grown from the unique peculiarities of European political history, we can loosely envision the framework of the modes of production as follows:

1. Primitive communism/accumulation: *decentralized*
2. Ancient production (to which slave production is often tied): *centralized*
3. Feudal production: *decentralized*
4. Capitalist production: *centralized*

We must avoid the expressive totalizing potential of descending into idealist philosophies of both history and politics and must continue to strive for a theory-building which can only ever be built from a recognition of the ways in which the political-ecological world functions *in actu*. That is, as a materialist, and as a data-driven theorist, I must constantly seek to ensure that theory

[127] Ibid. 260.

aligns with, and emerges from, observable reality. In doing this, I must also be careful to avoid teleology, to avoid the implication that something by necessity leads to something else.

Implications for the Study of Imperial Borders: Introducing Kinesis into History

In an Althusserian sense, border walls are *always-already* an overdetermined phenomenon. One factor alone cannot tell us all there is to know about the meaning, the import, and the purpose of border walls; many factors, forces, and movements (over)determine their existence. A border wall is primarily economic, but a border wall is also immigratory; a border wall is political, but it is also social; a border wall impacts the psychologies of those who live with and around them, and it also rests upon a bed of half-truths; a border wall is both *produced by* society and *produces* that society. A border wall thus must be conceived dialectically, where, as Hegel argued, the dialectical mode of thinking is the "comprehension of the Unity of Opposites, or of the Positive in the negative."[128] In other words, border walls both *are* and *mean* something; that is, they are at once physical structures *and* psychological edifices; their physicality is known to those who live amidst and around them *and* their psychological impact both represents and impacts the societies in which they emerge.

Critical border studies, the direction in which all my theorizing in the present study is pointed, would not be satisfied with abstracted theorizing on somewhat reductive functions and themes of general historical trends. While there exists a place for this in border studies undertaken from a humanities lens, the work of the political ecologist as a theorizer of data both political and ecological must be grounded in materialism itself. We can talk about what borders mean to those against whom they are pointed; but if Political Ecology is to understand the

[128] G.W.F. Hegel, "General Concept of Logic" in *Nineteenth Century Philosophy* (New York: MacMillan Publishing, 1969), 73.

function, as well as the means of subversion, of the border fortification, it must be constantly drawn to the materializing of our abstractions. To do so, it must also take up the lens of the oppressed; of those for whom history is naught but a history of oppression.

Imperial border walls restrict access to land and resources for the group of people against whom they are pointed. The historical arc of empire, the machinations of imperial conquest, and the ways in which the border fortifications of empire emerge in lands that are not, initially, their own. The connection between the building of a border wall and the restriction of access to natural resources follows, in this regard, along two lines:

1. "[O]ne assumption is that the wall is erected precisely to prevent the local populations from gaining access to the resources. The construction of the wall is only one means among others to apply the legal decision to cut off access to certain resources."[129]
2. "Another hypothesis is that the restrictions on access to resources derive from the existence of the wall. These are only an unfortunate consequence which public authorities can attempt to overcome by guaranteeing supplies to the populations which are 'behind the walls.'"[130]

The militarized imperial border crops up at a specific point in history of the imperial state, a point at which all productive forces have been centralized; a harbinger of what I see as not an immediate, but an eventual return to decentralization. Border walls are not constructed during the phase of imperial expansion, during the upswing of centralization; they are built at the limit of centralization, the point at which nothing else can be gathered up, and at which the imperial

[129] Sabine Lavorel, "Walls and Access to Natural Resources" in *Borders, Fences and Walls: State of Insecurity?* (Oxfordshire: Routledge, 2014), 160.
[130] Ibid., 160.

polity must go to great lengths to regulate its vast collection of lands and people, wealth, and resources—its stolen goods.

The movements of societies and states are like those of lifespans: they emerge, built upon the bones of (or within) previous polities, they grow, they sustain, they wane, and they fall apart. This motion is cyclical in nature, yet it is not *circular*. Like the seasons, we can observe a similarity within comparative studies of empire. There is a similitude; yet every occurrence is different. There is in fact a motion to it all, a kinesis internal to and external to the movement of the state. Where both Social Metabolism and a *politics of motion* are concerned, the historical progression of the imperial polity is one which entails this cyclicality not only within itself, and in relationship to other states and groups, but to the earth system as well.

Thomas Nail observed that, "[e]very state and state border is crisscrossed and composed of numerous other kinds of border mobilities that cannot be understood by state or political power alone. Critical Limology [border studies] reveals that the state is the product of these more primary process[es] of multiple bordering regimes."[131] Yet, dialectically conceived, the state both *produces and is produced by* the process of bordering. Simply put, the state produces bordering regimes which are, themselves, historically contingent, and these regimes similarly *produce* the state in ways that are formative, corrective, and reproductive. At the heart of such the dialectical intersection between *produced and producing* is the force of motion itself.

As we attempt to better understand the border walls of empire, emblematized by our concluding analyses of the US-Mexico border wall and the Roman *Vallum Aelium*, we will not only need to do so from a dialectical lens which takes into account the Marxist theory of history—that is, the progression of the modes/metabolisms of production, empire cycle, rift, and

[131] Thomas Nail, Theory of the Border (Oxford: Oxford University Press, 2016), 223.

the great breathing in and breathing out of the state—we must bring to all of this a focus on the implicit *motion* and *movement*, or the Social Kinetics, of these concepts.

Social Kinetics—known also under the name of kinesis and Kinopolitics—is, at its heart, a framework focused on movement and a politics of motion. Nail, in his *Theory of the Border*, defined Kinopolitics as, "the theory and analysis of social motion: the politics of movement. Instead of analyzing societies as primarily static, spatial, or temporal, Kinopolitics or Social Kinetics understands them primarily as regimes of motion."[132] Hegel, too, affirmed this too, with the statement that:

> [i]f we cast a glance over the World's-History generally, we see a vast picture of changes and transactions; of infinitely manifold forms of peoples, states, individuals, in unresting succession. […] The general thought—the category which first presents itself in this restless mutation of individuals and peoples, existing for a time and then vanishing—is that of at large.[133]

As the history of humanity is not a history of solidity and stasis, but, as I have argued, a history of movement and continual fluctuation between poles, considerations like *Kinopolitics*, *kinetics*, and *kinopower* must be at the heart of any *dialectical* metabolic/modal analysis, especially where the articulation of Marxist theory is concerned.

In pursuit of this, we follow not only the thinking of thinkers like Nail and Hegel, but of Engels, who, in search of his own definition of motion, noted that: "[m]otion in the most general sense, conceived as the mode of existence, the inherent attribute of matter, comprehends all changes and processes occurring in the universe, from mere change of place right to thinking."[134]

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[132] Ibid., 24.
[133] G.W.F. Hegel, "General Concept of Logic," in *Nineteenth Century Philosophy* (New York: MacMillan Publishing, 1969), 81.
[134] Friedrich Engels, *Dialectics of Nature* (Marxist Internet Archive, 2011), 23.

As the *sine qua non* of physical existence, motion finds a home at the center of our analytical lens. Further, we must recognize the interconnected nature of Nature, in that all motion comprises the motion of the biosphere in, for, and amidst itself.

Political and ecological phenomena are not only dialectical and locomotive in nature, but *systemic* in nature as well. This goes specifically for any theorizing in which we attempt to place or locate the border walls of empire. Engels further emphasized the relationship between systems and motion in his posthumous *Dialektik der Natur*, with the observation that:

> [t]he whole of nature accessible to us forms a system, an interconnected totality of bodies, and by bodies we understand here all material existence extending from stars to atoms, indeed right to ether particles, in so far as one grants the existence of the last named. In the fact that these bodies are interconnected is already included that they react on one another, and it is precisely this mutual reaction that constitutes motion. It already becomes evident here that matter is unthinkable without motion.[135]

The study of borders—and specifically, border walls—as an avenue of political-ecological inquiry, provides critical insight into the histories, the structures, and the trajectories of the states who both produce and are produced by them. Borders, and the border regimes enacted by states, have much to tell us about states themselves: about the politics, their social hierarchies, their economic policies, and their methods of expansion and expulsion. On this, Balibar contended that:

> [t]he border is [...]not so much [a] research object as an epistemological viewpoint that allows an acute critical analysis not only of how relations of domination, dispossession, and exploitation are being redefined presently but also of the struggles that take shape

[135] Ibid., 23.

> around these changing relations. The border can be a method precisely insofar as it is conceived of as a site of struggle.[136]

Nail also observed that:

> [t]he history of the border is a history of social motion. […] Therefore the theory of the border is not a theory of the border in abstract or derived from a presupposed notion of society, but a theory of social motion from which society itself is derived. Thus the history of the border is a history of vectors, trajectories, (re)directions, captures, and divisions, written exclusively from the perspective of the material technologies of social division."[137]

It is my argument that a politics of motion is *implied* by the theory of social mode/metabolism; and Social Metabolism is *implied* by Kinopolitics. It is my contention that a fuller theory of the border—the imperial border wall in particular—must be articulated through a synthesis of these two theoretical frameworks. And, further, nothing about border walls, whether extant or historical, will make complete sense *except* in light of an analytical lens which takes into account such a synthesis.

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[136] Sandro Mezzadra and Brett Neilson, "Between Inclusion and Exclusion: On the Topology of Global Space and Borders," in *Theory, Culture & Society* (New York: Sage Publications, 2012), 18.
[137] Thomas Nail, Theory of the Border (Oxford: Oxford University Press, 2016), 21.

CHAPTER 2

KINETIC SOCIAL METABOLISM

Kinetic Social Metabolism: Its Terminologies and Concepts

The conceptualization of a *Kinetic Social Metabolism*[138] is one which, although interdisciplinary in nature, will be for our purposes situated within the field of ecology, specifically within the subfield of Political Ecology. Kinetic Social Metabolism must rely heavily upon the fields of history and contemporary political theory where the derivation of its data is concerned. While, for our purposes, historical and political-philosophical research comprise the bulk of kinetic Social Metabolism's scope, it is, through an ecological frame of reference, a conceptual tool through which to derive something like an ecological philosophy of social history; or a theory of sociopolitical history which remains tightly tied to ecology, history, and critical realism. Thus, can kinetic Social Metabolism not only be applied to the study of borders and border walls, but it also contains the potential to be applied to other diverse areas of political theory and history. It is my hope that this framework—one which arrives with a fully formed theory of history, the state and its metabolisms, and the movement thereof (and therein)—might also prove useful for studies in Political Ecology more generally, where the collision of state and environment is the core focus of all inquiry.

Kinetic Social Metabolism derives its application from several frameworks: Thomas Martin's Green History, Trout Rader's theory of empire cycle, John Bellamy Foster's work on metabolic rift and metabolism, and Thomas Nail's work on Social Kinetics—especially on his *kinetic theory of the border*. As a lens focused on the social-historical motions of polities and

[138] *Kinetic Social Metabolism* is what I am presently calling this framework, if only as a placeholder until something better emerges.

environments, it is also one which also proposes a theory of history congruent with historical and dialectical materialism. Situated within Marxism, kinetic Social Metabolism adds to Marxism an analytical framework through which political and state-level practices might be analyzed and critiqued in ways that are tied tightly to ecological, environmental, and climatological phenomena.

Outside of contemporary border studies, several terms—terms which are themselves distinct border studies concepts—are often used interchangeably: terms like border, borderlands, boundary, limit, frontier, and so on. To establish terminological consistency within my framework, let me clearly define these terms.

Border. Sandro Mezzadra and Brett Neilson observed that, "[t]he distinction between the border and the frontier is undoubtedly important […] The former has typically been considered a line, whereas the latter has been constructed as an open and expansive space. In many contemporary contexts, however, this distinction seems to dissolve."[139] For my purposes, such terms must be defined clearly. Although the meaning of the terms themselves will emerge from, and often match the tone of, the texts in which they are situated, pre-definitions are helpful for us as Political Ecologists engaging in studies on the border—the border, in this case, being the material zone of friction between political and economic entities. A border is simultaneously *real* and *abstract*: a political line transposed upon a material space, it is purely a social phenomenon, yet is often overdetermined by ecological, geological, and climatological factors. It bears mention that the word "border" itself derives from the Proto Indo-European (PIE) root word **bherdh*-; a term which means to "cut, split, or divide." The word itself, in the modern usage of the term, has been inherited from Middle English *bordure*, from the Old French *bordeure*, and

[139] Sandro Mezzadra and Brett Neilson, "Between Inclusion and Exclusion: On the Topology of Global Space and Borders," in *Theory, Culture & Society* (New York: Sage Publications, 2012), 16.

the Middle High German *borte*. Where initially in the European usage of the word, the term held heraldic connotations—as in the trim or border-trim which enclosed heraldic devices such as shields and flags—the term, in the late fourteenth century, came to replace the older term *march. March*, a now obsolete term for the border—which comes to us from the PIE term *markō*—was understood as both "borderland" and "frontier." The US-Mexico border is, ultimately, all these things—it is a frontier, a march, and a border; and it is also much more.

Frontier. Whereas Mezzadra and Neilson remarked that a frontier was an open an expansive space,[140] I would, following Frederick Jackson Turner, add that a frontier is a zone of friction between two polities—more frictive than the notion of *border* itself. If a border is a line of demarcation between polities, a frontier is a line which has yet to be determined. Yet all borders also entail a frontier zone—especially where the borders of rich states abut those of poor states. The frontier, for the wealthy state, oftentimes occurs in the region of the poorer state, and can be seen as a zone of contention; an area upon which the wealthy nation has its eyes, yet an area whose governorship has yet to be settled. Frontiers are often zones of conflict, where class antagonisms emerge as national antagonisms; and where the poorer state seeks to expel the richer state. A frontier is thus a greater zone of friction, and an expanse of indeterminate political association.

Border Wall. A border wall is any fortification or series of fortifications situated either upon a border line or within a contested frontier. A border wall usually sits to the rear of a frontier. Thomas Nail observed that, "the border wall has two sides: the side that faces outward (the military wall) and the side that faces inward (the rampart wall)."[141] Nail also noted that three types of border walls exist, and have existed: the military wall, the territorial wall, and the port

[140] Ibid., 16.
[141] Thomas Nail, Theory of the Border (Oxford: Oxford University Press, 2016), 79.

wall. At root, a wall is a fortified barrier structure made either of wood, of earth, or of stone (and, in the modern era, of metal) with the express purpose of prohibiting and controlling social and economic movement.

Borderscape.[142] A heterogenous zone of overlapping border structures, concepts, and notions. As a tool of analysis, the idea of the borderscape departs from the notion of the border within traditional Limology as case-specific and discrete; rather, the conceptual term *borderscape* denotes an empirical zone from which can be derived explanatory theories and frameworks. The borderscape is thus a transhistorical zone of border, frontier, and limit entailing both economic and ideological spheres of influence.

Borderland. Étienne Balibar contended that, "'Borderland' is the name of the place where the opposites flow into one another, where 'strangers' can be at the same time stigmatized and indiscernible from 'ourselves,', where the notion of citizenship, involving at the same time community and universality, once again confronts its intrinsic antinomies."[143]

Kinopolitics/Social Kinetics comprises the utilization of several key theoretical concepts: *flows*, *junctions*, and *circulations*. I have adapted, below, my own definitions and diagrams to support Nail's, and have also adapted Nail's conceptual representations of the various Kinopolitical functions.

Flow. "Instead of analyzing societies as primarily static, spatial, or temporal, Kinopolitics or Social Kinetics understands them primarily as regimes of motion. Societies are always in motion: directing people and objects; reproducing their social conditions (periodicity); and striving to expand their territorial, political, juridical, and economic power through diverse forms

[142] Sandro Mezzadra and Brett Neilson, "Between Inclusion and Exclusion: On the Topology of Global Space and Borders," in *Theory, Culture & Society* (New York: Sage Publications, 2012), 9.
[143] Étienne Balibar, "Europe as Borderland" in Society and Space (New York: Sage Publications, 2009), 210.

of expulsion."[144] A flow is thus the basic form of movement in Kinopolitics and represents a primary motion from one material or psychological position to another. A flow also entails the potential for bifurcation, rift, or general movement away from a specific kinetic trajectory. Bifurcation is often entailed by flow needing to continue its movement despite the obstacle of an outside force.

Junction. The junction is a cyclical movement of a flow, after a point of bifurcation, where the flow itself seeks to engage in a type of corrective behavior; a type of perceived stasis; or a return to itself. A notion of least resistance, status quo, or continued similitude drives this movement. A junction is material, in the sense that it represents the intra and international circulation of goods, people, and currency; yet a junction can also be applied to the movements of polities and societies over time. Nail postulates that, "[i]f all of social reality comprises continuous flows, junction explains the phenomena of relative or perceived stasis. […] a junction is not something other than a flow; it is the redirection of a flow back onto itself in a loop or a fold. […] A junction remains a process, but a vortical process that continues to repeat in approximately the same looping pattern—creating a kind of mobile stability or homeorhesis […] The junction then acts like a filter or a sieve that allows some flows to pass through or around the circle and other flows to be caught in the repeating fold of the circle."[145]

Circulation. Circulation is a larger connection of junctions within a singular flow. In essence, a circulation is, on one hand, the representation of a three-dimensional spiral; yet perceived two-dimensionally, we can conceptualize a circulation as a cyclical movement of flow via a series of junctions which can, or cannot, fold back upon itself as a *cycle of cycles*. According to Nail, circulation:

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[144] Thomas Nail, Theory of the Border (Oxford: Oxford University Press, 2016), 24.
[145] Ibid., 27.

> connects a series of junctions into a larger curved path. This curved path continually folds back onto itself, wrapping up all the junctions together. Circulation is the regulation of flows into an ordered network of junctions, but flows are indivisible, so circulation does not divide them but rather bifurcates and folds back onto themselves in a series of complex knots.[146]

Nail noted that, in relationship to border regimes and border politics, that three distinct types of circulations, or circuits could be discerned; all of which rely upon the aforementioned conceptual structures.

Border circuit. Migrants *cross* the border, but the border is a junction, "a vehicle of harnessed flows. The border acts as a sieve or a filter since it allows capital and the global elite to move freely, but, like a yoke, catches the global poor."[147] A flow of migrants cross (legally or illegally), and if the migrants have lost their status, they are apprehended by the militarized border patrol.

> The captured flow of migrants is harnessed to the enforcement apparatus and then turned or sent back across the border via *deportation*. The border circuit is thus cross, apprehend, deport, cross (C-A-D-C). Each cycle in the circuit generates money, power, and prestige for immigration enforcement and justifies its reproduction and expansion.[148]

Detention circuit. Migrants cross the border and are apprehended. Instead of deportation, they are harnessed into a different junction: the detention system. Prison, detention, or camp, and often catch-and-release. "The detention center, as a junction, is also a vehicle that harnesses or extracts mobility from the migrants through their labor, their occupancy, and consumption of

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[146] Ibid., 28.
[147] Ibid., 30.
[148] Ibid., 30.

their own incarceration: food, water, clothing, medical care, and so on (this generates private profits that are heavily subsidized by the government)."[149] Once the maximum degree of mobility has been extracted from this flow, the migrants are then deported. Once they are deported, the cycle can begin again. The detention circuit is *apprehend*, *detain*, *deport*, *apprehend* (A-DT-D-A).

Labor circuit. Migrants cross over (legally or illegally). Migrants are then harnessed by a labor junction. From the labor junction, the migrant can return across the border, then return again to work.

Regarding the Kinopolitical function of the border, Nail also discerned four discrete aspects of the border where social motion is concerned.

Bifurcation Point (*Mark*). "The first social motion or function of the border is to mark a bifurcation point in a continuous flow."[150] The bifurcation point is, following Nail's analysis, known as the Mark, or the March—the point at which social motion is first interrupted:

> The aggressive function of the mark is attested to in the border processions of the Greeks, Romans, and Europeans. […] Every February 23, Romans celebrated the "Terminalia"—for the Roman god Terminus, the god of borders—by marching around in a large group to sanctify the regional boundary markers. According to the Roman geographer Siculus Flaccus, the bones, ashes, and blood of a sacrificial animal, and crops, honeycombs, and wine were placed in a hole at a point where estates converged, and a stone was driven in at the top. As Ovid writes, "Terminus, at the boundary, is sprinkled with lamb's blood … [and] sheep's entrails." In this way, the border was marked and remarked by an annual march. The marks or border stones were literally covered in blood from the cutting open

[149] Ibid., 30.
[150] Ibid., 36.

> of animals and the binding of their vital flows into a dead junction marker, inside a rounded hole.[151]

The mark, for Nail, is the point at which the border becomes materialized from a simple abstraction—a violent and expulsive motion which demarcates a heretofore un-demarcated space.

Limit. "The limit is the path or track left behind by the mark or march."[152] The limit is the jurisdictional, administrational, and political space to the rear of the border line which represents the limit of jurisdictional and legal control of a territory. It is the utmost reach of logistical administration and abuts the point at which the violent mark first demarcated the border line. Nail observed that:

> The defensive nature of the limit is attested to in Roman history. The Romans built limit [...] structures not where they were ready to attack or advance, but precisely where they were not free to attack or where there was a gap in their military coverage. For example, Hadrian's Wall is primarily a supportive structure that was located behind the farthest path that marching soldiers were able to mark out and maintain through warfare.[153]

Boundary. Nail perceives the boundary as the critical juncture where the politics of the border replicate and reinforce the inherent political character of the border itself. In other words, the boundary is such that the material nature of the border impresses itself back upon the polity in which the border regime is enacted, thus reproducing both the regime itself as well as the polity's own territorial sphere. Nail noted that, "the boundary is the Kinopolitical process of

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[151] Ibid., 36-37.
[152] Ibid., 37.
[153] Ibid., 38.

binding or compelling part of the outside to the inside. It is a process of introducing social flows into (re)circulation or a social orbit."[154]

Frontier. Borders are not static structures. While oftentimes marked by material structures, monuments, and features, borders themselves are constantly in motion. Where we have previously defined the frontier as the zone of friction abutting a border line, a frontier is an actuality not only surrounding the border but is itself a zone which is constantly in motion; constantly contested. The frontier is what is in front, what is desired, and what contains that which is desired—material resources, labor forces in the form of subjugated or coerced migrants, and territorial expansion. The frontier is a unique aspect of the imperial polity; but does not reside with the imperial polity alone. As Nail wrote:

> The frontier is not the strictly spatial exterior of some static wall, but rather the foremost part of the border's process of continual motion. All three functions of the border's motion—expulsion (mark), expansion (limit), and compulsion (boundary)—produce or come up against the disjoined flows that define the frontier.[155]

Let us move now into a focus on the theoretical components of the framework of Social Metabolism, keeping in mind the terminological and conceptual notions of Social Kinetics and how these might relate to a fuller conceptualization of the historical, real-world, species- and society-level relationships of humanity to the earth.

Kinetic Social Metabolism: Metabolic Pathways and Spaces

My theory of Kinetic Social Metabolism builds on Nail's by investigating the metabolic flow of energy, including people and resources, at borders. For physical life to exist at all, a

[154] Ibid., 39.
[155] Ibid., 40.

metabolic interaction must occur, that is, an organism—or a species—must break down physical matter, nourish and build itself up, and produce waste. Metabolism is, both in the biochemical and the anthropological sense, the breaking down, the building up, and the movement of matter for the sustenance of physical life. Social Metabolism is, at root, a metabolism of movement—the movement of macro and microorganisms, the movement of nutrients, and the movements of both matter and energy. Interestingly, and perhaps fortuitously, Social Metabolism is inherently Kinopolitical in nature. Manuel González de Molina and Víctor Toledo further defined Social Metabolism as:

> [A] concept that gained extraordinary strength in the field of socioenvironmental studies since the 1990's. A general or standard definition of Social Metabolism was stated by Fisher-Kowalski and Haberl. They define it as the particular form in which societies establish and maintain their material input from and output to nature and as the way in which they organize the exchange of matter and energy with their natural environment. Social Metabolism has also occurred as a theory explaining socioenvironmental change.[156]

From the Ancient Greek, the word *metabolism* itself derives from μεταβάλλω, or *metabállō*, which translates simply as "change," or "to change." For an organism to maintain an existential longevity as species, a delicate, and change-derived, balance between itself and the environment—between life and the earth, biota and abiota, species and world—must be struck; the biosphere itself being one complex and delicate dance of balance between life and the inorganic earth.

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[156] Manuel González de Molina and Víctor M. Toledo, *The Social Metabolism: A Socio-Ecological Theory of Historical Change* (Springer, 2014), 44.

De Molina and Toledo observed that, "Marx used metabolism as having two main meanings: as an analogy or a biological metaphor to illustrate flow of commodities, and in a more general way as an exchange between man and land or between society and nature"[157] This flow of commodities—economic and social structures of production and reproduction that change over time given specific logics of centralization and decentralization—is a direct representation of the relationship between society and land. This relationship has not only an economic character but an historical character as well. In other words, the productive-reproductive relationship of society to land as metabolism has a distinct epochal character peculiar not only to technological progression, but political and social progression as well. As such, the historical flow of metabolisms-in-transition entails the kinetics of junction, circulation, and flow itself. Metabolism is thus both a social motion over time, and a specific mode of production and reproduction entailing unique historical antecedent and prefiguring future forms. The movement between forms tends to occupy economic categories of centralization (imperialization) and decentralization (feudalization).

Interestingly, and for our purposes, Marx noted in the *Grundrisse* that capitalism *tore down* the feudal "barriers which hem[med] in the development of forces of production, the expansion of needs, the all-sided development of production, and the exploitation and exchange of natural and mental forces."[158] Such a tearing-down, as Paul Burkett noted in *Marx and Nature*, explained "how capital opens up possibilities for less restricted forms of human development."[159] Thus it seems that where the metabolic rift of imperialist production—prior to refeudalization—reifies itself not only through climatological and geopolitical upset, but through

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[157] Ibid., 47.
[158] Karl Marx, *Grundrisse* (Penguin Books in association with New Left Review,1973), 410.
[159] Paul Burkett, *Marx and Nature: A Red and Green Perspective* (New York: Springer, 1999), 159.

a significant increase in *border fortifications* and *border security*, the converse can be said to be true for metabolic rift's *opposite*—what I call, for now, *metabolic amalgamation*—prior to imperialization, and at the end of feudalization.

Walls and structures—both physical and metaphorical—are *torn down to make way for a burgeoning imperialism,* just as they are *erected to sustain a failing imperialism*.

What I have called "metabolic amalgamation" is thus a moment in the dialectic like metabolic rift, but also its opposite; a tearing-down as opposed to a building-up of walls; resting upon the transitionary period between modes of production; upon the cusp of a movement away from decentralization. I have utilized the term "amalgamation" for the following reason: where, under a feudalized economy, there exists a decentralization of productive forces (a decentralization of both the relations and the means of production), there we find in the *deconstruction* of such a decentralization—as signified by a movement away from decentralization and towards centralization—an amalgamation and a homogenization of the forces of production; a great gathering up of production, a homogeny and a similitude, and an increasing centralization under an imperial and simplistic aegis. Simply put, what begins to break apart and must be forcefully contained during the transition from imperialization to refeudalization must be similarly built up, gathered, and unified during the transition from (re)feudalization to imperialization. Such tearings-down can, *prima facie* and in recent history, be represented by the Enclosure and Commons Acts, the Highland Clearances, and other similar forced property restructurings; where the walls and the boundaries of the old world were torn down to make way for the fires of industry—the amalgamation of productive forces—entailed by the new.

Where we have, by previous depictions, what appears to be a back-and-forth—and thus a model guilty of implying both regression and progression along with a *regressus ad infinitum*—a fuller picture, I would contend, would make use of the spatial linearity of time itself. In lieu of a model where time might be presented as an arc of becoming—a perpetual moment in which a movement through and of oneself might be more of an accurate depiction of the process itself as opposed to a left-right model—we will have to, unfortunately, remain within the limits of our medium.

Such a model exists, at present, and as mentioned, only in rudimentary form. However, where, as living systems engaged in reproduction and evolution are concerned, there is a tendency to move from simplicity to complexity, and where historiographical political writings seem to show a dialectical movement between various forms of order and disorder, the above model represents my attempt to portray both linearity and cyclicality in one novel image: thus both situating and locating metabolic rift world-historically and kinetically.

However, considering Nail's theory of political kinetics, a new model seems to present itself which not only represents the *flow* of forward material progression, but also the negative and positive feedback loops, bifurcation points (rifts), and the cycles of corrective amalgamations in which by way of expansion and in defiance of ossification, imperial states attempt to sustain themselves through an economic autopoiesis.

Where, given the above, we understand the metabolism of an imperial polity to be represented as a forward progressing *flow*, predicated on themes of expansion and expulsion, over time we see a *bifurcation* point occur—the first moment of metabolic rift in which the imperial polity outstrips its resource environment and exhausts, through material means, its expansive forces. At the point of bifurcation—or *rift*—an attempt at ossification and

consolidation occurs, and the flow of imperial metabolism becomes a junction in which corrective measures of consolidation and centralization occur. This junctive motion thus becomes an amalgamative force as it moves first toward an increasing centralization, then towards a progressive decentralization in an effort to stabilize itself. In some instances the corrective amalgamation takes the shape of a great gathering up of social and productive forces and the imperial polity is able to move forward towards a trajectory of hyper-imperialization—a *Caesarist* movement toward absolute imperialism in which all productive, political, and social forces are gathered up in an ever-centralized and domineering trajectory; yet the flow towards hyper-imperialization is part of a circulation—at some point a bifurcation point (rift) will occur again, and the cycle of amalgamative stabilization will occur again.

Following this model, at some point in the metabolism of the empire, amalgamation will no longer emerge as a corrective measure but as a destabilizing measure—centralization only works for so long, as the decrease in economic and productive diversity opens the system up to an increasing vulnerability. At this point a hyper-rift occurs which signals the eventual dissolution of the imperial metabolism and an eventual return towards decentralization and refeudalization. In this regard, the Social Metabolism of political and economic imperialism thus exhausts itself and, following the hyper-rift of its own doomed metabolic interaction, the empire itself breaks up, declines, and its constituent parts are thus released as newly autonomous agents.

A border wall—territorial walls in specific—emerges after an initial attempt at ossification as represented, in the case of Hadrian's Wall, by the imperial consolidation efforts of the Hadrianic era. Border walls thus do not signify an immediate collapse and an imminent decentralization; they occur when an imperial state aims to generate and control its cross-border

labor forces; when its expansive forces have become exhausted, and when its geographical limit has been reached.

Kinetic Social Metabolism: The Stretching and Contracting of Kinesis

At root, Kinopolitical theory can be reduced to an analysis of flows; of inputs and outputs, and cyclical circulations and junctions where the movements of society, polity, and economy are concerned. Such a conceptualization is not so different from the notion of metabolism which, also at root, entails similar flows, bifurcations, junctures and circulations, as well as inputs (resources and labor) and outputs (waste, detritus, and pollutants). On this, de Molina and Toledo noted that:

> [H]uman beings organized in society not only respond to phenomena and processes of an exclusively social character, but are also determined by natural phenomena. In the words of Kosik, "[…] man does not live in two different spheres: a part of it does not occupy a place in history and another one in nature. As a human being man is always and at the same time in nature and in history. As a historical, and hence social being, man humanizes nature, but also recognizes it as an absolute totality, as a self-sufficient *causa sui*, as condition and premise of humanization."[160]

The primary, and arguably most linear and teleological, extant conceptualization of Social Metabolism can be seen in the work of de Molina and Toledo. Turned upon its side, however, we can understand this linear conceptualization of Social Metabolism as a more robust and representative Kinopolitical structure.

[160] Manuel González de Molina and Víctor M. Toledo, *The Social Metabolism: A Socio-Ecological Theory of Historical Change* (Springer, 2014), 59.

The kinetic-Kinopolitical movement of Social Metabolism is, from such a position, a junction where the autopoiesis and *causa sui* of biotic metabolism engages in reproduction; it is the reciprocal intercourse of society and nature; the circulation of biotic and abiotic flows for the sustenance of life; and, further, the dominant kinetic relationship required for any biospheric, or species-level, existence.

Yet the ability for synthesis between Kinopolitics and Social Metabolism goes deeper. As frameworks of both historical and political ecological analysis, both Social Metabolism and Kinopolitics have, as an area of inquiry for analytical leverage, a focus upon discrete historical formations. For Kinopolitics, these take the shape of distinct and distinguishable kinetic forces which progress throughout history—the varying political and bordering regimes of the fence, the wall, the cell, and the checkpoint which align with the four primary social motions: centripetal, centrifugal, tensional, and elastic. For Social Metabolism, these historical distinctions take the shape of discrete historical epochs. The theory of Social Metabolism, according to de Molina and Toledo, entails the three following forms of historical Social Metabolism.

Extractive Mode of Social Metabolism. Primitive accumulation and the hunter-gather mode of production are the general theme of the extractive mode. On this, de Molina and Toledo noted that, "The first mode of Social Metabolism—the only existing way of appropriation of nature until about twelve or ten thousand years ago—was that of extractive societies occurring in the simplest social organizations of hunters, gatherers, and fishers."[161] Kinopolitically, this mode of metabolism would exist as a pre-bifurcation flow; pre-centripetally conceived.

[161] Ibid., 145.

Organic Metabolism. Agricultural accumulation and the slave society mode of production form the character of this form. Consider this lengthy quote by de Molina and Toledo:

> All evidence points to that about between 10,000 and 5,000 years ago a complex combination of factors—including a leap in mental capacity of humans, a generalized increase in temperatures, and particularly, the management of landscapes and plant and animal species—gave place to a qualitatively different relation between human societies and their environments. This leap is known as the Agricultural or Neolithic Revolution and it originated a second metabolic regime, which released a series of potentialities of human groups that had remained unexpressed under the limited relations with nature of extractive societies. This second metabolic regime surfacing in several parts of the world nearly 10,000 years ago became the socioecological support of human societies for several millennia, until only 300 years ago when a new form of articulation with nature was enabled by the Industrial Revolution.[162]

As an evolution upon the earlier extractive mode of metabolism, the organic mode relies upon an organization of society which has already enacted the centripetal social kinetic of settlement and sedentism. The problem, however, with painting all human agricultural societies with such a broad brush is that no room is made for a differentiation of social motion in regard to distinct modes of production known to us now as imperial production and manorial production; their distance bordering regimes notwithstanding.

The Industrial Metabolism. Capital accumulation and the capitalist mode of production dominate this form. On this, de Molina and Toledo wrote that:

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[162] Ibid., 155.

> The third type of Social Metabolism appeared when humans extracted goods from nature by mobilizing not only solar, but other new types of energy mainly of mineral origin—including uranium, the fundamental substance of nuclear power plants. The shift from a mainly solar production to one based on fossil fuel or mineral energy as a product of the industrial revolution, generated a qualitative change in the degree of transformation of ecosystems.[163]

One particular benefit of de Molina and Toledo's framework, however, is in its ability to conceptualize the co-existence of multiple modes of metabolism. Where the world itself is always heterogenous—as totalized and as totalizing as capitalist production is, there exists, for example, sub-dominant and minor modes of production under the aegis of capitalism—the need for such an ability to move beyond Marx's original work on the historical modes of production, without fully abandoning the social metabolic framework, is much needed.

Returning to some of our ideas in Chapter 1, where we worked to understand the spirality/cyclicality of the modes-metabolisms of production, let me revisit and further flesh out Marx's modes themselves with Kinopolitical nuance added.

1. Primitive communism/accumulation: *decentralized*, pre-centripetal, centripetal
2. Ancient production: *centralized*, centrifugal
3. Feudal production: *decentralized*, cellular
4. Capitalist production: *centralized*, elastic

Above, we find some manner of synthesis between not only Social Metabolism and Kinopolitics, but Marx's articulation of the historical modes of production as well. Simply put, and as

[163] Ibid., 197.

mentioned, a mode of production equates to a form of Social Metabolism, which itself entails varying kinetics and structures of kinopower. On this, de Molina and Toledo argued that:

> [t]herefore, human societies produce and reproduce their material conditions of existence by their interchanges with nature, a condition that appears as pre-social, natural, and eternal […]. In other words...‘‘the metabolism between man and nature is thus independent of any historical form because it can be traced back into pre-social natural-historical conditions...’’ [...] Such metabolism implies the diversity of processes by means of which human beings organized in society, independently of their situation in space (social formation) and in time (historical moment), appropriate, circulate, transform, consume, and excrete materials and energy from the natural universe.[164]

The framework of Social Metabolism is, according to de Molina and Toledo, one which is at once supra-historical, biological, and total; yet such an assertion seems to limit the historical import of Social Metabolism as an historical lens of political economic analysis. Where the analysis of a polity through a lens of Social Metabolism is concerned, its historical-situatedness is but one aspect of its Social Metabolism, where technologies and social order is concerned. Thus, rather than metabolism being a framework which in some way sits above and beyond history, Social Metabolism is *implicitly* historical. The added nuance of the Marxist and the Kinopolitical lenses can thus assure that Social Metabolism remains, as a theoretical and analytical lens, historically-grounded; that it does not venture off into ahistoric romanticism about the past; that it remains grounded in history. Yet, de Molina and Toledo seem to note this potential detraction, with the caveat that:

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[164] Ibid., 59-60.

> [a]s a complex system model, Social Metabolism can be approached from multiple angles, depending on the partition of reality made by the observer. Such a partition is framed along at least three axes. First, the spatial dimension represented by the global territory, which in its most elementary version includes the atmosphere, biosphere, hydrosphere, cryosphere, lithosphere, and sociosphere. Second, the time dimension spreading nearly 200,000 years since the first appearance of Homo sapiens. And third, the axis of the analyzed metabolic process, provided that in some cases the focus is in one or more of the five described processes—appropriation, circulation, transformation, consumption, and excretion […]. Thus, all Social Metabolisms occur within a spatiotemporal dimension, i.e., they are enclosed within the territory of the planet and the time spanned by the history of the planet since the origin of the species[165]

Moving Social Metabolism forward as a tool of both historical and political economic analysis, especially where notions of the border and the border wall is concerned, we must rely upon this three-axis model, where the earth, human history, and metabolic processes are taken together as axes of analysis. Below, we can see one conceptual usage of the synthesized frameworks of metabolism and kinesis, overlaid against the axes of time and motion.

Summing Up

In this section, I have attempted to situate and historicize the cycle of metabolism and kinesis within a Political Ecology of *imperial* to *feudal*; *centralized* to *decentralized*. Metabolic rift, I argued, prefigures a collapse, while feudalization and metabolic amalgamation prefigures an ever-increasing imperialization. Where I was at first tempted to situate a rift in metabolism

[165] Ibid., 80-81.

between every discrete epoch—*i.e.*, between Roman and feudal society, between feudal and capitalist society, and so on—a paucity of historical and archival evidence for such inter-epochal rifts led me to reconsider.

No empire has persisted forever. Empires and imperial polities, fiefdoms, and so on have lifespans. Further, there has existed no state—be it imperial or feudal—which has existed in a vacuum; every state in actuality existing in a cosmopolitan state of trade with neighboring polities. The historical movement of decentralized and feudal polities, as was the case in Western Europe following the fall of Rome, has only ever been anabolic—where at first quasi-egalitarian sociopolitical organizations strive to build themselves up, thus giving way to increasing consolidation, which then paves the way for imperialization and empire. The historical movement of centralized and imperial polities, on the other hand, has only ever been catabolic—where the separation between town and country which first takes place during the feudal period then gives way to an increase in city-center population density; thus, stoking the fires of a great and insuperable hunger for resources.

Collapse, predicated upon the outstripping of resources, is the logical next step. However, prior to collapse, where the metabolic rift of waning imperialization becomes patent, imperial polities engage in mitigative strategies and feedback loops aimed at the reestablishment of equilibrium. Such mitigations, however, are only ever palliative in nature as naught but a purposeful withdrawal from imperialization—an impossible task for the imperial polity—would heal such a rupture. Herein lies the crux of the framework, which is at once explanatory and predictive in nature: metabolic rift prefigures both a collapse of the sphere of imperialization and

a progressive movement towards—and at the same time backwards—to refeudalization. The future thus presents itself as history.[166]

Such an analysis, however, is never concrete: Political Ecology and the inter-political struggle for equilibrium—a maligned and Sisyphean quest—engages in the creation of its own history. "In the end," Göran Therborn, "the history of the future cannot be written. It has to be made."[167] The notion that the framework of refeudalization, imperialization, and rift is itself *dialectical* in nature calls for an embedded interactionism of the human species-being; further, dialectical, here, implies a progressive as opposed to a purely Sisyphean cyclicality.

For us, now, the stakes of the metabolic rift of capitalism are much higher than for those of the Roman world. For us, the stakes are global in nature, whereas the collapse of Rome was regional. Where the metabolic rift of capitalism now threatens all biota, along with many delicate biogeophysical processes, attempts *must* be made by a coordinated organization of working class, indigenous, and subaltern groups to socialize and communize the sphere of political and environmental interdependence. Where, as the IPCC projected, "Any increase in global warming is projected to affect human health, with primarily negative consequences," actions *must* be taken to bulwark the underclasses of the world who will disproportionately suffer the impacts of such a warming: "heat-related morbidity and mortality […], ozone-related mortality […], heatwaves in cities […], Risks from some vector-borne diseases, such as malaria and dengue fever,"[168] and more. And where border walls stand as stark signifiers of a world undergoing a collision of catastrophes both ecological and political, developing more correct and nuanced ways of understanding the imperial border in relation to history is increasingly needed.

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[166] Therborn 272
[167] *Ibid*. 283
[168] *Summary for Policymakers,* 11

The present imperial order will, someday, degrade and collapse, and a type of reemergent feudalism will likely, unassailed, blossom in the ruins of a deceased and ruined capitalism. The metabolic rift of capitalist production—a logic of profit above all—thus, at once, not only creates its own demise but reveals what has always been: that is was always-already an evolved and a perfected hierarchical oppression, waiting for its opportunity to flourish, where the masses of society are mobilized in a labor economy dedicated to the production of wealth for but a few; an insidious and debased servitude. Climate change has the potential to unveil the telos and the true nature of the great and global project of imperialized capitalism—unprecedented in its scale—where the purported ethos of democracy, liberty, egality, and fraternity dissipate as smoke upon the wind, and where the long march of history—the consolidation of power in the hands of the most ruthless and near-sighted—now reaches its climax.

CHAPTER 3

BRINGING POLITICAL ECOLOGY INTO HISTORICAL STUDIES

Green History as *Practice* and Reflexive Historical Self-Critique

The history of the last two thousand years of Western civilization can be seen as the history of property relations. At root, changes in the means of existence for Roman, medieval, and liberal-democratic societies have only ever been changes in the metabolic relationship between humanity and the land. Land—and the biotic communities present upon the land—forms, by necessity, the basis for the ecological existence of the human species. "The earth is the great laboratory," Karl Marx wrote, "the arsenal which provides both the means and the materials of labour, and also the location, the *basis* of the community."[169] The ecology of humanity and land gives rise not only to the human community, but it gives rise to the human experience of being and becoming as well; a becoming over time, and in society. Where the ecological relationship of humanity and land as *relations of property* has, over time, shifted significantly in structure as well as scope, there do we find the Marxist notion of the *epochs* of the dominant modes of production. From the Marxist lens, these epochs have been, traditionally, conceptualized as structurally unique; dominated by unique discursive paradigms located in the superstructure of society—in the legal, political, educational, and public spheres—and dominated as well by unique property relations; unique legal relationships of man to land. For example, under the feudal mode of production, the historian Susan Reynolds noted that ideas themselves changed over time as the legal concept of the fief, fueled by colonial settlement, became those of *private property*, where "the fundamental character of the *fief* reflects distinctive

[169] Karl Marx, *Precapitalist Economic Formations* (New York: International Publishers, 1964), 69.

ideas of property."[170] The dominant ideas—as well as the dominant property relations—of a given time reflect the dominant Political Ecology of that time; the human Social Metabolism in which humanity and land sublate into an organismic symbiosis. A mode of production is thus an expression of a specific manner of human Social Metabolism.

In *The German Ideology*, Marx pointed out that:

> [the] mode of production must not be considered simply as being the reproduction of the physical existence of the individuals. Rather it is a definite form of expressing their life, a definite mode of life on their part. As individuals express their life, so they are. What they are, therefore, coincides with their production, both with what they produce and with how they produce.[171]

From the Marxist lens, an epoch in which a mode of production is dominant is a totalizing historical epoch; unique and discrete periods of time in which human life has been expressed in ways quite unlike our own; *other* times to which our own would seem quite alien.

One could make the argument that an historical progression is generally assumed *a priori* to any political, and political-ecological, thought. Marxists tend to consider, for example, liberal democracy to be an historically progressive improvement upon the feudalist social and economic factors which preceded our present, world-capitalist epoch. Marxists also tend to assume, as materialists, that feudalism was, in many regards, a socioeconomic improvement upon the Roman slave society which it followed. We might assume progression because, it seems, life itself appears to us as emergent and evolutionary—presenting as a progressive and blossoming movement of all things. An organism is born, grows ever-more mature, ages, and dies.

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[170] Susan Reynolds, *Fiefs and Vassals: The Medieval Evidence Reinterpreted* (Oxford: Oxford University Press, 1996), 51.
[171] Karl Marx and Friedrich Engels, *The German Ideology* (Martino Publishers, 2011), 121.

"The human body is analogous," Thomas Martin noted, "flexible in youth, it rebounds from injury and disease; in old age, mental and physical 'confirmation' lead to an inability to handle change, and finally to death."[172] Plants sprout from seed to thrive in the warmth, only to die in the cold. Stars and galaxies follow similarly progressive trajectories. They appear to have a life. Where life itself is seen as a progression—an almost-teleological progression—we might be tempted to believe that history itself must also follow suit.

The argument that history must follow an eschatological progression is, however, not only questionable; it is, from a Green Historical lens, unnecessary. Where Western interpretations of historical and political analysis have tended towards linear progression since at least Plato—who, in his *Republic*, made the case for a five-tiered, progressive regime model. The conclusion that human political and economic history itself is linear—resting on some mystical, progressive scale—relies of course upon shaky logic, colonialist and oftentimes racist logics, and ultimately incorrect understandings of the movement of history itself. As mentioned in previous sections, Marxist historiography itself is not immune from the linear historical notion. Many Marxist historians often move from primitive communism to slavery, slavery to feudalism, feudalism to capitalism, capitalism to socialism, and then—what? The realization must dawn that this notion is far too simplistic and reductive.

Taking a Green Historical approach to political-ecological investigations on the peripheries of the field of history, and towards the Marxist notion of progression from primitive communism to higher communism—the almost-*cyclical* notion at the heart of our movement from decentralization to centralization, amalgamation to rift, and so on—we are thus led to eradicate the linear telos altogether, and to take each historical epoch in its own light; its

[172] Thomas Martin, *Greening the Past: Towards a Social Ecological Analysis of History* (International Scholars Publications, 1997), 13.

successors and predecessors as not logically necessitated by the others' own progresses—a recursive and interpenetrating causality. We must, when applying our kinetic Social Metabolism of the border, understand that cyclical and reflexive notions of history do not entail some linear movement or progress towards an ultimate final state. This understanding of history is but one of the benefits that Green History allows the political ecologist working with historical studies.

Martin noted that "[e]cological systems, in turn, are collections of collections of individuals. At the highest of all-inclusive levels we encounter evolution, but it is debatable whether we can separate ecology from evolution […] ecology is what an ecosystem does, not a higher level of the system."[173] If we reject *positive progression* of the modes of production over time, and accept recursivity, reflexiveness, circulations, flow, rifts, amalgamations, and junctures, we can thus consider a relative, but non-linear progression on a sort of value-neutral scale. In other words, the assumption of incremental betterments between modes of production should, from the Green Historical position, be cast aside; modes of production, while undergoing change and progressing regarding technological, scientific, medical, and distributive knowledges, may see their legal, ethical, and political structures go un-progressed over the marches of history. Indeed, the relationships between modes of production—while recursive and reflexive in nature—need not necessarily entail progress where social or environmental justice are concerned. Capitalism, for example, may entail more regressive social structures than feudalism.

Where, under capitalism, human rights, social and environmental justice, and international relations are rapidly degrading, and where global environmental change and climate change will themselves only continue to rapidly destabilize an already eroding world order—the

[173] Ibid., 36.

world historical and paradigmatic epoch of capitalism—international and domestic hostilities will likely only grow. Where the exploiting class will only act, in an increasingly resource-deficient world, to amass as much wealth as possible to weather the coming storm, and where the underclasses of capitalist society will disproportionately bear the impact of a quickly fragmenting social and economic order, hierarchical and legal dominations will both increase and solidify in an attempt at order. Where fragmentation and struggle increase, there too will revolutionary attempts at cohesion and stability also occur—at all costs. Hierarchical dominations, under the guise of capitalism, mirror the social and economic disparity of feudo-vassalic relations; they recreate them in new and horrific ways. The border walls of modern empire are not the curtain walls of the castle; they are the walls of the far-flung Roman frontiers, if they are anything.

Green History, elucidated by Martin, and as an historical methodology for Political Ecologists, entails the following 26 theses—guideposts for our work in the building of a Political Ecology of history:

1. Green History offers researchers grounded in the radical tradition—Marxist, anarchist, social ecologist, critical, and postmodern[174]—an historical methodology which escapes historical reductionism, determinism, and behaviorism.
2. Green History sits upon a dialectical reading of the framework of *general systems theory*, by way of paradigm and bifurcation point analysis.[175] Martin argued that systems theory was "the most important ingredient of a green philosophy of history."[176]

[174] Ibid., *x.*
[175] Ibid., 6.
[176] Ibid., 17.

3. One purpose of Green History is to: "grasp directly and intuitively the place which we occupy in the world, and the interconnections between ourselves and the phenomena we are studying."[177]
4. Green History begins with the notion that Western capitalist civilization—the primary catalyst for global environmental change, climate change, and rampant biodiversity loss—is "in a very real sense, a cancer,"[178] a metabolic phenomenon in relationship to the larger Earth System.
5. Green History organizes around the *three* following principles:
    a. "[H]istory is stochastic, and its processes analogous to (or perhaps identical with) the general processes known as learning and evolution," given that "systems must be stochastic in order to produce anything new at all."[179]
    b. "[N]o entirely accurate picture of the past is possible."[180] To paraphrase Martin, not only is it impossible to paint an accurate picture of the past, and any attempt to do so under the pretense of accuracy is bound to be misleading at best, malicious at worst.
    c. "[A]s history is not deterministic, neither, by extension, are learning and evolution"[181]
6. Green History avoids both a reductive materialist and a reductive idealist conception of history. It takes a dialectical approach where, "We should instead agree with Hegel that the dialectic interaction of spirit [mind] and matter is necessary for both to achieve their potential."[182]

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[177] Ibid., 33.
[178] Ibid., 34.
[179] Ibid., 43.
[180] Ibid., 46.
[181] Ibid., 48.
[182] Ibid., 58.

7. Green History's epistemology falls in the critical realist camp, where, following Gregory Bateson, "Nothing can be known about the epistemological process, and to speculate about it is to indulge in circular reasoning. All we can do is examine the structure and function of the end product, the mental image, as though it were a work of art."[183]
8. Green History must be axiological—"a philosophy of values,"[184] where such values must remain fluid and permeate every aspect of the method itself. Following a notion of ecological identity between organism and environment, the ethics of Green History rest upon an *identity* of human species and Earth System; or, as Martin put it, "I will not have to be instructed to value nature if nature is me."[185]
9. Green History, from the Kuhnian perspective, must resist the temptation to assert the objectivity and dominance of its views, where objectivity is thus eliminated by the paradigmatic perspective.
10. The Western notion of linear time is not a priori true; cyclical conceptions of time must also factor into Green analysis.
11. "Green History will also need to explore the post-Newtonian idea that different times possess different qualities […] The quality of time is not a factor in any scientific Western analysis of [history], but will have to be considered in Green historiography. "[186]
12. Green History must go beyond causality; it must conceptualize in terms of "being" and "becoming"[187] as opposed to the traditional past/present/future construct built into the Indo-European language family.

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[183] Ibid., 77.
[184] Ibid., 79.
[185] Ibid., 82.
[186] Ibid., 128.
[187] Ibid., 138.

13. Heraclitian flux is a foundational consideration of Green History.
14. Green History is "in all its manifestations […] opposed to reductionism, the typically Western habit of oversimplifying the complex."[188]
15. Green History must move beyond formal logic and must utilize a dialectical logic.
16. The Green theory of "causation in history is compounded of Murray Bookchin's dialectical naturalism, simultaneity, the bootstrap hypothesis,"[189] and Systems Theory.
17. Green History acknowledges an identity between species-being and species; between species and Earth System; Green History holds that the subject-object dichotomy is a false one."[190]
18. Green History acknowledges that human social hierarchy is not, by necessity, "natural."[191]
19. Language and linguistic theory occupy an important role for Green History, in that—following a soft application of the Sapir-Whorf hypothesis—where linguistic structures, tense, etc. influence thought, it is important to do the etymology of a term, where political-theoretical concept analysis is at stake—"etymologies are central to the argument."[192]
20. "Green History is *engagé* history; it does not pretend to scientific objectivity."[193]
21. The Green conception of time is bound up with the Green recognition of linguistic import, where time is concerned, i.e., language influences temporal conception.
22. Indigenous mythology is important to Green History, in that, "Mythology may not enable us to write or communicate a total history, but it may at least provide an intuitive realization of the *deep structures of history.*"[194]

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[188] Ibid., 143.
[189] Ibid., 151.
[190] Ibid., 275.
[191] Ibid., 170.
[192] Ibid., 202.
[193] Ibid., 200.
[194] Ibid., 223, emphasis added.

23. Formal syllogistic and predicate logics fail to truthfully conceptualize reality, where fuzzy logics, interpenetrations, and co-existences of seeming opposites persist; Green History must therefore utilize a Hegelian model—a dialectical model of logic where interpenetrations and coexistences of opposites can be accounted for. Dialectical theory not only persists as the most correct analytic framework for the world, but indeed most correctly reflects the way the world works. "Hegel, Marx, the Frankfurt School, and Bookchin have all explored that aspect of the dialectic, and it is also [Green History's] primary focus."[195]
24. A *dialectics of nature* is necessary to Green History. The "interpenetration of opposites, the transformation of quantity into quality, [and] the negation of the negation […] provide a suitable foundation for environmental ethics."[196]
25. Green History embraces a new conception of causality: "cause and effect are not contemporaneous, nor are they imaginary or conventional. They do exist and they are distinct, but they cannot be separated; cause flows into effect, or is subsumed in effect, as part of the dialectic process."[197]
26. Finally, Green History holds that, "[i]n linear Western logic the 'circular argument' is the cardinal sin; in the new dialectic it will be the fundamental form of discourse […] it will certainly be recursive as well as intuitive. And it will be a dialectic, not a logic, primarily because it has to do with explaining processes, not static structures"[198]

The previous 26 guideposts present a terse outline for the political ecologist engaged in Green Historical analysis. Where Political Ecologists are themselves not historians, where environmental history typically operates from problematic Western frameworks, and where

[195] Ibid., 263.
[196] Ibid., 268.
[197] Ibid., 277.
[198] Ibid., 281.

history itself is *necessary* for theory building, concept analysis, and evaluative, normative, and explanatory analyses, Green History thus offers the political ecologist with the strongest framework in the Marxist tradition: an advancement upon reductive, linear, and teleological readings of vulgar Marxist historiography; and a solution to the oftentimes problematic, chauvinist, or liberal-democratic models of Western environmental history.

In short, Kinetic Social Metabolism might be the conceptual framework we examine history with, yet Green History is the method, or the road we take when *applying* our framework. Having taken a rather exhaustive approach to the definition, bounding, and limiting of our working conceptual framework, inclusive of mapping the ways in which this framework understands the kinesis of Social Metabolism for both extant and historical state forms, I would now like to turn to the spotlight of this framework toward the two cases around which this dissertation will focus; extant and historical state forms of empire: 1) the imperial borderlands of the Roman frontier in northern Britannia, inclusive of the Hadrian and Antonine Wall complexes, and 2) the United States-Mexico border region, with its ever-growing fortifications and checkpoints.

While there are significant differences between the Roman and American border fortifications in terms of both historical context and purpose, several key similarities led me to select these two cases for the present study:

1. **Symbolic significance**: border walls in both regions/times hold symbolic significance for the empires that constructed them, drawing from themes of imperial power and might, control over conquered territories, and economic control. “Borderlands,” Hastings Donnan and Thomas Wilson observed in *Borders: Frontiers of Identity, Nation and State*, “are sites and symbols of power. Guard towers and barbed wire may be extreme

examples of the markers of sovereignty which inscribe the territorial limits of state, but they are neither uncommon nor in danger of disappearing from the world scene."[199]

2. **Border control and (alleged) security**: one common, overarching objective of both walled borders is the regulation and control of people, migration, trade, and labor. Both the Hadrian and Antonine Walls aimed to control and monitor the movement of people, goods, and potential subversives along the Roman frontier. And similarly, the U.S.-Mexico border wall has been constructed due to a similar logic, to deter unauthorized border crossings, and to enhance the overall security of a porous border region.
3. **Environmental impact**: both walls entail their own unique environmental impacts. Hadrian's Wall, for example, and due to its massive, large-scale, island-spanning construction, caused ecological disruption by altering drainage patterns and by fragmenting wildlife habitats. Similarly, the U.S.-Mexico Border Wall has raised concerns about the similar fragmentation of animal species and ecosystems, as well as the potential for rising flood risks due to the construction.
4. **Political and social implications**: both walled border regions raise questions regarding political power, identity, and the treatment of marginalized and indigenous communities divided by and adjacent to the walls. Both examples also represent an attempt at imperial domination in the face of rapidly deteriorating social conditions, a sharpening of internal class-rule, and increasingly extractive and exploitative economic practices; they are both, in essence, admissions of a problematized, unwinnable frontier; a frontier that does not, in some regard, accept the imperial authority. Border walls—material, fortified, and soldiered constructions along an abstracted geographical limit—are at once a militaristic

[199] Hastings Donnan and Thomas Wilson, *Borders: Frontiers of Identity, Nation, and State* (Oxford: Oxford University Press, 1999), 1.

signifier of jurisdictional delimitation *and* a material construct. In other words, they both *mean* and *are* something. In *Walled States, Waning Sovereignty,* political theorist Wendy Brown observed that, "Walls are consummately functional, and walls are potent organizers of human psychic landscapes generative of cultural and political identities. […] A wall as such has no intrinsic or persistent meaning or signification."[200] Aside from their consummate functionality, their psychological and ideological significations, and their implicit ambiguity, border walls are a phenomena which have never quite gone away; they are used as freely today in the modern era as they were in the Bronze and Iron Ages, and, as I have argued in the beginning of this study, their construction and use is, in actuality, *increasing*.

The work in the remaining pages of this study will be to understand more deeply the historical circumstances surrounding the creation of these two imperial borderlands, and to do so from a lens not only of Green History, but from an application of our conceptual lens which seeks to understand how these walls might have arisen from the peculiarities of the kinetic metabolisms of empire. It is my hope that what we shall be left with is, in essence, a richer and fuller understanding of these two distinct imperial borderlands, the walls that have grown upon them, and that we shall, ultimately, be left with a framework with which to undertake future border studies for Political Ecology; that the application of our framework to the forthcoming examples will, ultimately, demonstrate the merit of our *green* and *kinetic* social metabolic framework for Political Ecology.

[200] Wendy Brown, *Walled States, Waning Sovereignty* (Brooklyn: Zone Books, 2010), 86.

CHAPTER 4

CASE 1: HADRIAN'S WALL AND THE IMPOSITION OF ROMAN DOMINANCE IN BRITANNIA

The Roman Wall, which, in former times, protected southern Britain from the ravages of the northern tribes, exhibits, at this day, remains more entire, and forms a subject of study more interesting than is generally supposed.

—John Collingwood Bruce, 1851

Introduction

In the north of England, nearby to the present-day border between the nation states of England and Scotland, the ruins of Hadrian's Wall and the Antonine Wall stand as reminders of the ossification of Roman limits: evidence of where the imperial Roman state made the political admittance that it could move no further north; stony and earthen vestiges of a utilitarian strategy of border management; and tools with which the Romans attempted to control the flow of goods and people across the limit of its northernmost jurisdictional region in Britannia.

In this chapter, I aim my conceptual framework at the two unique imperial border wall instances; my goal is, using the conceptual framework we have developed in the first half of the study, to reach towards an historically-grounded and philosophical understanding of the fortified Roman frontiers in Britannia as they relate, in specific, to what border walls both *mean* and *are* in relationship to the larger kinetic Social Metabolism of the imperial state. It is my contention that border walls do not arise amidst the ascendency, growth, and expansion periods of empire; but that they emerge during the period of imperial ossification and delimitation—at the end of what I have called the *metabolic amalgamation*, where all the spheres of nature, production,

society, and political heterogeneity are both gathered and swept up into a great and imperial homogenization—a great and uniform dominion under an imperial singularity—and that, by necessity, border walls not only foreshadow the eventual withdrawal, decline, and collapse of the empires in which they emerge, but that their use is also tied tightly to environmental and climatological change as well. The fortified Roman border offers us one example of this.

The Roman Limits

As a—if not *the*—precursor to the modern western imperial state, Rome has much to tell us about the western imperial conception of the border, the frontier, and the limit—and the walls which often grow upon them. Historian David Shotter, in *The Roman Frontier in Britain* noted that:

> [l]ike so many things in Rome, the concept of frontier (*limes*) had its origins in a long-distant agricultural past; a limes was a bank or path, usually of stone, which separated property from property and field from field. This clearly in its turn derived from a simpler bank formed by the turning of a furrow in a manner still kept ceremonially alive in the days of empire.[201]

Having grown from a Roman agricultural peculiarity, the Roman conception of the limit was thus, by extension, one grounded upon a dynamic of human-land interaction. It rested upon the specific Roman-agricultural metabolism which itself became later emblematized in materially demarcated, delineated, and imperial conceptions of the limit. As a society which had grown from the unification of scattered hill-top villages along the Tiber River in the early sixth

[201] David Shotter, *The Roman Frontier in Britain: Hadrian's Wall, the Antonine Wall, and Roman Policy in the North* (Lancaster: Carnegie Publishing, 1996), 3.

century,[202] the city of Rome emerged from the unification of these villages and from the resultant encircling of the nascent municipality by an earthen bank—"a precursor of the so-called Servian Walls."[203] Rome's early utilization of the limit fortification was threefold:

1. to demarcate Roman territory,
2. to preserve territorial integrity, and
3. to exercise military, political, and economic control over the traffic of the lower Tiber Valley.[204]

While the counter argument might be levied that the Roman conception of the limit is one in which all civilizations and state-forms share, it is my assertion that an individual state's conceptualization of border, or limit, reflects its own unique environmental geographies, minor and dominant modes of production, and social histories. Where pre-Roman Britannia is concerned, for example, the native Briton notion of the limit was quite different. Strabo, in the *Geōgraphiká*, observed that, for the pre-Roman Britons:

> [t]he forests are their cities; for they fence in a spacious circular enclosure with trees which they have felled, and in that enclosure make huts for themselves and also pen up their cattle—not, however, with the purpose of staying a long time.[205]

Following Rome's expansion—first across the Italic peninsula, and later over the larger Mediterranean region—it was the *Roman* conception of the border, the limit, and the frontier which defined Rome's enforcement of its own jurisdictional sovereignty. The Romans, in the economic and the geopolitical sense, were rabid imperialists—that is, their society both grew and

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[202] Ibid., 3.
[203] Ibid., 3.
[204] Ibid., 3.
[205] Strabo, *Geographica* (University of Chicago,1923), 257, accessed 18 March 2023, http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Strabo/4E*.html

existed metabolically by way of conquest, annexation, and a great gathering-up of all surrounding lands, resources, and peoples: an existential phenomenon which seems to be endemic to all imperial polities.

"By the time Augustus came to power," Stephen Dyson observed in *The Creation of the Roman Frontier*, "the Romans had been dealing with frontier problems in [Italia] and the west for nearly four hundred years."[206] These four hundred years saw the growth of the nascent Roman republic from "a mosaic of cities organized into the provinces which made up the [eventual] Empire"[207] to a complex series of administrational jurisdictions, divided into interior and frontier provinces for—ultimately—the sake of Roman senatorial control. The first Roman provincial acquisition—Sicily (*Sicilia*)—came as a result of the First Punic War (264-41 BCE) and demonstrated two methods of direct Roman provincial control: "direct rule by a Roman magistrate, and indirect administration by using an existing king,"[208] where, at this stage in Roman history, Rome had demonstrated "little inclination to rule directly."[209]

As Rome's political, social, and economic influence spread outward from the Italic peninsula and into the surrounding lands of the Mediterranean, and as new political and economic responsibilities began to open in Spain, Macedonia, Asia Minor, Syria, Gaul, Africa, and the Balkans, Rome's reluctance for direct rule began to wane. The Roman reliance on native home-rule by kings, kings who often held the ceremonial title of *socius et amicus Romani populi*, too, began to wane, and the use of direct, Roman-appointed administration began to rise.[210]

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[206] Stephen L.Dyson, *The Creation of the Roman Frontier* (Princeton: Princeton University Press, 1985), 3.
[207] Hugh Elton, *Frontiers of the Roman Empire* (Bloomington: Indiana University Press, 1996), 11.
[208] Ibid., 11.
[209] Ibid., 12.
[210] Ibid., 12.

Yet the border regions were, for Rome, an overdetermined phenomenon. The limit was not simply a line, an easily defined space, or reducible to a single quality. Rather, the Roman *limites*, as they were, and as all borders are, represented both ideological and material factors: factors which were determined directly by the individuals who enacted them; and by those who contested them. In *Frontiers of the Roman Empire*, Hugh Elton noted that:

> In the Roman World there were a number of overlapping frontier zones. These frontier zones might be defined by four groups of people: Roman soldiers, Roman civilians, local natives, and barbarians. Each group had their own boundaries of different types: political, social, ethnic, religious, linguistic, economic and military. These could, but did not have to, coincide with those of other groups. It was this mixture of boundaries which together made the frontier.[211]

For Rome, the British frontier was one which emerged only after Rome's own immediate Mediterranean growth; a growth which quickly spread to western, and finally northwestern Europe. The attempt at British conquest, at a Roman Britain, was one which, for the Romans, reached toward that far, quasi-mythic, Thulean north: a region on the cusp of the known world, as *ultima Thule*—a land which was, as Pliny the Elder imagined, "The farthest of all […] in which there be no nights at all, as we have declared, about mid-summer, namely when the Sun passes through the sign Cancer; and contrariwise no days in mid-winter: and each of these times they suppose, do last six months, all day, or all night."

For the Romans, however, the British Isles—more so than the Thulean Orkneys, the Shetlands, and others—were far from mythical and were in fact quite well-known. The Romans held surprisingly sophisticated geographical information—acquired mainly from earlier peoples,

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[211] Ibid., 5.

the Greeks and Carthaginians—about the world in which they dwelt, and the British Isles were no exception. Yet, for the Romans, an air of mystique hung upon the British Isles and their peoples—forest and hill-dwelling tribes whom the Romans knew as the Brigantes, the Durotriges, the Catuvellauni, the Iceni, the Silures, the Atrebates, the Cantii, the Trinovantes, the Cornovii, the Parisi, and the Ordovices.[212] North of the narrow British median, in now-Scotland, the Romans knew only those tribes whom they collectively called the Caledonians—and, later, the Picts. In his *Natural History* (IV), Pliny the Elder noted that the region of what would later come to be known as Britannia, "was itself called Albion, while all the islands […] are called the British Isles."[213] Pliny also went on to note that:

> The historian Timaeus says that six days' sail up-Channel from Britain is the island of Mictus (Wight) in which tin is produced. Here he says the Britons sail in boats of wickerwork covered in sewn leather. There are those who record other islands: the Scandiae, Dumna, the Bergi, and Bernice, the largest of them all, from which the crossing to Thyle (Thule) is made. One day's sail from Thyle is the frozen sea called by some the Cronian Sea.[214]

In the mid-first century BCE *Gallic War* (V), Julius Caesar (*Gaius Julius Caesar*) wrote that the largest of the British Isles was:

> [T]riangular in shape, with one side opposite Gaul. […] The length of this side is about 500 miles. Another side faces Spain and the west. In this direction lies Hibernia (Ireland), half the size of Britain, so it is thought, and as distant from it as Britain is from Gaul. […] in addition it is thought a number of smaller islands are close by, in which, according to

[212] S. Ireland, *Roman Britain: A Sourcebook.* (Oxfordshire: Routledge, 1986), *xviii*.
[213] Ibid., 13.
[214] Ibid., 14.

> some writers, there are thirty days of continuous darkness around midwinter. […] Thus the whole [British] island is 2,000 miles in circumference.[215]

Thus was Britannia known to the Romans, to their cartographers and geographers, and to their historians, yet it was not until Julius Caesar's 55-54 BCE military excursions onto the British Isles that Roman political and economic interest in Britannia began in earnest.

Hadrian's Wall and the Roman Conquest

Rome's involvement with the British Isles—Britannia specifically—spanned, following Caesar, a period of nearly five centuries.[216] Britannia, as Adrian Goldsworthy wrote:

> was a late addition to the Roman Empire, conquered at a time when expansion was becoming rare, but the actual conquest in AD 43 was not the first military contact between the empire and the Britons. Almost a century before, Julius Caesar, then proconsul (or governor) of Gaul, landed in the south-east [of Britain] in 55 BC and again in 54 BC. He beat down the fierce resistance of the local tribes and accepted their submission, but did not choose to stay over the winter and never returned.[217]

David Breeze noted that for the Romans, "Britain lay on the very edge of the Roman empire. It would have taken a traveler two to three months to journey from Rome to Hadrian's Wall."[218] Following the Octavian pacification of the Roman civil wars of the first century, and as Roman imperial administration began to move towards direct governorship—by either imperial or senatorial appointment—Octavian (*Gaius Octavius Thurinus*), emperor Augustus after 27 BCE, began a series of excursions and acquisitions to gain more territory in Europe along the

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[215] Ibid., 15.
[216] Ibid., 1.
[217] Adrian Goldsworthy, *Hadrian's Wall* (New York: Basic Books, 2018), 1.
[218] David Breeze, *Roman Frontiers in Britain (*Bristol: Bristol Classical Press, 2007), 11.

Danube—acquisitions which led to the creation of new frontier provinces such as Illyricum, Pannonia, and Moesia. Augustus, the historian Hugh Elton noted, "regarded the advance of the border with pride,"[219] and the rapid expansion of Rome's territorial control in Europe, along the imperial nature of Roman politics, were buried deeply not only in the political psyche of the Julio-Claudian dynasty—Rome's earliest imperial family—but in the political economic mode of Roman acquisition as well. "The Romans," commented Breeze:

> had a particular worldview: the gods had given them the right to rule the world. The continual success of Roman arms demonstrated the validity of this assertion. As the empire would continue to expand, there was no need for frontiers. This was the situation in Britain during the decades after the conquest.[220]

It was this *worldview*, dominated by the military, political, and economic logics which always overdetermine historico-political phenomena, that led the emperor Claudius (*Tiberius Claudius Caesar Augustus Germanicus*) to land an army on the shores of Britannia in 43 CE to "win [himself] a triumph"[221] and to secure such rich British resources as tin, lead, and lumber. Historian Peter Salway noted that, "When Emperor Claudius landed a Roman army on the [British] south coast in A.D. 43 a process was begun which was to transform the face of Britain and give a new direction to its history."[222]

Environmentally, Britain in the first century CE, as Rob Collins observed in *Hadrian's Wall and the End of Empire*, could best be described as:

> upland, with the low-lying areas of the east and west coastal plains separated by the broad spine of the low-lying Pennine mountains and Cheviot hills. The mountains, along

[219] Hugh Elton, *Frontiers of the Roman Empire* (Bloomington: Indiana University Press, 1996), 15.
[220] David Breeze, *Roman Frontiers in Britain (*Bristol: Bristol Classical Press, 2007), 29.
[221] Ibid., 29.
[222] Peter Salway, *The Frontier People of Roman Britain* (Cambridge: Cambridge University Press, 1965), 1.

> with the passes, crags, dales, and valleys between them, were probably difficult to pacify, and the long-term occupation of forts throughout the Roman period across the north of England may suggest a situation in which the local population was never completely subjugated. Alternatively, the distribution may suggest a desire to control strategic points in the landscape for purposes of supply and communication, including natural resources such as lead. One does not preclude the other.[223]

The main themes of the Roman excursions into Britannia were, as Breeze observed in *Roman Scotland*, invasion, conquest, occupation, withdrawal, and external relations.[224] Where the previous century's incursions of Julius Caesar had less to do, "with a long term strategy for Britain than with the security situation in Gaul and with Caesar's own political position in Rome itself,"[225] the invasion of the Claudian army was indeed meant to be an occupying force. While such an invasion might have been foreshadowed by those in Rome's imperial circle of political élites during the reign of Octavian,[226] the British conquest in fact went against the firm advice of Octavian to his successor Tiberius (*Tiberius Caesar Divi Augusti filius Augustus*), who exclaimed that the Empire "should be kept within its current boundaries."[227]

Stephen Dyson noted that, "Rome was often drawn to a frontier because the local cultural and political dynamics affected their interests [and] […] once the decision to intervene had been made, Roman success depended on a shrewd analysis of the nature of local conditions and of those forces that might favor Rome, as well as those that would oppose it."[228] And in the period

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[223] Rob Collins, *Hadrian's Wall and the End of Empire: The Roman Frontier in the 4th and 5th Centuries* (Oxfordshire: Routledge, 2012), 9.
[224] David Breeze, *Roman Scotland* (Historic Scotland - Think Publishing, 1996), 12.
[225] David Shotter, *The Roman Frontier in Britain: Hadrian's Wall, the Antonine Wall, and Roman Policy in the North* (Lancaster: Carnegie Publishing, 1996), 15.
[226] Ibid., 15.
[227] Ibid., 16.
[228] Stephen L. Dyson, *The Creation of the Roman Frontier* (Princeton: Princeton University Press, 1985), 5.

between Tiberius' succession (14-37 CE) and the succession of his nephew Claudius in 41 CE, Roman foreign relations with the vague British frontier became increasingly strained due to a growing cross-Channel economy between Britain and Gaul which saw many of the southern British inhabitants seek to become "Romanized"—a move which became increasingly frictive for many northern British inhabitants—and a growing political hostility emblematized by the 40 CE death of Cunobelinus ("Strong Dog"), a southern Briton king allied with Rome as *socius et amicus Romani populi*, or "king and friend of the Roman people." The ensuing power struggle between Cunobelinus' sons—Adminius, Caratacus, and Togodumnus—and their driving out of the chief Roman ally in Britain, King Verica of the Atrebates, all exacerbated what became an increasingly fractious political atmosphere. After the assassination of the emperor Caligula (*Gaius Julius Caesar Augustus Germanicus*) in 41 CE, the new emperor, Claudius, "had to give Britain considerable thought."[229] Claudius, to reassert control of the Roman tributes in southern Britain, and to gain further control of land and resources in the north of Britain, organized an invasion force to reinstate the exiled King Verica of the Atrebates—an example of the conquest-driven, extractive logic of imperialism in action.

As David Shotter recorded in *The Roman Frontier in Britain*, "[t]he invasion force of 43 CE consisted of four legions—II *Augusta*, IX *Hispania*, XIV *Gemina Martia Victrix*, and XX *Valeria Victrix*, with detachments at least from others, including VIII *Augusta*."[230] Cunobelinus' old capital city at Camulodunum (modern-day Colchester) was quickly captured within the first warring season, and Claudius himself visited the city to revel in the triumphal entry. From Colchester, Roman invasions were launched northwards towards present-day Lincoln, north-

[229] David Shotter, *The Roman Frontier in Britain: Hadrian's Wall, the Antonine Wall, and Roman Policy in the North* (Lancaster: Carnegie Publishing, 1996), 17.
[230] Ibid., 17.

westwards towards Wroxeter, westwards towards Gloucester, and south-westwards towards Exeter. On the Isle of Wight, the future emperor Vespasian (*Titus Flavius Vespasianus*) did battle with Cunobelinus' son Caratacus—a chief opponent of the Roman occupation until he was handed over in 51 CE by Queen Cartimanuda of the Brigantes.[231] The Roman historian Cassius Dio recorded that the native Britons were ill-prepared for the initial invasion:

> [f]or the Britons as a result of their inquiries had not expected that they would come, and had therefore not assembled beforehand. And even when they did assemble, they would not come to close quarters with the Romans, but took refuge in the swamps and the forests, hoping to wear out the invaders in fruitless effort, so that, just as in the days of Julius Caesar, they should sail back with nothing accomplished.[232]

The ensuing century of occupation, however, was not to be a simple wash, and the Romans dug in for what was to be an occupation of continued military and political maneuvering. In *Hadrian's Wall: A Life*, Richard Hingley noted that during the British conquest, "[a] large Roman army crossed the Channel from Gaul and Lowland Britain was gradually subdued during the middle and late first century AD. This conquest occurred through the use of diplomacy and armed violence directed against some of the people of Britain."[233] During the middle and late first century CE, the Romans engaged in the logistics of military occupation by way of roadbuilding, fort building, and continued campaigns against the indigenous populations in efforts of subjugation and forced submission.

During the reign of the emperor Vespasian from 69 to 79 CE, the military exploits of Agricola (*Gnaeus Julius Agricola*)—a Gallo-Roman general who would, in 77 CE, be appointed

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[231] Ibid., 18.
[232] Cassius Dio, Roman History (Chicago: University of Chicago), 417, accessed 18 March 2023, http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Cassius_Dio/60*.html#19
[233] Richard Hingley, *Hadrian's Wall: A Life* (Oxford: Oxford University Press, 2012), 14.

as consul and governor of Britannia—were largely responsible for the pacification of southern and central Britannia, as well as many of the unsuccessful excursions into the British-Scottish (then-Caledonian) north. Having participated in the quelling of the Boudiccan uprising in 61 CE where he served as a junior officer (*tribunus militum*),[234] Agricola went on, under his governorship, to pacify the Brigantes where he "swept right through Brigantian territory—and beyond"[235] without a great deal of fighting, being able to:

> play groups off of one another—perhaps groups such as the Carvetti and Setantii in the northwest, and others such as the Tectoverdii, Lopocares, and Corionototae who have tentatively been assigned the territory in the northeast—indicating that the major military blows had already been struck [by the Romans] in this area.[236]

Following Agricola's campaigns, continued military efforts at both pacification and control, and a growing emigration of Roman citizens to the British frontier, the military infrastructure of the Roman army in Britain had, from the initial landing of 43 CE until the onset of the second century, grown unabated; and by the time Hadrian (*Publius Aelius Hadrianus Augustus*) succeeded Trajan (*Marcus Ulpius Traianus*) in as Emperor of Rome in 117 CE, the logistical infrastructure for what would soon become Hadrian's Wall was largely already in place.

Rob Collins noted that, "[b]y AD 88, the Roman troops were withdrawn from northern Scotland to the Forth-Clyde isthmus, and by the early 2nd century, troops had been withdrawn from lower Scotland to the Tyne-Solway isthmus."[237] Roman army presence coalesced around the fortressed region of the Tyne-Solway isthmus, and, as Rob Collins went on to note, "[u]pon

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[234] David Shotter, *The Roman Frontier in Britain: Hadrian's Wall, the Antonine Wall, and Roman Policy in the North* (Lancaster: Carnegie Publishing, 1996), 28.
[235] Ibid., 31.
[236] Ibid., 31-32.
[237] Rob Collins, *Hadrian's Wall and the End of Empire: The Roman Frontier in the 4th and 5th Centuries* (Oxfordshire: Routledge, 2012), 12.

withdrawing from Scotland, the northernmost concentration of garrisons was along the road connecting Corbridge to Carlisle, known since the Middle Ages as the Stanegate Road." The Stanegate road, a road that ran more or less parallel to the current location of Hadrian's Wall, was, as Richard Hingsley noted, a "fortified military road [which] was constructed just to the south of the line on which the Wall was later to be built."[238] In the narrow region from what is now Browness to South Shields, England, where the present day A69 and B6318 highways run from Newcastle-upon-Tyne to Carlisle, much of the Roman army in Britain was garrisoned in a series of forts—forts which were supported by a heavy infrastructure of roads and towns which, coupled with the Scottish withdrawals, created a *de facto* militarized frontier region along the Tyne-Solway narrows. William Hanson and Gordon Maxwell noted, in *Rome's Northwest Frontier*, that:

> [s]hortly after the beginning of the second century AD the Roman frontier in Britain seems to have rested on the Tyne-Solway isthmus, the most convenient east-west route south of the Forth-Clyde line. […] The primary elements of the Trajanic frontier were the Flavian forts Carlisle and Corbridge, situated astride the two main routes into Scotland, together with the east-west road which connects them, known to us as the Stanegate.[239]

As the land around the burgeoning wall began to be cleared for construction, as the land was surveyed and readied, the native Britons often had to be forcibly relocated, and the pre-existent social, cultural, and linguistic groups were split down the middle by the feature that would come to be known as Hadrian's Wall. Hanson and Maxwell noted that the significance of

[238] Ricahrd Hingley, *Hadrian's Wall: A Life* (Oxford: Oxford University Press, 2012), 14.
[239] William Hanson and Gordon Maxwell, *Rome's Northwest Frontier: The Antonine Wall* (Edinburgh: Edinburgh University Press, 1983), 48.

the political apartheid enforced by the newly constructed Wall would not have been lost on the local tribesman, where "the newly-built barrier seems to have cut across tribal territory belonging to the Brigantes, isolating a considerable portion of the tribe's lands lying in the lower dales of the Rivers Esk and Annan."[240] Further, Richard Hingsley also observed that:

> The homes and settlements of the local people have been recognized and excavated in some numbers […] but the relationship between these people and the Roman army and administration remains unclear. Substantial areas of land will have to be confiscated during the construction of the Roman military infrastructure. Roman roads, camps, and forts were enforced without discussion or negotiation [and the] […] Roman army did very much whatever it wanted across this landscape, prior to, during, and after the construction of [Hadrian's] Wall.[241]

The Roman frontier zone that was to become Hadrian's Wall was, however, and as is the course with most things, an overdetermined phenomenon—and one which, at different periods of time, could be located in different regions of Britannia. Stephen Dyson recorded that:

> [tT]hough Hadrian's Wall is a conspicuous linear feature, it did not mark the course of the frontier. Generally speaking, the Roman frontier occupied the middle of the island of Britain, with the Roman province (and later diocese) of *Britannia* only occupying the southern half of the island. Throughout the Roman occupation, then, the territory north of the Wall and Ireland to the west should be considered *barbaricum*."[242]

Yet, as Dyson also observed in *The Creation of the Roman Frontier*, for most of us:

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[240] Ibid., 54.
[241] Richard Hingley, *Hadrian's Wall: A Life* (Oxford: Oxford University Press, 2012), 15.
[242] Rob Collins, *Hadrian's Wall and the End of Empire: The Roman Frontier in the 4th and 5th Centuries* (Oxfordshire: Routledge, 2012), 9.

> Hadrian's Wall symbolizes the Roman frontier. Massive and permanent, it separates the world of Rome from that of the barbarian […] Yet walls and forts were only part of a larger diplomatic, military, political, social, and economic system that embraced both sides of the frontier and created a gradual transition from Roman to non-Roman society.[243]

The decision during the reign of Hadrian to construct a large-scale wall just north, and parallel to, the Stanegate Road followed closely with the extant garrison in the region, the series of supportive forts across the isthmus, and Hadrian's own efforts at imperial consolidation, rather than expansion. "When Hadrian came to power," Rob Collins noted, "his apparent desire to stabilize imperial holdings led him to consolidate existing frontiers rather than initiate further conquest. The emperor visited Britain in AD 122, and the construction of Hadrian's Wall commenced, quite possibly following a plan designed by the emperor himself."[244] Richard Hingsley also noted that, "The Wall formed part of Hadrian's policy of bringing the expansion of the Roman empire to an end; fortifications were also being built along the German frontier at this time."[245] The Wall's construction took eight to ten years to complete,[246] and might not have been fully finished until the reign of Antoninus Pius (*Titus Aelius Hadrianus Antoninus Augustus Pius*) in 138 CE. Indeed, the Wall is thought to still have been under construction at the time of Hadrian's passing. Adrian Goldsworthy noted that, "Hadrian's personal involvement in the decision to construct the Wall and in its design is clear. It is generally assumed that he gave the order after visiting the area, so that the surveying and construction began no earlier than 122."[247]

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[243] Stephen L. Dyson, *The Creation of the Roman Frontier* (Princeton: Princeton University Press, 1985), 3.
[244] Rob Collins, *Hadrian's Wall and the End of Empire: The Roman Frontier in the 4th and 5th Centuries* (Oxfordshire: Routledge, 2012), 13.
[245] Richard Hingley, *Hadrian's Wall: A Life* (Oxford: Oxford University Press, 2012), 17.
[246] Ibid., 17.
[247] Adrian Goldsworthy, *Hadrian's Wall* (New York: Basic Books, 2018), 18.

Goldsworthy offered the caveat that since we know so little about the imperial planning processes surrounding large-scale works like the Wall, that construction may have started earlier than 122, and Hadrian's trip to the frontier that year was simply to inspect the Wall's construction.

The anatomy of the Wall itself was such that the stone curtain wall was not the primary feature—although arguably the most visible—but part of a larger wall complex which included a wall ditch, a military road, and a sub-complex known as the *vallum* which contained a series of mounds and ditches. While the original height of the stone curtain wall is unknown—as no section survives today at its original height—recent estimates suggest an approximate 3.6 meter height.[248] Given that the upper portion of the stone curtain wall is also unpreserved, it is, as Hinglsey observed, "unclear whether there was a walkway along the top or crenellations to defend those Roman soldiers who may have patrolled its line."[249] The Wall, and the complexes that surrounded it, were built by three Roman legions: the II *Augusta*, the VI *Victrix*, and the XX *Valeria Victrix.* Help was likely levied from the local populations—from the towns (*vici*) which grew up along the Wall region to support the soldiers and their families—and from the Romanized indigenous populations. The stone curtain wall, while initially begun at a width of 2.9 meters was, in places, reduced to 2.4 meters in width. The overall length of the wall was, from Segedunum to the shores of the Solway Firth, 80 Roman miles—117.5 km, or 73 standard miles. Adrian Goldsworthy noted that:

> The western section for thirty-one Roman miles (c. forty-six km) from Bowness-on-Solway was built of turf, timber, and earth, with a rampart some twenty feet wide (six m)

[248] Richard Hingley, *Hadrian's Wall: A Life* (Oxford: Oxford University Press, 2012), 18.
[249] Ibid., 19.

> at its base. The line was then continued by a stone wall for forty-nine Roman miles (c. seventy-three km) to the east, eventually ending at Wallsend on the Tyne.[250]

Forts also punctuated the stone curtain wall, although this decision had not been planned from the wall's beginning. On this, Hingsley recorded that:

> It was not originally intended to place the forts on the line of the Wall but to maintain the pre-existing forts along the Stanegate in the hinterland as the main bases for the troops. However, prior to AD 126 it appears that a decision was made to construct forts at regular intervals along the Wall's course and to transfer the garrisons onto the Wall.[251]

This decision, Hingsley observed, is known today amongst Wall scholars as "the fort decision." Regular gateways and through-ways occurred on the line of the wall, primarily at the mile-castles and forts, but as Hingley noted, "at least two additional gateways at Port Gate and the Maiden Way are known."[252] Cross-boundary trade, immigration, and travel occurred through these ports. The wall forts, or mile castles, and, by extension, the gates, were often associated with civilian extensive settlements known as *vici*. William Hanson and Gordon Maxwell noted that:

> The channels of movement open to the military were, of course, also applicable to the control of civilian traffic, and we must remember that the close supervision of this was probably the main day-to-day function of the running barrier. Passage across Hadrian's Wall was possible for all persons going peacefully about their lawful business, but only with the permission of the troops occupying the milecastles.[253]

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[250] Adrian Goldsworthy, *Hadrian's Wall* (New York: Basic Books, 2018), 20.
[251] Ibid., 18.
[252] Richard Hingley, *Hadrian's Wall: A Life* (Oxford: Oxford University Press, 2012), 25.
[253] William Hanson and Gordon Maxwell, *Rome's Northwest Frontier: The Antonine Wall* (Edinburgh: Edinburgh University Press, 1983), 53.

Hadrian's Wall, known in its day as the *Vallum Aelium*, was, functionally, a tool of Roman border management. While defense was of course implied by the very nature of the wall itself, its primary goal was not defensive in nature, but rather to control the flow of people and goods in and out of Roman territory. It was, at root, a territorial demarcation and was used in many of the same ways that modern states today utilize their border walls. John Collingwood Bruce, an early pioneer of Wall scholarship, and author of the seminal text *The Roman Wall*, made the argument, early on, that the "Wall was designed at first to indicate where Roman territory ended, but this was supplemented by the 'secondary function […] of being an obstacle to smugglers, or robbers, or other undesirables."[254] And further, in his influential text *Roman Britain*, Collingwood also argued that:

> In spite of the impressive appearance of this huge fortification […] it was not in the ordinary sense a military work. It was not intended to stop invading armies of Caledonians, while Roman soldiers lined the parapet and repelled attempts at escalade […] The Wall was an obstacle, but an obstacle not so much to armies as to smugglers […] If we want an analogy in modern times, we shall find one not in the continuous lines of trench warfare but in the Indian 'customs-hedge' built by the English in 1843 for prevention of smuggling in salt.[255]

Hadrian's Wall, like border walls in the twenty-first century, was a tool of border management—a tool intended to create easily-regulated choke points in cross-territorial trade and movement where the army could enforce Roman border policy. The primary themes of Hadrian's Wall were thus bound up with economy, movement, regulation, management, and—secondarily—defense. As with its early 4th century BCE Servian Wall (*Murus Servii Tullii*), Rome's far-flung border

[254] Richard Hingley, *Hadrian's Wall: A Life* (Oxford: Oxford University Press, 2012), 246.
[255] Ibid., 247.

wall in northern Britannia represented three similar motivations, with several new twists: 1) it signified the end of Roman expansion and the demarcation of the furthest limits of the empire; 2) it attempted to preserve territorial integrity through tight military, political, and economic control over cross-border traffic; and 3) it permanently problematized the question of the northernmost British frontier[256]

Hadrian's Wall was not only a fortified demarcation—a limit set in stone and earth—but it represented, also, the Roman conception of the border as one which was porous and required consummate control, regulation, delimitation, and staffing. Hadrian's Wall thus represents a model for border studies in the twenty-first century, especially where the border fortifications of imperial polities are concerned. In Hadrian's Wall we see glimpses of the U.S.-Mexico border wall with not only a similarity in management strategy, impetus, and purpose, but in meaning, signification, and implication as well.

[256] David Shotter, *The Roman Frontier in Britain: Hadrian's Wall, the Antonine Wall, and Roman Policy in the North* (Lancaster: Carnegie Publishing, 1996), 3.

CHAPTER 5

ANALYSIS OF HADRIAN'S WALL:

MOTION AND METABOLISM

Walls, Metabolism, and Motion

In this section, building upon what we have uncovered from our investigation into the history of Hadrian's Wall, I will attempt to move forward and apply our novel synthesis of *Social Metabolism*[257] (in which the theory of *metabolic rift* is situated) and Thomas Nail's theory of *Kinopolitics*.[258] My rationale for doing so is two-fold. First, if Political Ecology, in an effort to contribute to the Marxist critique of the capitalist mode of production and the exploitation and alienation entailed therein, is to examine through such a lens the phenomenon of border walls, it must first admit the direct materiality of the border and begin its analysis from what border walls are *in actu* designed to do.

On a fundamental level, a wall—be it a border wall, the wall of a house, or a fence—is designed to prevent movement. In this regard it operates as an impermeable macro-membrane through which humans, animals, weather, and material objects cannot pass. In other words, walls stop movement; they are created to do so. If we are to remain consistent with materialism, we *must* begin our critique and our analyses from the primary material function of border walls as they are utilized by the various apparatuses of the state. Where border walls halt motility, we are required to utilize a politics of movement—and a political theory focused on the mobility of the

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[257] Defined as, "the particular form in which societies establish and maintain their material input from and output to nature and as the way in which they organize the exchange of matter and energy with their natural environment. Social Metabolism has also occurred as a theory explaining socioenvironmental change" (Manuel González de Molina and Víctor Toledo, 44).

[258] "The core concepts in the definition of social motion [Kinopolitics]," Thomas Nail observed, "are 'flow,' 'junction,' and 'circulation,' from which an entire logic of social motion can be defined and in which expansion by expulsion and migration take place" (24).

individual human, as well as the larger movements of human society. *Kinopolitics* offers us one such lens through which we might view the movements of individuals, societies, and economies as they are upon the world, and the ways in which social and political motion is either helped or hindered; a politics of motion and matter. Secondly, where humanity is, following Marx, naught but a species-being[259] upon the earth engaged in the continual, reciprocal intercourse of *metabolism* with the land and its resources, there must we also view the phenomenon of border walls through a lens of metabolism—to discern their meaning, their function, and their representation as they relate specifically to the ways in which their host societies produce and reproduce their material existences *metabolically*.

A border wall is not a chance occurrence; rather, it is an incredibly labor-intensive and expensive undertaking. The societies who erect them—in every case, the societies with the means to do so—do so as part and parcel of their metabolism. Material society requires the influx—and output—of material goods, natural resources, and labor, requiring a regulation of the ways in which these are derived from the world. Where a material society as polity (or state) is, also, a system situated inside of a global network of systems, there too does it seek its own existential longevity, its autopoietic reproduction, and its expansion. If we are to understand why border walls occur—avoiding the commonplace reductive, militaristic, paternalistic, and patriarchal reasoning which have, historically, been plagued border studies[260]—as well as what they *mean*—we must do so from a theoretical lens that allows not only for their meaning, but

[259] Karl Marx, "Alienated Labour" in *Early Writings* (New York: McGraw Hill, 1964), 128.
[260] "Yet despite its longevity, multinational appeal, and the multiple generations of people who have lived along and with it, and who have visited it, the Wall has been predominantly recognized and understood in imperial and military terms" (Claire Nesbitt and Divya Tolia-Kelly, "An Archaeology of Race: Exploring the Northern Frontier in Roman Britain," 369).

also for their situation inside of a larger metabolic movement; we must understand border walls through a lens of movement and motion.

Nail observed that, "The history of the border is a history of social motion."[261] Thus it is only through a synthesis of a politics of motion as well as a theoretical framework which understands human societies and polities as metabolic organisms engaged in the production and reproduction of their material existences that we can fully understand border walls. This section will be an attempt to reach towards such a synthesis.

While individual discipline-specific explanations of the border, and the border wall, exist, the field of border studies itself is young enough that no unifying frameworks yet exist which embody the interdisciplinary and transdisciplinary nature of border studies themselves. Recent scholarship by Thomas Nail has done much to contribute to an overarching theory of the border, but border theory is still in need of an historical fleshing-out. Emmanuel Brunet-Jailly observed that:

> many single explanations of boundaries, borders, border-lands and frontiers exist, but none is really satisfying; most scholars seem to agree that there are many types of borders and each social science sub-field has its own epistemology of borders. […] To date, however, there is no model available that addresses, first, why some borderlands integrate economically but not politically, while others have institutions spanning an international boundary without the pressure of intense economic linkages, and, second, what role local political clout and local culture play in defining and shaping borderlands and boundaries.[262]

[261] Thomas Nail, *Theory of the Border* (Oxford: Oxford University Press, 2016), 21.
[262] Emmanuel Brunet-Jailly, "Theorizing Borders: An Interdisciplinary Perspective" in *Geopolitics* (Milton Park: Taylor and Francis, 2005), 642.

Archaeologists Claire Nesbitt and Divya Tolia-Kelly observed that, in regard to Hadrian's Wall:

> the history and values of the Wall have not been geographically still; it has a continuously shifting socio-political iconography and embodied value. To study the Wall purely in terms of its Roman context or from a singular (sometimes occidental) viewpoint is to lose its multiple dimensions of meaning.[263]

Thus, it becomes clear that what is needed in the field of border studies is a theory of the wall which is at once historical and political; ecological and theoretical. Border walls cannot be studied alone from the political perspectives which have created them. To study border walls in an era of capitalism from a purely capitalistic political economic perspective is to miss the bulk of the picture.

Considerations and Implications

"The *right of landownership*," a young Karl Marx once rightly observed, "has its source in robbery."[264] The same could be said for the ways in which Rome engaged in its own methods of land acquisition and legal notions of land ownership. The border *limites* of the Roman frontiers in Britain were not the historical limits of the Roman people themselves, but an artificial extension predicated upon warfare, resource extraction, and a social subjugation of the native Britons. On this, the political scientist Emmanuel Bruent-Jailly noted that:

> the history of the Roman Empire is testimony to the fact that conquest was central to the differentiation between barbarism and civilization. Boundaries organized the Roman

[263] Claire Nesbitt and Divya Tolia-Kelly, "Hadrian's Wall: Embodied Archaeologies of the Linear Monument" in *Journal of Social Archaeology* (New York: Sage Publishing, 2009), 370.
[264] Karl Marx, "Rent of Land" in *Early Writings*. (New York: McGraw Hill, 1964), 103.

> Empire according to a hierarchy of spaces—territories of varied dimensions and functions, which included settlements, cities, provinces and regions.[265]

The Stanegate region of the Tyne-Solway isthmus—the location of the *Vallum Aelium*, or Hadrian's Wall—was, as referenced by Claudius Ptolemy's 150 CE map of the region, the territory of such tribes as the *Brigantes*, the *Votadini*, and the *Selgovae*; and the short-lived Antonine Wall seventy miles to the north on the Forth-Clyde isthmus was, as noted on the same map, peopled by the *Damnonii*. When empires such as Rome engaged in expansion, they did so not into uninhabited, depopulated lands, but lands rich in both resources and populations; lands which, by the imperial logic, had to be robbed, destroyed, and conquered in service of such a logic. Thomas Nail observed that, "In particular, the border is defined by two intertwined social motions: expansion and expulsion."[266] Hadrian's Wall was similarly defined by such motions. Where border fortifications such as the military and economic installations of the Antonine and Hadrian's Walls are concerned, the Romans engaged in both forced displacements of the native inhabitants as well as direct political and economic control by governorship. The primary historical themes of the Roman dominion over the southern half of Britain could thus be labeled as displacement, artificiality, and militaristic imposition: displacement in terms of the indigenous Britons, artifice in the sense of the imposed Roman concrete; and imposition by way of Rome's very presence upon the land.

As an imperial polity, Rome's engagement with the border was one which lay upon a material foundation of economic and political control over lands which did not, *a priori*, belong to Rome. The heretofore autonomy of Roman Britannia was thus a subjugation to foreign rule;

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[265] Emmanuel Brunet-Jailly, "Theorizing Borders: An Interdisciplinary Perspective" in *Geopolitics* (Milton Park: Taylor and Francis, 2005), 634.
[266] Thomas Nail, *Theory of the Border* (Oxford: Oxford University Press, 2016), 21.

and the Roman imposition of the border can be derived from the ways in which the Romans engaged in border management. As a template for the western imperial state, an analysis of Rome's material maintenance of their border limits offers us much in the way of evidence for analysis. An analysis of Rome's border regime, for example, directly feeds an analysis of the present-day border regime of the United States. In "Hadrian's Wall: Embodied Archaeologies of the Linear Monument," Claire Nesbit and Divya Tolia-Kelly observed that:

> The Romans' barrier could be seen as an ideological division, which may have become entrenched in the psyche of the people on either side of the Wall, creating an invasive/defensive mindset. As Ahmed […] asserts: "the politics of fear as well as hate is narrated as a border anxiety: fear speaks the language of 'floods' and 'swamps,' of being invaded by inappropriate others, against whom the nation must defend itself."[267]

Similar themes of invasion, floods, and swamps, for example, are ubiquitous—and shockingly familiar—in the contemporary right-wing discourse around border security in the United States in 2023. For example, Donald Trump noted that he, "repeatedly warned that America was under attack by immigrants heading for the border. 'You look at what is marching up, that is an invasion!' he declared at one rally. 'That is an invasion!'"[268]

On the Romans, however, Hegel once—problematically—remarked that, within the bounds of the empire, "individuals were perfectly equal (slavery made only a trifling distinction), and without any political right. […] Private Right developed and perfected this equality."[269] Hegel went onto contend that the individual private rights enjoyed by every Roman subject in

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[267] Claire Nesbitt and Divya Tolia-Kelly, "Hadrian's Wall: Embodied Archaeologies of the Linear Monument" in *Journal of Social Archaeology* (New York: Sage Publishing, 2009), 371.
[268] Peter Baker and Michael Shear, "El Paso Shooting Suspect's Manifesto Echoes Trump's Language" in *The New York Times*, accessed 18 March 2023, https://www.nytimes.com/2019/08/04/us/politics/trump-mass-shootings.html
[269] G.W.F. Hegel, *The Philosophy of History* (Mineola: Dover Publications, 1956), 316.

some way represented a logical extension of burgeoning Roman property rights—along with the resultant political individualization of the citizen—and that such a collection of individuals in fact operated as a sort of decentralized political organism.[270]

> The emperor *domineered* only, and could not be said to *rule*; for the equitable and moral medium between the sovereign and the subjects was wanting—the bond of a constitution and organization of the state, in which a gradation of circles of social life, enjoying independent recognition, exists in communities and provinces, which, devoting their energies to the general interest, exert an influence on the central government.[271]

Hegel's romanticized vision of the Romans, however, could not be further from the truth. As an imperial polity, Rome engaged in the foreign strategy of conquest and expansion, subjugation and domination, and rampant economic imperialization—a material centralization which led to the erection of economic and labor/immigration-focused border walls, imperial ossification, and the eventual decline and dismemberment of the state itself. Michael Parenti, in *The Assassination of Julius Caesar: A People's History of Rome*, observed that:

> Rome's social pyramid rested upon the backs of slaves (*servi*) who composed approximately one-third the population of Italy, with probably a smaller proportion within Rome proper. Their numbers were maintained by conquests, piratical kidnappings, and procreation by the slaves themselves. Slavery also was the final destination for individuals convicted of capital crimes, for destitute persons unable to repay debts, and for children sold off by destitute families. War captives were worked to death in the

[270] Ibid., 317.
[271] Ibid., 317.

> mines and quarries and on plantations (*latifundia*) at such a rate that their ranks were constantly on the wane.[272]

Rome was not an egalitarian society, where subjects of the imperial state enjoyed unequaled sovereignty and political freedom; rather, it *exemplified* the social stratification which we may take as the *sine qua non* of imperial society, where a moneyed and dominant social élite exercise their own social and political freedoms at the expense of a predominant class of working poor (*proletarii*) and slaves (*servi*).

The class injustice, social hierarchy, and slavery endemic to Roman society were all harsh realities suffered by not only the Roman *servi* and *proletarii*, but by the bullied and subjugated peoples along Rome's frontiers as well. The romantic view that the *Pax Romana* offered a material peace (*pax*) to its subjects, or its neighbors is, simply, "the self-serving illusions that any imperialistic system has of itself."[273] The foreign policy that emerged from the imperial state of Rome was a policy which emerged from a stratified, oppressive, and not-unfamiliar social organization where:

> As in any plutocracy, it was a disgrace to be poor and an honor to be rich. The rich, who lived parasitically off the labor of others, were hailed as men of quality and worth; while the impecunious, who struggled along on the paltry earnings of their own hard labor, were considered vulgar and deficient.[274]

Such a society—emblematic of all imperial societies—could only develop a border strategy laden with themes of expansion, exclusion, hierarchy, and economic servitude. As an imperial slave society, Rome relied upon the influx of foreign *servi* for the bulk of its internal labor force;

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[272] Michael Parenti, *The Assassination of Julius Caesar: A People's History of Rome* (New York: The New Press, 2003), 27.
[273] Ibid., 205.
[274] Ibid., 31.

for the rest it required only that the *proletarii* remain immiserated and in a precarious economic position. Such a society represented not only Rome's economic strategy, but also provided a model for later imperial states. The racism endemic to Rome's socioeconomic policy could only manifest itself in not only the social-hierarchical segregation, but in the physical, geographical segregation of Rome and the external Other as well. Thus did the Roman notions of separation—emblematized by the Roman notion of the border, both emerged from and represented such a social structure. Parenti noted that:

> All slavocracies develop a racist ideology to justify their dehumanized social relationships. In Rome, male slaves of any age were habitually addressed as *puer* or "boy." A similar degrading appellation was applied to slaves in ancient Greece and in the slavocracy of the United States, persisting into the postbellum segregationist South of the twentieth century. The slave as a low-grade being or subhuman is a theme found in the writings of Plato and Aristotle. In the minds of Roman slaveholders, the *servi*—including the foreigners who composed the larger portion of the slave population—were substandard in moral and mental capacity, a notch or two above animals. Cicero assures us that Jews, Syrians, and all other Asian barbarians are "born to slavery."[275]

Where an imperial society seeks to engage in such firm social distinctions—the social superstructure of its oppressive economic organization—there too does it also relate to land, to economy, and to the foreign *Other* in an analogous fashion. Rome's utilization of the militarized and fortified borderline in northern Britannia is a key demonstration of this social-geographical relationship. And thus, from this, we can also contend that Rome's border regime—its strategy of border management—entailed a relationship to the Roman economy, i.e., the ways in which

[275] Ibid., 35.

Rome regulated its workforce, and the politics of cross-border motion of Roman labor forces are reflected both in its socio-political organization as well as its economic and labor structures. On this, Balibar noted that:

> [b]orderlines which allow a clear distinction between the national (domestic) and the foreigner express sovereignty as a power to attach populations to territories in a stable or regulated manner, to "administrate" the territory through the control of the population, and, conversely, to govern the population through the division and the survey of the territory.[276]

Claire Nesbit and Divya Tolia-Kelly observed that, "[Hadrian's Wall scholars] Breeze and Dobson […] argue that the number of gateways through the monument indicate that the Wall was designed to control movement across the border rather than to prevent it."[277] Simply put, every empire requires both mobile and cheap labor forces where its reproduction and expansion is concerned. Economies of expansion, predicated on themes of both expansion and expulsion, commodification, growth, and domination, thus require border regimes which control the flow of both goods and units of labor. The imperial model is, as it was in Rome, the template for present day border regimes in the imperial capitalist era. On this, Balibar commented that:

> Perhaps this should be no complete surprise if we remember that the idea of a capitalist world system (beginning with the discussions on *Weltwirtschaft* and world economy) was first elaborated as a "determinate negation" (as Hegelians would say) of the idea of a world empire (i.e., an empire which claims to represent the sovereign source of power,

[276] Etienne Balibar, "Europe as Borderland" in *Society and Space* (New York: Sage Publications, 2009), 192.
[277] Claire Nesbitt and Divya Tolia-Kelly, "Hadrian's Wall: Embodied Archaeologies of the Linear Monument" in *Journal of Social Archaeology* (New York: Sage Publishing, 2009), 371.

> peace, civilization, amid less civilized populations, whose prototype, in the West, was the Roman Empire).[278]

Thus does the story of the Roman border fortification of Hadrian's Wall tell us three distinct things about the ways in which the Roman state utilized its border walls. As noted in the previous section, Hadrian's Wall—along with the early republican Servian Walls (*Murus Servii Tullii*), the Antonine Wall (*Vallum Antonini*), and the various wall fortifications along the *Limes Germanicus* (within the Roman provinces of *Germania Inferior*, *Germania Superior*, and *Raetia*)—fulfilled three primary functions. Rome's border walls:

1. demarcated Roman territory
2. preserved Roman territorial integrity, and
3. provided a material base of operations for the Romans to exercise military, political, and economic control over their provinces which abutted non-Roman territory.

To these, we add an important fourth point that Rome's border regime also allowed the Romans to create a series of economic and immigratory chokepoints through which the Romans could then monitor and control the cross-border flow of goods and people. As Hingley observed,[279] the wall itself was not, as commonly believed, a defensive structure; its primary purposes, as covered in the previous section, were both economic and immigratory in nature. And Nail, too, observed that:

> [t]he primary function of Hadrian's Wall was not to defend against barbarian invasion but to regulate the ports of entry into the empire and collect taxes from those who wanted to pass across its numerous gates built at each milecastle. […] This had at least three intended effects: (1) to retain skilled or educated colonial subjects from defecting

[278] Etienne Balibar, "Europe as Borderland" in *Society and Space* (New York: Sage Publications, 2009), 198.
[279] Richard Hingley, *Hadrian's Wall: A Life* (Oxford: Oxford University Press, 2012), 247.

> to the other side, (2) to make new colonial subjects "enjoy" being Roman by restricting their movement, and (3) to restrict the flow of information across the wall to the barbarians so that they did not learn the location of camps or supply lines.[280]

Thus, could we, *prima facie*, conceive of the critical import of Hadrian's Wall as being primarily grounded in the material control of Rome's far-flung borders.

Thomas Nail noted that, "contemporary borders are largely hybrid structures composed of a mixture of different historical bordering techniques."[281] Thus are borders not determined by singular theoretical positions, social forces, or materials economy alone but a unity and a sublation of seemingly opposed factors, from which the truth emerges as overdetermined, locomotive, nuanced, and complex; a dialectical conceptualization of the border that is at once productive and produced.

Walls Then; Walls Now

"Sovereign power," observed Wendy Brown in *Walled States, Waning Sovereignty:*

> carries the fantasy of an absolute and enforceable distinction between inside and outside. This distinction in turn depends upon sovereignty's defiance of spatial or boundary porousness and of temporal interruption or multivalence. Political sovereignty, like that of God, entails absolute jurisdictional control and endurance over time. The sovereign can be attacked, but not penetrated without being undone, challenged, but not interrupted without being toppled. In this respect, sovereignty appears as a supremely masculine

[280] Thomas Nail, *Theory of the Border* (Oxford: Oxford University Press, 2016), 86-87.
[281] Ibid., 17.

> political fantasy (or fallacy) of mastery: Penetration, pluralization, or interruption are its literal undoing.[282]

Where and when an imperial polity is unable to accept a fluid border, there does it erect a fortification to stem such a fluidity. And where and when a state must erect an extremely expensive, large-scale border wall—expensive both in terms of man-power, military and police presence, surveillance, and physical materials—there too does a state seem to implicitly admit that its expansion has stopped; that it has reached its limit; that it can expand no more; and that it can tolerate no free travel of goods and people across its limits, but that these limits must in fact become highly regulated via a series of forced choke points. The expression of sovereign *imperial* power—as a quality of political imperialism—with its height reached in the imperial form of the state, thus requires, at root, absolute jurisdictional control, and military dominance over its frontiers. It can accept no less.

Further, as recent border scholarship has demonstrated, border walls almost always emerge where an extremely wealthy nation abuts a poor nation. "Ruined walls," David Frye noted in *Walls: A History of Civilization in Blood and Brick*, "appear all over the world. The materials—sometimes brick, sometimes stone, sometimes simply tamped earth—vary with the locale, but everywhere we find the same pattern: obscure barriers, adorned only by their colorful nicknames, nearly always facing desolate wastes."[283] Frye went on to note that, "Civilized folk had erected barriers to exclude them [barbarians] in an astonishing array of countries […] Not a single textbook observed the nearly universal correlation between civilization and walls."[284] It is no great mystery then why the great border walls of history—Hadrian's Wall notwithstanding—

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[282] Wendy Brown, *Walled States, Waning Sovereignty* (Brooklyn: Zone Books, 2010), 131.
[283] David Frye, *Walls: A History of Civilization in Blood and Brick* (New York: Scribner, 2018), 4.
[284] Ibid., 6.

have faced "wastes," and have encircled so-called "civilized" lands. The answer, simply, is that those with the resources to produce and reproduce their material existences seek to not only retain these resources for themselves, but to also prevent the pervasive "other" from access to those resources. Border walls were, and are, built by the wealthy as a bulwark against the poor; a strategy of economic control by which cross-border migration and economy is regulated in such a way as to benefit the rich at the expense of the poor. The fortified Roman limits of the Hadrian and Antonine Walls were no different.

Rather than viewing the historical world through a lens of "civilized man" and "barbarian"—as the Romans did—we must, *contra* Frye, retain the lens of our conceptual framework; an approach to history and political-ecological analysis in which, to quote Hegel:

> thought must be subordinate to what is given, to the realities of fact; that this is its basis and guide: while Philosophy dwells in the region of self-produced ideas, without reference to actuality. […] [I]t is the business of history simply to adopt into its records what is and has been, actual occurrences and transactions; […] as it strictly adheres to its data […][285]

Our analysis of the past must rely upon the material reality of what was, coupled with the nuance of present-day data analysis where material reality is concerned. Thus, when we *do* the history of border walls, we must admit that their history will by necessity entail economic entanglements; and we must avoid the idealistic notion that walls emerged to separate "civilization from barbarism," as such a notion at once entails problematic classist and racist connotations.

Border walls as a focus of philosophical-historical study are thus implicitly entangled with their impetus of construction. Economically, border walls are, and have been, primarily

[285] G.W.F. Hegel, *The Philosophy of History* (Mineola: Dover Publications, 1956), 9.

erected by those wealthy and "civilized" *few* to exclude those subaltern "barbarian" and poor "many." And those very same walls exist to control the cross-border flow of goods and people in an effort to maintain control over the internal and external economy of the walled state. David Carter and Paul Poast further emphasized this fact by noting that:

> Wall construction is explained by cross-border economic disparities. Significant economic disparities between states create incentives to illegally transport people or move goods readily available in the poorer country but highly regulated and relatively expensive in the richer country. We find that economic disparities have a substantial and significant effect on the presence of a physical wall that is independent of formal border disputes and concerns over instability from civil wars in neighbors.[286]

Even Donald Trump, hinted at this fact by noting that, in relation to the U.S.-Mexico border wall:

> [s]ome have suggested a barrier is immoral. Then why do wealthy politicians build walls, fences, and gates around their homes? They don't build walls because they hate the people on the outside, but because they love the people on the inside. The only thing that is immoral is the politicians to do nothing and continue to allow more innocent people to be so horribly victimized.[287]

As border walls in the current imperial *American* era entail a timeless economic quality—a reflection of *Roman* border strategy—and, where border walls also reflect not only a waning sovereignty but a potential future collapse and withdrawal from the border region altogether, it

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[286] David Carter and Paul Poast, "Why Do States Build Walls? Political Economy, Security, and Border Stability" in *Journal of Conflict Resolution* (New York: Sage Publications, 2017), 240.
[287] Donald Trump, "Donald Trump's Border Wall Speech" in *The Guardian*, accessed 18 March 2023, https://www.theguardian.com/us-news/2019/jan/09/donald-trumps-border-wall-speech-in-full

serves Political Ecology's purpose well to examine the ways in which the imperial Roman state utilized its border fortifications in Britannia.

CHAPTER 6

CASE 2:

RIVER AND ROCK, CHURCH AND GUN

IN THE U.S.-MEXICO BORDERLANDS

> The wall itself purports to be the materialization of the border, but the border itself is a projected entity, the creature of a treaty signed in 1848.
>
> –Edward S. Casey and Mary Watkins

Introduction

The imperial border wall of our own American moment is a reminder that the fortified border is both an idea and a material phenomenon. For those who live in its shadow, this fact can be observed both in the physical barriers—the looming walls, the militarized security, and the razor wire—and in the impact that such a physicality has upon one's daily life. Wendy Brown observed that, "nation-state walling responds in part to psychic fantasies, anxieties, and wishes and does so by generating visual effects and a national imaginary apart from what walls purport to 'do.'"[288] Fortified political borders—border walls—both shape *and* respond to not only the material conditions of a nation-state, but to the ideas of nation-states as well.

Oscar J. Martinez noted that, "borderlands live in a unique human environment shaped by physical distance from central areas and constant exposure to transnational processes."[289] For the residents of a borderland, the border dominates one's immediate physical life, as well as the

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[288] Wendy Brown, *Walled States, Waning Sovereignty* (Brooklyn: Zone Books, 2010), 121.
[289] Oscar J. Martinez, *Border People: Life and Society in the US-Mexico Borderlands* (Tucson: University of Arizona Press, 1994), xvii-xviii.

thoughts experienced about such a life. The shadow of a border region looms large—over the history as well as the contemporary politics of the region.

The Trump administration rose to power—in part—on the promise of a large-scale and militarized border wall along the 1,954 miles of the nation's southern border: a wall designed to stem the northward flow of migration; and a wall to separate the have-nots from the haves. Trump himself ham-handedly exclaimed that, "[t]his barrier is absolutely critical to border security. It's also what our professionals at the border want and need. This is just common sense."[290] But, to a critical eye, the so-called common sense of politicking is never quite what it appears to be at face value. The common sense of rightism is, in this case, a xenophobia made manifest in a policy strategy. It is a response to a rapidly changing world—both climatologically and geopolitically. And it is, as Ian Angus noted, "a call for the use of armed force against starving people."[291]

Michael Neuman reported that, "[b]orders are always dynamic, ever shifting. Borders are human constructs enshrined in laws, treaties, regulations, strategies, policies, plans, and so on. We draft them, modify them and erase them at our will. We create, and recreate them, and cannot escape them."[292] Yet, borders are not simply political in nature; they are economic and geographical as well. And these political economic phenomena have a history which is important. Under capitalism, borders are uniquely capitalistic; their logistical and material functions are directed not only by security and military interests, but by bank, trade, and

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[290] Debbie Lord, "Trump Border Wall Speech: Read the Full Transcript" in *The Atlanta Journal - Constitution*, accessed 19 March 2023, https://www.ajc.com/news/national/trump-border-wall-speech-read-the-full-transcript/Zm6DfoKTbOb6mOvzxOBLwI/

[291] Ian Angus, *Facing the Anthropocene: Fossil Capitalism and the Crisis of the Earth System* (New York: NYU Press, 2016), 183.

[292] Michael Neuman, "Rethinking Borders," in *Planning Across Borders in a Climate of Change* (Oxfordshire: Routledge, 2014), 15.

distribution interests as well. The 2011 publication of the World Bank, *Border Management Modernization*, defined a border more generally as:

> the limit of two countries' sovereignties—or the limit beyond which the sovereignty of one no longer applies. The border, if on land, separates two countries. Crossing the border means that persons, and goods must comply with the laws of the exit country and—if immediately contiguous—the entry country. […] Borders are not holistic. Different processes can take place at different places. [...] Borders then essentially become institution-based and are no longer geographic.[293]

As intricate complexes of geographical, institutional, and administrational factors, borders are thus managed, maintained, and reformed by a host of political and economic forces. However, as Timothy Dunn observed, "[s]uch issues are too important to be left to the discretion of bureaucratic and policy-making elites, or to be defined by jingoistic demagogues, who scapegoat vulnerable groups."[294] Under capitalism, and along the southern United States border, the erection of fortifications along the border delineation are entirely swayed by such jingoistic demagoguery.

As the World Bank's *Border Management Modernization* argued, "inefficient border management deters foreign investment and creates opportunities for administrative corruption."[295] Under capitalism, and under the aegis of jingoistic, racist, and conservative policies following the spirit of a new global Manifest Destiny, an inefficiently managed border equates to a loss of potential profit: an unthinkable evil where capitalism's logic of profit *über*

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[293] Gerard McLinden, et al., eds., *Border Management Modernization* (Washington D.C.: The World Bank, 2010), 37-38.
[294] Timothy J. Dunn, *The Militarization of the U.S.-Mexico Border 1978-1992: Low Intensity Conflict Doctrine Comes Home* (Austin: CMAS Books, 1996), 170.
[295] Gerard McLinden, *Border Management Modernization* (Washington D.C.: The World Bank, 2010), 1-2.

alles prevails. And as Tim Marshall observed, "[w]alls tell us much about international politics, but the anxieties they represent transcend the nation-state boundaries on which they sit […] President Trump's proposed wall along the US-Mexico border is intended to stem the flow of migrants from the south, but it also taps into a wider fear many of its supporters feel about changing demographies."[296] The land currently identified as the Mexico-United States border has seen, over time, its share of shifting demographics. The national anxieties and fears which presently add the requisite degree of legitimation to the Mexico-United States border wall are, in truth, the fears of a white settler—a stranger upon the land to which they do not belong.

Pre-Conquest

The present-day Mexico-United States borderland was not always defined by the administrational and jurisdictional limits of the Mexican and American nation-states. In truth, the region has been well-populated since at least the onset of the Younger Dryas and the Last Glacial Period—and human habitation has been suggested in the southern region of North America for at least 18,500 years. Paul Ganster noted that the region itself, "has a human history stretching back approximately twelve thousand years. The Americas in 1492 are estimated—roughly, and contentiously—to have had a population of 60 million; 21 million, or 35 percent, of this total are thought to have lived in Mexico."[297] The imposition of the present-day border region of Mexico and the United States fractured—both geographically and socially—landscape and peoples. Despite the mythos, colonization did not—in almost every instance—occur in wild, unsettled lands, but lands abundant with inhabitants. The very essence of colonialism is at once bound up

[296] Tim Marshall, *The Age of Walls* (New York: Scribner, 2018), 3.
[297] Paul Ganster, *The US-Mexico Border Today: Conflict and Cooperation in Historical Perspective* (Lanham: Rowman and Littlefield, 2016), 20.

in a logic of displacement, genocide, and denial. Carlos Vélez-Ibáñez noted that it was "highly likely that major parts of Northern Greater Southwest were well populated at the time of Spanish expansion in the sixteenth century,"[298] with the inhabitants of the region occupying socially and economically complex "permanent villages and urbanized towns with platform mounds, ball courts, irrigation systems, altars, and earth pyramids."[299] Vélez-Ibáñez went on to note that, "at the time of [Spanish] conquest, the region was not an empty physical space bereft of human populations but an area with more than likely a lively interactive system of 'chiefdom'-like centers or *rancherías*, each with its own *cazadores* (hunters), material inventions, and exchange systems."[300] The majority of the pre-conquest inhabitants of the region were, according to Paul Ganster:

> what early Spanish explorers termed *ranchería* people, those who lived in small hamlets with populations only a few hundred each. Such settlements, often scattered over large surrounding territories, relied on wild foods as much as on planted crops. Where favorable agricultural conditions permitted, larger villages and more densely settled subregions existed. […] Along the Rio Grande an estimated forty thousand people, practicing intensive agriculture, lived in highly organized villages.[301]

The notion that European colonization and settlement occurred in a depopulated wilderness is, as mentioned, nothing but a myth of settlement—an ahistorical tool of *legitimation* for the children of settlers. On this, William Cronon once wrote that, "[i]t is tempting to believe that when Europeans arrived in the New World they confronted Virgin Land, the Forest Primeval, a

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[298] Carlos G. Vélez-Ibáñez, *Border Visions: Mexican Cultures of the Southwest United States* (Tucson: University of Arizona Press, 1996), 20.
[299] Ibid., 21.
[300] Ibid., 21.
[301] Paul Ganster, *The US-Mexico Border Today: Conflict and Cooperation in Historical Perspective* (Lanham: Rowman and Littlefield, 2016), 20-21.

wilderness which had existed for eons uninfluenced by human hands. Nothing could be further from the truth."[302]

The story of the pre-conquest border region is, as is the story of all of the Americas, one of violent displacement, of genocide, of harsh and rapid resource extraction, and of pillage. Eduardo Galeano lamented that:

> Latin America is the region of open veins. Everything, from the discovery until our times, has always been transmuted into European—or later United States—capital, and as such has accumulated in distant centers of power. Everything: the soil, its fruits and its mineral-rich depths, the people and their capacity to work and to consume, natural resources and human resources. Production methods and class structure have been successively determined from outside for each area by meshing it into the universal gearbox of capitalism.[303]

The border region's western half, where many of the border fortifications sit, is an area characterized by:

> high aridity and high temperatures. Typically, about half of the eastern part of the region's precipitation falls in the summer months, associated with the North American monsoon, while the majority of annual precipitation in the Californias falls between November and March. The region is subject to both significant inter-annual and multi-decadal variability in precipitation. This variability, associated with ENSO, has driven droughts and foods and challenged hydrological planning in the region.[304]

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[302] William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 2011), 12.
[303] Eduardo Galeano, *Open Veins of Latin America: Five Centuries of the Pillage of a Continent* (New York: NYU Press, 1997), 2.
[304] Margaret Wilder, et al., "Climate Change and US-Mexico Border Communities" in *Assessment of Climate Change in the Southwest United States* (Washington D.C.: Island, 2013), 344.

The area itself is also mountainous—"crisscrossed by a maze of inhospitable ranges that divide the area into isolated subregions."[305] Further, according to the Commission for Environmental Cooperation (CEC), and by way of the U.S. Environmental Protection Agency's (EPA) *Ecological Restoration in the U.S.-Mexico Border Region* report, the present day border region is itself home to no fewer than seven unique ecosystems: the Californian Coastal Sage, Chaparral, and Oak Woodlands, the Sonoran Desert, the Madrean Archipelago, the Chihuahuan Desert, the Edwards Plateau, the Southern Texas Plains, and the Western Gulf Coastal Plain.[306]

While the Mexico-U.S. border region now is a "place where two historical-cultural tectonic plates are grinding against each other,"[307] it is a region whose delineations and delimitations have only been imposed recently: a "result of the Treaty of Guadalupe Hidalgo in 1848, [which] has never changed location except for the modifications introduced by the Gadsden Purchase of 1853 and one small sliver of land called 'El Chamizal' just north of the Rio Grande in El Paso that was set aside in 1963."[308] Prior, however, to the American and Mexican treaties, and prior to the delimitation of the present-day border region, the area was home not only to indigenous peoples, but also to Spanish colonial aspirations.

Conquest

Beginning with the 1492 journey of Christopher Columbus—a man who on that very same 1492 journey observed that, "[o]ne who has gold does as he wills in the world, and it even

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[305] Paul Ganster, *The US-Mexico Border Today: Conflict and Cooperation in Historical Perspective* (Lanham: Rowman and Littlefield, 2016), 19.
[306] Environmental Protection Agency, *Ecological Restoration in the U.S.-Mexico Border Region* (National Service Center for Environmental Publications: EPA.gov, 2014) 11, accessed 19 March 2023.
[307] Edward Casey and Mary Watkins, *Up Against the Wall: Re-imagining the US-Mexico Border* (Austin: University of Texas Press, 2014), 9.
[308] Ibid., 14.

sends souls to Paradise"[309] (an insightful comment on the journey's primary motivations)—the Spanish conquest of the Americas over the next several centuries became no less than a rolling genocide.[310] The indigenous peoples of the Americas suffered greatly under Spanish colonialism, and "[i]n little more than a century," Michel Beaud observed, "the Indian population was reduced by 90 percent in Mexico (where the population fell from 25 million to 1.5 million), and by 95 percent in Peru. Las Casas estimated that between 1495 and 1503 more than 3 million people disappeared from the islands of the New World. They were slain in wars, sent to Castile as slaves, or consumed in the mines and other labors."[311] And unlike the French and English conquests, many of the Spanish settlers were male—arriving single and without families. This led to a problematic, obvious result for Indigenous women, and explains the relative scarcity of Indigenous ancestry north of the Rio Grande, but the ubiquity of this ancestry south of the Rio Grande.

The Council of Castile, "resolved to take possession of a land whose inhabitants were unable to defend themselves,"[312] and the wealth of the Spanish nobility increased exponentially—the cost being—both simply and brutally—genocide, slavery, and the rapacious extraction of resources. At heart, the Spanish colonial impetus was one dominated by themes of greed, oppression, theft, murder, and personal ennoblement. Virtually every colonial effort from the era seems to be dominated by such themes—and of continued, relentless conquest. Paul Ganster noted that:

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[309] Eduardo Galeano, *Open Veins of Latin America: Five Centuries of the Pillage of a Continent* (New York: NYU Press, 1997), 24.
[310] David Forsythe, *Encyclopedia of Human Rights, Volume 4*. (Oxford: Oxford University Press, 2009), 297.
[311] Michel Beaud, *A History of Capitalism: 1500-2000* (New York: Monthly Review Press, 2001), 15.
[312] Ibid., 14-15.

> [i]n the five decades after Columbus, the Spanish made a series of expeditions: Juan Ponce de León's 1513 expedition to Florida; Alonso Álvarez de Pineda's 1519 voyage around the Gulf of Mexico; Estevão de Gomes's 1524-1525 *recorrido* (trip) up the northeastern seaboard; Pedro de Quejo's 1525 voyage from Española to Delaware; Hernando de Soto's 1539-1543 visit to what is today Florida and the Atlantic Southeast; and João Ridrigues Cabrilho's 1542-1543 expedition along the California coast.[313]

The Spanish colonial expeditions had as their goal the procurement of wealth for the Spanish crown, as well as the securement of lands in the New World under Spanish sovereignty. "The production of sugarcane, for rum, molasses, and sugar, the trade in black slaves, and the extraction of precious metals established considerable sources of wealth for Spain throughout the sixteenth century."[314] For the Spanish, this growing wealth—following on the heels of the dominance of a growing territory—only fed the desire for more wealth. Where the "wealth of the kingdom depended upon the wealth of the merchants and manufacturers,"[315] there too followed the insatiable growth of the Spanish conquest in and among the Americas.

Spanish conquest secured, for the monarchs of Castile, a vast majority of the land in the Americas, and, at its height, governance was divided amongst several viceroyalties—the Viceroyalty of New Spain, the Viceroyalty of Peru, the Viceroyalty of New Granada, and the Viceroyalty of Rio de la Plata. The viceroyalties, their capitals centered in such present-day metropoles as Mexico City, Lima, Bogotá, and Buenos Aires, were subject to the dictates and whims of the monarchs of Castile, where:

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[313] Paul Ganster, *The US-Mexico Border Today: Conflict and Cooperation in Historical Perspective* (Lanham: Rowman and Littlefield, 2016), 21.
[314] Michel Beaud, *A History of Capitalism: 1500-2000* (New York: Monthly Review Press, 2001), 15.
[315] Ibid., 19.

> king[s] possessed not only the sovereign right but the property rights; he was the absolute proprietor, the sole political head of his American dominions. Every privilege and position, economic, political, or religious came from him. It was on this basis that the conquest, occupation, and government of the [Spanish] New World was achieved.[316]

In the era of European empire, nascent capitalism, and the carving up of the world by the dominant European powers—expressions of both rapaciousness and technological might—monarchical whims became increasingly protectionist. "As other European powers became interested in the [present-day border] region and Spain's interest in protecting its empire grew, the Far North was increasingly the focus of attempts to impede intrusions. Defense against the spreading influence of the French, English, and Russians became one of the main foundations of settlement."[317]

The Move Northwards: The Cross and the Gun

Where late European feudalism as militaristic imperialism was dominated by the sphere of influence of the Catholic Church—a vestige of the ancient Roman imperialism, and still following the doctrine of imperialism's political logic—there went, hand-in-hand, *both* upon the American landscape in the form of northward settlements. Where the Spanish conquest of the Americas was concerned, both military *and* church acted in strategic coordination to secure lands and resources for the Crown. On this, Paul Ganster observed that, "In order to pacify and populate the area at minimal cost, the Crown came to rely on two institutions with funds and

[316] Clarence Haring, *The Spanish Empire in America* (Oxford: Oxford University Press, 1947), 7.
[317] Paul Ganster, *The US-Mexico Border Today: Conflict and Cooperation in Historical Perspective* (Lanham: Rowman and Littlefield, 2016), 23.

personnel of their own: the military and the religious orders. This approach gave rise to the classic duo of European settlement in the North: the *presidio* and the mission."[318]

Over time, many of the early *presidios*—walled, defensible towns peopled by soldiers, officers and their families—grew to become permanent towns, and gradually, "warfare against raiding natives gave way to campaigns by new settlers and the government to distribute food and supplies to indigenous populations."[319] Indigenous populations were enslaved by the colonizing Spanish and the missions. Similarly, and alongside the *presidios*, the missions grew northward—the slow creep of the European "way of life" seeped into abutting indigenous communities—and within a hundred years of Spanish conquest, "a string of missions stitched from east to west, cross the frontier and up the Pacific coast from Sinaloa to California."[320] Alongside the *presidios*, the missions were also "expected to help pacify and incorporate Native Americans; they reduced into settled units the diverse and complex populations, particularly those who were semi-sedentary or nomadic."[321] Thus did both soldier and priest work to settle the northern Spanish frontier in ways which were violent, politically recuperative, and emblematic of early-capitalist European colonization, the world over.

However, soldier and priest alone did not colonize and subjugate the American *frontera*. Another, arguably stronger force followed in their shadow: the civilian settler. During the colonial period of 1492-1832, an estimated 2 million, overwhelmingly male Spaniards flocked to the Americas to both colonize and settle the land. "Closely behind the Jesuits," historian Samuel Truett observed, "came Spanish miners, merchants and ranchers. […] Yet there was more to these migrations than the lure of profit, for Crown officials expected miners, merchants, and

[318] Ibid., 23.
[319] Ibid., 23.
[320] Ibid., 23.
[321] Ibid., 23.

ranchers to defend as well as transform space. To hold the borders of the body politic, whether against Indians or other empires, colonists also went north as civilian warriors, with gun in hand."[322] Civilian settlers—greater in number than the soldiers of the *presidio* or the padre of the mission—came at first from Spain, and then Mexico City. Gradually, "immigrants were drawn from adjacent provinces. Sinaloa supplied colonists for Sonora and Baja California, and these in turn supplied settlers for Alta California."[323] As Paul Ganster noted, two distinct characteristics made these new Spanish frontier populations unique: racial diversity and the growing prevalence of wage labor:

> [t]he inhabitants were of varied and mixed ethnicities, including Native Americans from all over the North and from central Mexico, as well as African Americans. Frontier society was also characterized by the prevalence of wage labor, which spread from the mines and urban settlements to agricultural areas, as a result of the high return on investment in the region, the need for skilled labor, and the location of the mining towns in areas of sparse indigenous population.[324]

By the mid-1700s, however, Spain's northward expansion of the church and the gun, of *presidio* and mission, and of capitalist wage labor and colonial settlement began to slow down. "Practical frontiers had to be drawn, and the imperial emphasis shifted from northward expansion to defend and consolidation."[325] The unification of humans and nature, and the transformation of Indigenous American nature into something resembling European manorial economy was, in part, the mission of the mission. For the Jesuits, "the incorporation of humans and nature were

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[322] Samuel Truett, *Fugitive Landscapes: The Forgotten History of the US-Mexico Borderlands* (New Haven: Yale University Press, 2006), 18-19.
[323] Paul Ganster, *The US-Mexico Border Today: Conflict and Cooperation in Historical Perspective* (Lanham: Rowman and Littlefield, 2016), 24.
[324] Ibid., 24.
[325] Ibid., 27.

part of the same equation. To attract converts and build a mission economy, they sought to transform Sonora into a world of pastures and fields."[326] Such efforts, however, were not only stymied by native populations unused to such an economy, but by nature itself. "Often," noted Truett, "natural disorder followed in the wake of social disorder."[327] Social, political, and environmental pressures all lent themselves to the halting of Spain's northward movement, and, with the onset of the nineteenth century, an increasing friction between the New Spain and the Old, and the Napoleonic invasion of the Iberian Peninsula, New Spain soon declared its autonomy from the Old.

American Imperialism and Manifest Destiny

Mexican independence from Spain, and the slow emergence of the present-day Mexico-United States border delimitation, did not occur all at once; but through an overdetermination of historical, political, and economic factors. Joseph Nevins noted that:

> [t]he origins of the U.S.-Mexico boundary are to be found in the imperial competition between Spain, France, and England for 'possessions' in North America. The Treaty of Paris of 1783, which marked the end of the American war for independence, resulted in the United States inheriting the boundaries established by its English colonial overseer. […] The Treaty of Paris thus resulted in a situation where the United States shared its southern and western boundaries with Spain[328]

New Spain and the newly independent nation of Mexico similarly found its borders shifting in the tumult of the nineteenth century. Independence brought with it a removal of the sovereignty

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[326] Samuel Truett, *Fugitive Landscapes: The Forgotten History of the US-Mexico Borderlands* (New Haven: Yale University Press, 2006), 21.
[327] Ibid., 22.
[328] Joseph Nevins, *Operation Gatekeeper and Beyond: The War on Illegals and the Remaking of the US–Mexico Boundary* (Oxfordshire: Routledge, 2010), 19.

of the Spanish Crown, but also a new type of vassalage to France, for whom it became, essentially a client state.[329] The eyes of the United States soon turned to Sonora, and "[b]y the time Americans began to dream of Sonora, Sonora was a dream that had traveled across national borders, halfway around the world, and back again."[330] Capitalist interest in the rich Sonoran region—inextricably entangled with colonial, settler, European interests in the New World—continued unabated, and shifting borders, losses of heretofore sovereign interests, and a geography in flux all presented themselves as ripe fruits for the capitalist interest. Samuel Truett observed that the German geographer Alexander von Humboldt's *Political Essay on the Kingdom of New Spain*, for example, "was translated into English in 1811 with the goal of luring European capital to Mexican mines. And the idea of unfinished conquests appealed to a British capitalist class that was beginning to invest energetically at home and abroad."[331] Equally true of both the nineteenth century and the present day, nothing quite draws capitalist interest like political instability, exploitable economies, and the dream of so-called "opportunity" in the service of personal profit. Amidst the shifting borders of the Americas, and shifting sources of profit, no consideration—not even that of lip service—was given by the Spanish to traditional territorial claims of Indigenous peoples.

The 1821 independence of Mexico from Spain brought with it many new instabilities. Historian Rachel St. John noted that, "[t]erritorial competition defined North America in the early nineteenth century. At the beginning of the century, the continent was still very much up for grabs."[332] And Samuel Truett noted that, "With independence in 1821, [Spanish] trade

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[329] Ibid., 19.
[330] Samuel Truett, *Fugitive Landscapes: The Forgotten History of the US-Mexico Borderlands* (New Haven: Yale University Press, 2006), 33.
[331] Ibid., 34.
[332] Rachel St. John, *Line in the Sand: A History of the Western U.S.-Mexico Border* (Princeton: Princeton University Press, 2011), 15.

barriers were dissolved, to the great relief of entrepreneurs."[333] For both the new nation of Mexico and the increasingly imperialistic United States, political upheavals, economies-in-waiting, and geographical instabilities became the driving themes of the nineteenth century in North America—particularly where the future Mexico-U.S. border region was concerned. Paul Ganster noted that, "During the relatively brief span from Mexican independence in 1821 to the end of the war between the United States and Mexico in 1848, Spain's far-northern frontier territories became borderlands—the relatively unrefined and frequently contested terrains between Mexico and the United States."[334] Mexico's recent independence, the machinations of empire, and the increasingly contested borderlands entailed by the Louisiana Purchase and Texas soon drove the United States and Mexico to war. Oscar Martínez noted that:

> [w]ith independence achieved in 1821, Mexico inherited from Spain the challenge of safeguarding the vast northern frontier. More population was needed to strengthen the defenses of California and Texas particularly. Following policies begun by Spain, Mexico in the 1820s allowed entry into Texas of large numbers of immigrants from the United States in order to further populate that sparsely settled province. […] Within a short time Mexico would realize what a volatile situation it had unwittingly created within its own borders.[335]

With eastern and western Florida having already been acquired from Spain between 1795 and 1819, the Louisiana Purchase of 1803, and the cession of northern lands in Minnesota by Britain in 1818, the eyes of the United States gazed hungrily at the lands north of present-day Mexico in

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[333] Samuel Truett, *Fugitive Landscapes: The Forgotten History of the US-Mexico Borderlands* (New Haven: Yale University Press, 2006), 34.
[334] Paul Ganster, *The US-Mexico Border Today: Conflict and Cooperation in Historical Perspective* (Lanham: Rowman and Littlefield, 2016), 28.
[335] Oscar Jáquez Martínez, *Troublesome Border* (Tucson: University of Arizona Press, 2006), 11.

Texas, the now-southwestern states of Arizona and New Mexico, and California. These U.S. imperialist-expansionist efforts—efforts which emerged, ideologically, as the concept of Manifest Destiny—would quickly bring the United States and Mexico to war. "Once the philosophy of Manifest Destiny took firm hold in the European American mind the outcome seemed clear: sooner or later the United States would detach and annex Mexico's northern territories."[336] In a now well-known strategy of American imperial-economic intervention, the United States acted quickly to foment dissent in the northern Mexican territory; foreshadowing war and military annexation. Joseph Nevins observed that:

> [i]n the aftermath of Mexican independence in 1821, U.S. economic actors exploited political instability in what today is the Southwest. Through their long-distance trade routes, the associated socio-cultural ties they engendered, and sponsorship of raids by Native groups against Mexican communities and Mexico's emerging state apparatus, they helped to undermine those communities and the state.[337]

After the 1836 Texas declaration of independence from Mexico—an independence fed, largely, by American settlement in the region—and the eventual 1845 annexation of Texas by the United States, an annexation that faced popular approval by Texan "pro-slavery southerners,"[338] the doctrine of Manifest Destiny—the idea that "it would be beneficial to both countries to absorb Mexico into the United States"[339]—diplomatic relations between the United States and Mexico rapidly deteriorated and war loomed on the horizon. In the early part of 1846, U.S. President James Polk sent troops to the Rio Grande, hoping to provoke Mexico into war, and "to make

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[336] Ibid., 12.
[337] Joseph Nevins, *Operation Gatekeeper and Beyond: The War on Illegals and the Remaking of the US–Mexico Boundary* (Oxfordshire: Routledge, 2010), 21.
[338] Ibid., 22.
[339] Paul Ganster, *The US-Mexico Border Today: Conflict and Cooperation in Historical Perspective* (Lanham: Rowman and Littlefield, 2016), 32.

Mexico recognize the Rio Grande as Texas' southern boundary, and (perhaps most importantly) to force Mexico to cede California and New Mexico to the United States."[340] War, by way of American provocation, of course, did erupt and the Mexican-American War, which ended in 1848, took the lives of 25,000 Mexicans and 13,500 Americans.

The war ended on February 2, 1848, with the signing of the treaty of Guadalupe Hidalgo—officially entitled the "Treaty of Peace, Friendship, Limits and Settlement between the United States of America and the Mexican Republic"—and the new southern border of the United States was set at the Rio Grande, with the additional land concession of the Gadsden Purchase in 1853 solidifying the now-southern border of the United States. Rachel St. John recorded that:

> [w]ith U.S soldiers [in 1848] occupying the Mexican capital, a group of Mexican and American diplomats redrew the map of North America. In the east they chose a well-known geographic feature, the Rio Grande, settling a decade-old debate about Texas's southern border and dividing the communities that had long lived along the river. In the west, they did something different; they drew a line across a map and conjured up an entirely new space where there had not been one before.[341]

The newly designated southern delimitation of the United States was, as all borders tend to be, an imaginary line with very real material consequences. The United States border severed communities, families, and entire tribal entities from each other, arbitrarily divided homogenous ecosystems and species, and drew, essentially, a series of straight lines in the sand from El Paso and Ciudad Juárez to the Pacific Ocean. Thomas Martin noted that:

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[340] Joseph Nevins, *Operation Gatekeeper and Beyond: The War on Illegals and the Remaking of the US–Mexico Boundary* (Oxfordshire: Routledge, 2010), 23.
[341] Rachel St. John, *Line in the Sand: A History of the Western U.S.-Mexico Border* (Princeton: Princeton University Press, 2011), 2.

> [t]he United States pioneered the idea of the straight-line geometric border, based on surveying techniques that (bizarrely, if you think about it) use magnetism and the position of stars rather than the actual lay of the land or ethnic considerations. The habit was formed even before the Revolution, when the proprietors of Maryland and Pennsylvania hired the astronomers Charles Mason and Jeremiah Dixon to discover the exact boundary between their colonies.[342]

The straight-line approach to border delimitation occurred, in 1848, by "U.S. and Mexican officials […] simply drawing straight lines between a few geographically important points on a map—El Paso, the Gila River, the junction of the Colorado and Gila rivers, and San Diego Bay."[343] Importantly, the only "natural" boundary delimitation along the southern border of 1848—the Gila River, was made obsolete and irrelevant by the 1853 Gadsden Treaty. The unique straight-line peculiarity of the western portion of the United States southern border would soon prove to provide numerous economic, political, and security considerations for the United States—considerations which still occur to this day.

The Border Since 1848

Since 1848, the general trend of border management for the southern United States delimitation has taken on an increasingly militaristic, forceful, and violent character. While this of course has varied over time and has shifted based upon the varying economic interests and needs of the state, the primary themes of southern border management for the United States have been, since 1848, racist, economic, protectionist, and militaristic in character. As Joseph Nevins

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[342] Thomas Martin, "Shapes of Contempt: A Meditation on Anarchism and Boundaries" in *Social Anarchism: A Journal of Theory and Practice* (Baltimore: Erlich, 2012), 5.
[343] Rachel St. John, *Line in the Sand: A History of the Western U.S.-Mexico Border* (Princeton: Princeton University Press, 2011), 2.

observed, “It took many decades for the United States to pacify the area along its southern boundary, as part of a process of bringing ‘order’ and ‘civilization’ to a region perceived as one of lawlessness and chaos.”[344] Of course, order and civilization equate, for capitalism, to the often violent and repressive impositions of federal authority. Rachel St. John noted that, “In the years following the boundary line’s creation, government agents would mark the desert border with monuments, cleared strips, and, eventually, fences to make it a more visible and controllable dividing line,”[345] a dividing line which “allowed the easy passage of some people, animals, and goods, while restricting the movement of others.”[346] The Mexico-U.S. border in the second half of the nineteenth century was never quite a settled matter. The legal agreements between the governments of the United States and Mexico stood, yet many expansionist-minded Americans—filibusters—saw fit to make incursions into Mexican territory in an effort to establish new southern slave states for the United States—actions to which the United States often turned a blind eye. The filibustering incursions both preceded and followed the Mexican American War, but, as Oscar Martínez observed:

> [t]he years following the U.S.-Mexico War have been called the golden age of filibustering. Men seeking fortune or power cast their eyes on the resource-rich and thinly populated northern tier of Mexican states. War veterans, forty-niners, and miscellaneous travelers during the late 1840s and early 1850s had portrayed the region in colorful, exotic, and economically attractive terms.[347]

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[344] Joseph Nevins, *Operation Gatekeeper and Beyond: The War on Illegals and the Remaking of the US–Mexico Boundary* (Oxfordshire: Routledge, 2010), 25.
[345] Rachel St. John, *Line in the Sand: A History of the Western U.S.-Mexico Border* (Princeton: Princeton University Press, 2011), 2.
[346] Ibid., 2.
[347] Oscar Jáquez Martínez, *Troublesome Border* (Tucson: University of Arizona Press, 2006), 35.

Martínez went on to observe that the early filibustering efforts—excursions which lasted well into the early part of the 1900s—constituted "a central part of U.S. expansionist aggression directed at Mexico. The periods of greatest unlawful invasions organized in the United States coincide with weakness and instability in Mexico."[348] The filibustering and pseudo-filibustering excursions added heavily to the distrust between Mexicans and European Americans, and it was not until the 1930s and 1940s that "fear [began] to dissipate south of the border"[349] of future filibuster incursions.

For the majority of the nineteenth century, the United States' southern border was a largely un-policed, heavily contested, and politically volatile region. However, as the twentieth century began, there was a noticeable rise in efforts to establish greater control over the border. In July 1882, the United States and Mexico formed "a new International Boundary Commission and charged it with resurveying and reaping the border, replacing monuments that had been displaced or destroyed, and adding monuments so that they would be no more than 8,000 meters apart in even the most isolated stretches of the border and closer in areas 'inhabited or capable of habitation.'"[350] The Mexican Revolution of 1910, violence, diplomatic disputes, and an economic instability which had disrupted the transborder economy, all led towards an increasing militarization of the Mexico-U.S. border in the early 1900s. Rachel St. John noted that the persistent smuggling of cattle, narcotics, and immigrants—all fallouts from the Mexican Revolution—led to the United States government's (now-persistent) decision to dispatch troops to its southern boundary to "insure that revolutionaries did not access American arms or launch

[348] Ibid., 46.
[349] Ibid., 47.
[350] Rachel St. John, *Line in the Sand: A History of the Western U.S.-Mexico Border* (Princeton: Princeton University Press, 2011), 91.

invasions from U.S. soil."[351] The increasing militarization of the southern boundary delimitation was also, as noted by Timothy Dunn, "defined by efforts to maintain control over the flow of Mexican immigrant workers into the United States, typically in ways that also significantly affected Mexican Americans."[352] Increasing control of the cross-border flow of migrants and goods—the "revolving door" immigration policy—led to the establishment in 1924 of the U.S. Border Patrol—by way of the Immigration Act legislation—as "the chief guardian of the 'revolving door' and the main agent of the comparatively less severe forms of border militarization carried out during ensuing decades."[353] Historian Kelly Hernández observed that the newly-designated, "Border Patrol officers—often landless, working-class white men—gained unique entry into the region's principle system of social and economic relations by directing the violence of immigration law enforcement against the region's primary labor force, Mexican migrant laborers."[354]

Since 1924, the U.S. Border Patrol—now a component of the United States Department of Homeland Security—has grown to become a law enforcement agency with almost 20,000 agents and officers, with the FY2023 budget exceeding 15.5 billion dollars.[355] Expanded arrest authority,[356] an expansion of legal jurisdiction, and an increase in the paramilitary character of the agency[357] have all occurred in the twentieth century, and as the twenty-first century is now

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[351] Ibid., 123.
[352] Timothy J. Dunn, *The Militarization of the U.S.-Mexico Border 1978-1992: Low Intensity Conflict Doctrine Comes Home* (Austin: CMAS Books, 1996), 11.
[353] Ibid., 11.
[354] Kelly Lyttle Hernández, *Migra! A History of the U.S. Border Patrol* (Berkeley: University of California Press, 2010), 5.
[355] Department of Homeland Security, *US Customs and Border Protection Budget Overview: Fiscal Year 2023 - Congressional Justification* (DHS.gov, 2023), accessed 19 March 2023, https://www.dhs.gov/sites/default/files/2022-03/U.S.%20Customs%20and%20Border%20Protection_Remediated.pdf
[356] Timothy J. Dunn, *The Militarization of the U.S.-Mexico Border 1978-1992: Low Intensity Conflict Doctrine Comes Home* (Austin: CMAS Books, 1996), 81.
[357] Ibid., 76.

underway, the trajectory of this increasing militarization appears to move forward unabated. The Secure Fence Act of 2006 provided for the construction of around 700 miles of fortified fencing, and Trump's 2017 Executive Order 13767 "Border Security and Immigration Enforcement Improvements" all represent the increasing militarization of the southern boundary delimitation; a militarization which is at once troublesome and not unexpected. Instability, immigration, cross-border illegal (and legal) trade, and the necessity for the United States to not only secure its southern border from illicit economies—for the United States must have total economic control—but to flex its imperial might, have all been factors in the increasing militarization of the southern border. The escalation of the so-called "War on Drugs," and an increase in migrant populations from Mexico, Central, and South America, as well as the Caribbean due to political and climatological instabilities have all lent themselves to an increase in the militaristic fortification along the southern border.

Where Does the Wall Go from Here?

As a now-disputed boundary zone—a relic of the European imperial struggles of the seventeenth and eighteenth centuries—and once "the site of considerable, wide-ranging military and security measures,"[358] the present-day United States-Mexico border region retains its imperial character; and more importantly, it also retains its indigeneity. Yet something fundamental has changed in recent years about the border region; something material: the increase in militarization; the haphazard, on-and-off construction of the border wall; the surveillance, and the personnel presence. All of these have progressed in a troubling direction as the United States works to fortify itself from Mexico and the southern Americas; by attempting

[358] Ibid., 1.

to stem the unceasing flow of immigration from an increasingly unstable and climatically shifting south. The border region is, on one level, naught but a line in the sand; a forced agreement between the United States and Mexico propped up by a lengthy and violent history of European colonization in the Americas. Yet, for those who live with and around the border, it is a material reality.

It is my contention that border walls such as the fortifications along the southern boundary of the United States arise during specific times in the existence of an imperial polity. They arise during a moment where, in an effort to shore up its imperial might, the polity in actuality simply engages in a permanent problematization—itself an admission of an unwinnable frontier. The "waning sovereignty" implied by imperial border walls is made manifest in the materiality of such walls. For an imperial polity to engage in the construction, fortification, and militarization of a large-scale border wall, it must expend an enormous number of resources. The cost is high: both economically and politically. And, under capitalism, and the logic of the return on investment, no imperial polity would engage in such an affair unless its perceived benefit was far higher than its cost. To be clear, this is the materialist lens. Yet the border wall is not simply material; it also emblematizes psychological fantasies of the empire. It imposes itself upon the psyches and the minds of those who must cross it and who live around it. It is, by the very virtue of its existence in the world, a construct of *multiples*: a dialectic of materiality and immateriality; of stoppage and movement; of body and mind.

To close with the words of Wendy Brown:

> Ancient temples housed gods within an unhorizoned and overwhelming landscape. Nation-state walls are modern-day temples housing the ghost of political sovereignty. They organize deflection from crises of national cultural identity, from colonial

> domination in a postcolonial age, and from the discomfort of privilege obtained through super-exploitation in an increasingly interconnected and interdependent global political economy. They confer magical protection against powers incomprehensibly large, corrosive, and humanly uncontrolled, against reckoning with the effects of a nation's own exploits and aggressions, and against dilution of the nation by globalization.[359]

But this is not all of the story. Walls also have a place in the metabolic lifespan of a polity; and in the case of an imperial polity such as the United States, precisely what walls *mean* regarding their theoretical and conceptual purpose is precisely where we shall turn next.

[359] Wendy Brown, *Walled States, Waning Sovereignty* (Brooklyn: Zone Books, 2010), 145.

CHAPTER 7

ANALYSIS OF THE US-MEXICO BORDER:

(IN)COMPLETE CONTROL

The Kinesis of a Border in Motion

For Political Ecologists interested in the study of imperial borders, the increasing militarization and fortification of the United States-Mexico border presents a unique opportunity for both critique and critical analysis. On the one hand, the militarization, fortification, and planned fortressification (as territorial wall) of the United States' southern border is a material response to movement: to social movement; to migration; and to economic flow. Yet, on the other hand, the planned erection of a continuous border wall along the Mexican border line *means* something regarding the Social Metabolism of the capitalist state: it emerges conspicuously at a time of great upheaval—political, economic, and environmental. In a December 2018 article entitled, "Walls Work," the US Department of Homeland Security (DHS) wrote that they were, "committed to building a wall at our southern border and building a wall quickly. Under this President, we are building a new wall for the first time in a decade that is 30-feet high to prevent illegal entry and drug smuggling."[360] Federal funding toward wall construction has increased steadily since 2017. In fiscal year (FY) 2017, for example, the United States Congress provided the DHS with 292 million dollars, while in FY2018 that number jumped to 1.4 billion in funding for border wall section-constructions. The DHS, through their own admission, seeks to "strengthen security and resilience while also promoting our Nation's

[360] Department of Homeland Security, "Walls Work: We are Building the First New Border Wall in a Decade" in *News Archive* (DHS.gov, 2018), accessed 19 March 2023, https://www.dhs.gov/news/2018/12/12/walls-work

economic prosperity."[361] According to the DHS 2019 budget, FY2019 saw an allocation of "$1.6 billion for 65 miles of new border wall construction in the Rio Grande Valley Sector to deny access to drug trafficking organizations and illegal migration flows in high traffic zones where apprehensions are the highest along the Southwest Border."[362] And, reflecting the *Pax Romana*/*barbaricum* rhetoric of Roman Britain, the DHS stated that:

> Securing our Nation's land borders is necessary to stem the tide of illicit goods, terrorists and unwanted criminals across the sovereign physical border of the Nation. To stop *criminals and terrorists* from threatening our homeland, we must invest in our people, infrastructure, and technology.[363]

Echoing Michael Neuman's assertion that, "Borders are always dynamic, ever shifting,"[364] Thomas Nail observed that, "The US-Mexico border is in constant motion. The border does not stop motion, nor is it simply an act of political theater that merely functions symbolically to give the appearance of stopping movement. The border is both in motion and directs motion."[365] The dialectical tension between these two positions—being-in-motion and directing-motion—is, for the sake of the present section, the tension in which I will attempt to situate my ideas.

Theoretical Considerations and Implications

As not only a distinct historical borderscape, but a region which represents imperial machinations in the twenty-first century, the United States-Mexico border region is one which

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[361] Department of Homeland Security, *DHS FY 2019 Budget in Brief* (DHS.gov, 2019), accessed 19 March 2023, https://www.dhs.gov/sites/default/files/publications/DHS%20BIB%202019.pdf
[362] Ibid., 3.
[363] Ibid., 3, emphasis added.
[364] Michael Neuman, "Rethinking Borders" in *Planning Across Borders in a Climate of Change* (Oxfordshire: Routledge, 2014), 5.
[365] Thomas Nail, *Theory of the Border* (Oxford: Oxford University Press, 2016), 167.

has much to offer political theory in the way of critical analysis. When we examine historical border regions, such as the Roman frontiers in northern Britain, we can derive our ideas from a timeline that has both a beginning and an end. For example, we can tell the story of the initial Roman invasion, the period of Roman conquest, Roman consolidation, and finally the Roman withdrawal. Thus, we can view, *in toto*, the Roman border regions from their birth until their death—and after. Yet with the southern border region of the United States, we are only able to view a small subsection of this story; we have only a beginning and a middle; and we live during the time of its becoming. While we might attempt to project our ideas upon the future of this border region, the future as always is unwritten. Thus, we find ourselves at once limited and quite fortunate. We are limited in the sense that we are only able to tell a part of the story; and we are incredibly fortunate to have, as an object of critical analysis, a border-in-motion—one upon which a border wall is presently being constructed, and one which, for our purposes, signifies the *imperial* border-in-motion.

We begin with the premise that the United States is an imperial state. From the Marxist and critical lenses, this is not a controversial assertion. We also begin with the premise that, as a geographical zone of inquiry, laden with theoretical implications, "the US/Mexico Border is a region unto itself, one that supersedes the more abstract state boundaries on either side and which is considered by the powers that be—whether in Washington, DC; México, D.F.; Austin, TX; or Sacramento, CA—as irrelevant except as a place of passage for goods and people."[366] The region is both a material zone and an abstracted set of ideas transposed upon a landscape—it cannot be reduced to either one or the other. Following this, we hope to move forward the idea that the border can be viewed not simply as a site of motion, but as a nuanced region—overdetermined in

[366] Bobby Byrd and Susannah Byrd, eds., *The Late Great Mexican Border: Reports from a Disappearing Line* (El Paso: Cinco Puntos Press, 1996), *viii*.

its meaning by cultural, political, economic, and ideological currents. The border is both *in motion* and *controls motion*; yet a lens of motion alone is not quite sufficient where critical border analysis is concerned. As Lawrence Herzog observed, "Boundary zones derive their meaning from a role determined by the workings of the world economy."[367] Yet, similarly, a lens of economy alone is not enough when it comes to border critique and the articulation of a theory which contains the ability to hold the multivariate factors which, *in actu*, create the borderscape.

The southern United States border is a region in the midst of a great and progressive militarization; a region which increasingly sees the construction of surveillance apparatuses, fence fortifications, detention centers, and border police garrisons. As a region not confined to the material-geographical border-line itself, the border regime of the United States in relationship to its southern border is one which is fed by a complicit public and a large sociopolitical infrastructure of militarized police. The jurisdiction of the police extends far beyond the border-line itself and they target, disproportionately, working people of color. The public, by and large, either support the nationalist rhetoric of expulsion, or are largely unaware of the incredibly vast infrastructure along the border. For example, during the fiscal year 2019, *2.8 billion dollars* was allocated for the purchase of 52,000 detention beds as well as cages for children, while only 511 million was allocated for the transportation infrastructure needed to shuttle migrants the United States has determined are illegal out of the nation state's boundaries.[368] The border regime of the United States is one which draws upon several kinetic processes, the process of detention being but one. Timothy Dunn noted that, "The potentially far-reaching implications of the militarization of the U.S.-Mexico border have not been widely considered, as the phenomenon of

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[367] Lawrence Herzog, *Where North Meets South: Cities, Space, and Politics on the US-Mexico Border* (Austin: University of Texas Press, 1990), 13.
[368] Department of Homeland Security, *DHS FY 2019 Budget in Brief* (DHS.gov, 2019), 4, accessed 19 March 2023, https://www.dhs.gov/sites/default/files/publications/DHS%20BIB%202019.pdf

border militarization has gone largely unrecognized."[369] The incrementalism of creeping border militarization is one which, as with all incrementalisms, largely goes unnoticed by a distracted and ideologized public. Violence, and themes of both expansion and expulsion, define the U.S.-Mexico border region; and it is precisely the violent history of the region itself which must define our critical analysis of the region. As Kelly Hernández observed, "the racial violence of immigration law enforcement stemmed from the history of conquest in the U.S.-Mexico border lands."[370]

The imposition of the present-day geography of the border is one which fractured, both socially and economically, the native peoples of the border region. Similar to the Roman fracture of the *Brigantes* territory with the imposition of Hadrian's Wall, the United States border, and the growing border wall, does much to not only fracture the Indigenous peoples of the region, but *all* regional biota. Eliza Barclay and Sarah Frostenson noted that:

> [w]hat's undeniable is that the 654 miles of walls and fences already on the US-Mexico border have made a mess out of the environment there. The existing barrier has cut off, isolated, and reduced populations of some of the rarest and most amazing animals in North America, like the jaguar. They've led to the creation of miles of roads through pristine wilderness areas. They've even exacerbated flooding, becoming dams when rivers have overflowed.[371]

Rob Jordan, from the Stanford Woods Institute for the Environment observed that:

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[369] Timothy J. Dunn, *The Militarization of the U.S.-Mexico Border 1978-1992: Low Intensity Conflict Doctrine Comes Home* (Austin: CMAS Books, 1996), 156.
[370] Kelly Lyttle Hernández, *Migra! A History of the U.S. Border Patrol* (Berkeley: University of California Press, 2010), 224.
[371] Eliza Barclay and Sarah Frostenson, "The Ecological Disaster that is Trump's Border Wall: A Visual Guide" in *Vox* (Vox.com, 2019), accessed 19 March 2023, https://www.vox.com/energy-and-environment/2017/4/10/14471304/trump-border-wall-animals

> Physical barriers prevent or discourage animals from accessing food, water, mates and other critical resources by disrupting annual or seasonal migration and dispersal routes. Work on border walls, fences and related infrastructure, such as roads, fragments habitat, erodes soil, changes fire regimes and alters hydrological processes by causing floods, for example.[372]

And, in an article endorsed by 2500+ scientist signatories from across the globe, entitled "Nature Divided, Scientists United: US–Mexico Border Wall Threatens Biodiversity and Binational Conservation," the renowned biologist Paul Ehrlich, et al., commented that:

> Fences and walls erected along international boundaries in the name of national security have unintended but significant consequences for biodiversity […]. In North America, along the 3200-kilometer US–Mexico border, fence and wall construction over the past decade and efforts by the Trump administration to complete a continuous border "wall" threaten some of the continent's most biologically diverse regions. Already-built sections of the wall are reducing the area, quality, and connectivity of plant and animal habitats and are compromising more than a century of binational investment in conservation. Political and media attention, however, often understate or misrepresent the harm done to biodiversity.[373]

Thus, not only does the fortification and the increasing militarization of the U.S.-Mexico border region fragment social groups, control social motion, and regulate cross-border economy and migration. It also shatters ecosystems, fragments habitats, decreases biodiversity, and contributes

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[372] Rob Jordan, "Stanford Biologists Discuss Border Barrier's Potential Ecological Damage" in *Stanford News* (news.stanford.edu), accessed 19 March 2023, https://news.stanford.edu/2018/07/24/border-wall-threatens-biodiversity/.

[373] Paul Ehrlich, et al., "Nature Divided, Scientists United: US–Mexico Border Wall Threatens Biodiversity and Binational Conservation" in *BioScience* (Oxford: Oxford University Press, 2018), 740.

overall to the deleterious imposition of a global imperial economy which sets itself upon the earth as a destructive and cataclysmic force. Border walls, such as the one currently growing upon the U.S.-Mexico border, thus contribute to *and* catalyze global environmental change in ways that are far reaching, damaging, and destructive. However, the ecological argument is but one aspect of my critique.

As an imperial society founded upon an economy of capitalist production, the United States has, in a short time, and from the mythology of the imperial lens, done exceedingly well. First a site of resource extraction for the European feudal powers, and second a region of conquest and colonization, the United States is, presently, the most dominant extant imperial state. Its military expenditures, and its machinations towards global economic control, have pushed the United States to the position of prime suzerain—a global superpower amongst superpowers. Yet its position is held upon the backs of an impoverished working poor, an increasingly stratified social hierarchy composed of a minority élite and a majority of precarious *proletarii*, and a long history of warfare, conquest, and subversion.

The border regime of the United States is thus one which is driven by themes of both expansion and exclusion, as well as division, control, power, and protectionism. Yet the southern U.S. border is one which—as do all borders—has two sides. Where an increasingly "hard" border regime ossifies relationships of us/them, civilization/barbarism, and self/other, the Mexican state finds itself in an increasingly precarious position. Oscar Martínez noted that:

> The historical record reveals an evolving border relationship between Mexico and the United States. Turbulence dominated during the nineteenth and twentieth centuries, with serious conflict erupting repeatedly over issues such as the delimitation and maintenance

> of the boundary, filibustering, Indian raids, banditry, revolutionary activities, and ethnic strife.[374]

Martínez went on to note that:

> Mexican border cities will continue to bear the brunt of the criminal activity that is required to sustain the illegal distribution system that services the insatiable U.S. market. It means more frequent shootings, kidnappings, tortures, killings, femicides, massacres, and mass burial graves involving not only traffickers but innocent people as well.[375]

As an increasingly hostile zone of friction, the U.S.-Mexico borderscape is thus one which, following the trajectory of militarization, will remain as such. In this regard, there are not only ecological, social, political, and economic implications that can be drawn from a critical analysis of the border region; there are legal, ethical, and philosophical implications that present themselves as well.

The increasingly "hard" border of the southern United States is one which at once presents itself as a specific kinetic regime and as a metabolic signifier: that is, it emblematizes and spells out in concrete and iron the type of polity the state *is*. Through a lens which is both Kinopolitical and modal/metabolic in nature, the current border regime of the United States is at once a signifier of the ways in which US socioeconomy enacts itself upon the world, *and* it entails a unique theoretical constitution which can hopefully be uncovered through a critical study of the region. Thomas Nail noted that:

> Contemporary borders are complex hybrids of all previously existing border regimes. This does not mean that all the same material technologies persist in the exact same way,

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[374] Oscar Jáquez Martínez, *Troublesome Border* (Tucson: University of Arizona Press, 2006), 148.
[375] Ibid., 151-152.

> but that contemporary borders simultaneously deploy a mixture of all four kinetic border regimes: centripetal, centrifugal, tensional, and elastic.[376]

The bordering regime of the United States is one such hybrid border composed of earlier border technologies assembled in a way specific to the imperial constitution of the US. Yet Nail's notions of border kinetics need, for our purpose, further explaining before we might apply them to our conceptualization of the US-Mexico border region and its burgeoning border wall. Nail's four historical border regimes are as follows.

Centripetal. Movement towards a center. The fence. "Before there is a concrete technical object called 'the fence,' there is a kinetic social regime of fencing. In particular, the fence is a border regime that produces a centripetal social motion: the movement of flows from the periphery toward the center."[377] The fence as centripetal kinetic is, for Nail, the social motion of settling down, of settlement, and of the move from nomadism to sedentariness. Sedentism, Nail argued, should not be conceptualized as a stasis, or a lack of social motion, but a redirection of flows, the creation of new junctions and circulations of sedentary society, and the engagement in a Social Metabolism of immediate subsistence. In this regard, the centripetal regime of the border could be envisioned as the recirculation from a bifurcation point within a flow; a bifurcation from unfettered transitory motion towards a recursive sedentism.

Centrifugal. Movement away from the center. Social-amalgamative. The wall as a representation of the centrifugal social motion, as a regime of social motion, focused on themes of expansion, expulsion, and compelling. As a border regime, walls introduces to a society centrifugal social force that links together the fenced-in flows of territorial borders and mobilizes

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[376] Thomas Nail, *Theory of the Border* (Oxford: Oxford University Press, 2016), 165.
[377] Ibid., 47.

them into a single central power."[378] The kinetic logic of the centrifugal social force, "consolidates the centripetal accumulations of the previous fence regime into a central point and redirects them outward with a new force."[379] Kinetically, we might envision the movement away from the center as a form of junction in which increasing circulations of the junctive flow move outwards from their original limit; where, with regard to the border wall, the wall itself consolidates and reinforces public opinion about immigration for a reactionary subset of citizens in the imperial state.

Tensional. *The Cell—Tensioned Subjunction.* "While the fence divides the earth into a delimited territory and the wall divides territorial life into political forms of life, the cell divides human life into individual lives."[380] For Nail, the tensional kinetic force was one which emerged—for the western world—during the European Middle Ages; a social kinetic of feudalism which, "emerged historically once the centrifugal forces of political kinopower unified the centripetal forces of territorial power into a new an unstable center-periphery relationship."[381] In other words, for Nail, the tensional kinetic was one which was *tensioned* due to the instability of center-periphery relationships which began to emerge under imperial Roman society—tensions which reached their climax under the radically decentralized (yet interrelated) feudal form of the state. The cell is utilized as a metaphor for the tensional kinetic precisely due to its nature as parceled-off, individuated, and discrete. *Enclosure* and *linkage* define the cell, and its material representations persist in technologies such as the letter, the passport, the monastery, the prison, the asylum, the hospital, and the cage for the immigrant child. As a border regime, we

[378] Ibid., 87.
[379] Ibid., 64.
[380] Ibid., 88.
[381] Ibid., 88.

find the cell represented by the DHS detention centers, identification technologies, and the technological systems designed to control cross-border mobility.

Elastic. The checkpoint. Nail argued that "[t]he checkpoint adds a further form of kinetic social division to the previous regimes, and in particular responds to the cellular regime of the Middle Ages. While the cellular borders of the Middle Ages were primarily directed at dividing human beings into enclosed individuals, checkpoints further divided these individuals into collections of 'data.'"[382] Nail situated the emergence of the checkpoint regime around the onset of the eighteenth century. Checkpoint kinetics as a regime of the border thus arose in a uniquely capitalistic era; one in which the decline of feudalism was well underway in both Europe and the Americas. Additionally, Nail argued that:

> Kinopolitically, feudalism did not dissolve as a social regime because of a lack of mobility, as is often argued, but rather because of an uncontrollable excess of mobility. […] More so than previous historical periods, the modern period can be characterized by increasingly dramatic forms of social expansion and contraction: expansions and contractions of demand and supply in the market, expansions and contractions of births and deaths in the population, expansions and contractions of abundance and famine in the food supply, and expansions and contractions of space and time in communication and transportation.[383]

The checkpoint regime is one which, as a social motion of history, represents more erratic institutions of social control, predicated upon both technological advancements and sociopolitical instabilities and fluctuations.

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[382] Ibid., 110.
[383] Ibid., 111.

Further, a key takeaway from Nail's four historical regimes for the border is this: the social motions of expansion and contraction, expansion and expulsion, grow more unstable over time due to technologies and fragmented complexities and, as regimes within a larger circulation, the increasingly fractious nature of Social Kinetics is one which becomes, over time, more violent and more repressive.

Nail observed that the two primary interrelated functions of the checkpoint are the *point* and *inspection*.[384] Through these functions emerge the various functionalisms of the capitalist police force—a force predicted on what Nail calls "kinoptics," or the motion of optics as surveillance. Checkpoints are, for Nail, dominated by themes which themselves are preventative, kinoptic, and circulatory in nature. As a further social division, the elastic checkpoint regime might be envisioned as a cell within a cell, where, in truth, multitudes of individual data factors might exist within the cellular division of the individual: politics, social activity, biometric data, and so on. As an aspect of flow, junction, and circulation, a circulative break must at some point occur within the varying border regimes of Nail's previous framework; an individual is not, for example, infinitely divisible and neither is society itself; at some point, a return must occur where breakdowns in the increasingly fractal circulations of bordering are but an inevitability.

A politics of motion is but one lens which we should turn towards the border; overarchingly, the border as a tool where the control of motion is concerned, is implicitly metabolic. That is, the border both represents and signifies the ways in which the host state engages in its intercourse with the natural world; it signifies both the host state's social formation as well as its economic-ecological formation—the two driving poles of the dialectic which is

[384] Ibid., 113.

Social Metabolism itself. Nail observed that "the US-Mexico border must be understood as a form of circulation. The border is a division, but division is not blockage—it is bifurcation."[385]

***La Frontera*: Some Takeaways**

As a living historical artifact, the US-Mexico border region might be seen as a site of conflict between three modes of production: *primitive accumulation*, *feudalism*, and *capitalism*. In de Molina and Toledo's terms, we might note the friction between the *extractive*, the *organic*, and the *industrial* modes of production during the historical generation of what is today the border-line. And where Thomas Nail's Kinopolitical lens is concerned, the border thus becomes a site of overlap for *centripetal*, *centrifugal*, *tensional*, and *elastic* forces. The border, thus conceived, is not only a site of confluence between these historically-determinate notions, but a site of conflict as well. Below, in *Figure xv*, we can find one conceptual map of the historical moment at which a more severe bifurcation occurs in the kinetic metabolism.

Much yet remains to be analyzed in light of this conflict-confluence dialectic; and the US-Mexico borderscape has much yet to tell us. In the history of the US-Mexico borderlands, we see the confluence and conflict of not only metabolisms, modes, and kinetics, but of inter-metabolic friction as well. Samuel Truett observed that:

> In the borderlands, history moves us beyond such dichotomies, for here market and state operated in tandem for years, tacking back and forth between national and transnational coordinates. Even more important, it reveals the persisting failures of market and state actors, for neither controlled their worlds as expected.[386]

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[385] Ibid., 170.
[386] Samuel Truett, *Fugitive Landscapes: The Forgotten History of the US-Mexico Borderlands* (New Haven: Yale University Press, 2006), 184.

The US-Mexico borderscape is also a region not only defined by conflict and confluence but delimited by its ecological parameters as well: it is an arid, a mountainous, and a vast region. Kathleen Staudt noted that international, "border regions are an odd sort of integral space with characteristics shared by both sides."[387] In keeping with its overdetermined nature, the borderscape thus requires that our analytical and critical lenses be similarly overdetermined; that is, we must recognize the complex factors that go into the creation of the border and not attempt to reduce them into simply positivist or constructivist categories. Below, I will attempt to articulate the ways in which the conflicting and confluential modes, metabolisms, and kinetics interact at the site of the present-day US-Mexico border.

Understood Kinopolitically—where every junction thus forms a part of a larger circulation, and through a lens of motion where these forces, modes, and metabolisms at once move and interact with each other—and also along a standard Cartesian coordinate system, where the x-axis represents a forward progression of time, we can see first that the border region as a site of so-called *primitive-accumulative* metabolism precedes a feudal metabolism where the expansive and expulsive forces of Spanish conquest replace the earlier mode. We finally have the onset of the industrial mode which, as the final junction in a circulation encompassing all three modes, must still engage in an intercourse with both earlier modes which it has, hegemonically, replaced. However, as is the case with political hegemony, other modes yet flourish—to the consternation of the hegemon—and the hegemon is forced to interact and engage with the earlier modes.

In the case of the US-Mexico borderscape, the final moment upon this conceptual representation is the point at which wall fortifications begin to emerge, hearkening back to and

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[387] Kathleen Staudt, *Free Trade? Informal Economies at the US-Mexico Border* (Philadelphia: Temple University Press, 1998), 10-11.

drawing from—and synthesizing—earlier Kinopolitical border regimes such as the *fence*, the *wall*, the *cell*, and the *checkpoint*. The wall, however, is an artificial separation and a bifurcation from a flow of transition and movement. It thus signifies that the flow of the Social Metabolism of capitalism can no longer operate without artifice and edifice; without an increasing militarization to maintain a trajectory which has outlived its viability. On our conceptual map, the wall thus becomes a regressive device, one which jumps what might have been a natural circulation and which moves retrogressively the forward progression of capitalism itself. Conceptualized through a lens of metabolism, the wall emerges at the output site of waste, and is thus, both metabolically and Kinopolitically, a waste which reinserts itself back into the viable circulation of metabolism.

Moving Forward

Nail observed that, "The wall is the second major border regime of the US-Mexico border. Although the usage of walls as social borders first emerged as the dominant form of bordered motion during the urban revolution of the ancient period, its centrifugal kinetic function persists today."[388] The wall thus, according to Nail, acts as both a force of expansion and expulsion—dominant themes of the border walls of every epoch—and works to push power out from a central point. Nail also observed that:

> [t]he wall regime adds to the territorial conjunction of the earth's flows a central point of political force: the city. […] Kinetically, the wall regime is defined by two functions: the creation of homogenized parts (blocks) based on a central model, and their ordered stacking around a central point of force or power.[389]

[388] Thomas Nail, *Theory of the Border* (Oxford: Oxford University Press, 2016), 183.
[389] Ibid., 183.

The growing border wall along the southern United States border is thus a emblematic of a bordering regime which not only merges prior regimes, such as the fence and the cell, but one which also represents an historical peculiarity; a new kind of wall which emerges as a type of wall of capitalism; a wall which signifies and represents both a rift and a bifurcation in the Social Metabolism of the United States; and a wall which is also a type of feedback loop—the movement of waste and ossification back into a system which has, until now, required unfettered mobility.

CONCLUSION

Political Ecology and the Border in Motion

Over the course of this study, I have attempted to move forward, better understand, and loosely apply not only several key theoretical points derived from the history of contested U.S. and Roman border regions, but to better understand the larger *temporal and practical* implications for the fuller articulation of such a theory. While I have engaged only in brief analyses where this burgeoning conceptual framework is concerned, I hold out hope that, upon fuller articulation and future applications, the rich meaning and import of political-ecological border analysis might shine through—lending itself to future studies in the field. And that, in some way, applications of this novel framework can paint more complete pictures of what border walls in situ *mean* for the respective state metabolisms—as well as the unique moments in history—in which they arise. *Real* meaning shines through the brief analyses I have conducted; yet I have only begun to build the theoretical tools with which to undertake such an analysis. Herein lies the partial limit of the theoretician's work—it often remains explicitly theoretical, the development of a theory that others might, in futurity, apply. Yet it is the true test of the work of a theorist that their work in some way, when applied to the dynamic interchanges of the material world, not only reflects, but understands more deeply (and, possibly, predicts) present and future interchanges.

I have entertained an elucidation of the problem—the rise of fortified border walls in an era of imperialism and climate change; the creation, and the stoppage of, primarily-indigenous climate refugees in search of the livable lands to which they once had free access and from which they have been excluded. I have explored the historical origins of such a problem—seeking to better understand interconnections of rifts and walls, the interconnections of economic

centralization and decentralization, and its relationship to territorial walling. And I have ultimately sought to understand the larger theoretical frameworks in which all the above find themselves situated—larger dialectical movements and the great breathing-in and breathing-out of human history; these are hints, perhaps, of structural forms through which societies move when they undertake the imperial impetus. I have explored two unique examples of fortified borders in the imperial context—the U.S. and Roman walls—and I have tried to bring my conceptual framework home to roost upon these walls, drawing inferences from these examples and looking for spaces of congruity between our theoretical ideas and historical record.

I have, ultimately, settled upon a framework which, in my view, provides a fruitful jumping-off point for Political Ecologists undertaking future studies in what Thomas Nail has called *Critical Limology*, or critical border studies—both in their imperial and non-imperial varieties. I have conducted my work from a framework of Marxism with the motivation that Political Ecology must not only seek to understand the walls of imperialism, but to actively subvert them; to change them.[390]

In bringing the present study to a close, it is my conviction that, while the practical work might only have yet begun in the present volume, it is *only* through the confluence of theoretical components I have touched upon that Political Ecology can most fully engage in rich explanatory and descriptive analyses of the border.

To understand the growing fortification of the border of the imperial state, and how the border wall divides and separates human and animal populations, the Political Ecologist must have a fuller understanding of not only rifts and Social Metabolisms, but of imperialism itself. That is, Political Ecology must be able to conceptualize from where, how, and why imperialisms

[390] See, more generally, Karl Marx, *Theses on Feuerbach*, 1845.

emerge within a given state metabolism, and it must understand what awaits the state upon the decline of imperialism, for this is ultimately the specter from which imperialism walls itself off.

Organizations of biotic agents such as human society are deeply entangled within a metabolism—a deep interaction with the earth system for the production and reproduction of life, and the cycle of resource harvesting, consumption, and waste. To understand the historical movement of Social Metabolism, Political Ecology must bring more fully into its conceptual and analytical toolkit the notions of *amalgamation* and *rift*—understanding the ways in which societies, when practicing unsustainable and overconsumptive metabolisms, both build themselves up and then, rift themselves from their own metabolisms.

Political Ecology must ultimately understand that the movements of states—their historical movements over time, and their evolutions from central to decentral forms—as well as the movements inherent within metabolism, that is, production and reproduction, consumption, and waste, are just that: they are *movements*. To all the above, I must add the lens of *kinesis*, of movement itself.

Political Ecologists often have no framework through which to begin to engage in *historical* studies other than the perspectives granted the field by data analysis. As such, it is my contention that Political Ecology must bring kinetic Social Metabolism into historical studies by means of guideposts, theoretical bounding, and the insights given by theoretical eclecticism. Political Ecologists are not historians, yet the field should be able to engage in historical studies when and where needed—and to do so, Political Ecologists must engage with history as *green historians*, as ecological historians. This is particularly true for Political Ecology as a radical field; as Marxists, the radical dimensions of the field need a method of investigation that is both historically and dialectically materialist. Green History offers us one such perspective.

As expensive and labor-intensive endeavors, requiring the mass mobilization of very large sectors of society, along with the continued negotiation with liberal and progressive sectors of society as to the legality and ethics of the fortified border, the imperial state, it can be quite easily said, does not engage in the construction of the large-scale border wall on a simple *whim*. However often border fortifications are sold to the public as either the whim decision of a demagogue such as Trump or Hadrian, or as a simple defensive measure against the "barbarian many." The truth of the matter is that, for Political Ecology at least, the construction of large-scale border fortifications always follows the complex intersection of factors both economic and ecological. There exist strong theoretical bases for the construction of walls; they are not haphazard, nor are they simple emergences of a society in decay—they respond to, and represent, the peculiar overdetermination of historical and theoretical factors of metabolism and motion: ecology and economy.

The imperial state, while aware of the driving ecological and economic impetuses of construction—as evidenced by the planning guides and economic rationales noted in the opening pages of the present study—remains painfully unaware of larger metabolic and kinetic impetuses. The imperial state does not understand that the large-scale construction of border fortifications can, when viewed through a particular lens, both reveal and hearken a period of imperial ossification and the limits of imperial expansion. Imperial border walls are not defensive measures; or, if they are, they only act as a defense of the imperial polity against itself—a great and futile attempt at the shoring up of an empire that has reached its limit; a herald of imminent ossification, domestic militarization, and eventual decline. Border walls, standing against the free movement of humanity in a time of great environmental upheaval, must be subverted—Political Ecologists cannot be passive observers.

While much work remains to be done regarding mapping, analysis, and theory-building, taken together, the frameworks of kinesis, metabolism, and Green History, cognizant of the implicit cycles of empire which take shape as decentralization and centralization, rift and amalgamation, have much to reveal to a Political Ecology at the threshold of a transformative engagement with border studies. Where there are strong indicators that the movements of society—represented in the present case by the great walling off of imperial and hegemonic nations in an effort to control resources and peoples swept up by conquest—are tied tightly to, inseparable in fact from, the vicissitudes of both climate and the earth system more generally, therein lies the strongest, most fruitful, and most important place Political Ecology can intervene. As an incredibly powerful, yet relatively new field bringing together the most fundamental ontological categories of humanity's material existence—the state and the earth—Political Ecology stands poised to develop radical new modes of inquiry into phenomena explained, heretofore, only partially in either the political or cultural sense.

The work conducted in this dissertation represents only one narrow move for Political Ecology. As a work of philosophy and history, the present study has attempted to understand, from a radical lens, all the entailments of Political Ecology's investigation of and intervention into border studies—and, more specifically, into the study of fortified imperial borders as represented by two examples, past and present. From all of the above, and in the tradition of many theorists before me, including my late mentor Scott Warren, I would like to conclude the present work with a collection of summative theses: ten theses on Political Ecology and the imperial border; theses which not only sum up, but provide an ethical springboard for future investigations in the field; theses which capture the radical impetus of Political Ecology, and

which honor the peoples toward whom border walls are pointed—peoples fractured by the building up of imperial borders.

Ten Theses on Anti-Imperial Political Ecology and the Imperial Border

As I have attempted to demonstrate over the preceding pages of this dissertation, the borders of the imperial state, the violent and semi-permanent incursions into indigenous and conquered territory, represent a transgressive and a brutal act. This act is defined not only by the aggression and the militarism of the imperial state itself, but by the great lengths undertaken by the state to shore up its conquest–the great fortifications and walls erected in stone and iron, concrete and wood. Such efforts represent a singular logic; a logic of empire itself. This logic is the logic of control, of dominance, and of colonial conquest—the true impetus of imperialism in all epochs.

We can draw such parallels between the imperial border fortifications of past and present precisely because this logic remains the same; the Roman logic is, in fact, the American logic, and vice versa. In essence these logics are united by their structural similarity; they are archetypal and emblematic of imperialistic motivations more generally. This is a motivation that drives the state to move beyond its own geographical boundaries, to set its sights and its intentions upon the resources, lands, and labor forces of other polities. It is a motivation in which the home interests of the state—the financial interests of the ruling class of the state—control the physical apparatus of the state itself in service of the accumulation of real capital.

Yet in the drawing of parallels between past and present states, we must be careful to remember that while Political Ecology might be interested in larger predictive and analytical methods, these methods can only be drawn from retrospective and comparative studies—and that these studies themselves must be self-critical in the sense that they must be careful not to

conflate the disparate and discrete. In other words, we must be careful when we assert that $x = y$, when in fact x and y represent discrete historical phenomena. To achieve fruitful parallels, I would argue that it is far better to look for principles, for theoretical guideposts.

Following this, I propose the following ten theses regarding an *anti-imperial* and *anti-colonial* Political Ecology of the imperial border. It is my intention that these theses provide not only a summative assessment of the work in the present dissertation, but that they act as guideposts for future research undertaken on the intersection of Political Ecology and border studies from an explicitly Marxist lens.

Thesis 1: *The border exists in-and-of the imperial state.* The border of the state—the border of any state—is reflective of the state itself. The border is both within the state and of the state; that is, the border itself is not something separated from the state in any meaningful or impactful way. Rather, it emblematizes the state in ways that are both representative and formative. The state both produces the border and is produced by the border. There is a dialectical relationship between the state and the border in which the border is nothing other than the domestic and foreign policy of the state made manifest in the bordering regime—in the checkpoints, the walls, the legislations, the personnel, the rules of engagement with regard to border enforcement, and so on. A violent state produces a violent border. And an imperial state produces an imperial border.

As the border reflects *in actu* and *in situ* what the state is, the Political Ecology of the border itself is an ecology of *skin*—it is a reflection of the state's health, of the state's practices in relationship to other states and to the world. Is the state's border regime applied equally with consideration to all its neighbors, regardless of race, gender, or national origin? Or is the border itself pointed at one specific race while privileging the racial homogeneities of the polity?

Thesis 2: *The imperial border is directional; asymmetrical and pointed against indigeneity*. The imperial border, by virtue of its construction under the regime of imperialism, is one which manifests the colonial impetus. It is, most often, and in the case of the present study, built in conquered lands; it is pointed against indigeneity; it divides and splits indigenous groups. The imperial border *implies its own violence by virtue of its directionality*. And thus, the imperial border is a racist edifice; a colonial edifice built upon and within the blood of indigenous groups; pointed at subaltern groups; meant to divide and devastate sovereign indigeneity.

Thesis 3: *The imperial state is a political-ecological formation benefitting a dominant class over a subordinate class; and the imperial border is the skin of this political-ecological form—a concretization of the class struggle of empire*. The border is a manifestation of the class struggle; it emblematizes the unique contradictions and struggles within the imperial society in which—and around which—it arises. The border creates economic choke points, and it controls trade, labor, and migration for the direct purpose of serving the ruling class of the state. The imperial border itself is not representative of the will of the people more generally; that is, the great collection of working people, by and large, do not benefit from the violent and aggressive nature of the imperial border. The imperial border exists in service of the class struggle, on the side of the ruling class. Border policy is reflective of the efforts of finance capital in the securing of real capital; it must be.

Thesis 4: *The imperial border is imposed upon a frontier; it is a tool of colonization*. An imperial border—the fortresses, walls, wood, iron, and concrete of the border—is an edifice of conquest. The state does not build the border wall where border disputes do not exist. That is, the imperial state does not build the border when and where its victory is certain; rather, it fortifies the border in a subtle admission of *permanent problematization*. The very construction of the

border wall signifies the waning might of the empire; it signifies and represents the fact that the border is not settled; that it will always be a problem, and that the geographical limits of the state are disagreed upon to such an extent—indigeneity divided to such an extent—that the state itself must undergo incredible amounts of spending to shore up this zone of contestation. The imperial border wall thus signifies when and where the empire is weakest; where its boundaries are most porous; it signifies its frontier and hints at its own dissolution.

Thesis 5: *As a built environment aspect of the imperial polity, the imperial border stands aside from, it divides, and is alien to the indigenous landscape*. The imperial border divides peoples and language groups; and it divides ecosystems and species-ranges. As an ecological edifice, the fortified imperial border is indicative of a transgression against the natural world, against both nature and biota. The imperial border is an affront to the world itself; a division where no division should exist. It is regressive, divisive, and alien.

Thesis 6: *The psychopathology of the imperial border as imposition, threat of violence*. The real transgression of the imperial border, of the imperial border wall, is its implication of violence by its very existence. It is an impositional threat against all who gaze upon its angles and upon its iron; further, it is meant to do this. The border walls of empire do not signify the open arms and welcoming character of the empire itself; rather, they serve as a warning. To exclaim the might of the empire, the border wall in fact represents a *scared-threat*—it is the snarl of a wild animal backed into a corner. As a psychopathological edifice, the imperial border is violence by virtue of its existence. It is both real violence and the threat of violence against poor and working people, against migrants, and against indigenous groups. The imperial border wall is not meant to be anything else; the imperial border wall *is* violence.

Thesis 7: *Imperial border wall as simple division; militarizable and defensible*. The imperial border is imagined as a defensive frontier; as a geography upon which struggle occurs between the forces of *civilization* and *barbarism*; it is a romanticized phantasmagoria of imagination for the subject of the imperial state and for imperial defense planners. The imperial border is thus a fantasy for the empire itself. Yet the border's most material, most *real*, dimensions are bound up in their stoppage of migratory movement, within its threat of violence. For Political Ecology, the motivation of the border is not so important as the reality of the border. As a construct of natural resources, rearranged and reorganized—oftentimes—as a wall, the imperial border is in fact not a defensible fortification so much as it is an economic control. It seeks to control migration, to control the labor force input and output of the state, and to control cross-border land trade—and that is it. From a defense position, the border itself is not a site upon which armies collide and clash; it is a temporary stoppage for migrants, present and future. It is meant to stop foot traffic; the traffic of starving people seeking better circumstances, the traffic of a growing number of climate refugees; the traffic of the innocent.

Thesis 8: *Climate and the imperial border are intertwined*. The fortified imperial border of the southern U.S. border is meant to act as a racist bulwark against the masses of Central and South Americans who will most heavily feel the impact of the vicissitudes of future climate changes. This fact is evidenced by the absence of a border wall on the northern borders of the present-day empire; the borders of the United States and Canada are, in contrast, porous and unchecked, with vast amounts of unpoliced wilderness separating white-majority nations. The southern borders, however, are heavily policed, walled, surveilled, and patrolled by racist vigilante groups intent on enforcing United States domestic policy in service of increasingly racist and fascist sentiments.

Thesis 9: *The imperial border is kinetic; a dialectic of stability and motion; it entails its own kinesis*. The imperial border sits within a borderscape of movement on its most fundamental level. It is not a defensive frontier, although it might be conceptualized and billed as such. It is a kinetic feature designed to halt motility and movement on a basic level of materiality. The border *is* in motion, as represented by the various circuits, flows, junctures, and movements implicit to the various functions of enforcement; yet it stands still as a paragon of stoppage. While the various kinetic functions of the border entail an implicit movement and a kinesis, the border itself is a stillness built in concrete and iron; it is itself stillness, and it seeks to enact a migratory stillness upon a geographical space known for its historical patterns of movement.

Thesis 10: *Previous border theory has sought only to understand the imperial border from varying perspectives; the point, however, is to change it.* Political Ecology entails revolutionary judgments of value; Political Ecology understands that the collision of polity and nature entail an implicit friction, an implicit contradiction. The contradiction between humanity and nature nowhere is more pronounced than within the imperial state—a state set against all else, a state designed only for the sake of conquest and the enrichment of its ruling class, a state predicated on the great swallowing up of lands, peoples, resources. And the assessment that Political Ecology must make when it turns its sights to the frontiers of the imperial border must by necessity be one of value. The border wall, an unstable and shaky thing, set against the world and against humanity itself, must be given a push. We introduce change through revolutionary action; through revolutionary and radical scholarship and organizing at the community and state-level against the violent and racist practices of the divisive border. In other words, those involved in critical and revolutionary studies of the border must be motivated not only by an understanding of the border, but an understanding with an attempt to subvert. Circling back to

our first thesis; if the border is in and of the state, if the border is the state, we then must subvert the violence of the border by subverting the violence of the state itself.

Final Reflection

"The twenty-first century," as Thomas Nail exclaimed, "will be the century of the migrant."[391] More than ever before, people are forced into migrancy by the expanding exigencies of economy, political unrest, and climatological instability.[392] In fact, "[t]he immigration 'problem,'" as Paul Ganster pointed out, is primarily "a creation of the twentieth century."[393] Residential mobility, far from being the sole aspect of hunter-gatherer foraging economies, seems to be a principal quality endemic to all economic and social structures; it is, at root, a material response, or a reaction, to exigency. As noted in the opening of this dissertation study, there are currently an unprecedented *one billion* migrants in the world—with this number is expected to double by the year 2050. This represents an historic shift in global demographies, population concentrations, and the intra-state dynamics of political power and class.

As the ranks of the dispossessed and the stateless swell, so too do the policies, strategies, and tools of the world's wealthy states work to control, stop, and mitigate such an overwhelm of migrancy. As argued in the pages of this study, territorial border walls—complex apparatuses of physical wall structures, barriers, ports of crossing, surveillance, armaments, and security manpower—proliferate in the twenty-first century not as a response to security concerns, but to an unrivaled historical migrant population driven by climatic and economic motivators.

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[391] Thomas Nail, *The Figure of the Migrant* (Stanford: Stanford University Press, 2015), 1.
[392] Will Steffen, et al., *Global Change and the Earth System: A Planet Under Pressure* (Berlin: Springer, 2005), 128.
[393] Paul Ganster, *The US-Mexico Border Today: Conflict and Cooperation in Historical Perspective* (Lanham: Rowman and Littlefield, 2016), 215.

When a state engages in both the militarization and the large-scale fortification of its national borders—that is, when a state engages in the construction of a national border wall—this *means* something for the state. What this means, however, has never quite been certain. My dissertation study has sought to understand this *meaning* from a conceptual lens which, I have argued, provides a fuller political-ecological picture of the state's border policies in relationship not only to its present, but to its past and future as well.

Border walls have been demonstrated to respond primarily to the twin factors of migration and economy,[394] yet where the walls of western-style *imperial* states are concerned—as evidenced by the Roman border fortifications in Britannia, and the US-Mexico border wall—border walls also signify an end to expansion, an implied ossification, and the prefiguration of an eventual geographical contraction. Border walls have much to tell us about the kinetic and historical character of an imperial state's *mode of production*; that is, its unique, national *metabolism*. Borders, their condition, and the level to which they are fortified and militarized, speak volumes about a state's specific mode of governance, its foreign and domestic policies, and its political and economic trajectories.

The field inside of which this dissertation has been situated, Political Ecology—a hybrid field that emerged in the early part of the 20th century to study the intersection of ecological, political-economic, and historical phenomena, and "analyses of social relations of production and questions of access and control over resources"[395]—has had unfortunately little to say about migrancy, the proliferation of border walls, and border studies in general. This dissertation study represents a novel and necessary move for the field, as the borders, border walls, and migrant

[394] David Carter and Paul Poast, "Why do states build walls? Political economy, security, and border stability" in *Journal of Conflict Resolution* (New York: Sage Publications), 259.
[395] Susan Paulson and Lisa L Gezon, *Political Ecology Across Spaces, Scales, and Social Groups* (New Brunswick, N.J.: Rutgers University Press, 2005), 17.

populations of the twenty-first century—as well as those of previous epochs—have much to reveal about the ways in which economies of scale, societies, and powerful states react, adapt, and respond to a climatologically and a politically dynamic world. As Bruno Latour exclaimed:

> We have no choice: politics does not fall neatly on one side of a divide and nature on the other. From the time the term "politics" was invented, every type of politics has been defined by its relation to nature, whose every feature, property, and function depends on the polemical will to limit, reform, establish, short-circuit, or enlighten public life. As a result, we cannot choose whether to engage in Political Ecology or not.[396]

Politics and nature are never, at heart, disunited. Thus, it follows that any study into the proliferation of border walls and the increasing migrancies of the late capitalist era *should also* take place from a lens which operates upon this intersection. Simply put, border and migrancy studies *require* a lens of Political Ecology. And this dissertation represents, in the final analysis, at attempt to do just that. Border walls—and the political, economic, and ecological factors to which they respond—are a rich and critical area of inquiry for Political Ecology; yet, as the political ecologist Libby Lunstrum has noted,[397] the ultimate logic of their construction is poorly understood by this field and the scholarly literatures of Political Ecology and international border theory are surprisingly disconnected. In concluding the present study, I cautiously posit that we now know a little bit more about this logic.

It has been my argument that of all the disparate fields of inquiry, Political Ecology holds the most promise in formulating a holistic response to the questions of not only *why* a state might build a fortified boundary, but of why and *when* states implement such extraneous measures,

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[396] Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy* (Cambridge: Harvard University Press, 2022), 1.
[397] Libby Lunstrum, "Political Ecology of International Borders," accessed May 19, 2023. Available at: http://www.yorku.ca/lunstrum/research/political_ecology.html.

precisely due to Political Ecology's focus upon the intersection of political, ecological, and historical factors. It is a field that is decidedly radical, change-based, and holistic in nature.

Previous lines of inquiry into the phenomenon of border walls have focused discretely on the avenues of security, economy, culture, or history. In this dissertation, I aimed to both uncover and understand the deeper political-ecological meaning of border walls by a new focus on the problem. While extant border wall research has focused discretely on the aforementioned lines of inquiry, no attempt has yet been made to explain border walls from a lens which attempts to *synthesize* these lines of inquiry. To do so, I worked from an explicitly Marxist political-ecological lens: a lens which acknowledges the dialectical and historical interdependence of political, economic, and ecological factors as mediated by the historical, class-based struggles of resource-access and state power.

My driving dissertation research question throughout the present study has been: *from a lens of kinetic Social Metabolism and metabolic rift, what do the border walls of the capitalist-imperialist state reveal about the destiny of the state itself?* This question has been informed by a rigorous and longitudinal review of existing literatures and was grounded upon the idea that the militarization of state borders signified something *important* about the political economic trajectories of the imperial state; an ossification or a constriction of economic flows; a signifier of limit, of stagnation, or of a possible eventual decline.

In short, the answer to this question—the overarching question of this research—is one which might appear at first as most obvious. *The imperial border wall is a racist edifice*. It is, and has been, a tool of colonization, targeted against indigenous populations, and utilized as a device of conquest; economic control over contested, problematized frontiers where victory for the imperial state is and was in fact not certain but shaky. Secondly, *there exists a relationship*

between warmer temperatures and an increasingly walled world. Taken together, these two core meanings of the border wall—that it is simultaneously racist and a response to the environment—suggest a whole host of follow-up research questions. Does every border wall imply a racism on the part of the state? Do the border walls erected by the anti-colonial, anti-imperialist state, such as the *Deutsche Demokratische Republik* and Democratic People's Republic of Korea, also entail these dimensions? When presented as a polarity between closed and open borders, does a sublative path exist for the state—for the truly progressive state—to manage its border security in a way that is ultimately healthy, sustainable, and not predicated upon problematic racisms, anti-indigeneity, or resource-hoarding?

As a humanities dissertation, my scholarly approach for this dissertation project was decidedly philosophical, theoretical, and historical; and, further, I operated upon the biases and implicit assumptions of a critical realist and dialectical materialist ontology. However, I am left wondering what a purely quantitative, post-positivist study of the border might look like. While many qualitative studies and ethnographies exist focused on the human experience of the militarized border, there unfortunately exists a paucity of research into the interconnection between climatological data and hard political data. The course of the present dissertation study suggests that more of the latter must occur to more fully understand the interconnections of, and the intercourse between, climate and wall.

Working under the aegis of the philosophical and historical dimensions of the field of Political Ecology, I assumed an implicit interconnection between sociopolitical and ecological categories. And, under the aegis and political biases of Marxism, I also assumed that the interconnection between sociopolitical and ecological categories has *always ever* been mediated by social hierarchy. Yet this is but one assumption on the part of the researcher. What if we do

not assume that "[t]he history of all hitherto existing society is the history of class struggles"[398] —would such struggles continue to reveal themselves as only ever having been over access to the natural world—to its land, its resources, and its riches?

I chose to work within radical frameworks for several key reasons. Firstly, following Political Ecology's "resurgence of interest in Marxist concepts and analyses,"[399] and given Marxism's power at analyzing critical inequities in politics, economy, society, and the environment, I felt that it was *only* from a Marxist lens that Political Ecology could begin to analyze the socioeconomic inequities inherent within the border militarizations and demographic dispossessions of the early imperialist and late capitalist eras—especially when these problems themselves could only ever emerge from the internal, historically-situated contradictions implicit to the vicissitudes of capitalist-imperialist production itself.

Secondly, as material motion and movement—the circulation of matter, goods, and people—lay at the heart of both border and migrancy studies, there did I require a theoretical component be in place that dealt explicitly with movement, or *kinesis*. And thirdly, where issues of borders and migrancy themselves never present as singular, but overdetermined, complicated, and nuanced problems fed by many inputs—historical forces, environmental change, social and political maneuvering, economic circulation, and more—there was I motivated to engage in border and migrancy studies in a radical, *critical* way that acknowledged the unique interconnectedness of all of border inputs without reducing my analysis to one which was reductive or hyper-simplistic. In my view, the frameworks from which I drew—Marxist Social Kinetics, and Marxist Social Metabolism—satisfy the above three conditions.

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[398] Karl Marx, Friedrich Engels, and Jodi Dean. *The Communist Manifesto* (London: Pluto Press, 2017), 9.
[399] Susan Paulson and Lisa L Gezon, *Political Ecology Across Spaces, Scales, and Social Groups* (New Brunswick, N.J.: Rutgers University Press, 2005), 18.

While critiques of Marxism as a theoretical orientation indeed exist, it has been my overarching contention throughout the pages of this dissertation that where the political-ecological issues endemic to the imperialist and capitalist eras are issues that *emerge from* capitalist and imperialist production as representatives of these hegemonic world systems, there should Political Ecology seek to understand these issues from a position that is *not* further grounded within the problematic framework itself, but within and from frameworks that are, and have historically been, outside of, oppositional to, and beyond it. As the sociologist Timothy Dunn put it:

> Such issues are too important to be left to the discretion of bureaucratic and policymaking elites, or to be defined by jingoistic demagogues, who scapegoat vulnerable groups. In addressing these difficult and complex issues, special endeavors should be made to avoid sacrificing the rights and well-being of subordinated minority groups for the real or supposed benefit of the majority or more privileged groups […] to do otherwise is not only fundamentally unjust, it is also ultimately a menace to the rights and well-being of us all.[400]

Where, in our own time, the division, demarcation, and the delimitation of landed property under the increasingly centralized, imperialized mode of late capitalist production takes on increasingly oppressive, fortified, and militarized characteristics, there must Political Ecology turn its attention to provide continued and future analyses upon which might be built the eventual, *practical* dissolution of hateful, concretized, and militarized divisions.

As we bring the present study to a close, we must keep in mind that the world in 2023 is a world of unprecedented movement—a movement not only of technology, information, services,

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[400] Timothy Dunn, *The Militarization of the US-Mexico border, 1978-1992: Low-Intensity Conflict Doctrine Comes Home* (Austin: University of Texas Press, 1996) 170-171.

and goods, but a movement which also entails increasingly-prevalent migratory movements. Nail observed, correctly, that, [m]ore than at any other time in history, people and things move longer distances, more frequently, and faster than ever before."[401] As social and economic life in the modern world becomes increasingly migratory, so too do we find ourselves situated among the numbers of the world's transient and migratory populations. We move for work. We move for school. We move to be close with family. And we move to escape bad situations.

The militarized border walls of states represent, in the final analysis, the *height* of an exclusionary political-ecological division: they are, at once, stern ossifications of the polity's immigration policy, signifiers of its violence, its racism, and its militaristic control, and powerful representations of the state's control of land. The border walls of imperial states are aimed at indigenous peoples; the heaviest-handed and most glaring tools of systemized racism the state can utilize to control the flow of pre-settler populations and resources. Further, the naked racism of the imperial border wall during an era of climate change not only targets indigeneity; it separates indigeneity from indigenous futures. In our own era, as Central and South America continue to suffer, disproportionately, the speed-balling effects of climate change, the imperial walling-off of the cooler, resource-rich, and arable Northern portions of the Americas is, circling back to an initial quote from Ian Angus, nothing but the use of armed force against starving people. Thus, do imperial border walls represent not a singular but a double oppression: racism and greed.

Where border walls exist as a political response to economy and ecology, and where economy and ecology are naught but specific historical circumstances in the Social Metabolism of the state, there must we conclude that the border walls of the state can only *signify* the state's

[401] Thomas Nail, *Being and Motion* (Oxford: Oxford University Press, 2019), 1.

specific historical mode of metabolism: that is, they represent the condition, the character, and the scope of the ways in which the state engages in the production and reproduction of its ecological existence.

As climate scientists, earth scientists, and organizations such as the Intergovernmental Panel on Climate Change (IPCC) have consistently—and alarmingly—demonstrated, the climatological and environmental upheavals currently underway are *intricately* interwoven with the ways in which human societies organize their methods of production, reproduction, distribution, and consumption. Further, the demographical, economical, sociopolitical, and technological dimensions of a humanity dominated by capitalist production are not only *interwoven* with such rampant earth-level upheavals and changes; they *catalyze* them. In other words, and more simply put, when, under capitalism, human societies produce and reproduce their material existence, they change the earth in ways that become deleterious and destructive to the ecosphere itself. The world becomes divided, depleted, devastated.

Walls spring up everywhere, as rich and conquest-driven states shore themselves up against a future in which Indigenous peoples flee northwards to avoid the hostilities of a warming world, a loss of employment, housing, and food. As capitalist production now progresses *world-historically*, unfettered and unchallenged by oppositional economies and states, save for a few, the earth system finds itself increasingly under attack for the sake of profit, power, and domination. It is carved up, barriered, and fought over. It is the job of the Political Ecologist, now more than ever, to subvert this—to give the walls a push.

Appendix 1

Do Border Walls Respond to Climate Change?

Looking for Meaningful Relationships Between Climate Anomalies and Border Wall Instances Between the Years 1900 and 2014

Abstract

The present study is an investigation into the relationship between climate change and border walls. More specifically, the study employed linear regression to analyze the relationship between Global Mean Standard Temperature (GMST) averages and border wall instances per year, for the years 1910 - 2014 (n = 104). Linear regression produced a test statistic of $f = 17.94$ (1,103 DF), with a p-value = 0.0000496, implying both a meaningful and a significant relationship between GMST and border wall instances for a given year, during the span of 1910 - 2014.

Keywords

Border Walls, Walls, Climate Change, Global Environmental Change, Adaptation

Introduction

In this study, my attempt will be to demonstrate that there exists a meaningful relationship not just between ecology and polity—a sentiment assumed *a priori* by the field of Political Ecology—but, specifically, between climate change and instances of border wall constructions. In other words, it is my contention that as the earth grows hotter, so, too, grows

the prevalence of border walls around the globe. This study represents my initial attempt to demonstrate the existence of a meaningful relationship between climate change and border walls.

Specifically, I have attempted to look for meaningful relationships between Global Mean Standard Temperature (GMST) averages and border wall instances bracketed by the years 1910 - 2014 (n = 104). To my knowledge, and after an extensive literature review, no studies exist which look for these relationships between climatological and political phenomena as they relate, specifically, to border walls. The present study is thus, as far as I know, a first attempt to do so; and, as will be shown, where the results have indeed proved to warrant further investigation, this study shall also, hopefully, be the first of many to come.

Methods

Data Collection Methods. For this study, I utilized the border wall instance datasets of political scientists Ron Hassner, Jason Wittenberg, David Carter, and Paul Poast, from their respective, co-written essays: "Barriers to Entry: Who Builds Fortified Boundaries and Why?" and "Why Do States Build Walls? Political Economy, Security, and Border Stability." These data provided comprehensive, directed dyadic information on all historical border wall instances between the years 1800 and 2014. To-date, these data—compiled by Hassner, Wittenberg, Carter, and Poast—appear to be the most comprehensive and exhaustive collection of border wall instances of which I am aware. All climatological data was gathered from NOAA's National Centers for Environmental Information: Climate Data Online, whose records—in most cases—date back to 1763. NOAA's datasets are comprehensive, yet oftentimes hard to navigate; thus, future studies will seek to merge additional reputable climate data with the information compiled by NOAA.

Analytical Methods. All data were organized by year, beginning with the year 1900 and ending with 2014. Historical instances of border wall constructions were compiled by year and were given a value for occurrence-per-year in the instances where more than one border wall was built during a given year. Given the time limitations of the study, only the historical data for global mean standard temperature (GMST) in degrees Celsius were used for a linear regression analysis of wall instance and GMST by year. Beginning with the year 1900, GMST was averaged for ten years prior; thus, providing a 10-year historical average for the years 1910 forward. The rationale for such a decision was to better capture the notion that historical climate averages would likely have a greater impact on border wall instances by year, as border walls would not necessarily crop up during a given year due to an immediate rise in GMST. Other climate data were also gathered from NOAA—such as yearly global precipitation, and cyclone occurrence—but due to time constraints, only the GMST was brought into the analytical program (R) for regression analysis.

The study itself was observational, and not manipulative. Scholastically, I attempted to work within the conceptual frameworks and biases of the fields of environmental political theory and environmental political science, with the explicit goals of deriving evaluative analyses and normative frameworks from the comparative juncture of environmental-climatological and political data. My operating null hypothesis for the present study was that climate change has *no* relationship to border wall instances, *i.e*., there is no statistically significant or meaningful relationship between climate fluctuations and the instances of border wall constructions. My alternative hypothesis was that climate change *does have* a relationship with border wall instances: *i.e*, that there is a statistically significant and meaningful relationship between climate fluctuation and historical instances of border wall construction.

Linear regression was utilized through the R Program (*R Commander*) for all GMST averages and border wall instance counts between the years 1910 and 2014, by year. Future studies will likely utilize logistic regression to compare multiple climatological factors on historical border wall instances; but given the constraints of the present study, linear regression appeared to be the most obvious choice. Future studies will also likely see border wall instances per year be transformed into categorical data, by denoting either a 1 for instance(s) per year, or 0 where an individual year had no reported border wall constructions.

Results

Utilizing R Commander, linear regression on the GMST averages and border wall counts between the years 1910 and 2014 produced very intriguing results. Where n = 104 for the individual years bookended by 1910 and 2014, linear regression produced a test statistic of f = 17.94 (1,103 DF), with a p-value = 0.0000496. Regression also produced a residual standard error = 0.9796 (103 DF), a multiple r^2 = 0.1484, and an adjusted r^2 = 0.1401. The high f statistic and the p-value alone present what appear to be, prima facie, not only intriguing but *significant* results. From the initial results alone, I can thus—for now, and shakily—reject the null hypothesis that there is no relationship between climate change and border walls and am led to look further into the relationship with further, future studies.

Data Presentations

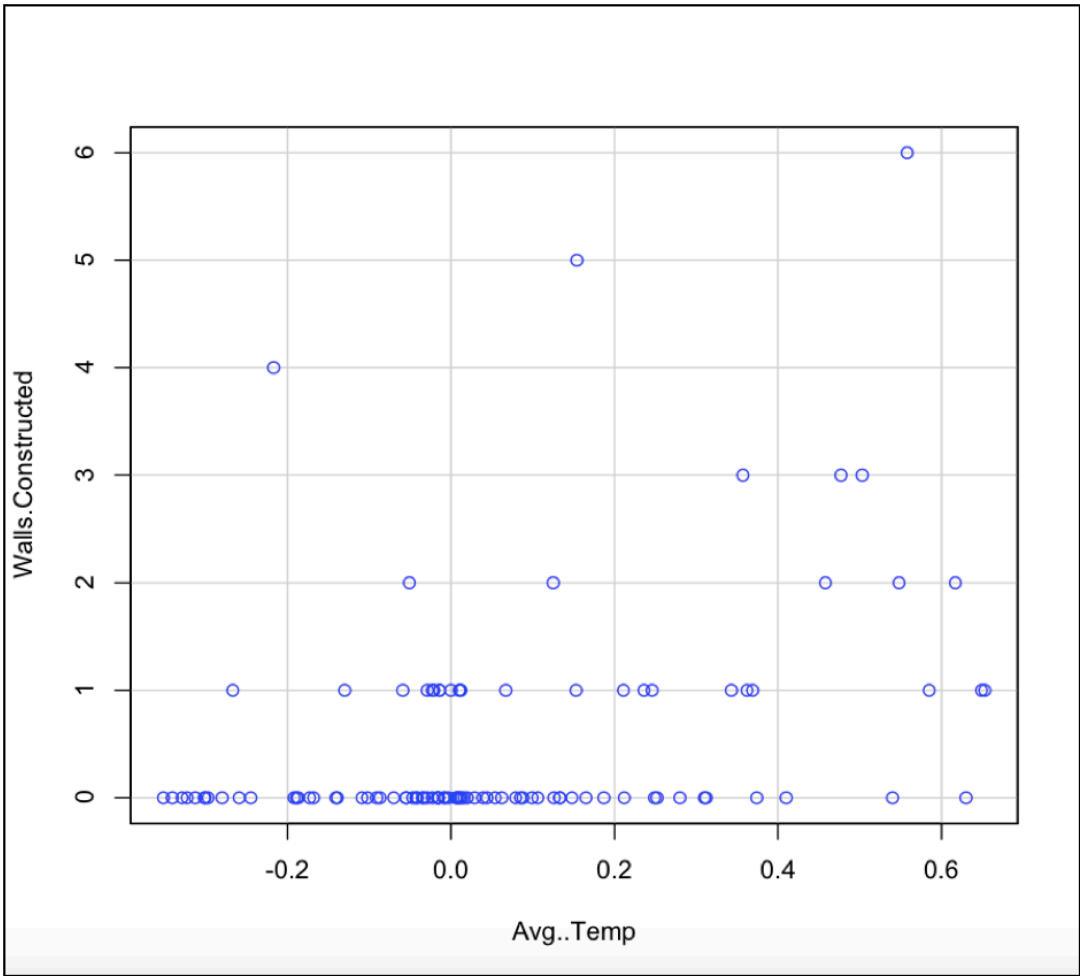
Image 1. R Commander Linear Regression Results.

```
Residuals:
    Min      1Q  Median      3Q     Max
-1.4829 -0.5018 -0.2927  0.1711  4.6366

Coefficients:
            Estimate Std. Error t value  Pr(>|t|)
(Intercept)   0.4371     0.0988   4.424 0.0000241 ***
Avg..Temp     1.6600     0.3919   4.236 0.0000496 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.9796 on 103 degrees of freedom
  (10 observations deleted due to missingness)
Multiple R-squared:  0.1484, Adjusted R-squared:  0.1401
F-statistic: 17.94 on 1 and 103 DF,  p-value: 0.0000496
```

Image 2. Scatterplot of Linear Regression Results, where GMST falls on the x-axis and wall instances fall on the y-axis.



Discussion

On first glance, there appears to be a meaningful relationship between climatological factors as represented by the GMST alone and year-wise occurrences of border wall constructions. Specifically, where GMST averages have been higher for ten years prior to wall construction, there does indeed seem to be an increase in wall prevalence.

Simply put, it appears that there is a relationship between climate change and border walls. Several detractions, however, may present themselves as confounding variables, where the interconnection between climate and border walls is concerned:

1. Border walls appear to have a relationship not only to GMST, but to years where global war instances were higher (World Wars I, II, and the recent increase in military actions). Where the earth system is a sensitive and responsive system, war instances alone may have the potential to affect GMST, which may thus confound, or complicate, the relationship between climate and border walls
2. Where border walls have been shown, somewhat consistently, to respond primarily to economic factors, other economic variables may be at work on the relationship between climate and border walls—specifically, such non-climatological factors as income and class disparity, immiseration, unemployment, and dispossession. These factors themselves may respond to climate, which thus mediate the relationship between climate and border wall prevalence; complicating and mitigating what might appear, on first glance, to be a 1:1 relationship.

Overall, however, the results of the present study have been compelling enough to move me into future stages of investigation on the relationship between climatological fluctuation and border wall construction. Specifically, as the field of Political Ecology—a growing field which

moves political science into a connected and holistic relationship with the field of ecology—continue to grow in an epoch of climate change, studies which show—or even suggest—the nested, correlational, and causal connections between politics and ecology are of the utmost importance to the field. I have been pleasantly surprised by the results of the present study yet remain both cautious and skeptical to draw any generalized, sweeping sentiments regarding any sort of causal relationship between climate and political action—between climate change and border walls.

For the political ecologist, border walls present a fruitful opportunity for research. While many studies exist on both the scope and scale of border fortifications, relatively little has been said as to *why* border walls exist; on the complex and interconnected climatological-political factors leading to their creation. As border walls continue to be built and fortified in an increasingly unstable and climatologically volatile world, they provide researchers with fruitful opportunities to draw connections between protectionist political practices and environmental degradations. Further, they hold to potential to draw connections between cutting-edge national defensive planning and geospheric-biospheric change.

Border walls in an era of increasing climatological change, rampant biodiversity loss, habitat fragmentations, and a growing geopolitical instability offer Political Ecologists a unique opportunity to enact radical theory in both a descriptive and a new (*i.e.*, a neo-socialized) normative sense. Political Ecology thus stands uniquely poised in the 21st century. Where a socialized-communized response to climate change would include not only an acceptance of climate refugees, but a sharing of common-pool resources with both an underprivileged and a subaltern dispossessed, as well as a deconstruction of the walls meant to separate us; a siege response to climate change can only accentuate capitalism's interest in the perpetuation of

inequality, class society, walled borders, and resource hoarding. Where border walls may at first appear insignificant, they are, potentially, *key* indicators of dynamic climatological change and severity.

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@realdonaldtrump. "The Wall is the Wall, it has never changed or evolved from the first day I conceived of it. Parts will be, of necessity, see through and it was never intended to be built in areas where there is natural protection such as mountains, wastelands or tough rivers or water…." Twitter, January 18, 2018, 03:15 a.m. Accessed at: twitter.com/realDonaldTrump/status/953948941674078208.

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