

THE POVERTY OF

METABOLIC
RIFT

THEORY

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How does metabolic rift analysis measure up when applied to both contemporary and historical problems of the built environment; specifically the phenomenon of militarized, imperial borders and border walls?

INTRODUCTION

A border wall is the fragmentation—a socioecological divide by design—of a once-continuous space; it is a partition, a disruption, and a geographical limit imposed upon a landscape by either economic or political pressures. A wall is also a powerful symbol of division, often cropping up where irreparable rifts in the 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 *economy*.¹ The noted border wall researchers and political scientists David Carter and Paul Poast observed that, “[t]erritorial disputes are not consistently found to be a factor pushing states to build walls.”² 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.”³ Further, political scientists Ron Hassner and Jason Wittenberg also argued 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.”⁴

Border walls—never a product of nature, but a human artificiality imposed upon it—are a product of, and a response to, human economic interests; and thus, by default, political interests.

Where large-scale resource depletions⁵ and economic instabilities are *de rigueur* for both capitalist production and a rapidly-increasing global environmental change, there could the future economic and security interests of affluent states only take on increasingly protectionist characteristics. And if border walls respond primarily to economic pressures, then the economic instabilities caused by global environmental change could only increase the prevalence, frequency, scale, and scope of border fortifications. 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.

In a climatologically, geopolitically, and epidemiologically unstable world, border walls—asymmetrical fortifications built-up along the national borders of states—are being constructed at an ever-accelerating rate.⁶ Between the years 1800 and 2014, for example, there have been at least sixty-two unique instances of border wall constructions—with a full *twenty-eight* having been constructed since the year 2000 alone.⁷ The proliferation of border fortifications follows closely along the trajectory of environmental instability; an increase in the latter seems to correlate with an increase in the

former. And in an increasingly unstable and resource-deficient world, the border walls of affluent and powerful nations act, increasingly, as concrete manifestations of Garrett Hardin's *lifeboat ethics*⁸—where, to ensure their survival under circumstances of resource scarcity, the rich and the powerful act, in self-interest, to shore themselves up against the poor in an effort to protect not only their resources but their sociopolitical homogeneities and hegemonies as well.

As capitalist production continues to drive wealth disparities and resource depletions, climatological and environmental changes will only exacerbate such disparities and depletions—swelling the ranks of the poor with the newly-dispossessed and the landless.

While the predictions regarding exactly how many people will be displaced by global environmental change are “fraught with numerous methodological problems and caveats,”⁹ agencies such as the Environmental Justice Founda-

tion (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.”¹⁰ 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.”¹¹ In light of these growing dispossessed and displaced populations, the response of the wealthy capitalist states—such as the United States—will not be to welcome the growing numbers of climate refugees with open arms; the response of capitalist nations will not be internationalist, humanitarian, and communistic in nature. Rather, it will be protectionist and Malthusian—characterized by a “fundamental meanness”¹² of strategy and fascistic protectionism.

THE NECESSITY OF METABOLIC RIFT THEORY FOR BUILT-ENVIRONMENT ANALYSES

As previously noted, 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 dimensions¹³ 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 build, produce, and reproduce their material existence, they change the earth in ways that become destructive to the earth system itself. As capitalist production now progresses world-historically, unfettered and essentially unchallenged by any oppositional economies, the earth 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.”¹⁴ If we, from a scientific lens of Marxism-Leninism, are to struggle for—and win—a truly equitable and sustainable future, then we must, under the economic regulation of a state apparatus guided by the people, curtail and 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 monopolizes the production and reproduction of the material existence of the human species. To do so, and to continue to address the profound landlessness, exclusionary border militarizations, and the forced dispos-

sessions now underway, we must deeply understand the *mechanisms* by which capitalist production has profoundly “disturb[ed] the metabolic interaction between man and earth”¹⁵; where capitalist socioeconomy, in an act of fundamental self-destruction, “produces conditions that provoke an irreparable rift in the interdependent process of social metabolism, a metabolism prescribed by the natural laws of life itself.”¹⁶ However, as Marx himself 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* 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.”¹⁷

In other words, it is not the human social metabolism itself which is in need of under-

standing, 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—as compared to other metabolic forms, and tied tightly to not only 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, exemplified by the built environment and hateful divisions, but between active human social life and the *physical earth as well*; a rift which is at once material and ideological—producing an alienation of ecological, economical, and social import.

Yet focusing on the rift alone—devoid of an historico-ecological understanding—will not provide for us a complete picture where the rifted separation of humanity and land is concerned. To do so, we need to conceptualize rift as a specific moment in the dialectic of humanity and land, historically-situated and endemic to the unique methods and means of production through which a group, a polity, or a state enacts its material existence; its mode of production through which it both produces and reproduces itself. It is my contention that what has come to be known as *Metabolic Rift Theory*—as currently developed through the work of John Bellamy Foster, Kohei Saito, Ian Angus, and others—is, at present, an *inadequate* theoretical framework through which political eco-



logical analyses or critiques may take place, precisely due to the fact that it is, as presently enacted and isolated from the larger body of extant Marxist-Leninist theory, both an ahistorical and an undialectical framework.

In the pages that follow, I focus on the problem that, where the built environment is concerned, Metabolic Rift Theory is inadequately applied to *historical* social metabolism in such a way that it ignores not only the dialectic of world-historical economical fluctuation, but climatological fluctuation as well. In short, Metabolic Rift Theory is, as a fruitful political ecological application of Marx's work, not yet fully articulated. My humble efforts in this article are, primarily, to lend my own voice towards a fuller articulation of Metabolic Rift Theory (MRT) in an attempt to further develop the explanatory, descriptive, and normative potentials of MRT for the Marxist-Leninist spheres of political ecology: for *practical* communistic applications of environmental political science and environmental political theory.

Through a lens of both dialectical and historical materialism, I aim to focus, specifically, on the conceptual relationship between MRT, social metabolism, and the economical theories of centralization and decentralization—of empire and feudalism—as well as the specific ways in which such a relationship manifests itself not only in history, but on the landscape in terms of the built environment. I will also consider the dialectical theory at the heart of MRT in an effort to more fully explain the dialectical and world-historical (*Weltgeschichtlich*) character of MRT itself. Thus, I hope to more fully articu-

late the necessity and political ecological applicability of Metabolic Rift Theory as a theoretical framework in its own right.

SOCIAL METABOLISM

The concept of social metabolism, in both the socio-ecological and the historical materialist sense, is an implicitly material process, and one which is enacted by all species-beings in their autopoietic and self-productive activity. The philosopher Kohei Saito captured the definition of social metabolism well, by noting that: “All living creatures must go through constant interaction with their environment if they are to live upon this planet. The totality of these incessant processes creates not a static but an open-ended dynamic process of nature.”¹⁸ The political scientist John Bellamy Foster—one of the leading contemporary contributors to Metabolic Rift Theory in the modern era—also noted that:

"Marx therefore employed the concept [of metabolism] both to refer to the actual metabolic interaction between nature and society through human labor [...] and in a wider sense (particularly in the *Grundrisse*) to describe the complex, dynamic, interdependent set of needs and relations brought into being and constantly reproduced in alienated form under capitalism, and the question of human freedom it raised—all of which could be seen as being connected to the way in which the human metabolism with nature was expressed through the concrete organization of human labor. The concept of metabolism thus took on both a spe-

cific ecological meaning and a wider social meaning."¹⁹

For Marx himself, however, metabolism was defined as:

"a process between man and nature, a process by which man, through his own actions, mediates, regulates, and controls the metabolism between himself and nature [...] Through this movement he acts upon external nature and changes it, and in this way he simultaneously changes his own nature."²⁰

From the materialist position, for physical life to exist at all, there must a *metabolic* interaction occur: a species-being, or a species, must break down physical matter, nourish and build itself up, and produce waste.²¹ Humanity, like all species, subsists and persists by way of a metabolism with the earth. Metabolism is, for our purposes and in the socio-ecological sense, the breaking down and the building up of physical matter for the sustenance of physical life. From the Ancient Greek, the word "metabolism" itself derives from *metabállō*, which translates simply as "change," or "to change." The word may further be broken down to *meta*, meaning "beyond" or "above," and *bállō*, meaning "throw"—thus in its original sense, denoting a "change by throwing," impacted by an outside force, or a force beyond simply autonomy.

In its fullest sense, we might conceptualize metabolism as the implicit transformative quality of matter itself; a material, autopoietic process in which all living things are engaged continually for the sake of their own existence

and reproduction. For our purposes, the changing, or the transformation of matter, is implied by the concept of metabolism. For an organism to maintain an existential longevity qua species, a delicate and dynamic balance between itself and the environment—between life and the earth, biota and abiota, species and world—must be struck; the biosphere *in toto* being one complex and delicate dance of balance between life and the inorganic earth, a true dialectic of opposites and contradictions subsumed as a unity.

Social metabolism—the circulation of matter and material for the production and reproduction of human species-existence—was, for Marx, not an idea *in abstracto a priori*; it was not an idea first crafted and then laid upon humanity, thus forcing humanity to fit the mold of an ungrounded idea-structure. Rather, it was one which was abstracted directly from the social and economic perceptions of the environmental interactions of humanity itself; one which was grounded upon a material recognition of the dialectical and ecological identity between organism and environment. "The German word '*Stoffwechsel*,'" John Bellamy Foster noted, "directly sets out in its elements the notion of 'material exchange' that underlies the notion of structured processes of biological growth and decay captured in the term 'metabolism.'"²² Such a conception was also, for Marx, implicitly dialectical: a "unity and struggle of opposites."²³ The striving towards a healthy dialectical and sustainable metabolism between the human species and the earth was thus, for Marx, a central focus of communism

—a theory which “differs from all previous movements in that it overturns the basis of all earlier relations of production ... [and which] turns existing conditions into conditions of unity.”²⁴

METABOLIC RIFT

As Ashley Dawson noted in *Extinction: A Radical History*, capitalist production, as a complex system of productive, distributive, and social relationships, “depends on continuous commodification of [the] environment to sustain its growth,”²⁵ and, in the process, consumes “entire ecosystems.”²⁶

For Marx, such a system could only be predicated upon a broken, rifted metabolism; a metabolism where resources were—and are—consumed faster than they are replenished; a system which has, through the outcomes of its metabolic practices, rifted humanity from a sustainable interactionism with the earth; and a system which, left unchecked, promised to not

only dispossess great swaths of humanity through resource depletion and climate change, but also to make inhospitable the world for life itself.

The *rift* of capitalist metabolism followed, for Marx, along two primary lines:

1. it had “concentrated the historical motive power of society”²⁷ away from the manors to the towns, thus creating the sociopolitical conditions for a new hierarchical stratification, with the emergent bourgeoisies on top; and
2. it “disturb[ed] the metabolic interaction between man and earth, i.e. it prevent[ed] the return to the soil of its constituent elements consumed by man in the form of food and clothing.”²⁸

Where the rise of capitalist production had, for Marx, driven the disparity between town and country—where early Enclosure and Commons legislations had purposefully rifted a once-feudal humanity from the land itself, moving populations from the country into towns by way of enclosures, clearings, and economic incentivizations—here we might find the strongest historical evidence for the ways in which capitalist production not only relies upon the forced relocation and division of subaltern and indigenous populations, but that capitalist production itself also relies upon purposeful social rifts.

On the one hand, as Marx noted in the *Grundrisse*, 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.”²⁹ 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.”³⁰ However, on the other hand, as Marx further noted in the *Grundrisse*, capitalist production deprived the feudal subject of “nature worship, [...] complacent, encrusted, satisfactions of present needs, and reproductions of [the] old ways of life.”³¹ Andreas Malm, in *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*, noted that, for example, prior to capitalist industrialization England was:

“an archetypal organic economy, where the farmers fetched whatever they needed from the land: food, fodder for the animals—some sheared, some slaughtered, some employed as beasts of burden—furniture, building materials, originally even fuel for the fires: everything came from the fields and the forests. [...] A growing [bourgeoisie] sector could continue to grow only if it seized a larger slice of the pie from another. Within the tight energy budget of the organic economy, where all activities jostled for access to the same finite area of photosynthetic productivity, the process of growth could not possibly become universal or self-sustaining: sooner rather than later, it would peter out.”³²

Where the upswing of capitalism entailed a tearing-down of the previous structures of land, ownership, and society—as well as the removal of prior feudal boundaries—there also did the ossification and eventual downswing of capitalism eventually rebuild a new increasingly decentralized and (re)feudal structures. Here, the return to a decentralized mode of organization and production—an economic phenomenon known as feudalization—refers not to a replication of feudalism, but a resemblance: the decentralization of heretofore centralized economic modes, and the splitting up of what was once amalgamated, congealed, and homogeneous.

Prior to capitalist industrialization, the metabolism of humanity and the earth system was in a state of better ecological health; the dialectic of humanity and land itself was, for a time, not as destructive as it is today. However, the dialectical conception does not imply a stat-



ic interaction; it is a dynamic of interactionism and change relying upon multiple inputs and outputs. Thus, following the logic of a system driven by profit and accumulation at all cost, the world as-it-is lay dormant within that late feudal/early capitalist epoch.

RIFT AND THE ECOLOGICAL IDENTITY

For Marx, the theory of the irreparable rift of capitalist production rested upon a nuanced conceptualization of the *tensioned* ecological unity of humanity and land—of species and environment—and the entangled, dialectical interactionism thereof. Such a conceptualization was both world-historical and dialectical in nature, in that it rested upon the following six premises of historical materialism:

1. The dynamic world entails contradiction
2. Increasing evolutionary complexity emerges from intrinsic ecological contradiction, and is itself, as complexity, an emergent characteristic entailed by the sublation of simplicities
3. Where complexity emerges, quantity thus transforms itself into quality, and *vice versa*. As Friedrich Engels noted, “For our purpose, we could express this by saying that in nature, in a manner exactly fixed for each individual case, qualitative changes can only occur by the quantitative addition or subtraction of matter or motion (so-called energy)”³³
4. Any perceived whole is in reality a relation of heterogeneous parts with no prior, separate ex-

istence as parts unto themselves

5. A whole may be more than the sum of its parts; conversely, the properties of parts are acquired by their relationship to the whole; however, through a lens of *alienation*, the intrinsic properties of parts confer themselves to a conceptualization of the whole

6. Parts and wholes sublate; i.e., there exists *in situ* an interpenetration of parts and wholes which ultimately reflect the ontological interpenetration of the categories of subject and object. In other words, a being, an organism, an ecological community, etc. is both a subject and an object of nature, where their evolution is concerned. An organism is a creator-creature³⁴ of its world, and organisms qua species take both an active and a passive role in their evolution over time; i.e., biological and biospheric feedback works in a two-way—dialectical—fashion. The radical historian Thomas Martin observed that, ultimately, “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.”³⁵

In essence, for Marx, the theories of both social metabolism and metabolic rift were ecological-ontological at heart; they provide for us—as Marxists-Leninists—a conceptualization of the complex and nuanced interactions between species and environment; a conceptualization which is at once radical and revolutionary, dialectical and historical. In *Karl Marx’s Ecosocialism: Capital, Nature, and the Unfinished Critique of Political Economy*, Kohei Saito observed that:

"Only a systematic analysis of Marx's theory of metabolism as an integral part of his critique of political economy can convincingly demonstrate, against the critics of his ecology, how the capitalist mode of production brings about various types of ecological problems due to its insatiable desire for capital accumulation. And why radical social change on a global scale, one that consciously constructs a cooperative, non-capitalist economic structure, is indispensable if humanity is to achieve a sustainable regulation of natural and social metabolism."³⁶

While MRT has been variously applied to the fields of ecology, political theory, geography, and sociology, its theoretical situation inside of the larger theory of social metabolism has yet to be either explored or more fully articulated. This is due to the fact that, in part, metabolic rift theorists have yet to fully incorporate the foundational dialectical framework upon which metabolic rift and social metabolism ultimately rest. And, similarly, that the theory itself retains a quasi-utopian character which ultimately disavows an actual political application by Marxist-Leninist states today. Like much academic Marxism, it believes in a Marxism yet to come, and ignores the spaces of the world in which serious political and ecological applications of Marxism are presently underway. Metabolic Rift Theory must be geared towards, and made relevant to, extant forms of socialism, if it is to be useful at all.

In the light of a robust dialectical materialist framework, Metabolic Rift Theory itself becomes historical in nature and includes not only theories of economical cyclicity, but the fluc-

tuations of climatological and environmental impacts as well. Without an explicit recognition of the dialectical, *material* nature of metabolic rift theory, any rift analysis of the built environment becomes an idealized, or an abstracted, notion—a notion which easily falls prey to the utopian imagination.

THE DIALECTIC OF NATURE AND RIFT

Marx's conception of metabolism acknowledged a dialectical interconnectedness of humanity and the earth system—an interconnectedness which provides, from a socio-ecological lens, an explanatory recognition of what Richard Levins and Richard Lewontin called "the interpenetration of parts and wholes."³⁷ If radical political ecologists—who seek to devote their efforts to the applied Marxism of extant Marxist-Leninist states—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 Marxist political philosopher—and my late mentor—Scott Warren called, in general, *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 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.”³⁸

Metabolic Rift Theory rests upon a *dialectical* conception of humanity and the earth: humanity as “creator-creature” and “species being.”⁴⁰ In *Ecology and Historical Materialism*, the political philosopher Jonathan Hughes summed up the dialectical notion well, 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.”⁴¹

In *The Dialectical Biologist*, Richard Levins and Richard Lewontin noted three pertinent dialectical premises which both underly and define the dialectical notion:

1. That, “a whole is a relation of heterogeneous parts that have no prior independent existence as parts”⁴²

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 not be more than the sum of its parts”⁴³

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”⁴⁴

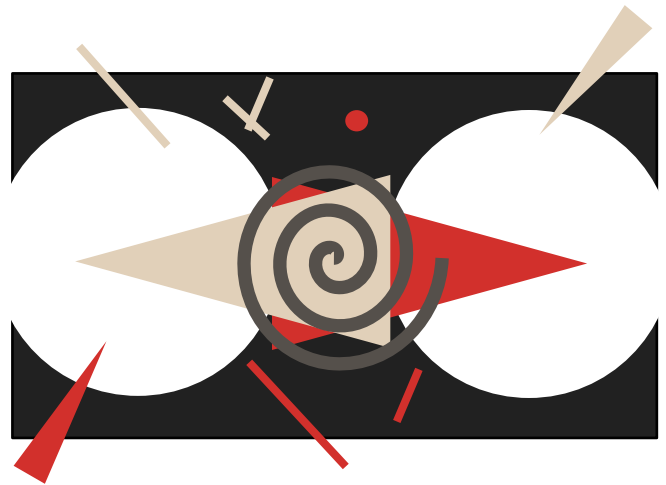
In essence, the dialectical notion rests upon a notion of *sublated interdependence*, i.e. the unity and struggle of opposites; that parts comprise a whole, that a whole is comprised of parts, and that, for a sound dialectical theoretical framework to exist at all, such a framework must rest upon a *totalized* notion. The totalizing dialectical analysis 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-interactive, and kinetic identity-opposition;

where each side both posits and informs the other over time. The dialectical notion is thus not only, at heart, an ontological assertion, but an epistemological-evaluative framework which has profound implications for any analyses which might occur on the intersection of humanity and the environment.

To fully conceptualize MRT as an extension of dialectical theory, however, we must of course return, on some level, to the philosopher Georg Wilhelm Friedrich Hegel, who, in moving forward Immanuel Kant's notion of the dyadic antagonism of opposites,⁴⁵ sought to ground such an antagonism—to sublimate such an antagonism—within an overarching *unitive* notion. In *Phenomenology of Spirit*, Hegel argued that the interconnection between opposites comprised a movement, or a motion, albeit a philosophical one, where:

"The 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."⁴⁶

And in *Elements of the Philosophy of Right*, Hegel also noted that, "The two sides [i.e. subjectivity and objectivity] must be distinguished—each as independent [*für sich*]⁴⁷—and posited as identical." The dialectical notion itself—the nuanced, progressive, and dynamic sublation of opposites—is thus one which at once acknowledges both the *part* and the *whole*; avoiding the problematic reduction of one into the other. And in this regard, it is neither reductive-ideal-



ist nor reductive-materialist in nature, but begins from—and moves forward—the complex and nuanced presentation of reality itself: the dialectical interaction—the two-way causation—of part and whole, species and environment, human and world. Philosopher Borna Radnik, in his essay “Hegel on the Double Movement of *Aufhebung*,” explained that:

"The 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* (*gedoppelte Bewegung*), where the cause determines the effect, and the effect determines the cause."⁴⁸

However, 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 ascend from earth to heaven.”⁴⁹ For Marx, the dialectic could only ever be a dialectic grounded upon materialism; but not *reduced* to materialism. Thus, the dialectic is not simply a reductive materialist analysis which posits a one-way

material causation, but a two-way, interactional-causative analytical framework; one which is superior to either a reductive positivism/materialism or a reductive constructivism/idealism in that it both straddles and sublates both positions into a grander, and more nuanced, theoretical framework.

In their 1948 article “The Unity of Opposites: The Dialectical Principle,” V.J. McGill and W.T. Parry added historiographical and philosophical nuance to the dialectical notion by noting that, “The unity of opposites, which Lenin described as the most important of the dialectical principles, states that a thing is determined by its internal opposites,” and that:

“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.”⁵⁰

McGill and Parry further noted six important postulates of the dialectical principle—equally important as corollary postulates to MRT as well:

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”⁵¹
2. “Polar opposites are identical”⁵²
3. “A concrete thing or process is a unity of opposite determinations”⁵³
4. “A concrete system or process is simultaneously determined by oppositely directed forces, movements, tendencies, i.e., directed

toward A and -A”⁵⁴

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”⁵⁵

6. “In any concrete continuum, there is a stretch where something is both A and -A”⁵⁶

In so many words, Metabolic Rift Theory and the dialectical notion at its heart sit outside of—and transcend, even—the postulates of formal and symbolic logic. They require a dialectical logic which, although obscured by history, flourished in the writings of such Soviet thinkers as Evald Ilyenkov, who, in his *Dialectical Logic*, observed that: “in 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 practised methods.”⁵⁷ A fuller articulation of MRT must thus include a rehabilitation of and a return to the dialectic if it is to withstand any level of scrutiny.

FEUDALISM AND THE ECOLOGICAL-ECONOMICAL CYCLES OF METABOLISM

Metabolic rift, if it is to be a thing which is both analyzable and solvable by Marxist-Leninist political ecology, must be historical. That is, it must be an historical phenomenon to which we

can point; not an abstract idea with no grounding in the great marches of time. But where and when does rift occur? And when we look to analyze border fortifications, and their implications for not only the built environment but for the imperial state as well, how might we begin to understand the interconnection of walls, rifts, and historical social metabolisms *qua* modes of production? It is my contention here that metabolic rift is, both conceptually and historically, a *moment* in the political-metabolic dialectic of imperialization and (re)feudalization; a moment specific to the transitional period between modes of production, where the political-economic characteristics of emergent feudalisms and imperialisms progress of-and-from each other, dialectically, over time. It is thus a recurring phenomenon and not one simply endemic to capitalist production alone. As an historical phenomenon, metabolic rift must by necessity both follow and prefigure history. Where empire and feudalism progress throughout history—central and decentral periods negating each other in a series of movements over time—there, too, might we witness the moment of metabolic rift as symbolic such a negation: as a moment in the dialectic of imperial and feudal economy, and as a herald of things to come.

Feudalism itself, in the European sense, as both an historical economic epoch and a sociopolitical *quality* (*qua* feudalization), emerged around the economy of manorialism: where the socioeconomic dialectic of fiefdom and vassalage—complicated biopower relationships of property, legality, and responsibility—prevailed. In

Land, Law, and Lordship in Anglo-Norman England, legal historian John Hudson noted that, “Lordship 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.”⁵⁸ 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.”⁵⁹ The manorial system, as the obscure but impactful Marxist economist John Trout Rader observed: “surrounded by small farms, formed the economic core around which the social regime of feudalism was established. Evidently, the strictest form of the system predominated in France and West Germany. The system was unique in Europe and indeed in the world.”⁶⁰

According to Rader, the major distinguishing features of an economic manorial feudalism were as follows:

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. otherwise, a system of free individual agriculture, except that some labor was bound to the land,
4. a level of technique which was above that of the latifundia system which the manor replaced.”⁶¹

Further, Rader claimed, “The manorial system

[could only] be sustained only under a relatively egalitarian regime. Otherwise, one must organize elaborate institutions for the exploitation of labor.”⁶² Where the economics of feudalism were built around hierarchical reciprocity—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 metabolism of capitalist production—its rifted and separated practices? Here we must return to the dialectical notion, but a dialectic of empire and fief, of refeudalization and imperialization.

Simply put, the momentum of feudalism represents a building-up from decentralization to centralization; violent consolidation paving the way for an emergent imperialism which represents the pinnacle of centralization, where, to feed ever-growing economic appetites, resources and environments are quickly outstripped—thus leading to a *rift* in the

imperial metabolism which itself prefigures a progressive return to both collapse and refeudalization.

FEUDALIZATION AND IMPERIALIZATION

In *The Economics of Feudalism*, Rader summed up his conception of the cyclical-dialectical political movement between empire and feudalization well, by stating that:

"An 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 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' ages reigns."⁶³

Further, Rader noted that:

"Only 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."⁶⁴

There were, and are, according to Rader, three methods by which an end to the imperial cycle of rift and refeudalization may occur. Such attempts represent only the historical ways in which *imperial* polities have acted to maintain political, social, and economic equilibriums.

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,"⁶⁵

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,"⁶⁶

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."⁶⁷

The last two methods, Rader noted, were employed by the feudalisms of northwestern Eu-

rope, where the monastic orders and the emergent ideas of *progress* lent themselves to a social equilibrium which persisted more or less intact for the duration of the feudal period. Where such methods were employed in the maintenance of imperialization, there have been *in actu* no imperial polities which have escaped their own demise, deconstruction, and resultant feudalization of heretofore imperial territories, economies, and populations. Such failings, however, have not been due to a collapse of feudalism by way of a rifted socioeconomic metabolism—metabolic rift belonging squarely to the waning phase of imperialization, itself predicated upon an outstripping of both resource and environment—but by violent overthrow and the building up of an alternative system: a system which lay dormant in the feudal mercantile, manufacturing, and banking structures; waiting only for an historical actualization. "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."⁶⁸

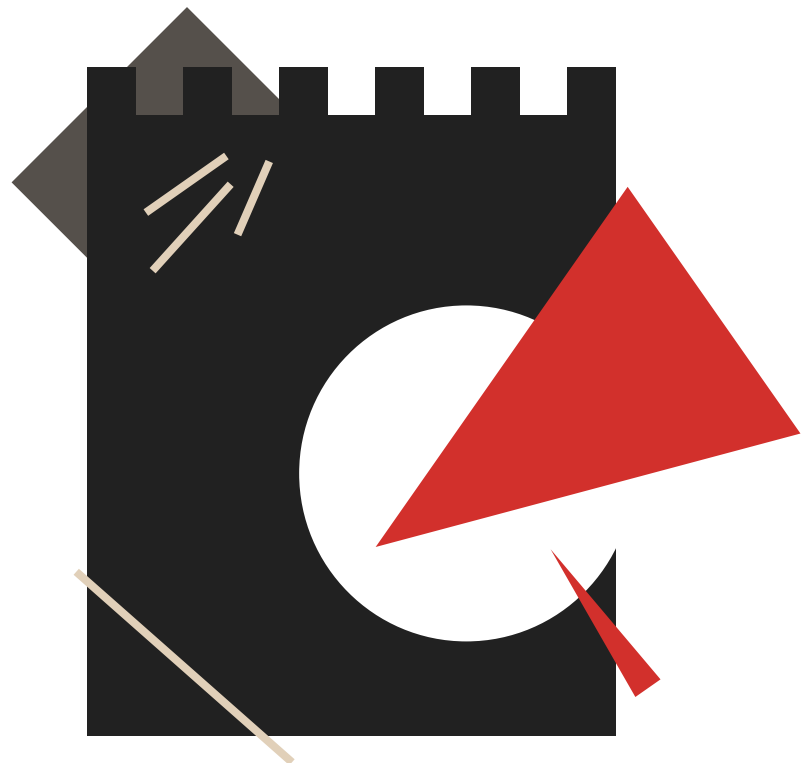
Over time, attempts at imperialization have emerged, faltered, and refeudalized. In the great historical movement of feudalism, the Merovingian and Carolingian⁶⁹ dynasties which themselves fed post-Conquest (1066) feudalism, can be seen as such attempts. "The Merovingian (466-475) and Carolingian

(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 lead by the chief bandit turned conqueror.”⁷⁰ The great decline of European feudalism proper—an era which we can circumscribe by the period between 1100 and 1500—could not have occurred but through the mechanisms built into feudalism itself: within the mercantile, manufacturing, and banking apparatuses of feudal society.

Indeed, the term *feudalism* itself only arose in the later eighteenth century⁷¹ as a retrospective designator for the post-Carolingian, pre-capitalist period of Europe’s history. Feudalism itself is a term applied with a broad brush to a set of quasi-disparate geographical and historical phenomena clustered between the years 1000 and 1600 in Europe. Thus, when discussing feudalism as a whole, care must be taken not to overgeneralize nor to apply unique geographical and cultural phenomena of one time and region to all others. Marc Bloch noted that, “It would [...] be a grave mistake to treat ‘feudal civilization’ as being all of one piece chronologically.”⁷²

Following the collapse of the Roman Empire, the withdrawal of the Roman legions from their previous seats of jurisdictional power left Europe in a tumultuous upheaval. Between the fourth and sixth centuries CE, Rome’s European hegemony faltered—leaving once-Ro-

man lands with an absence of Roman authority, legality, and political structure. Those who lived during those times, according to Bloch, “felt themselves to be living in a hateful atmosphere of disorder and violence. Feudalism was born in the midst of an infinitely troubled epoch, and in some measure it was a child of those troubles themselves.”⁷³ The decline of the hegemony of the Roman jurisdiction in Europe—the final years of the *Pax Romana*—signified, for the Western world, an end to the slave mode of production and an initiation toward the movement into a feudal mode of production; it represented a shift in how former-Roman subjects expressed their lives; a change in what and how they produced the materials required to produce and reproduce their physical lives.



However, where once stood the safety of the Roman Peace by way of legal, political, and militaristic structures which ensured the hegemony of Roman life, European former-Roman subjects now found themselves without protection in the face of increasing invasions—from Hungarian, from Norse, and from Islamic raiders. Bloch noted that:

"Forged several centuries earlier in the fiery crucible of the Germanic invasions, the new [feudal] civilization of the West, in its turn, seemed like besieged citadel [...] It was attacked from three sides at once: in the south by the devotees of Islam, Arabs or their Arabized subjects; in the east by Hungarians; and in the north by Scandinavians."⁷⁴

With no central legislative and protective authority, and with no ability for the disparate polities to band together to defend themselves against outside raids, the peoples of pre-feudal/post-Roman Europe found themselves in several centuries of precarity and uncertainty.

Over time, and as the power of the burghs and the burghers grew, the noble aristocracy found themselves increasingly indebted to them. "All through the later Middle Ages, great princes and petty lords alike were in arrears to merchants, manufacturers, and bankers," Rader observed. "As 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."⁷⁵ As economic—and thus political—power became centralized in the hands of the burghers—the emergent bourgeoisie—technological, legal, and economic

advancements flourished as well. "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 sharecropping and/or rents ultimately undermined feudal society."⁷⁶

There occurred, in the movement from feudalism to capitalism, no metabolic rift of feudal production; 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."

Where, in the transition from feudalism to capitalism—a transition which, as Claudio J. Katz noted, "can be referred back to the question of the conditions which gave rise to the ac-

cumulation of capital and facilitated it”⁷⁷—class relationships played as much a part as the forces of production, we find, simply, relationships between humans themselves; nuanced, of course, by the economic and material realities by which humanity must sustain and reproduce its existence. These relationships presuppose an interest in economic advantage. Such an interest in advantage could only have driven the movement of feudalism to capitalism, 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.”⁷⁸

With increasingly organized labor markets, an increasing capitalization of agriculture, and the resultant consolidation of class power by the bourgeoisies, 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. Rader noted that:

“the bourgeoisie and their recurrent dispossession by the robber-knights and overbearing lords, a powerful and dangerous class harbored resentment of the great injustice. Tradesmen, manufacturers, and merchants together with the peasants and more progressive lords, were worse off than they would have been if the other lords with their lands and horses were wiped off the face of the earth. Consequently, they

showed fear, respect, but no love for the great lords of the manors. In France, and in England, they supported the Reformation and the Crown; in the low countries and Switzerland, they whittled away the lords’ power.”⁷⁹

Eventually, the strategic coordination of technology, power consolidation, and industry caused the structure of feudalism to be at odds with the new, emergent economic reality⁸⁰; and, “In West Europe, this was the case during the 15th century [where it] set the stage for a class war between the landed aristocracy and urban bourgeoisie,”⁸¹ which, indeed, did come to pass during the sixteenth, seventeenth, and eighteenth centuries.

Marxism-Leninism, as political and economic policy, must mediate these great historical movements; it must manage and mitigate, through a sublated unity, decentralization *by way of* centralization. Communism is neither feudal nor imperial, but something entirely new—entirely different. Communism must be, as Marx argued, a transcendence—a *centralized decentralization* that takes into account not only the economic tendency towards historical contradiction and dialectical movement, but a people’s management of this as well.

CONCLUSION: BORDER WALLS, METABOLISM, AND MARXISM-LENINISM

Interestingly, and as previously noted in this essay, Marx wrote that capitalism tore down the feudal “barriers which hem[med] in the devel-

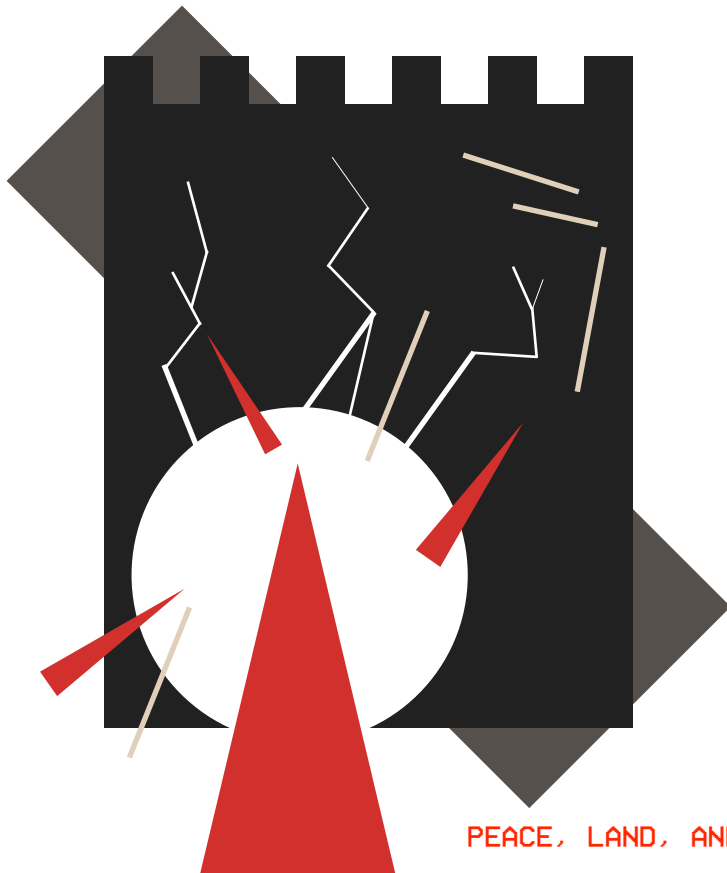
opment of forces of production, the expansion of needs, the all-sided development of production, and the exploitation and exchange of natural and mental forces.”⁸² This tearing-down, also explained how capital historically opened up the possibilities for less restricted forms of human development, production, and movement.⁸³ 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 a significant increase in border fortifications and border security, that there also can the converse be said to be true for metabolic rift’s *opposite*—what we will call, for now, *metabolic amalgamation*—prior to imperialization, and at the end of feudalization.

It is important to note that: *border 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.* Metabolic amalgamation is thus a moment in the dialectic similar to metabolic rift, but its opposite; a tearing-down as opposed to a building-up of walls; resting upon the transitional period between modes of production; upon the cusp of a movement away from decentralization. It is here that metabolic rift, and a fuller articulation of Metabolic Rift Theory take shape—in becoming historical, rift is thus seen as a moment in the enactment of a specific imperial centralization of production. Currently emerging under the dominion of capital, it is not unique to capitalist production. MRT is thus an analytical framework, but exists within a much larger conceptualization

of the ways in which political economy enacts itself in an historical fashion. And it is here that Marxist-Leninist political ecology must turn if it is to utilize MRT as a framework by which to guide policy and ecological action. Marxism-Leninism must, and will, avoid the amalgamative or rifted tendencies of the previous economic and productive epochs in the sense that the Marxist-Leninist state is not representative of a ruling minority élite, but a ruling majority. Where previously social stratifications have moved history forward as a progressive series of class struggles in which production has been endlessly centralized and then decentralized, here will the Marxist-Leninist state avoid such a pitfall through a deliberate transcendence; a centralized decentralism enacted for the purposes of sustainable longevity for both the earth and humanity—a true application of dialectical theory on an historical scale.

Consider: 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 together, and unified during the tran-

sition 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 Clearings, 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.⁸⁴ Not only is the Marxist-Leninist state well-poised to avoid these pitfalls, it solves a major problem of human history by transcending the contradiction of centralization and decentralization altogether. It is, most simply, a centralized decentralization. Under such a formation, where the failings of the imperial rift are once and for all solved, of what use are the forceful separations of populations? Where resources are equitably managed and distributed, of what use are border walls?



PEACE, LAND, AND BREAD

In the previous pages of this article, I have attempted to situate MRT world-historically: in the dialectical movement of political economies from imperial to feudal, centralized to decentralized. Metabolic rift, accordingly, thus prefigures a collapse, while feudalization and metabolic amalgamation prefigures an ever-increasing imperialization. Historically, no empire has persisted with an infinite longevity. Empires and imperial polities, fiefdoms, and the like—like organisms—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, and so on. Yet the Marxist-Leninist state is no empire nor feudal kingdom; its dominion is not imperial but egalitarian.

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. The modes of production are thus *metabolic*; but where metabolism is both recognized and factored into ecological and economic policy,

there might its pitfalls and its natural tendencies—driven by the great history of class struggle—be avoided by the state who has solved class struggle.

A collapse of capitalism, 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 such as the US will continue to engage in mitigative strategies and feedback loops aimed at the reestablishment of equilibrium. Border walls are one such fascistic strategy.

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 rift. Herein lies the crux of the true framework of MRT, 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 presenting itself as history.*⁸⁵

Such an analysis, however, is never concrete: political economic life and the inter-political class struggle for equilibrium—a maligned and Sisyphean quest for class society itself—engages in the creation of its own history. “In the end,” Göran Therborn noted in *What Does the Ruling Class Do When It Rules?*, “the history of the future cannot be written. It has to be made.”⁸⁶ MRT, to be effective, must adapt to Marxist-Leninist theory; it is a practical application of communist theory, not a utopian abstraction aimed at a future which will never come.

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 the Roman state was simply regional. Where the metabolic rift of capitalism now threatens all biota, along with many delicate biospheric 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. These efforts must be led by, and supported from the Marxist-Leninist states. Where, as the IPCC predicted, “[a]ny increase in global warming is projected to affect human health, with primarily negative consequences,” concrete action *must* be taken to bulwark and protect the present-day underclasses of the world who will in every regard disproportion-

ately suffer the impacts of such a warming, and—as unlivable wet-bulb temperatures continue to pervade the global south—will be walled off from the livable areas of the world. The global proletariat will continue to suffer, under the effects of a rifted and disastrous capitalism, “heat-related morbidity and mortality [...], ozone-related mortality [...], heatwaves in cities [...], Risks from some vector-borne diseases, such as malaria and dengue fever,”⁸⁷ and more.

The present capitalist order will, someday, degrade and collapse, and a type of reemergent feudalism will, unassailed, blossom in the ruins of a deceased and ruined US capitalism. Marxism-Leninism, and its applied political practice in the states in which it flourishes, must not only understand this, but continue to work for its mitigation. The metabolic rift of capitalist production—a logic of profit above all—not only prefigures its own demise but reveals what has always been: that it was always-already an evolved and a perfected hierarchical oppression, waiting for an historical 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 thus unveils 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—of liberty, equality, 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.

ENDNOTES

- 1 Carter and Poast 246
- 2 *Ibid.* 259
- 3 *Ibid.* 256
- 4 Hassner and Wittenberg 158
- 5 “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).
- 6 Hassner and Wittenberg 157
- 7 Carter and Poast 240
- 8 Hardin 1974, 2015
- 9 Biermann and Boas 61
- 10 http://www.europarl.europa.eu/meetdocs/2009_2014/documents/droi/dv/401_ejfoundation_/401_ejfoundation_en.pdf
- 11 *Ibid.* 2
- 12 Marx, qtd. in Foster, *Ecology Against Capitalism* 150
- 13 Watson 375
- 14 *Summary for Policymakers* 7
- 15 *Capital: Volume I* 637
- 16 *Capital: Volume III* 949
- 17 Karl Marx, *Grundrisse* 1973, 489, emphasis added
- 18 Saito 63
- 19 *Marx’s Ecology* 158
- 20 *Capital Volume I* 283
- 21 Angus 2018
- 22 *Marx’s Ecology* 157
- 23 Bitsakis 276
- 24 *The German Ideology: Parts I and III* 70.
- 25 Dawson 14
- 26 *Ibid.* 14
- 27 *Capital Volume I* 637
- 28 *Ibid.* 637
- 29 *Grundrisse* 410
- 30 Burkett 159
- 31 *Grundrisse* 410
- 32 Malm 21
- 33 <https://www.marxists.org/archive/marx/works/1883/don/ch02.htm>
- 34 Warren 69
- 35 Martin 263
- 36 Saito 99
- 37 Levins and Lewontin 274
- 38 Warren 69
- 39 *Ibid.* 69
- 40 “Alienated Labour” 126
- 41 Hughes 86
- 42 Levins and Lewontin 273
- 43 *Ibid.* 273
- 44 *Ibid.* 274

- 45 “Putting it another way, it was the tension of the struggle between opposing principles, each of which had been developed into a system claiming universal significance and recognition, that constituted the ‘natural’ state of human thought for Kant” (Ilyenkov 24).
- 46 *Phenomenology of Spirit* 25
- 47 *Elements of the Philosophy of Right* 138
- 48 Radnik 194
- 49 Marx and Engels 14
- 50 McGill and Parry 418
- 51 *Ibid.* 421
- 52 *Ibid.* 422
- 53 *Ibid.* 422
- 54 *Ibid.* 422
- 55 *Ibid.* 422
- 56 *Ibid.* 422
- 57 Ilyenkov 121
- 58 Hudson 15
- 59 *Ibid.* 1
- 60 Rader 69
- 61 *Ibid.* 69
- 62 *Ibid.* 70
- 63 *Ibid.* 56-57
- 64 *Ibid.* 57
- 65 *Ibid.* 57
- 66 *Ibid.* 57
- 67 *Ibid.* 57
- 68 *Ibid.* 128
- 69 The hereditary system endemic to feudal socioeconomy 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 71-72).
- 70 *Ibid.* 71
- 71 Stephenson 1
- 72 Bloch 60
- 73 *Ibid.* 3
- 74 Bloch 3
- 75 *Ibid.* 129
- 76 *Ibid.* 75
- 77 Katz 85
- 78 Rader 131
- 79 *Ibid.* 98-99
- 80 *Ibid.* 129
- 81 *Ibid.* 129
- 82 *Grundrisse* 410
- 83 Burkett 159
- 84 *Grundrisse* 410; Burkett 159
- 85 Therborn 272
- 86 *Ibid.* 283
- 87 *Summary for Policymakers* 11

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