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DEGROWTH LESSONS FROM CUBA

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DEGROWTH LESSONS FROM CUBA

CLAIRE BAYLER

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A Master's Paper

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ABSTRACT

DEGROWTH LESSONS FROM CUBA

CLAIRE BAYLER

Cuba is the global leader in practicing agroecology, but agroecology is just one component of a larger climate-ready socio-economic system. Degrowth economics address the need to constrain our total global metabolism to within biophysical limits, while allowing opportunity and resources for "underdeveloped" countries to rebuild themselves under new terms. Degrowth recognizes the role of overdeveloped countries in surpassing the ecological limits of our planet at the cost of wellbeing for billions of dispossessed people within and between countries. Cuba's circumstances during and following the Special Period exemplify both sides of the degrowth scenario, as well as demonstrating policy and grassroots adaptations to massive economic contraction, and potential forms/paths of "development" for the "Global South" within degrowth. This scenario demonstrates the theory and practices of 1) a catastrophic transition out of highly industrialized agriculture and 2) a path of recovery toward a dignified quality of life while under serious economic and political constraints, providing lessons for both the Global "North" and "South". This case study of a socialist country uses historical and dialectical materialism to argue that an effective degrowth transformation is encompassed by and most effectively pursued through the revolutionary socialist struggle to transform society. The analysis of Cuba's agroecological story demonstrates the significance of the following characteristics in revolutionary systems of production for achieving just standards of living for global humanity: a planned economy with the nationalization of resources and centralizing planning, and worker's democracy enacted through mass movements, organized democratic structures, and a conscious revolutionary leadership.

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DEDICATION

To the international socialist movement

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Introduction

This paper will explore the degrowth mission by analyzing key Cuban food production adaptations across household, national, and international scales. Cuba and Cuban agroecology represent one of the most fundamental case studies to the degrowth field. The Cuban case study highlights how modes of production shape politics and society, as well as concrete structures we must adopt in our drive for resilience. Cuba's history demonstrates three stages of resilient transformation: how degrowth transitions might occur, how alternative agricultural modes of production might look, and what further steps need be taken to optimize a new, resilient mode of production. However, Cuban agroecology is a product of a politically incohesive anti-imperialist movement and shows such limitations. Cuba does not currently represent a complete socialist food system due to its lack of democratic planning and its national constraints. Both politically and ecologically, it is not desirable to try to directly mimic the Cuban model in other places. However, by exploring the conditions which resulted in such a strong alternative and its particular weaknesses, we can inform both the socialist and degrowth movements of the future.

Through the case of Cuba, this paper argues that the degrowth mission is the search for the "rational ecology" which underlies the material basis of Marxist thought. Agroecology, specifically, is a nexus for emerging rational ecology. Degrowth ideas have been a historical component of the revolutionary socialist project. The degrowth movement is finding that it must challenge the current power balance if it is to occur on a sufficiently impactful scale. Marxism and the revolutionary socialist struggle are based upon empowered democracy in which people have not just the right, but the ability to pursue collectively decided goals that put people over profit, and is rooted in the unavoidably material relation of people to society to planet.

This paper seeks to provide the fields of Marxism, Marxist ecology, and degrowth with an analysis of the historical and modern conditions of Cuban agroecology in order to inform the necessary steps and mechanisms for defending and expanding ecologically rational alternatives to our crisis-ridden global food system. To do so, the first section will define and connect several disparate theoretical threads, first defining the broad mission of the degrowth movement, articulating the fundamentals of Marxist ecology, then clarifying the role of agriculture within Marxist thought and the specific question of the social role of the rural populations in a socialist revolution, also known as the *Agrarian Question*. These theoretical pieces define the framework through which the

material history of Cuba, through the lens of agriculture, or humanity's first and most material relation with nature, will be investigated. *Evolving Modes of Production* will trace the modes of production that have defined Cuban history and their associated political and ecological conditions. Historical materialism used in this fashion concretely informs the development of conditions we seek to either change, maintain, or spread. The third section draws political lessons from the Cuban Revolution that directly impacted the successes and limitations of the Cuban food system. It argues that the planned economy, using nationalization and centralized planning, was a key mechanism that enabled the growth and implementation of agroecology, but its weaknesses, due to specific political conditions, undermined both the direct ecological adaptations and the broader supporting system that the planned economy was capable of maintaining. The weaknesses of the planned economy rose out of the political conditions caused by the lack of worker's democracy. Therefore, mass movements, democratic organizations, and a revolutionary party are necessary to correct the limitations of the Cuban system and Cuban agroecology, and to defend and extend the gains into a full worker's democracy. Lastly the conclusions will reconnect the political and economic arguments to the material ecological condition from which they arise, in order to point degrowth activists towards the socialist project and to clarify the ecological direction of the socialist project.

Theoretical Framework

Degrowth

Capitalism's metabolism is colliding with nine planetary boundaries - climate change, ocean acidification, stratospheric ozone depletion, disruption of the nitrogen and phosphorus cycles, global freshwater use, land use changes, biodiversity loss, aerosol loading in the atmosphere, and chemical pollution (Foster 2000). The environmental crisis is a result of the metabolic rift between the biophysical limits of the planet and the current system of production - capitalism's - voracious appetite. *Degrowth* is the exploration of structural changes necessary in global political-economic systems to combat the global environmental and human-welfare crises. Specifically, degrowth is defined as "a collective and deliberative process aimed at the equitable downscaling of the overall capacity to produce and consume and of the role of markets and commercial exchanges as a central organising principle of human lives" to

operate within the planet's ecological capacity (Schneider, Kallis, and Martinez-Alier 2010; Sekulova et al. 2013)

Degrowth explicitly targets the overdevelopment of central capitalist countries that occurred at the cost of other countries, internal disparities, and common global resources. Capitalism's emphasis on products' exchange values rather than use-values drastically increases economic throughput without meeting human need, equalizing distribution, or ensuring universal welfare. Daly (1996) argues that material throughput - that is, resource intensity - can decrease to a manageable steady-state level in which qualitative, not quantitative, improvements in the economic, social, and cultural sphere still take place. As Kallis (2011) succinctly puts it "less income but more welfare". Absolute consumption will be limited by planetary boundaries, while ensuring justice and welfare for populations who have been exploited and abused at the hands of capitalism for centuries. The goal of degrowth is to head off an abrupt, or even catastrophic, contraction of the economy due to ecological collapse (that is, production of necessary goods and services for life) by planning a smooth downshifting of the economy through collective, institutionalized changes - a "prosperous way down" (Odum and Odum 2008). Kallis (2011) proposes that "decrease of throughput variables and increase of welfare variables (or an aggregate of them) may indicate progress in the direction of sustainable degrowth." Despite being an "underdeveloped country", Cuba surpasses the welfare status and sustainability score of supposed "developed countries" (Brundenius 2009) including the U.S., and, as such, makes for a useful degrowth study (Sekulova et al. 2013; Boillat, Gerber, and Funes-Monzote 2012; Cederlöf 2016; Borowy 2013).

Marxist Ecology

Ecological literature has recently re-illuminated the foundational connection between modern ecology, degrowth, and Marxist theory (see Bellemy-Foster, O'Conner, Kovel). Marx, Engels, and other early thinkers developed their theories about capitalism and society in reference to rapidly evolving conceptions of science and ecology. Contemporary cases of capital-driven environmental exploitation highlighted, for them, the ultimately material basis for human existence on this planet and the rising conflict between human society and the environment, thus leading to the questions: *have humans always existed in conflict with their environment? What are the historical roots of these environmental crises and how can we create a new, harmonious relationship with the wider world?* - in the 1800's. Marx and Engels' deep study

of both human society and the external conditions we live in resulted in the first proposal for “sustainable development” long before modern consciousness about climate change came into play (Bellamy Foster and Clark 2016).

The critical political economy of Marx and Engels is rooted in the concept of “modes of production”, which, at its core, reflects, “the simple assumption that human societies get their means of subsistence from the environment, and the way this is obtained and divided among members of the society will, in turn, influence and shape all aspects of the society” (Haila and Levins 1992). Marxist perspectives view environmental states and processes as the product of historical material processes (*historical materialism*) and as an active participant in the ongoing dialectical ecological processes between systems and components (*dialectical materialism*). Humans and human society are one, albeit a conscious and powerful, component of that relationship. Marx describes the *labor-and-production process* as the mediating factor between humanity and nature in a dialectic, or co-evolutionary, process between the elements of labor, production, and “external means of production” (Bellamy Foster and Clark 2016). The critical relationship is the triadic, non-alienated relationship between *humanity--social metabolism--universal metabolism of nature* (Bellamy Foster and Clark 2016). For the social metabolism, or the consumption rate necessary to reproduce humanity, to remain capable of supporting humanity, neither element, humanity nor social metabolism, can become disassociated (alienated) from the biophysical realities of the planet. The planetary ecosystem facilitated the evolution of humanity and human society, but does not enable us to expand beyond those limitations to material existence.

Capitalism has thrown the social metabolism out of alignment with the universal metabolism through the universal commodification of products. Commodities are defined by and produced for their exchange-values, not use, creating wealth that becomes the new means of production in a cycle of growth that outpaces human need and the natural reproduction of resources alike. The first large-scale effect of capitalism on the social history of nature was the transformation of relations in the countryside (agriculture), the second the increased production of raw material for export on a world-wide basis that fortified and expanded old patterns of colonial trade (Haila and Levins 1992). Today, modern financial capital is additionally removed from either material investment or material production, being based in abstract forms that represent wealth, such as money, credit, and stocks, which are immaterial and thus insatiable.

Neither the *social metabolism* nor the *external means of production* are constants; the “environment” of a society is but a “historically changing

complex of variables” and as such vastly different social formations have occupied similar environmental conditions across history (Haila and Levins 1992). At the same time, a given mode of production can span many ecosystems. Human activity under modern capitalism has developed the capacity to modify the geophysical processes that “determine the basic boundary conditions of life on earth” (Haila and Levins 1992). There are social and ecological conditions unique to Cuba which shaped its trajectory leading into and out of the 1959 Revolution. Nonetheless, there are key lessons from the international movement that could have informed the challenges of the Cuban experience, as well as lessons uniquely possible under the specific Cuban circumstances which can inform any other socialist or environmentalist movement moving forward - especially on agroecology and alternative agricultures. The successful worker’s revolution is recognized to be international for a number of reasons: 1) capitalism is a global system and to be able to overthrow it in one country requires we overthrow it in all, 2) international collaboration can use one’s strengths to aid another’s weakness, and 3) materially and ecologically, society functions on a fundamentally global scale.

Marx and Engels’ ecological cases in British and Peruvian soil health were already illustrating the planetary reach of capitalist degradation (Marx 1975). The classically discussed rupture between town and country is ultimately a metabolic one. The country depletes its natural wealth (trees, soil, water, labor) for use in the towns, which are socially-organized under capitalism such that they cannot consciously return those finite extracted resources (nutrients, energy, etc.) back into the biophysical system where and as they are needed. In Marx’s time, the driving capitalist forces of the British Empire were depleting Irish soil nutrients by forcing food exports thus sparking a manufactured famine that decimated the Irish population (Magdoff, Foster, and Buttel 2000; Foster 2000). Capitalists created a global trade in South American soil nutrients (as guano) once the regional efforts to rebuild depleted English soils maxed-out continental graveyard and battlefield bone supplies. The international guano trade profited highly at the cost of local guano-dependent agriculture, Chinese slave labor, and a manufactured proxy war (Bellamy Foster and Clark 2016). Marx and Engels’ nuanced conclusions about structural environmental destruction remain absolutely relevant in the face of contemporary issues. Their work calls for a “rational ecology” between humanity and nature.

Even the concept of exchange or international trade is not inherently antithetical to a sustainable society. Exchange is still the most effective way of changing on object into another: “a system of trade allows the movement of surpluses from areas of abundance to areas of need and is therefore a large-

scale protection against even regional production disasters... though in the current system they only flow where profitable" (Haila and Levins 1992). Ecologically, trade is a material process which mediates between regions, allowing cultures to be less dependent on local conditions, and spreading means of environmental modification (Haila and Levins 1992). One of Cuba's biggest political and economic challenges has been the question of trade, limited both by the US embargo, the trade biases and ultimate collapse of the USSR, and the lack of other international worker's democracies. Long term resilience requires that a rational ecological balance be struck, which is only possible when all those affected have a voice and the primary motivation force is not raw profit.

Marxist ecology helps to clarify the specific history of environmental conditions by determining the ecological relationship between the means of production and the current forms of human society as they exist within an external material environment. In the agricultural example, affluent economies continue increasing the over-usage of agricultural inputs to cover for the declining productivity of agriculture land. However the economic conditions under which this is a viable response become stricter as the ecological crisis builds (Haila and Levins 1992). Cuba during the Special Period is one of the first concrete examples of this agricultural bubble popping economically and ecologically. Analyzing the material history subsequently aids us in shaping a transition, and a system, in which social reproduction does not preclude the reproduction of the planetary ecosystem. Thanks to the conscious human factor, " the carrying capacity of nature relative to human populations is not a constant but a historical variable" (Haila and Levins 1992).

As such, exploring the ecological legacy of semi-socialist countries such as Cuba provides valuable lessons to socialist, environmentalist, and degrowth movements. The Cuban case study has several overlapping elements: a human-oriented planned economy, an energy descent scenario, and alternative modes of production rising from dual environmental and economic crises. The Cuban case study is particularly relevant for technological degrowth - that is, alternatives to resource-intensive technological solutions - in absolute consumption reduction, and the necessary policy emphasis on a socially-embedded economy. Analysis of what Marx called the *metabolic rift* between the *universal metabolism of nature* and the *social metabolism* of a given means of production shows that capitalism is incapable of resolving environmental crises, and a new economic, political, and social system is necessary to halt, reverse, or even survive the current ecological descent (Bellamy Foster and Clark 2016). For Cuba, analyzing the socialist aspects of the state allows us to

understand: 1) the circumstances in which Cuba, aided by partial socialist elements, achieved the highest sustainability-welfare balance of any country, and 2) the weaknesses of non-worker's democracies in resolving societal crises including environmental destruction.

Why Agriculture? In Ecological and Marxist Theory

*The advance of agriculture is neither universal nor inevitable.”
(Haila and Levins 1992)*

Agriculture is the basis for the material reproduction of human society. Though technology advances and different goods become necessary to live in a given society (ex: it is not possible to function in many parts of America without a car), humans still need to consume food to reproduce both individuals and society day-to-day. Humans interact with our physical environment to obtain nutrients and energy and, in turn, impact the composition and processes of the broader environment. The human factor is unique: “characteristics acquired by natural selection made it possible for humans to establish a new, social mode of existence in which human individuals are not immediately subjected to the environment, but the relationships are mediated through social groups kept together by behavioral skills on which culture is based. With these permanent groups a new type of history started, and assessing the degree of liberation from ecological conditions reached by human societies in different historical periods” (Haila and Levins 1992). That the contradictions of Cuba's economic crisis was most profoundly felt in their agricultural capacity is no coincidence, nor that their degrowth revolution centered on food needs and led to the explosion of a materialist agroecological system. Modern food systems lie at the nexus of human biophysical need, ecological capacity, and social organization in a way that the fundamental complexities and contradictions illustrate incredibly well the nuanced connections of Marxist materialism.

The development of agriculture caused a systemic and extensive human impact on the environment (Haila and Levins 1992). Conscious decisions and actions created the new required social formations and practices to pursue sedentary agriculture (Haila and Levins 1992). Two preconditions for the current environmental crises eventually developed out of exchange: social and technological mechanisms overshadow the significance of local conditions in explaining how human populations gain subsistence (Haila and Levins 1992) and elements of nature (as goods) become reified, in that their meaning for society cannot be deduced from their natural characteristics (Ellen, 1982).

Agriculture has helped defined social organization since the transition out of hunter-gatherer cultures. Engels (2010) describes in *The Origin of the Family, Private Property and the State* how surplus was possible for the first time in human history with the advent of agriculture. The presence of surplus caused conflict over its control and eventually the rise of class society with numerous social practices, such as the oppression of women, developed to control ownership and succession of wealth created out of agricultural and labor surplus. Marx's critique of capitalist production describes how agriculture was the first point of capitalist social relations (Saito 2017; Magdoff, Foster, and Buttel 2000). Enclosure of lands cut off rural populations from the means of their own material reproduction. "Freed" laborers flooded the cities where they could only secure their survival by selling their labor. While subsistence agriculture requires the diversity of crops for qualitatively distinct uses, trade "makes crops interconvertible so that a single product can become many" (Haila and Levins 1992). The tension between exchange-values and use-values in commodity production, plus the increasing drive to expand, forces capitalism to produce without meeting people's most basic material needs. All the while, the system undermining the very conditions of production, "*the tiller and the soil*" (Marx and Engels 1988). By massively increasing the productive capacity of agriculture at the cost of the land and the laborer, modern agriculture creates the conditions, both means and demand, for its own replacement (Haila and Levins 1992).

Therefore, the ecological contradictions of agricultural production inform the remaining conditions of production, and vice versa. The dialectics of ecology remind us that society can only stray so far from material realities before conditions snap back, whether as a managed or catastrophic degrowth scenario. Agriculture, as the most fundamental labor connection between human and environment, is the clearest illustration of our place inside the ecological context. Labor organization between rural and urban in a country with fully capitalist social relations is simple - proletariat workers, capitalist owners. However, the competitive global reach of capitalism has trapped colonial countries in an in-between stage of not-fully-capitalist but no-longer-feudal. Both pre-revolutionary Russia and Cuba were such countries. The details of social organization of labor in such contexts have crucial political implications for a transition from capitalist to socialist modes of production. The Russian Revolution answered this *Agrarian Question*. The Cuban Revolution did not employ its lessons. By breaking down the social organization of agriculture prior to and following the Cuban Revolution, we can apply those lessons today

in the potential counterrevolution from the planned economy to capitalist relations anew.

The Agrarian Question

Food production and land redistribution has been a central organizing demand in all of the major socialist revolutions, from Russia to China, Spain, and Cuba. The land as the ultimate source of material reproduction plays an explicit role in Marxist thought. International theory existed that could have informed the challenges of Cuba's rural and anti-imperialist struggle from a historically-tested Marxist position, but the ideological confusion of the anti-imperialist struggle prevented the wide-scale adoption of this theoretical understanding. Lenin (1951) calls for the proletariat to carry the class struggle into the countryside as "vanguard of all the working and exploited people, as their leader in the struggle for the overthrow of the exploiters". The analysis of labor roles and social power in the *Theses on the Agrarian Question* argue that the rural peasantry cannot achieve liberation under either feudal or capitalist relations, nor can the industrial proletariat achieve their "mission of emancipating mankind from the yoke of capital and from wars" if they confine their fight to their own urban conditions (Lenin 1951).

As in Russia and Cuba, the intertwined nature of capitalism (monopolizing urban manufacturing and financial investment) and feudalism (monopolizing rural land control) prevented a national bourgeois from being strong or self-interested enough to push through the democratic revolution by which capitalism ascended to power in core countries like England. Trotsky succinctly described the situation, "the complete victory of the democratic revolution in Russia is conceivable only in the form of the dictatorship of the proletariat, leaning on the peasantry. The dictatorship of the proletariat, which would inevitably place on the order of the day not only democratic but socialistic tasks as well, would at the same time give a powerful impetus to the international socialist revolution" (Trotsky 2010). This concept of "Permanent Revolution" rested on the idea that an underdeveloped country need not pass through the same sequence of stages which brought the core capitalist countries to the brink of socialist revolution (i.e. the full development of capitalism). The political conditions for revolution are not automatically in sync with the economic preconditions for socialism. Such countries can combine the elements of both "backward" and "advanced" countries (combined and uneven development) and spring forward two steps in one - win both the democratic and socialist revolutions. There is one caveat with crucial implications for

countries like Russia and Cuba: “only the “victory of the proletariat in the [advanced countries] could protect Russia from bourgeois restoration and assure it the possibility of rounding out the establishment of socialism” (Trotsky 2010).

This concept was formulated out of the learned experiences of the Russian Revolution, especially the successful orientation to the peasantry, their class concerns and their relative social weight. However, the repeated rejection of this lesson by the main socialist organizations in Cuba shaped their revolution. Pre- and post-Revolution narratives argued that the anti-imperialist movement was carried through on the back of the peasantry, for they made the guerrilla war possible. In contrast, the *Agrarian Question* clarifies the roles of various rural classes in the proletarian revolution given the conditions of an incomplete bourgeois revolution, as in Cuba, like in Russia. As the peasantry is dispersed across the country, they must rely on the cities as key junctions. Different peasant classes (below) and various economic and ecological conditions in regions differentiate their interests, whereas the conditions of the urban proletariat converge in standardized conditions. The necessary economic links between regions are the markets and the railways, but both reside in the hands of the cities. To “tear itself away from the restrictions of the village and to generalise its own [class] interests, the peasantry inescapably falls into political dependence upon the city” (Taaffe 2000). The heterogeneous social relations amongst peasantry indicates the class they will naturally seek in political alliance (Taaffe 2000). By describing the natural inclinations of each rural class, Lenin (1951) reinforces that the peasantry cannot be the driving force to conquer power in a socialist revolution.

Three rural class constitute the majority of the rural population in capitalist countries. The agricultural proletariat, semi-proletarians, and small peasantry all stand to gain from the victory of the proletariat who would bring deliverance from the burdens of their former oppressors and material improvements to their conditions and their freedoms (Lenin 1950). As corroborated by the experiences of the Russian Revolution, these three groups are economically, socially, and culturally interested in the victory of socialism, but only capable of giving resolute support to the proletariat after winning power, after it has dealt resolutely with the big landowners and capitalists and the rural people see, in practice, the organized leadership of the revolutionary proletariat (Lenin 1951). Further peasant classes with distinct class interests include the middle peasantry and big peasantry whose interests do not seem to align immediately with those of the proletariat. The private property of the middle peasant cannot practically be abolished immediately, but this class can

be incorporated into collective production pursued "with extreme caution and only very gradually, by the force of example, without any coercion". The big peasant, similarly, is not the immediate focus of the new proletariat state unless they resist the power of working and exploited people. In contrast, the big landowners systemically exploit wage-labor and parts of the peasantry, do not themselves engage in manual labor, and are often either descended from feudal lords or are rich financial magnates: in other words, the "exploiters and parasites". "Their" lands should be confiscated immediately and unreservedly without compensation which would only be "the imposition of new tribute upon the masses of working and exploited people" (Lenin 1951).

The makeup of rural labor in underdeveloped countries like Cuba and Russia informs the transition from for-profit production under private property to communal socially-driven production. The decentralization of land distribution to the peasantry in Russia came from the country's delayed development, "it is only in relatively rare and exceptional cases that state farms have been organised on the former estates which the proletarian state runs at its own expense, converting the former wage-labourers into workers for the state and members of the Soviets, which administer the state... in the case of the advanced capitalist countries it would be correct to keep most of the big agricultural enterprises intact and to conduct them on the lines of the "state farms" in Russia....it would, however, be grossly erroneous to exaggerate or to stereotype this rule and never to permit the free grant of *part* of the land that belonged to the expropriated expropriators to the neighbouring small and sometimes middle peasants." (Lenin 1951).

It is the state of labor which determines the appropriate social organization of agriculture under the early stages of socialism and, on occasion, the seeming contradictory distribution of land to the peasantry. Cuba, trapped in an exploitive colonial relation with the US, was never allowed to resolve its feudal and rural issues. It had only a partial rural proletariat. Without the existence of "a fully developed and revolutionarily conscious rural proletariat with considerable experience of trade union and political organisation behind it" the preservation of large-scale agriculture as state farms can "only discredit the proletarian government.... the utmost caution must be exercised and the most thorough preparations made when state farms are set up" (Lenin 1951). Cuba took the state farm form without its underlying organization. Between the "united" movement of antagonistic classes in the revolution itself, and the self-defensive bureaucratic class nature of the USSR by this point in history, Cuba was predisposed to mimic the forms but not adopt the foundations of socialist organization of society. Instead, as international theory learned and taught, the

state should rather grant free use of land to those with the economic and technical basis for production at a given point in time. The worker's state must collaborate more closely with the peasantry and rural proletariat than simply granting them land, for agriculture forms the material basis of the urban proletariat and the whole of society. Most immediately, implements and stocks of the large landowners, similarly confiscated as state property, can be granted to the local peasantry after meeting the needs of the big state farms as one part of the "immediate and considerable improvement in [the] conditions [of the labouring and most exploited masses in the countryside] at the expense of the exploiters" (Lenin 1951).

More broadly, however, the reorganization of all industry along lines of large-scale collective production and on a modern technical basis (including both social and ecological knowledge) sets the conditions for a reciprocal, rift-spanning relationship between town and country, in which cities are capable of rendering radical technical and social assistance to the scattered rural populations such that it builds the material basis to boost the productivity of agricultural labor in order to meet human and urban needs (Lenin 1951). Through such relations, the proletariat can encourage small farmers through example and self-interest to voluntarily adopt large-scale, collective, and mechanized agriculture as a "free association of producers".

But the agriculture that the proletariat might encourage the small farmers to adopt is not necessarily the most industrialized or high-input possible. Degrowth can occur on an unprecedented scale when producers and consumers together have the right and capability to decide the balance to strike for a rational ecology. Capitalism has developed humanity's productive capacity as never before. Democratic control of research, production, and distribution means that members of the system can collectively choose and share appropriate technologies. Agroecological and environmental knowledge has developed in direct response to the conditions developed by capitalist hyper-resource intensity. No single person like Castro or small group like a ruling bureaucracy is capable of thinking up and implementing a revolutionary system of production. Under a worker's democracy, society will be able to unleash the full creative and productive forces of humanity to confront the issues we have inherited from capitalism and remake society as one which meets the needs and potential of the whole without inhibiting the needs and potential of the future.

Combined Framework

This work argues that the degrowth project is encompassed within the Marxist framework and the socialist struggle through the material medium of ecology. Both Marxist and degrowth theory alike is fundamentally based in the material processes between human society and the broader environment. Therefore, we can analyze degrowth through agroecology/agriculture cases as being the fundamental labor relation between humanity and nature. Humans are ecological members of the planetary system. Food is one of our most basic and necessary connections to the material world. Our continued existence relies on reconciling our metabolism with the planetary metabolism. This *rational ecology* is the stated end goal of the degrowth movement, albeit in other language. Revolutionary Marxist theory informs us how we can achieve that goal. Marxist political economy explains how the political and economic structures that emerge from this ecological foundation operate to create our current contradictions, and informs the social organization necessary for achieving non-alienated production. The Cuban food system represents our strongest empirical case of degrowth. Not coincidentally, it occurred in a country highly influenced by socialist thought, and in the agricultural sector. The following sections will trace the dialectically connected political, economic, and ecological conditions which led Cuba to develop its incredible agroecological system, and to deconstruct the remaining challenges that impede Cuba's ability to carry the agroecological revolution and degrowth movement to completion.

Evolving Modes of Production

The history of Cuba's land is a landscape history of power and the means to which production in society is dedicated. The Cuban revolution has long been called "socialist", "nationalist", "peasant", and more, in conflicting accounts of this complex and multi-tendency event. The Marxist influences underscored the political nature of social relations, production, and the ends to which society marshals its resources. The following material history describes the trajectory of agricultural industrialization and deindustrialization, evolving political conditions, and the subsequent rise of alternative organizational, technical, ecological, and potentially revolutionary forms of agricultural production.

Pre-Columbian (Pre-1492)

Cuba's pre-Columbian inhabitants consisted of several hunter-gatherer and fishing cultures, the *Guanahatabeyes*, the *Ciboneyes*, and the *Taino* (Wright 2012). Hunter-gatherers lived in pre-class societies because the inability to preserve or overproduce resources prevented surplus from becoming a point of contention and the basis for oppression of one group by another (Engels 2010). Cuba's organized agricultural history starts 1500 years ago with the production of indigenous species still present today, including maize, cassava, sweet potato, squash, beans, peanuts, guayaba, guanabana, and pineapple cultivated by settled farmers (Wright 2012). These farmers used practical forms of agroecology including polycultures, nitrogen fixing, and slash-and-burn cultivation (Rosset 1994; Wright 2012). Though crops still have specific seasons, continuous year-round cultivation is possible in Cuba due to the tropical climate, which impacts the seasonality, productivity, and biodiversity of agriculture. The productivity of modern small-scale farmers and their consistent contribution to household food needs is bolstered by this ecological context. The remnants of indigenous practices that survived European colonization merged with the farming techniques of American migrants, African slaves, and European settlers to create a hybrid adapted to the natural conditions of the island at relatively low levels of technology. Today, this hybrid serves as the basis for "indigenous" Cuban knowledge (Funes et al. 2002; Rosset 1994).

Colonial (1492 - 1902)

Following the genocide of the indigenous population, land was rapidly redistributed to Spanish settlers in the form of sugarcane plantations and large-scale cattle ranches (*latifundios*), which voraciously consumed local resources and imported slave labor (Wright 2012). Latifundium were the Roman rural slave estates which shaped patterns of agriculture across Europe and were accordingly exported to colonial holdings like Cuba, via the European powers (Haila and Levins 1992). Cuba's colonization by Spain had two key characteristics: the first being Spain's exportation of the *latifundios* model, and the second being Cuba's role in facilitating the preconditions for industrialization, created by the consolidation and global expansion of commercial empires like Spain in the 16th century (Haila and Levins 1992). The resultant increase in the volumes of trade, and thus the significance of markets, combined with socio-political upheavals in Western European states, provided

the conditions for early industrialization. Bulk trade facilitated monoculture agriculture, revived for the first time since the Romans by the Portuguese in the 15th century and rapidly exported to the West Indies (Haila and Levins 1992). Thus, the consolidation of world capitalism in the 1500's led to rapid, but regionalized, changes in environment, and the slave-driven plantation economies pursued extensive destruction of Caribbean habitat for the sake of the world economy (Haila and Levins 1992). The local flora and fauna of the Neo-European colony ecologies were decimated by the species imported by colonizers and eventually modified beyond recognition (Haila and Levins 1992).

The colonial mode of production evolved from feudal export exploitation to capitalist export orientation. Capitalism enabled the displacement of local resources at a new level. African slave labor on pan-American plantations built the material wealth of the capitalist system. Up until the 1700's, the majority of plantation labor consisted of African slaves, but following abolition, their labor was augmented by Mexican and Chinese workers. Post-slavery social relations of production crossed the whole range of rural classes described by Lenin in his *Theses on the Agrarian Question*. Each distinct laborer population brought new practices to the local agriculture based on their culture and knowledge of the agricultural process (Wright 2012). Class interests diverged early between *latifundio* owners who produced sugarcane for cash-export and "small and medium-scale crop-based systems and farmers" who produced the domestic food supply (Wright 2012).

Agroecologies remained relatively stable from the 1500's - 1700's. Differences were class and scale-based, rather than technological. Laborers were allowed to intercrop beans, peanuts, and other species in the sugarcane fields of medium to large-scale farms as partial payment for, and a means to minimize, activities like weeding (Funes et al. 2002). Intercropping contributed to the greater degree of biodiversity and domestic food production characteristic of early sugarcane years. The gap between growing methods of large and small-scale producers appeared in the 1800's due to capital-facilitated consolidation and mechanization. Large scale, industrial, exchange-earning agriculture was perceived as modern and superior while domestic production and low-input methods were ideologically relegated to the realm of rural poverty. During this period, neither the exploitation of land nor labor could be characterized as sustainable, but the rate of degradation and the ability to temporarily fill labor and resource gaps makes this period relatively less crisis-ridden than modern conditions. Metabolic rifts in production widened with the increasing export of crops and nutrients out of the island ecosystem. However,

metabolic rifts are not solely the result of improving technology, but also the underlying social organization of production in tandem.

U.S. Imperialism (1902 - 1958)

The major defining feature of the Cuban political economy following independence from Spain was the weakness of class-based institutions (Tennant 2000). Cuba demonstrated little characteristic blatantly-antagonistic class relationships between national social groups. Bourgeois democracy was incredible weak. Tennant explores how "this peculiar characteristic not only sowed the seeds for the formation of Bonapartist-type regimes, both pre- and post-1959, but promoted the growth of a powerful official Communist Party which was willing to conclude opportunist agreements with various authoritarian political leaders in order to advance its own interests against those of both the national bourgeoisie and the working class" (2000). The social organization of production had, as always, profound impacts on the local political trajectory which would ultimately shape the Revolution of 1959. "Independent" Cuba was born as a "virtual appendage" to the US economy. The native bourgeoisie was fatally weakened by Spain's "rule-or-ruin" policy. Cuba was already structured to be dominated by the Spanish Empire, and, following the costly war of independence, was left open US finance. American investors bought up the most developed sectors before a national economy or national capitalist class could consolidate (Tennant 2000). That no native capitalist class could crystalize would prevent a national bourgeoisie from establishing strong institutions to promote its own class rule and defend its national integrity from US imperialism. This situation highly resembled the conditions of Russia in the 1910's (Tennant 2000). However, the working class in Cuba continued to emerge thanks to US industrial development of the two main export sectors - tobacco and sugar (Tennant 2000). The weak development of class-based institutions served to increase political confusion. Was the revolution to be an anti-imperialist struggle? To put Cuba on an equal footing in the capitalist world market? To free the working class and the peasantry from the tyranny of capitalist exploitation? Who interests aligned and whose conflicted? To what degree could different political groupings work in unity and whose interests were simply too antagonistic?

U.S. imperialism reinforced the dominance of extractive industrial agriculture. The U.S. was the center of modern capitalism and the predominant military-imperialist power following World War II. De-facto control of state policy and a constant military presence in Cuba protected American investors'

interests in agricultural, economic, and military sectors (Cisneros 2012). American monopolies dominated urban and rural spaces. The US held 90% of shares in the telephone and electric services, approximately 50% in public services, and about 40% in raw sugar (Taaffe 2000). A small group of US investors gained control of the main sugarcane plantations, 13 of which produced 70% of the country's total sugar output (Wright 2012). Competition consolidated land ownership and reduced the previously 90,000 small diverse farms to just 38,130 small-scale operations exhibiting a variety of class characteristics (Funes et al. 2002). Access to land for small-scale farms became increasingly precarious: tenancy, sub-tenancy, share-cropping, and "land administration" prevailed over full ownership rights as land was increasingly commodified (Funes et al. 2002; Wright 2012). Between the trade agreements and direct American control of their key enterprises, Cuba was compelled to concentrate on the sugar cash crop and continued to suffer a negative trade flow.

Additionally, 70% of Cuba's food imports came from the United States, including products which could be favorably produced (Cisneros 2012). By 1946, the preponderance of sugar, cattle, and rice production overshadowed extremely low records of vegetable production, while tilting dietary preferences towards heavy starches, high sugar contents, and meat consumption (Funes et al. 2002). American domination of national agriculture ended practices of intercropping and self-provisioning plots on plantations (Funes et al. 2002). A blind trust in the power of technology attempted to erase local ecologies and human-ecological relations. Traditional ecological knowledge persisted in the subsistence sector, made up predominately of *campesinos*, or peasants, who survived alongside high-output industrial agriculture by maximizing the productivity of small plots through low-input methods. Areas unsuitable for intensive monoculture techniques, such as highland agroforestry systems, also maintained alternative production methods (Funes et al. 2002). Production remained a "mix of semi-feudal remnants with capitalistic practices" (Funes et al. 2002). Haila and Levins (1992) notes how, ecologically, the pressures to increase productivity while reducing labor led to practices like the "burning of sugar cane before harvest [which] put so much ash into the Cuban atmosphere that it provoked increased rainfall just when this was least desirable because it interfered with the transport of cut cane to the mills". Capitalist agriculture undermined the material and labor capacity for production in Cuba, as elsewhere, to serve American and British markets. Small-scale farming exhibited minimal chemical, mechanical, and irrigation usage, similar to methods modern alternative agriculturalists would re-adopt (Wright 2012).

These conditions of unresolved rural exploitation put land rights, fair land use, and food sovereignty issues at the forefront of revolutionary consciousness.

By 1958, over 200,000 Cuban families lacked access to land. 35% of the population suffered nutritional deficiencies while 4 million hectares on *latifundios* remained uncultivated (Funes et al. 2002; Wright 2012). Rural development was non-existent outside of the mechanization of the *latifundios*. With sugarcane monoculture accounting for 75% of export earnings, the national economy felt every price fluctuation on the world market. Domestic food production was sidelined so as to allocate more land to sugarcane production. Sugar cane workers were either direct rural proletariat or peasants who owned/leased land with set contracts with the sugar mills (Martínez Alier 1977). Mirroring national trends, the cost of living continuously rose out of proportion with wages, which were artificially suppressed by the dictatorships on behalf of international investors (Cushion 2016). Production was notoriously inefficient under the quota system, which incentivized overproduction of sugar cane amongst farmers, who were then forced to destroy the leftover crop the sugar mills would not process after meeting the national quota (Martínez Alier 1977). Conditions in the sugar industry inspired continuous labor organizing in the 1930's - 1950's which kept the country in constant unrest, and prevented any of the administrations from consolidating sufficient power (Cushion 2016). Dockworkers, rail workers, and farm workers showed great rank-and-file solidarity across the sugar industry which enabled local struggles to reach national scales (Cushion 2016). This organizing across both rural and urban proletarian spaces created the revolutionary conditions for 1959. But, despite their narrative role in the revolution, traditional farmers' knowledge and lifestyles were not positively integrated into production until the extraordinary circumstances of the Special Period.

The Cuban Revolution

Cuba's historical trajectory is only coherent when considered in the context of its global relations. The "socialist" island is a product a "peculiar combination of circumstances" (Taaffe 2000) shaped by massive forces of colonialism and imperialism in close geographic proximity. The Cuban revolutionary leadership, dominated by Fidel Castro, adopted socialist ideologies to the extent that socialist demands inspired the Cuban masses to rise up against the escalating pressures from U.S. capitalism, and forced the leadership to embrace some principles, through not the democratic organizational foundations, of Marxism (Cushion 2016). These theoretical and organizational

gaps explain the tension between wide-spread welfare gains under the Revolutionary regime and the enduring lack of democracy. As Cuba once surpassed the limitations of capitalism by overthrowing the national system, so must a worker's democracy organize today to surpass the limitations of the current bureaucracy.

Colonial and semi-colonial countries occupy a particular role. Their underdevelopment has a combined character - their "primitive" economic forms of labor organization are combined with the "last word" in capitalist technology and culture. As such, the political strivings of the proletariat in these countries are the struggle for the "most elementary achievements" of national independence and bourgeois democracy combined with the socialist struggle against world imperialism (Trotsky 1981). The capitalist democratic revolution breaks the feudal social form by distributing land to the peasants, securing national freedom from the stranglehold of foreign economic and political domination, and developing industry along modern lines (Taaffe 2000). The socialist revolution overthrows the tyranny of private property and class society. Therefore, the central tasks of the colonial world are the *agrarian revolution* or liquidation of feudal heritages, and *national independence* as the overthrow of the "imperialist yoke" (Trotsky 1981). But the lack of a revolutionary party with such an understanding has frustrated the development of the socialist revolution many times, including Cuba's (Tennant 2000).

There is a crucial distinction between the political conditions for revolution and the economic preconditions for socialism. The correct perspectives and a revolutionary party can navigate their contradictions. Marxists do not pretend that it is possible to build socialism overnight in a country of poor and middle peasants, lacking independent economic unity in a predominantly pre-capitalist economy, and through a politically weak proletariat (Tennant 2000). But neither is the struggle to be considered in an isolated sense, against a world system like capitalism. Marxist internationalism draws together the colonies, which have no independent economic unity and are incapable of developing by themselves (thanks colonial exploitation) with the capitalist countries who, having leaped forward through the exploitation of the colonies, can, under socialism, turn back around and pull the underdeveloped countries up alongside them (Tennant 2000).

Cuba was classically underdeveloped, first by Spanish colonialists, then American imperialists, for the exploitation of its raw agricultural materials. Trade under both feudal and capitalist systems comes at the cost of exploiting some group, somewhere. Exchange can occur which does not exploit either labor or the environment. With layered local, regional, and global planning,

multi-scalar exchange of labor and resources can be reciprocal and part of a rationally planned human-ecological system. However, under the short sighted profit motive of capitalism, Cuba was unable to sustain such exploitive levels of production for global investors, much less meet the needs of its workers and environment. This contradiction gave rise to constant rural and urban unrest.

Che Guevara and Fidel Castro led an armed insurrection from the countryside that was tied to the widespread discontent against capitalist exploitation. Yet the sustained organizing of the urban and rural proletariat in the prior decades set the conditions in which a 200-strong guerrilla force could tip the scales against the US-backed dictatorship. In turn, the politically ambiguous grouping of the *26 of July Movement* (M26J) led to the authoritarian tendencies of the Revolutionary regime once in power. Both the M26J and the main communist party, the Popular Socialist Party (PSP), called for a broad alliance to include the "progressive national bourgeoisie" element in the anti-imperialist patriotic and democratic revolution. But Cuban capitalists were cross-invested in land, and the big landowners in industry. The movement could not push through serious land reform with the support of the Cuban capitalists. Nor were the national bourgeois capable of leading a struggle against US imperialism when it was propping up their position against the Cuban masses (Taaffe 2000). The "utter bankruptcy" of Cuban capitalism could not find a way out of the "impasse" of society, but neither could they ignore the "colossal pressure of an aroused peasantry and the working class" (Taaffe 2000).

This balance of social forces continues to affect the governance and development of Cuba today. Both of the organizations which fought for leadership of the revolution, the PSP and the M26J, attempted to combine antagonistic classes into a single anti-imperialist struggle. Neither the initial revolution, nor the eventual state, were based on the organized leadership of the working class, as called for by Marx's scientific socialism. Up until 1960, 41.6% of Cuba's population was still rural (Group 2017), split between Cuba's traditional peasantry- *campesinos*- and farm laborers. Both struggled greatly under the imperialist economy and, as demonstrated in the Russian Revolution, had the opportunity to organize and take power on an independent basis (Lenin 1951). However, the popular front approach of the main Communist Party (PSP) consistently subordinated the power of the working class to the limited program of the petty bourgeois leadership. After nearly a decade, during which the official Communist Party had led organized labor into uncritical multi-class blocs (effectively stripping the working class of an independent class voice), any sort of radical program from either the working class or petit-bourgeois anti-imperialist groups had all but vanished (Tennant 2000). Similarly, the M26J was

a broad and conflicting coalition of forces, all seeking solutions for the accumulated problems of an incomplete capitalist democratic revolution, but too diverse to explicitly reject capitalism in fear of alienating portions of its base.

Courageous decades of organizing amongst workers prevented the rolling dictatorships from consolidating sufficient power to stabilize the country at a rate of exploitation deemed desirable amongst the international bourgeoisie, in this time of global financial downturn. The revolution would not have been possible without the resistance of the working masses, yet the Cuban revolution must not be falsely characterized as a worker's revolution. The 26 of July Movement which came to power had little ideological coherency, and none of the leaders explicitly ascribed to Marxism. Guevara himself stated in October of 1960, "The principal actors of this revolution have no coherent viewpoint" (Guevara 1960). The Revolution specifically lacked a consciously worked-out programme of demands and tactics which enables the working class to coalesce and lead the transition to a system of worker's control and management, which defines socialism in the classical scientific-Marxist sense. Cuban revolutionary Carlos Franqui described the early situation: "Instead of a new society created from below by the workers, Cuba would be a society in which the workers were a productive force obedient to the dictates of those in power. The prime movers of this new society would be Fidel, ten comandantes, and the members of the old Communist party." (Franqui 1984). The masses had no control of the state machine (Franqui 1984). The officially-mandated Cuban Communist Party (CCP), in line with the traditions of Stalinism, took efforts to prevent the working class from organizing independently from both the national bourgeois and the anti-imperialist capitalists. Understanding Cuba accurately as a populist bureaucracy, rather than a democratic worker's state, allows us to understand the power and production conditions under which grassroots movements and institutional regulations emerged.

Cuba's meandering policy direction through the late 20th century exhibits precisely how "without conscious democratic control by the working class, mass discussion, a testing and retesting of plans with the necessary corrections added, even the greatest geniuses in a planned economy will inevitably make the grossest blunders" (Taaffe 2000). Cuba's food and agricultural policies highlight this trend. Unprecedented or even typical agricultural crises can emerge in a system where politicians drive technical agricultural decisions without farmer's technical expertise. The current government repeatedly annexed representative worker's organizations in an attempt to simultaneously legitimize its "socialist" nature and stifle dissent. One worker described

management as a “yo-yo system” in nationalized industries, where requests were sent upwards and decisions sent back down (Tennant 2000). Plebiscitarian politics created the image of participatory democracy, while repression ensured that no legitimate opposition to Castro’s interpretation of *la patria* and socialism would emerge (Tennant 2000). The working class retained little control over the political economy while Castro “opportunistically manipulated the weakness of independent class-based organisations to strengthen his own position as the unchallengeable Maximum Leader” (Tennant 2000).

Therefore, when the regime faced a crucial discussion about the direction and methods of the planned economy in 1960, it occurred within the context of maintaining public unity around Castro. The “Great Debate” attempted to figure out the structure of planning and the role of incentives in Cuba’s “socialist” economy – specifically to increase production rates and provide higher quality of life through increased access and consumption. Cuba needed to increase production to provide quality living standards for the long-exploited Cuban people. However, similar to the USSR, production increases were seen as desirable in of themselves, rather than to fulfill a specific social goal. Additionally, the challenge was Cuba’s status as a semi-colonial country heavily dependent on a single agricultural product and one major market with no supporting international revolution. On one side, the self-finance planning model proposed capitalist forms of competition between state-owned companies to determine production, investment and distribution. On the opposing side, the budgetary finance system denied any notion of a market existing between companies. Monetary transactions between enterprises would be replaced by a central ministry would allocated all revenues according to the conscious priorities of decision makers. The former system intended to use material incentives amongst workers to simulate production while the later advocated moral incentives in line with Guevara’s *New Man* ideas. The *New Man* concept of workers as a subjective, voluntarist lever to overcome uneven economic development reached closer to the heart of Cuba’s contradicting social organization, but because Guevara avoided any criticism of the revolutionary process as a whole, he failed to draw the link between the strategy and method of the insurrection to the lack of proletarian democracy and its associated productive advantages (Tennant 2000).

Dissent was increasingly suppressed the more autonomous political thought and organizations were stifled. The future incorporation of organizations and movements, or the creations of Ministries and their bureaucratic apparatus, would serve to integrate and deflect the power

represented in this autonomous organizing rather than the empowerment of direct democracy. The grassroots urban agriculture and agroecology movements have been institutionalized in the same manner as Castro used to channel mass revolutionary energy into formal but relatively powerless structures.

Workers' direct democratic control is exercised through layers of leadership elected up through workplace and community committees (soviets). Autonomous workers' and peasants' organization did exist in Cuba prior to the revolution. However they were not the vehicle through which state power was taken. These organizations were insufficiently dense, often misled by the PSP or other leadership's inaccurate political perspectives, and actively disassembled by both the Batista and Castro regimes (Cushion 2016). Their heroic efforts ripened the conditions for the anti-imperialist struggle in Cuba, but they were unable to be the means through which the working class overthrew the dictatorship to take over the running of society themselves. Without this organizational foundation, and the democratic training & leadership that participation in autonomous worker's organizations like soviets builds, Castro and the revolutionary leaders slid into bureaucracy.

Without mass leadership, every revolution risks descent into bureaucracy. The existing "Communist" party (PSP) exhibited Stalinist tendencies including adherence to the misconceived "Two Stages Theory", that a socialist revolution can only occur following a national capitalist revolution (Trotsky 2010). This theory, created to justify the abandonment of the international worker's revolution by Stalinist Russia, combined with the remnants of Cuba's state machine to solidify a top-down welfare-oriented state rather than a bottom-up democratic one (Taaffe 2000). Historian Maurice Zeitlin describes how "at present, despite the apparently ample participation of the workers in discussions and decisions concerning the implementation of the objectives of the national economic plan set for their plant, the workers have no role whatsoever, to my knowledge, in determining the plan itself" (Taaffe 2000). Over time, grassroots adaptations would be diffused the bureaucracy when they grew sufficiently widespread, instead of the workers initiating and controlling institutional change to further collectively-decided pursuits.

There were organizations on the ground that challenged the same revolutionary mistakes made by the PSP and the M26J. The Bolshevik-Leninist Party (PBL) split from the PSP to maintain a consistent position on the democratic class-based nature necessary to the revolution. The PBL maintained the position that the task of national liberation could only be achieved via the dictatorship of the proletariat with the support of the peasant masses and so

advanced an agrarian programme to forge that alliance: the “nationalisation without compensation of the lands, buildings, machinery and livestock of the capitalist owners, and their distribution amongst the rural poor, support for the cooperative union of peasants in order to increase agrarian production scientifically, the carrying out of a vast building programme of hygienic housing for peasant communities, reduction in the length of the working day, free health care, and the creation of rural schools and the implementation of compulsory education” (Tennant 2000). The PBL demonstrated that the intervention of Stalinism into Cuban affairs through the PSP introduced a new counter-revolutionary factor into the working class movement and that the “immediate insurrectionary perspective” favored by the M26J and many small groups was an exhausted technique which left the oppressed people unprepared and vulnerable (Tennant 2000). The PBL explicitly recognized the central task to be the “conquest of the masses through the development of an action programme which combined a struggle to liquidate the remnants of feudalism in the countryside (the agrarian revolution) with a struggle to overthrow imperialist domination (national independence), under the leadership of the proletariat” (Tennant 2000).

The trouble that arises from an insufficiently organized working class is that “without the conscious control and management by the masses themselves, the development of a new elite is inevitable” (Taaffe 2000). On top of that, a worker’s revolution faces inexorable bureaucratic degeneration so long as the revolution is globally isolated. For countries like Cuba who have been deliberately underdeveloped, their long-term survival as a worker’s democracy is dependent on the collaborative efforts of socialists and socialist countries around the world in removing, for good, the reactionary threat of capitalism and to cooperate in production, distribution, and consumption as we begin to rebuild society. But as long as the control of production remains in the hands of the bureaucratic elite, that elite will eventually become “an absolute fetter on the further development of society” (Taaffe 2009). The capitalist economy squanders massive potential, its established investments in knowledge, infrastructure, and the existing system functioning as a ball-and-chain against changing societal needs. The owners of the means of production will not yield and change the *methods* of production until the profitability of a new system would be greater than the accumulation of both short-term earnings of the existing system *plus* the cost of restructuring. A central bureaucracy can make up some of that ground by pursuing a planned economy with social priorities, but the *bureaucratic* element is still far less effective than a worker’s democracy, as the bureaucratic elite cannot let a true meritocracy

threaten their status nor the reproduction of the system that keeps their class in power. This factor would come into play in the centralized agricultural system in the 70's and 80's, when the seemingly progressive role of the state in developing industry - by adopting the agricultural techniques of the advanced countries (Taaffe 2000) - plateaued, then collapsed.

The analysis of the politics of the Cuban Revolution illuminates the role of democracy in socialism. The detailed breakdown of ideological tendencies and the "ruling ideas" which rose to power explains the course of the economic transformation of society. Clarification of one of the central contradictions of the Cuban system – the relatively high social welfare accomplishments achieved under a repressive bureaucracy – stem from the class nature of the revolution. The success of Cuban agriculture under the planned economy, and the weaknesses that now threaten it, can be explained and resolved by the reemergence of a democratic movement.

Post Revolution (1959 - 1989 ; 1989 - Present)

Cuba's circumstances following the revolution and following the Special Period exemplify both sides of the degrowth process. Despite early attempts to decentralize and diversify food production, Cuba experienced a catastrophic unplanned transition out of industrialized agriculture due to economic and ecological crises. The "means of production" discussed in the following sections references not just classic industry but the material means from which humanity derives life from the broader environment, including the role of agriculture, food access, and land rights in the socialist struggle. Because it was not possible to expropriate land from the landowning class without coming into conflict with capitalist property relations, Cuba ultimately nationalized all foreign-owned assets in cascading response to the heavy-handed imperialist tactics of the Eisenhower administration.

The new government implemented the First Agrarian Reform Law in 1960 to dismantle the *latifundios*. Foreigners and Batista-supporters were not compensated during nationalization, and American investors were specifically barred from land ownership (Wright 2012). The Second Agrarian Reform Law followed four years later, reversing the early distribution of land and creating the centralized agriculture system (Wright 2012). As Lenin describes in the *Agrarian Question*, the socialist state, even one based in democratic worker's organizations, can lack the labor and industrial capacity to move immediately to centralized agriculture, especially in such underdeveloped contexts as Russia and Cuba. Such abrupt policy reversals remain typical of the Cuban bureaucracy

as it attempts to balance the revolutionary expectations of the masses with retaining the bureaucracy's class power. Similarly, future productivity difficulties would be tied to the undemocratic birth of the state farms and other enterprises which prevented worker control and undermined collective motivation.

Though the Cuban Revolution did not succeed in establishing a worker's state, it did establish a planned economy. Cuban agriculture had to delicately balance production priorities under the conditions of the embargo. The heritage of the official Cuban Communist Party heavily impacted the perspectives and the practical relations between the "socialist" countries of the world. Favorable trade benefits through the Council for Mutual Economic Assistance (COMECON) quickly outweighed the priority of domestic diversification. One reason a successful workers revolution must be international is because the collaboration between countries at different points of development supports and expands the capabilities of all, when they are orientated towards socially-determined production. The lack of successful worker's states taking power in the developed industrial countries like Germany was one of the primary factors leading to the bureaucratic degeneration of the Soviet Union (Collins 1987). Exchange can bolster local resource access and community resilience when trade is based on product utility, but not within the profit context of global capitalism. Thus the potential for international support via collaborative production between the member states of COMECON was undermined by remaining profit-motive, both internally and externally. Similarly, the undialectical emphasis on maximizing resource intensive development, as in the U.S.S.R, was reinforced in Cuba through the PCC and trade practices.

The United States cancelled Cuba's sugar quota as one of their first retaliatory actions against the Revolution. This economic blow might have forced Cuba to turn inwards and diversify for domestic production but for the U.S.S.R.'s willingness to trade sugar and citrus fruits for cereals and other food products (Rosset 1994). Chemical and mechanical inputs, oil, manufactured goods, and technical "expertise" available through COMECON dangerously prolonged Cuba's dependence on industrial export monoculture. Cuba's efforts to achieve food sovereignty were continuously undercut by these favorable terms of trade; by the 1980's only 40% of cultivated land produced for domestic needs (Burchardt 2000). Following the economic crash in 1989, as much as 55% of the calories, 50% of the proteins, and 90% of the fats consumed in Cuba were imports (Burchardt 2000; Premat 2003).

Despite this weakness in practice, Premat (2003) argues that national food security was "explicitly central to the government's project" through

“management of agricultural land and production” and “equitable distribution of basic food products, national or imported, at affordable prices through the rationing system.” Food access, restricted by the cost of living on one side and wage issues on the other, was one primary condition for urban and rural unrest in the decades leading up to the revolution (Cushion 2016). The new government had to resolve these issues if it were to stay in power for any length of time. Despite its flaws, the ration “more than any other Cuban institution instilled in citizens the notion of national food equity while recreating the state as its guarantor” (Díaz Vázquez 2000; Premat 1998).

The ecological contradictions of resource-intensive agriculture are internalized under socialism where it is externalized under capitalism (Haila and Levins 1992). By the 1980’s the ecological, economic, and international political conditions began to show the strain. Though incomplete, widespread Marxist paradigms made Cuban workers, researchers, and ministries a more receptive place for emerging agroecology arguments about the wholeness, dynamic interconnection, and complexity of agricultural production (Haila and Levins 1992). Such groups recognized several overlapping factors: 1) that science is a social product which requires a critical outlook at what world science proclaimed as “modern”, 2) there was a new balance to be struck between declining export earnings and rising import costs, and 3) that agriculture plays a predominant role in the Cuban economy (Haila and Levins 1992). The potential for agroecology was present thanks to conditions prior to 1989 and, through the crisis, exploded into use. Agroecology’s presence in Cuba is a dialectical development.

The colloquially known “Third Agrarian Reform” that established the Basic Cooperative Production Units (UBPCs) in 1993 radically re-allocated land and production responsibilities (Febles-González et al. 2011). The UBPC law gave state land in permanent free usufruct to individuals or collectives for cultivation, extended credit and resources to collectives, and claimed to delegate management and decision-making to the workers (Febles-González et al. 2011). Most state farms, including sugar plantations, were converted to UBPCs. In the broader economic context, Castro, was applying what he considered the lessons of Lenin’s New Economic Policy, developed for similar conditions of isolated crisis, by opening up the economy to foreign investment, foreign ownership of sections of the economy, and circulation of US dollars. The regime included measures to defend healthcare and education, but massive lay-offs of workers still resulted, and measures have been insufficient to prevent the return of some of the worst aspects of life under capitalism (Taaffe 2000).

The majority of industry remains in the hands of the state, but capitalism is seeping in through the pores of the crisis-induced black market.

The organizational shift in agriculture coincided with severe shortages of oil, parts, and inputs (Febles-González et al. 2011). Nonetheless, by 2000 cooperatives were responsible for cultivating 61.3% of agricultural land (Febles-González et al. 2011). The state declared the greater crime to be for land to “go unused or be degraded without producing, while thousands of farm families who do not possess a single hectare of land are poor and hungry” (Febles-González et al. 2011). The state hoped to avoid an exodus of rural families to faltering urban centers by attracting people to agriculture that was “perfected, humanized, made more productive”, and materially and socially acknowledge the work of agriculturalists, both rural and urban (Febles-González et al. 2011). Significant numbers had already migrated into the city to pick up wage-paying jobs but maintained extensive family ties to the *campesino* world. Thus, when the Special Period crisis hit, there were partial dual structures for food production already in action and, significantly, the cultural and scientific knowledge among city dwellers with *campesino* backgrounds necessary for transplanting, expanding, and creating new productive structures in urban settings. Those new productive structures included the expansion of traditional practices such as the *patio*, the transplanting of substance production into underutilized urban spaces, and the creation of entirely new methods including *organiponicos* and formal agroecology. By 1996 private farmers and *campesinos* already accounted for 70.7% of sales, state enterprises 25.7%, CPA’s 1.9%, and UBPC’s 1.7%. These production numbers, however, fail to include *autoconsumo* (self-provisioning) that occurred in small holdings because they were “officially thought to be insignificant” (Buchmann 2009).

Cuba’s Specialty: Urban Agriculture

Current food production in Cuba does not adhere cleanly to the variety of existing labels for alternative agriculture because it is a mad mix of feudal, capitalist, state authoritarian, and emergent socialist forms. Cuba’s intriguing alternative agriculture is reviving knowledge developed under old forms of social organization, predominately indigenous and *campesino* culture, and applying to it contemporary scientific methodologies and ideals. Each venture varies in degree of radical implementation: from agroecology, urban and peri-urban agriculture (UPA), subsistence production, low-input production, to commercial, export, and industrial agriculture. Household-level urban food production especially occurs on complex spectrums of effort, methods,

knowledge, and formality that are poorly captured in either English or Spanish terminology, as, thus far, an explicitly historical materialist analysis has yet to be applied to Cuba's agriculture.

For 30 years Cuba was the only country in Latin America to have eliminated hunger through the purchase of foreign food with export income (Rosset 1994). Imported food is distributed through the ration and state-owned stores. Currently, ration quantities last 7-10 days out of the month, and remaining food needs are met at significant cost to households (Mesa-Lago 2009). The non-ration food system is complex and only partially encompassed by state policy and institutions. Intensive UPA originated as an emergency adaptation, but Cuba has an enduring tradition of *autoconsumo* and is climatically advantageous for this practice. Private markets, import stores, and restaurants are of limited access to the general population because of their relatively high prices. (Funes et al. 2002). Ironically, this situation improves Cuba's relative access to local organic produce compared to similar incomes in capitalist countries. Though Cubans spend more total income on food, *fresh local produce* is cheaper than packaged, processed, and chemically-treated foods as taxed by the effects of the embargo on import prices. State farmer's markets supply fresh produce, at well-subsidized prices, to augment the staples, such as rice, beans, and sugar, provided through the ration. Private supply-and-demand farmer's markets can be expensive, but supermarkets carry little produce. In Cuba, almost all of the subsidies, direct and indirect, that effect food production in capitalist countries are reversed. Local produce is cheaper than imported. Processed foods are more expensive than fresh ingredients. This reversal of practices challenges notions of "natural" and "innate" societal patterns. Subsidizing corporate agriculture is as political a decision as creating revolutionary socially-driven production. Enduring institutions of the planned economy, including the food ration, nationalized health-care, public education, and land redistribution have supported people through the challenging circumstances and been part of the recovery towards a dignified quality of life.

Current production methods are a perfect example of combined and uneven development. Cuba massively expanded industrial agricultural techniques using the concentrated power of the planned economy, but has subsequently revived traditional and developed agroecological methods due the changes in the material conditions of production, following the collapse of the U.S.S.R. Studying such informal and illegible cultivation is valuable for degrowth theory because it represents the seeds of the next (agricultural) revolution within the bounds of the current crisis-ridden system. *Autoconsumo* is

employed across Latin America as a remnant of past modes of small-scale and peasant production, but new science and social organizations evolving through practices like *autoconsumo* contain great potential for a revolutionary food system.

The term *autoconsumo*, or self-provisioning, refers to any form of food production that contributes to household consumption outside of formal channels. In Cuba, *autoconsumo* occurs in contrast to formal state food structures, such as the ration and import stores, private food sales, or institutionalized urban agriculture, most often represented by the *organipónico*. *Autoconsumo* can also include farming for employment, in which a private farmer cultivates for their family needs, fulfills a state quota, and is permitted to sell the surplus privately. Self-provisioning occurs in urban contexts primarily through the *patio*, or backyard, and in peri-urban and rural contexts through *campesinos* and their *vegas* or *fincas*, as farm plots are known. The soft boundaries between perceptions of active cultivation and “farming” are a distinct conception of production in comparison to those reinforced by capitalism. Production directly secures people’s own continuation, but functions as part and parcel of the daily routine, whether a household cultivates its whole diet or just supplementary portions. There is a casual normalization to directly securing your own material needs through *autoconsumo* that challenges the alienated conceptions of “work” and “living” artificially separated under capitalism. UPA similarly challenges the alienation between town and country by re-involving the urban working class in highly space- and nutrient-effective cultivation, challenges inherited conceptions of scale and spatiality that assume agriculture as rural and extensive, and brings to the forefront questions of worker-driven versus institutionally-driven production.

Today, Cubans perceive food products as having distinct spatialities (Bayler 2017). Those spatialities correlate with different scales and social organizations of production. Import stores, ration stores, state produce markets, private produce markets, and self-provisioning plots provide different types of food. Differences in supply are based on the productive needs of the crop balanced against the capabilities of existing (but diminished) production systems and the resources allocated to specified production as prioritized by centralized planning. Spatiality and capability are linked through the ecological, geographic, and climatic composition of Cuba. Food needs that can be met through local production are met in that space, while products that require extensive space, infrastructure, or other resources beyond local capacity are obtained through state production or imports. However, the causal relationship of crop production to local capacity is actually reversed when viewed in the

longer chronological context. The main of food production and distribution (meat, grains, beans, fresh produce, dairy, processed foods) prior to the Special Period occurred through state agricultural and import systems. When the capacity of these systems fell, in tandem with the USSR, people were forced to expand local production capacity, individually or collectively, to fill in the gaps.

Urban and suburban areas produce fruit and medicinals that are consumed usually within the neighborhood or borough. Peri-urban regions produce vegetables, roots and tubers, fresh pork, and fruit that is available through private sales or relational network exchanges. Food flows between provinces, either via family networks or centralized state markets, provide bulk vegetables, roots and tubers, and coffee, usually at greater quantity than private sources, but of less variety and lower quality. Nationally sourced products are honey, sugar, coffee, and milk. International imports supply the bulk of flour, chicken, milk, rice, processed foods, and ground coffee (Bayler 2017).

The Cuban state continues to distribute staples through imports and the ration network. The ration provides set quantities of rice, beans, cooking oil, sugar, matches, and other items needed and easier produced in bulk. State markets provide bananas, plantains, yucca, boniato, malanga, potatoes, bush beans, okra, and other fresh produce in open quantities at well-subsidized prices. *Autoconsumo* supplements high calorie foods with nutrient-rich ones. Space restrictions are offset by the productivity of tropical climates and space-effective tree crops. *Autoconsumo* production focuses on varieties of fruit such as avocado, bananas, plantains, mango, *mamell*, guava, *guanabana*, pineapple, papaya, and *chirimoya*. Less frequently producers invest the extra time and labor necessary to cultivate vegetables such as green onion, chard, bush bean, lettuce, radish, cabbage, tomato, spinach, okra, caballero bean, garlic, onion, *ají* pepper, cucumber, and squash.

This spatial allocation of production responsibilities is promising for resilience and degrowth planning. However, this spatiality was a mostly unintended consequence, not the intention, of state agricultural policy. The food and financial crises during the 1990's increased demand on, but decreased the ability of, the state to import all necessary quantities and varieties of food products. The state focused their purchasing on staples such as rice, milk, and flour to maximize caloric delivery and simplify the logistics of distribution under deindustrialization. Overt and hidden hunger forced most people to revive small-scale production as UPA and *autoconsumo*. Cuba's tropical climate, year-round growing season, relatively recent *campesino* migrations, and continuing

cultivation of indigenous crops facilitated the expansion of household-level food production.

Autoconsumo urban and peri-urban production is the adaptive legacy of the intensive and formalized UPA of the Special Period, combined with the prior *campesino* mode of production. As economic conditions improve, and the overwhelming pressure to produce one's own food fades, urban food production maintains its presence in more informal, illegible, and less laborious forms. Initial UPA adaptation reconciled two challenges - food shortages and economic depression. People exchanged available labor and time for food through the medium of agricultural labor. With insufficient food available through state structures, and no other existing formal food networks, people turned to intensive cultivation at individual and communal levels. Traditional low-key patio fruit and tree-crop production exploded in suburban and rural zones (Bayler 2017). The balance between production intensity and consumption needs has shifted with economic recovery and policy changes formalizing alternative mechanisms. However, UPA as *autoconsumo* has taken new forms, rather than outright disappeared. It has remained highly adaptable and enduring in different conditions across Latin America. Cuban *autoconsumo* is subject to different pressures than formalized UPA. Cuban urban farms and *organipónicos* are facing free-market threats through price competition, real-estate and agricultural land-grabbing, and tourism-orientation (Altieri 2016; Wright and Morris 2015). *Autoconsumo*, in turn, is influenced by macro-level influences that reach households directly, such as food import prices and availability, job and cash-income availability, and changes to state land and ration policies (Bayler 2017).

The mass mobilization of *campesinos*, their labor, and their knowledge facilitated the revival of low-input, traditional, climatically-appropriate agricultural methods. This movement, rather than attempting to change formal institutions, expanded a dual food network that flows through communal ties and emerging private-sale mechanisms. This occurred because the state food network was so incapacitated by the economic crisis that there simply were not the means to supply the necessary food. The dual state/communal networks overlap partially in providing fundamental, but space-effective, crops such as roots, tubers, and beans. The state recognized, institutionalized, and legitimized aspects of *campesino* production and UPA, particularly in scientific and training programs, such as animal traction (Funes et al. 2002). Certain forms of urban food production were integrated into political policy, such as *organipónicos* or pig-raising, due to their more visible impacts across larger urban populations

and spaces. *Autoconsumo* as household-level production continues to be overlooked by the state and researchers alike.

The material conditions of the Special Period forced the state to reorganize and reorientate. The state made concessions to support grassroots adaptations including redistributing the means of agricultural production - land, seeds, and tools - to the people willing to work them, through collective or usufruct rights. Additionally, people enacted these adaptations through the means of production which they already owned - most popularly the *patio* or backyard garden. Cuba saw the rise of dual structures through non-state organization of production in the agricultural, rather than industrial, sector. The dual structures represented by urban and peri-urban agriculture function predominately through family and community relations/social ties and produce for household-level sustenance. The geographic contraction necessitated by the energy descent of the Special Period forced the local organization (due to mobility limits) of the greatest point of need for day-to-day-survival (food). The scale and means of production vary in terms of social organization, from family practice to formal employment, as well as in the extent of adoption of agroecological practices. However, UPA cannot be characterized as a grassroots democratic development in the role of soviets due to the lesser extent that they represent organization of power.

That these dual structures occurred in agriculture, rather than industry, is key, because the social weight of subsistence production affects the degree to which dual food production structures represent an organized challenge to existing power structures. The urban food production movement, by acting and framing itself as a parallel, yet complementary, food network, enables people to participate without overtly challenging existing balances of power. Parallel structures have the potential to challenge formal structures. They have the potential to represent power. Russian soviets came to power in the government without bloodshed in October 1917 because they already ran the practical functioning of society (Collins 1987).

Yet the Cuban state is well aware of the role of autonomous democratic organizations. The Cuban state legalized black markets during the Special Period as one mechanism of relieving shortages. The state incorporates UPA and agroecology into formal institutions so that its expansion can complement, not challenge, state power. Capitalism similarly incorporates movements and ideas that arise from its internal contradictions. However, in both cases the system remains limited in its ability to facilitate the necessary change such groundswell represents. The ways in which the state chooses to interact with alternative agricultures shows the tension between acknowledging the Cuban

state's limitations in meeting people's material needs, allowing people to fulfill their basic needs via alternative mechanisms, and opening the country to capitalism piece by piece while retaining the narrative of "socialist" Cuba. Class contradictions are highlighted when the regime reconsiders the privatization of land before targeting the stifling bureaucracy.

Autoconsumo practice uniquely crosses class lines from the urban working class to the rural proletariat and small and medium peasantry. The social classes who employ *autoconsumo* are indeed those who Lenin (1951) identifies can organize around the soviets and working class in a worker's revolution. But, as of currently, *autoconsumo* production is a potential that is fading in power and necessity 20 years after the Special Period, rather than taking increased control over practical food production. This does not preclude the dual food system's potential future role in such a transition. The improved methodological practices maintained and expanded through agroecology is ground, once gained, that need not be lost. That knowledge can be applied to different organizational forms of production beyond its current *campesino* ties. Centralization of planning does not preclude the potential of small scale and household production to improve ecological resilience in a socialist planned economy. Dual structures act as a training ground for new systems and an active challenge to existing ones. Cuban UPA has developed necessary scientific foundations of resilient food production practices. If additional forms of social organization pick up these methods and apply them through a democratic decentralized planned economy, it would be a quite literally revolutionary new food system.

The world capitalist class is preparing for the moment when it expects the planned economy to be liquidated. Countries are maneuvering for investment and market advantages, while American industries and Wall Street are clamoring for Congress to end the embargo. Foreign companies are buying up Cuban assets because they clearly recognize that "engagement" with Cuba is the best way to undermine the isolated planned economy and "socialist" state. Castro presents pro-capitalist measures as temporary policies to save socialism. However ideology cannot be maintained indefinitely without the material base.

Cuba has reached a fork in the road. The processes of capitalist restoration will accelerate if the Castro government continues its present policies. Cuba can neither maintain its current degrowth achievements nor expand them under its current political-economic system. Capitalism cannot permit such a threat. The current scenario can be diverted, but only through the establishment of a genuine regime of workers' democracy linked to the task of carrying the socialist revolution to Latin America and the world. Such a path

could be taken through the establishment of genuine workers' councils, locally and nationally, with control and management of the economy as a whole. Representatives and officials must be elected, subject to recall by their constituents, and receive only the average wage of a skilled worker. The one-party regime is predominately justified by the threat to the revolution represented by imperialism and reactionary right-wing forces - a genuine threat, but one which cannot be averted by the sole organization of the party of the bureaucracy. All parties opposed to imperialism and fighting for the socialist planned economy should be allowed to organize, conduct propaganda, and stand candidates in elections (Taaffe 2000).

Lessons for Degrowth

Ecological irrationality is less built into socialist relations than inherited. If that is the case, it should be easier to win environmentalist battles in a socialist context. (Haila and Levins 1992)

Cuba is Levin's (1991) "practical example" actively exploring what it means to create and participate in alternative agricultures. Degrowth seeks to bring the social metabolism back inside planetary boundaries. This broadly requires reducing consumption by emphasizing use over exchange values, changing production practices including decision-making, repairing intertwined social and environmental damages, seeking justice for the oppressed masses, and building new democratic decision-making mechanisms that empower all of us who live on this planet. Degrowth looks to Cuba as the best living example of a revolutionary new system. Cuba has a complicated past with Marxist ideas, yet its successes thus far are fundamentally tied to the ideas of worker's democracy. Therefore, deeply understanding the Cuban case can guide our current efforts across the rest of the planet.

Analysis reveals that Cuba's greatest weakness and best solution is one in the same - worker's democracy. Below I will explore how the degrowth project is the socialist project, through the key elements of resource nationalization, centralized planning with decentralized production, mass movements, organized democratic structures, and conscious revolutionary leadership.

The Planned Economy: A Rational Ecology

Planned Economy

Marxists call for a "rational ecology" to constitute humanity's interactions with the broader environment. A rational ecology uses humanity's unique ability to consciously determine our material interactions with the environment, via labor and production, to control our social metabolism in line with the universal metabolism of nature. The planned economy is the primary mechanism for reconstituting society's relations to labor and environment alike. As Cuba, and the later U.S.S.R., demonstrated, a planned economy is not automatically a worker's democracy. However, the planned economy represents progress from the anarchy and overriding profit-motive of capitalism.

The planned economy of Cuba has represented concrete gains for the Cuban people that must be defended. This does not excuse the political regime of Castro and the Communist Party of Cuba from critique. But even hamstrung by a top-heavy bureaucracy, the planned economy is advantageous compared against the anarchy of capitalism (Taaffe 2000). Since imperialists were so deeply intertwined in the Cuban system, the capitalist democratic revolution could only be carried out against the resistance of capitalists nationally and internationally. Such conditions compelled Castro and the new regime to lean on the power of the Cuban masses and to go beyond the capitalist framework by nationalizing big business and establishing a planned economy (Taaffe 2000). Cuba's planned economy provided universal healthcare and education, guaranteed food rations, affordable housing, and accessible public utilities. It increased industrial production by 50% from 1959 to 1965 (Taaffe 2000). In 1975 the economic growth rate hit 9% (Taaffe 2000). Nickel has overtaken tobacco production as the second most valuable export and steel production is slated to hit about one million tons (Taaffe 2000). Given the rigors of the embargo it represents a striking achievement. But it pales in comparison to what might have been achieved by the conscious planning and empowerment of the producers themselves.

Socialism cannot exist without democracy. For a period, bureaucratic regimes can play a "relatively progressive" role in developing industry and society (Taaffe 2000). Eventually the regime swallows up more and more of the surplus, "clogs up the pores of society" and prevents it from going any further forward. The plan begins to disintegrate and the economy and society regress (Taaffe 2000). In attempting to correct its errors, the regime swings widely from one extreme to the other, causing damage on both sides. Trotsky

addressed the blunders of forced agricultural collectivization which led to mass food shortages, arguing that a "correct correlation" between industry and agriculture is impossible on the basis of a "regime of bureaucratic absolutism" because it alienates the peasantry and proletariat alike, and destroys the developing collective motivation necessary in a socialist order (Taaffe 2000).

The planned economy in Cuba was not a clean revolution in the social relations of production. The compulsion to nationalize certain industries, in the face of pressure from the United States on the right and the ignited masses on the left, preceded the development of alternative social relations represented by dual structures like *soviets*. In the 1917 Russian Revolution, the ultimate transfer of power from the Provisional Government to the Revolutionary Government occurred without significant bloodshed because the working class had already taken control of the essential running of society through widespread participation in workplace councils (Collins 1987). The democratic structures that would make up the first stage of socialist society were created through, and advanced, the struggle to win power. Thus, the nationalization of resources was preceded by the taking of state power by the mass of society. The democratization of the economy was accomplished by passing all remaining control of production to the soviets, out of which representatives of the democratic bodies of the new state were elected. Additionally, the nature of the state was revolutionized by the practical participation of the masses (up until the stringencies of the Civil War decimated said capacity). The nature of revolutionary practice and theory in Cuba prior to 1959 informed the nature of the state which resulted.

As described previously, the Cuban Revolution of 1959 was a nationalist revolution. Grassroots democratic organizations existed in the prior struggle as some independent unions, militant strike committees, Committees in Defense of the Revolution, and alternative organizations like the Cuban Bolshevik-Leninist Party (PBL). However, due to the politically confusing role of the Communist Party of Cuba and the long-standing collaborationism between the main unions' leadership and the puppet state, the independent organization of the working class was subsumed to the bourgeoisie anti-imperialist struggle. Grassroots democratic structures never took widespread control of production and, with the main bodies of workers organization being state-backed unions, mass leadership and mass participation were not explicitly developed.

The great advantages of the planned economy have been undermined by "mismanagement, tremendous waste and zigzags in economic policy" made inevitable by the lack of "planning, checking, control and initiative which is only possible through workers' democracy" (Taaffe 2000). Bureaucratic bungling has

cost the planned economy much of its greatest advantages. The waste of resources in "staggering" (Szulc 2000). In 1963, Castro accepted 1,000 tractors from the USSR to mechanize the sugar harvest of a type that were incapable of processing sugar cane (Taaffe 2000). The error was only discovered upon their arrival. These kinds of arbitrary decisions, and the production of low quality goods that result, are the inevitable result of a system in which decision makers are not subject to mass input, criticism, election, and recall (Taaffe 2000). The authoritarian position Castro occupied atop the Cuban bureaucracy made the entire national economy subject to his personal whims. Castro's "impatience led him into continuous shifts between short-, medium- and long-term planning as well as into endless improvisations. No policy was given reasonable time to succeed (or to be proved unsatisfactory), and political or visionary pressures pushed Castro into grandiose projects the economy could not possibly handle." (Szulc 2000).

Thus far, the Cuban bureaucracy has played a relatively progressive role in developing industry. The state imported the techniques of advanced countries, but this tactic creates colossal overheads. Development of industry means the parallel growth of the working class and, with it, the increasing demand for workers' democracy (Taaffe 2000). At some point in time, perhaps the current one, the bureaucratic caste will become "an absolute fetter on the further development of society" (Taaffe 2000). In Russia, the collapse of the USSR saw the reestablishment of capitalism. Cuba is slowly sliding deeper into capitalist relations every year, but the potential to turn things around still remains.

The planned economy humanizes its labor and revolutionizes its productivity by freeing the "creative intellect" of each producer. The humanization of labor reconnects our work with the most fundamental effort to reproduce and improve life - however "improve" may be qualitatively defined - while freeing the complete potential of human intellect and creativity to pursue that means. Marxism laments how no form of society thus far has freed the collective intelligence of our species. Such empowerment would allow humanity to share and codify the practical knowledge which already exists among peasants, craftspeople and workers, derived from accumulated experience, and employ it to our communal benefit. For crises we cannot yet resolve, it empowers us to use all of our resources to collectively pursue a solution.

Humanizing labor allows us to finally meet the needs of our species as a whole. The production process creates those goods we want, while the labor process is informed by the empowerment and security of workers. The planned economy under democratic worker's control is the most effective means for

accomplishing the changes deemed necessary by degrowth: meeting actual human need, re-defining what people want and need to be produced, replacing extraneous or overly-costly goods and services with appropriate alternatives, cutting waste within the production process, internalizing the environmental and social costs of current and historical production, and additional mechanisms which improve collective wellbeing while rebalancing the social metabolism. Rational agroecosystems can resolve alienation of both the environment and labor by trading the “impractical goal” of complete human control over nature with self-regulating systems where “we can get away with not controlling most of what happens and rely on the resilience, robustness, and feedbacks in the system to ensure that our needs are met” (Haila and Levins 1992). With socially-determined production, improvements in labor productivity will result in more time and leisure, not more profit. As humans are fundamentally material organisms in a material environment, the resolution of alienated of labor and external means of production are the task of a rational ecology. Agroecology is a nexus for emerging rational ecology which abandons the traditional ivory tower of science for the accumulated wisdom of agricultural laborers.

Agroecology proves a wealth of undervalued environmental knowledge already exists in the world. Humanity has been sufficiently attuned to our surroundings to be able to survive and co-evolve with our environment for millennia. Dialectics take the progress of the past and build upon it. Agroecology is the search for a “rational ecology” in agriculture spurred by repeated historical crises in food production. This scientific discipline illustrates the historically and materially dialectical relationship by adding to surviving traditional ecological knowledge the rigor of scientific analysis.

Agroecology has blossomed in Cuba’s protected space thanks to the social-orientation of Cuban production and the unintended freedom from capitalism secured by the embargo. But agroecology in Cuba today faces a moment of conflict between capitalist organization of labor and a higher socialist form of production. The widespread adoption of agroecology is incompatible with capitalism. Agroecology and degrowth elements in Cuba face worsening pressures from capitalist forces today, as the US revises its embargo policies and Raul Castro’s government increasingly privatizes the gains of the revolution. The ideological shelter that the absence of cheap US imports provided is no longer as strong a factor. While capitalism attempts to eradicate centers of agroecology, the planned economy is capable of expanding the development and implementation of agroecological knowledge on the largest scale.

Nationalization

Castro's Cuba places much of its claim to be "socialist" on the resolute rejection of capitalism demonstrated by broad nationalization efforts. Nationalization implies the state ownership and management of production. However, nationalization does not automatically imply the socialization of production, if the state is not under the democratic control of the masses. From first claiming that "for the record, [we] have no plans for the expropriation or nationalisation of foreign investments... I personally have come to feel that nationalisation is, at best, a cumbersome instrument", conditions pushed Castro to nationalize the entirety of the retail sector, from the auto mechanic shops to the sandwich and ice-cream street vendors (George 1958). The expropriation of landlordism and capitalism was carried through step by step under mass pressure.

Cuba first expropriated those industries that the imperialist countries tried to use to blackmail the new regime, that is, land, oil, utilities, and the sugar industry, all of which were dominated by US finance. The nationalization effort and the anti-imperialist struggle seemed one and the same, but required either financial compensation for expropriation or the rejection of capitalism. In a later policy zigzag, Castro moved to nationalize all small business. The government claimed that Cuba was now the "socialist country with the largest nationalised sector". But they failed to appropriately evaluate the economic conditions, and to "eliminate every small business without first of all creating the conditions whereby the state trusts are in a position to supply the goods – particularly the consumer goods – and services provided by these firms added enormously to the general scarcity of certain goods which in turn led to growing discontent" (Taaffe 2000). The campaign was intended partly to cut down the privileges of the bureaucracy, and partly to accumulate the necessary resources for industrialization and the mechanization of agriculture, but the undialectical process contradicted and undermined productive capabilities rather than accurately acknowledging them and formulating an appropriate plan (Taaffe 2000).

Degrowth requires a revolution in the productive relations of society, but they must be disrupted and reformed for a purpose. Land nationalization contributed greatly to the country's ability to adopt degrowth practices. Because the state controlled the land, they were in a position to respond rapidly to the sudden crisis in 1989. The state gave free access to people capable and willing to use land, especially any open urban space, to cultivate whatever scale of food possible. Where possible, the state aided producers with training,

seeds, traction animals, and tools. It demonstrated, in contradiction to the mass state farms of the 1960's, that nationalization was not explicitly tied to a given scale or method of production, but that these are socially determined forms. In social conditions of a reduced state, limited mobility, and few other means of accessing the necessary goods, the policy of nationalized lands was logically adapted to widespread small-scale distribution. The success of this policy was supported by the prior nationalization of supporting industries, including healthcare, utilities, and housing, which reinforced the productive capacity and relative security of households.

Centralized Planning; Decentralized Production

Despite the power of dialectics to understand this relation of human to world, researchers - subjective and inherently political creatures that we are - struggle to reconcile a Marxist planned economy with regional heterogeneity. Ecologies, especially, cannot be treated uniformly. The concept of "centralization" seems to connote "homogenization", which ecologists and geographers recognize to be too removed from the material context of people and place to function resiliently. The global spread of the Green Revolution thoroughly demonstrates the danger of a blunt top-down approach to the environment. Yet the answer to these nested spatialities lies in the democratic and organizational forms of scientific socialism:

Capitalist exploitation and one-plan command-economy are not the only alternatives. The unit of production and unit of planning are not the same. Unit of remuneration is larger than the unit of production. That is, productive units should have free space for decisions...But constraints should be set not only from the market but also from societal principles such as: first, production so that it takes care of people's demands; second, bans on dangerous production; and third, collective needs must be subsidized because they do not create the "effective demand" required according to a market economy ideal. Local production may be necessary even though it would not be equally profitable as complete division of labor among specialized regions. This is to avoid intermediate costs (transportation, storage losses both in quantity and in quality) and also to preserve production potentialities; as a hedge against uncertainty; to even the use value of products; and to ensure uniform demand of labour at all localities. (Haila and Levins 1992)

The debate around centralized planning emerges in degrowth, in part, because ecology raises a challenging question - the question of scale. The notion of scale frames one of the conceptual challenges of centralized planning, which is the dynamic between the specific and general, of concreteness and

theory. While the specifics must be worked out in practice, the nature of collaborative planning is best suited for jumping such scales. Socially-driven production rebalances the equation between costs which might seem mutually exclusive under the profit-logic of capitalism, but which can be satisfactorily arranged through a collaborative planned economy, even with the additional challenge of internalizing former externalities. Haila and Levins (1992) describe the potential layers of organized production based on the use-values of ecological systems at varying scales:

“while individual patches of crop or other activity should be small enough to allow for the advantages [of personalized labor], the whole array of patches may be quite large...The maximization of benefit for the ensemble as a whole, no matter how benefit is defined, is different from the maximization of benefit from each patch separately. But if some patches will be more productive than others, and may be devoted to less productive activities than would be possible in order to improve the whole, people deriving income from single patches of vegetation will be unequally rewarded for efforts that are equally hard...Rather, remuneration should in some way reflect the productivity of the whole set of patches. Therefore the problem of scale requires combining the advantages of detailed local adaptation with larger scale coordination. How that coordination is to be achieved cannot be settled by economic argument.” (Haila and Levins 1992)

The concept of centralization also raises the concern of authoritarianism. This concern is largely influenced by the assumption, under capitalism, that politics and economics are separate realms, and while they influence each other, democracy is for politics and “individual choice” reigns supreme in economics. Cuba does demonstrate the weaknesses of an authoritarian economy. But the workers’ state seeks to bring democracy into the economy, and so make the realms of politics and society truly democratic too.

Workers’ Democracy

The Soviet Union emerged from the October Revolution as a workers' state. State ownership of the means of production, a necessary prerequisite to socialist development, opened up the possibility of rapid growth of the productive forces. But the apparatus of the workers' state underwent a complete degeneration at the same time: it was transformed from a weapon of the working class into a weapon of bureaucratic violence against the working class and more and more a weapon for the sabotage of the country's economy. - Leon Trotsky, The Transitional Programme (The Death Agony of Capitalism and the Tasks of the Fourth International). 1938

Democratic Organizations

Layered democratic workers' organizations building up to the national and international levels start from roots in the workplace and community. Committees at each level are comprised of elected representatives subject to recall and receiving the same salary and benefits of the average representee. This layered organization enables local input, as both direct proposals and votes, to feed into centralized decision-making bodies who, having gathered input from across the region, can synthesize the needs, desires, and capabilities of localities into an overarching plan. Organizational centralization cannot be confused with geographic centralization, geographic homogenization, or authoritarianism.

These democratic organs - soviets, councils, committees in defense of the revolution - whatever they may be called, they are the training grounds for revolutionaries, the heart of the movement, and the foundation of the new state. The demand for soviets is a transitional method to create "organs of popular struggle" which demonstrate to workers and peasants their own strength and demonstrate the possibility of a different kind of society. Their formation contributes to raising the necessary consciousness for, as well as the practical training in, democratic production and democratic politics. To call for democratic organs "only at the point of the proletarian insurrection 'would only lead, as was so tragically demonstrated by the Stalinist policy in China, to the failure to organize soviets in time as the revolutionary center and instrument of workers and peasants, or else to caricature soviets after the revolutionary wave had receded'" (Tennant 2000). Despite the political weaknesses of the main Communist Party, there existed Cuban organizations building, on the ground, prior to 1959, who consistently called for the formation of democratic organs and the organized leadership of the Cuban proletariat, including the small but well-oriented Bolshevik-Leninist Party (PBL).

Marxists consistently call for soviets because only a struggle and a state based on the democratic organizations of workers, peasants, and soldiers can create the worker's state. How to democratic workplace committees become a new state? Haila and Levins (1992) highlight how "human individuals mold themselves through the very activities they get involved in." Practical action is the starting point for emancipation. Humans are tied to the actions that materially reproduce their lives, and under capitalism that reproduction is tied to highly controlling and exploitative work. We must confront those realities and reclaim them as liberating forces. Productive units form a critical link in which autonomy and consciousness develop together; equity, empowerment,

democracy, and participation are seen as imperatives that increase people's ability to act (Haila and Levins 1992).

Democracy is not pursued as an ideological principle but a material one. Popular participation is an "imperative when the political systems of the future are envisaged. There is ample evidence that things go astray if it is lacking. Participation requires that preconditions for participation be met. Popular participation is a former 'means' becoming an "end" in the era of the ecological crisis" (Haila and Levins 1992). In the Soviet Union, and later Cuba, the continued use of undemocratic and exploitive social relations of work only reinforced the alienation of labor from production. Socialism is the transition period in which people are healed from the damages of capitalism - like the very real fear of unemployment meaning death. But the development of new collective social motivation takes time, and alienation created under capitalism can persist in undemocratic alternatives as worker indifference to production (Haila and Levins 1992). Democratic organs in which workers are genuinely empowered help resolve the tensions of labor under socialism, between autonomy and organization, and security and discipline.

The Stalinist bureaucracy deliberately supported undemocratic "workers" revolutions that didn't risk inspiring their own masses to organize and rise up again in new democratic revolution. Science and technology were developed and disseminated as aid, to countries like Cuba, on that undemocratic, undialectical basis, and in a manner re-enforcing undemocratic and undialectical processes. Thus, while Cuba and the U.S.S.R. could surpass the inefficiencies of capitalist agriculture and make genuine productive gains, the bureaucracy's need to protect their class positions hampered their continued progress.

The active impediment and disassembling of worker's organizations broke the dialectical link between worker and production process, and hampered the system's ability to adapt or improve. In agricultural terms, the nationalized and centralized food system was closed to learning from worker experience or incorporating scientific and technological advances growing out of the working class. Certain groups like *campesinos* saw improved living and working conditions under the revolutionary regime. Yet their traditional knowledge was displaced by Soviet-style agronomy despite the co-evolutionary and solid scientific foundation of the farmers and their agro-environments.

The apparent conflict between socialist states and environmental sustainability directly derives from the incomplete worker's democracy. The Soviet Union is often criticized for its ecological destruction. That ecological destruction resulted from the Soviet planned economy's orientation towards the maximum rapid expansion of production. The policy decision to maximize

production at all labor and environmental costs did not derive from the collective decision of the masses. The bureaucracy reinforced this policy direction with its heavy, inflexible, and inefficient organization of planning, and deliberate suppression of the need and voices of individuals and groups (Foster 2015; Haila and Levins 1992). While destructive activities were backed by powerful ministries, concern for the environment was much more administratively diffuse without a single strong power base (Haila and Levins 1992). Environmental consciousness was suppressed alongside all popular initiatives. Thus, as the political decisions of the bureaucracy shaped society, those decisions acquired a material base (Haila and Levins 1992).

However, despite the parallels between Russia and Cuba, and their mutual interactions, we must accurately characterize each movement in its concrete conditions. Cuba, unlike the Soviet Union, was never a healthy worker's state or even a healthy worker's state with "bureaucratic deformations", but a bureaucratically deformed workers' state (Taaffe 2000). It is one task to "reform" the bureaucratic deformations of a worker's state with increased worker's control and management and the spread of the international revolution. It is another task entirely to democratize a bureaucratically deformed workers' state in which a bureaucratic caste has separated itself from the control of the masses. What becomes necessary is not a 'reform' but the "complete change of political regime which in turn requires a political revolution" (Taaffe 2000). The Soviet Union eventually reached this stage, but Cuba has been characterized so since 1959. All interactions of the state with the working class and adaptations to changing conditions must be understood in this context. So necessary development of democratic worker's organizations requires the second half of the socialist struggle - the organization of a mass movement.

Mass Movements

Marxists organize the working class because of its fundamental role in modern society. When the proletariat works, society runs. When the proletariat stops, society stops. But this power cannot be exerted on an individual basis. The collective action of any group is greater than the sum of its parts. Organizing allows us to realize collective power by bringing people together to discuss and decide and act in unity. Action at key points of society can have disproportionate effects, but the action and the broader movement still presuppose a mass nature.

Cuba demonstrates the role of mass movements in two scenarios. Degrowth studies Cuba's alternative agriculture as a movement based on the extent it reached across geographic space and demographic participation. This work discusses the political revolution as the mass class movement which informs the context in which alternative agriculture had to, could, and did emerge in a qualitatively different fashion. A mass movement is not inherently a class-based movement, much less a full-on workers' revolution, but a workers' revolution does require a mass class-based movement. Despite its political confusion, Cuba's 1959 revolution was a genuine expression of mass frustration, mass energy, and mass determination. The majority of Cuban society stood up and threw off the chains of world imperialism, shaking the foundations of global capitalism.

The common narrative of the Cuban Revolution credits 200 insurrectionaries with carrying through the political revolution. That narrative is reciprocally reinforced by the cult-of-personality maintained around Fidel Castro. The majority of organizations, from M26J to the PSP, and to some extent even the PBL, sought to sharpen the revolutionary crisis rather than to deepen the conciseness, organization amongst broad sections of the urban and rural masses. Crisis before preparation is dangerous. Socialist organization necessitates mass movements, mass leadership, and mass empowerment. Its social-orientation, which includes, through our material natures, an ecological-orientation, facilitates degrowth by enacting collective decisions. Substitutionalism, where a small group attempts to fulfill the role of the mass working class, shaped the revolutionary movement in Cuba and shapes the planned economy. Castro and the bureaucracy cannot comprehend or follow the necessary path for the planned economy in isolation from the knowledge and decisions of the working class. The mass movement of people organized through democratic committees and councils is necessary to bring workers and peasants to power in their workplaces, their sectors, and across society.

Conscious Revolutionary Leadership

"The significance of the subjective factor – the aims, the conscious method, the party – Lenin well understood and taught this to all of us... The objective prerequisites for the proletarian revolution have not only "ripened"; they have begun to get somewhat rotten. Without a socialist revolution, in the next historical period at that, a catastrophe threatens the whole culture of mankind. The turn is now to the proletariat, i.e., chiefly to its revolutionary vanguard. The historical crisis of mankind is reduced to the crisis of the revolutionary leadership. - Leon Trotsky, The Transitional Programme (The Death Agony of Capitalism and the Tasks of the Fourth International). 1938

Historians debate so heavily about the political nature of the Cuban revolution is because it was a contradictory political situation. The M26J which brought Fidel Castro to power was a deliberately ambiguous and incoherent political grouping that sought to unite the Cuban peasantry, working class, union militants, local landowners, and weak bourgeois in the anti-imperialist struggle. The movement could not take an explicit political stance without risking alienation of part of their constituency.

Their primary challenger and collaborator in the struggle for power was the Popular Socialist Party (PSP). The PSP, later to become the official Cuban Communist Party, followed the line of the Third Communist International, which degenerated into the international arm of the Stalinist bureaucracy. The primary concern of the Soviet bureaucracy was the preservation of their position against the opposing pressures of global capitalism and the potential for a true worker's revolution igniting from below. Theory and practice were thus distorted in the work of those parties that adhered to the political lines of the Third International. Such misleading perspectives can mean life-or-death for workers in the crucible of struggle. The PSP demonstrated the same abrupt policy "zig-zags" of the Soviet Union, and later the Castro regime, as the bureaucratic elite attempted to correct their political lines without the combined intellect and constant feedback of internal democratic participation. The political positions of the Third International parties had crucial effects on the development of the organizations and leadership of the proletariat and their ultimate ability to take power for a fully socialist state.

The Bolshevik-Leninist Party of Cuba split from the PSP and the Third International over the degeneration of the worker's democracy. Trotsky and the Fourth International maintained the perspective that the socialist revolution could not succeed without the international struggle (internationalism), nor was each country doomed to pass through a capitalist stage when, with international solidarity, the working class was capable of leaping two steps at once (Trotsky 2010). The PLB rejected the Soviet bureaucracy as a "'privileged caste' which had broken with the concept of 'proletarian revolution' and which had consolidated a 'Bonapartist state and an anti-proletarian dictatorship of the back of the Soviet masses'" (Tennant 2000). Rather than using the bureaucracy to delegitimize socialism, they and the Fourth International the "entrusted the gains of the October Revolution to the working class across the world" (Tennant 2000). The PBL called for the defense and expansion of these gains by the same methods which had brought the worker's democracy to power in 1917.

Tennant (2000) maps the struggles of Cuban Trotskyists to organize in a country with weak class-based institutions. Though imperialism had rendered the national bourgeoisie largely ineffectual in the aftermath of the War of Independence, the historic defeat of the 1930's revolutionary movement had also destroyed the independent working-class movement. The exceptional weakness of class formations was further exacerbated post-1935 by a Bonapartist regime that sought to co-opt elements of the various classes into a governing entente. Collaborationism between Batista and the Stalinist PCC granted the state-backed Communists power to blunt attempts to renew class-based opposition to the capitalist dictatorship. The main task of the PBL was not to stir further unrest, which harsh conditions already made inevitable, but to sharpen class consciousness so that workers could emerge victoriously this time, rather than suffer another devastating defeat. The international movement encouraged the PBL to "deepen the revolutionary ferment in even broader layers of the masses" rather than follow in the tracks of most organizations, who sought to sharpen the near-term political crisis through insurrection (Tennant 2000). Building a transitional program for immediate action in place of an abstract post-insurrection program of action would shape both the struggle and the potential regime that might emerge.

The PBL released their "consciously thought out program" in 1933. The program declared:

- For this reason, the Bolshevik Party declares the following in respect of both the agrarian and national question, and the content and aims of the agrarian revolution:
- 1. The national liberation of Cuba as a semi-colonial country can only be won through the revolutionary struggle of the proletariat which, applying the Bolshevik formula, 'draws the peasantry behind it'.*
 - 2. The peasant question cannot be underestimated by the proletarian vanguard and still less in these semi-colonial and agrarian countries. The victory of the agrarian revolution depends upon which class the peasantry follows, the proletariat or the bourgeoisie.*
 - 3. The formula issued by the leaders of the Communist Party concerning the development of the agrarian revolution, its slogans of struggle, the confusion on the question of the mechanics of state power -- in whose hands it should reside -- all this must be discarded. In its stead should be placed the slogan of the agrarian and anti-imperialist revolution under the leadership of the proletariat in alliance with the peasantry.*
 - 4. The ultimate victory of the proletarian revolution can only be won by the development and triumph of the world proletarian revolution. The Bolshevik Party therefore recognises the necessity of effectively joining our movement with the worker and peasant masses of the entire world, and specifically of the United States and Latin America.*

5. *It is necessary to take advantage of all the conjunctures in order to unite the proletariat with the peasantry, and to develop the agrarian revolution to its conclusion. If the proletariat does not secure the support of the peasant masses in advance, if it does not manage to 'draw them behind' itself, it is then utopian even to think of the victory of the revolution in Cuba.*

6. The native bourgeoisie and petit-bourgeoisie, rural as well as urban, are incapable, organically and ideologically, of leading the revolutionary struggle of the oppressed people to its ultimate end. All conciliation with these elements with respect to the specific purposes of the revolution is nothing other than treason to the workers and peasants. To hand over these forces to a petit-bourgeois leadership is to repeat consciously the betrayals in China and Mexico.

7. *The agrarian anti-imperialist revolution will not only fulfil the tasks of the bourgeois revolution (liquidation of the feudal forms of production, national liberation, agrarian revolution, etc), but must, by the very fact that the bourgeoisie is not the motor force in it and that it is carried out without the support of the bourgeoisie and against the bourgeoisie, lay the foundations from which the step can be taken to the Socialist revolution and the proletarian dictatorship.*

8. Given the character and future development of the agrarian and anti-imperialist revolution, *only the proletarian vanguard organised in a Bolshevik party can achieve the revolutionary alliance of the proletariat and peasantry, and by this accomplish the final triumph of the revolution.* The so-called Anti- Imperialist Leagues are organically and politically incapable of fulfilling these tasks, and are nothing but coarse caricatures of the revolutionary 'united front'. In their place, only the leadership of the proletariat, organised in its class party, will be capable of filling this role.

9. Finally, it is very clear to us that the victory of the agrarian anti-imperialist revolution can only be guaranteed by the proletarian dictatorship, and that this proletarian dictatorship will not appear after the revolution, but on the foundation of the revolution itself, as the only force capable of achieving the agrarian and anti-imperialist objectives.

(emphasis added) (Tennant 2000)

Before his death in 1940, Trotsky "first reiterated his central arguments with respect to the task of revolutionaries in the colonial and semi-colonial countries; namely, that the conquest of power cannot be the immediate task if the majority of the rural and urban petit-bourgeoisie does not follow the revolutionary proletarian party, and that this can be achieved only by 'a direct and open struggle against the "national" bourgeoisie and the opportunist leaders of the petit-bourgeoisie'. However, for Trotsky, soviets in general constituted the basic fighting organisation of the proletariat and those other layers of society which joined its struggle" (Tennant 2000).

The founding program of the PBL outlined the organizational structure for the party, which would serve as a foundation for the worker's and peasant councils-to-be state: "cells" with elected "Cell Committees" answerable to the members of the cells, "sections" organized in areas of high cell concentration

and "Sectional Conferences" made up of delegates from the member cells with the "Sectional Committee" to lead operations between conferences, sections grouped into districts with parallel conferences and committees, topped by the "National Congress", formed by delegations from the cells of the PBL with the "Central Committee", elected at the congress, to provide leadership between congresses. The organization is guided by the principle of democratic centralism which stipulates that following decisions taken at the conclusion of internal discussion, the minority has to act on the will of the majority. Such a program, as above, would furnish the independent organization of the working class. The independence of the working class in its struggle is key to the socialist project and one of the failures of the Cuban Revolution.

Despite the strength of their perspectives and their heroic work, the PBL was never capable of playing the necessary role of the Bolsheviks in Russia in the Cuban revolution. Although the PLB put forth correct perspectives in their program, discrepancies continuously appeared between the perspectives outlined in the party's principal programmatic documents and the practical work of the PBL's rank and file (Tennant 2000). The "slender roots" of the PBL's formal perspectives proved "too shallow to displace the traditional forms of struggle", and the "PBL as a whole failed to propose a politically independent course for the working class (Tennant 2000). As Tennant (2000) describes,

"although the Cuban Trotskyists attempted to interpret the essence of Trotsky's thought in a way which took into account the peculiarities of the Cuban context, they never consistently and unambiguously insisted on a central tenet of Trotsky's theory of Permanent Revolution, namely, the necessary proletarian nature of the anti-imperialist revolution. That is to say, they did not unequivocally view the working class through its own democratic organisations as the leader of the revolutionary process, and consequently failed to focus their attentions on forging a conscious proletarian leadership for a revolution which was carried out, not only against feudal and imperialist interests (the democratic anti-imperialist revolution), but also against capitalist relations of production...the Cuban Trotskyists' failure to make a clear differentiation between proletarian and petit-bourgeois anti-imperialist forces in the 1930s and 1940s ended up with them making increasing political concessions to Stalinism in the 1960s."

The failure to distinguish this in practice frustrated the PBL's efforts and led to declining membership. The flawed practice of rank-and-file organizing stemmed from early political heterogeneity, as the PBL initially emerged from the "Left Opposition" expelled from the PSP, rather than emerging from principled political agreement (Tennant 2000). The PBL was born a mass party rather than having to solidify shared perspectives through the process of building a grassroots organization from the ground up. This was compounded

by the self-recognized lack of a “vibrant” internal party life, that is, of constant discussion, education, and debate, resulting in a politically ill-prepared membership instead of mass leadership. Of the members who left the PBL, those who remained loyal to the revolutionary project effectively identified the M26J as another “petit-bourgeois vehicle for revolution” in line with their previous tactics, and settled into the open struggle for a democratic anti-imperialist revolution, with no attempt to build a Trotskyist vanguard party or faction to try and push the forces of petit-bourgeois nationalism gently towards socialism (Tennant 2000).

Both nationally and regionally, parties of the Fourth International struggled to remain orientated towards the social power of the working class through the mid-1900’s. After the devastating defeats of the “flower” of the proletariat in Germany, China, and Spain, and the unforeseen post-war upswing, the working class was lulled into relative political quiescence. Marxism bases itself upon the working class for its material role in production and society; the working class is the only class, organized by big industry which possesses the potential collective power and consciousness to carry through the socialist revolution. Other classes like the middle class and peasantry are too heterogeneous to collectively realize their class interests. The upper layers look towards the capitalists and the lower poorer sections tend to merge with the working class (Taaffe 2000). In the complexity of neo-colonial conditions the peasantry can play an auxiliary role in the transformation of society in alliance with the working class but the main driver remains the working class (Taaffe 2000).

The objective conditions for revolution come time and time again as each system creates both its crisis and the seeds for a new possibility. The subjective factor, that is the leadership and preparedness of the revolutionary movement, is not set in stone. So while a different political strategy might not have resulted in a proletarian anti-imperialist revolution in 1959, such an orientation might have kept a tradition of working-class political independence alive for a moment of crisis like today (Tennant 2000). As the current political leadership see no way out of the current economic crisis, they are reopening the country to capitalist social relations. As in the Soviet Union before its collapse, the only way to protect and follow through with the gains of the 1959 revolution is for the working class to organize in force again. The Russian Revolution of 1917 was carried through by the working class with the leadership of a conscious Marxist party. The revolutionary overthrow of landlordism and capitalism across the neo-colonial world after 1945 was characterized instead by the struggles of the rural masses (Taaffe 2000). The limitations of the current Cuban regime are

fundamentally tied to this characterization. But despite overly complex political “negotiations” pursued by experts and politicians, the answers to Cuba’s crisis is simple. The well-being of Cuba’s people and land is dependent on the revival of the working class’s independent movement for political strength.

Lessons from Cuba to Inform Degrowth

This paper has deconstructed both *degrowth* theory and *degrowth’s* primary empirical study – Cuban agroecology. Though a historical materialist analysis, I have argued that the degrowth project has lived within the socialist project since the early work of Marx and Engels. A study of Cuba illustrates how Marxist theory, even imperfectly applied, created a country which could withstand a catastrophic economic collapse and come out the other side with a revolutionary food system and continued commitment to human well-being. The rise of alternative agriculture as agroecology in Cuba reinforces degrowth claims that capitalism, and the system’s drive for eternal growth, are incompatible with our continued existence on this material planet. It is clear that a societal contraction back *inside* of the planetary boundaries necessitates a new production system. Cuba represents the largest transition from formerly hyper-resource-intensive agriculture to a more rational agroecological system. Materially analyzed, the histories of Cuba’s degrowth transition and elements argues that the degrowth project is part and parcel of the socialist one and necessitates: a planned economy with the nationalization of resources and centralizing planning, and worker’s democracy enacted through mass movements, organized democratic structures, and a conscious revolutionary leadership.

Using dialectical and historical materialism, I have tried to accomplish three tasks: 1) outline the incorporation of the *degrowth* project in existing Marxist thought, 2) accurately map Cuba’s agricultural history as relates to the concrete social organization of production, and 3) argued for the necessity of a successful worker’s democracy for the pursuit of degrowth through the most concrete case study available.

The environmental incompatibility between capitalism and our planet is a foundational concept of Marxism. The Marxist concepts of the *universal metabolism of nature* and the *social metabolism* of a given societal form is a powerful conceptual tool for understanding the basic relationship between human society and the “external means” of our reproduction, identifying the

fundamental ecological crisis of capitalism, and defining the conditions of a new ecologically-rational society. Marxist materialism broadens the intentions of degrowth to include an analysis of the whole of the material relation of humanity to the environment, including our socially-constructed institutions and paradigms. The concrete environmental crises which birthed the degrowth movement are the same conditions that open up the opportunity to create a revolutionary new system.

Cuba appears repeatedly in the degrowth literature because it is a concrete case of a national-scale degrowth scenario. The collapse of the USSR deprived Cuba, practically overnight, of its primary source of industrial agricultural inputs, its main market for monoculture sugar, and its cheapest source of oil, manufactured goods, and other items that kept the production and distribution systems functional. As neither the United States relented its embargo nor the Castro regime conceded full sail to global capitalism, the Cuban people and state were forced to adapt the national food system to low-input local agriculture or face starvation. Multiple new social organizations of production were employed to complete the necessary work, including the break-up of rigidly hierarchical state farms into smaller, more worker-controlled collectives, the explosion of urban and peri-urban agriculture, the revitalization of *campesino* farms and culture, and the reinvigoration of *autoconsumo* practices. These adaptations are demonstrating an ecologically rational agriculture on a scale never seen before - not in continuous hectares cultivated, but the number of people involved, the number of households with crops planted, and the integration of new systems where food production and everyday life overlap. This is a crucial example for all who are concerned by the converging environmental crises. Even today, though Cuba has flirted with socialized production, neither agricultural nor industrial production in Cuba are operated under the democratic worker's control which defines a socialist country. Perhaps alternative agriculture will become a space in which worker's struggle against the restoration of capitalism might ignite.

Cuba's complex past, caught first between feudalism and capitalism, and today between capitalism and socialism, complicates characterization of the country. But Cuba's current circumstances come concretely from its history. Using dialectical and historical materialism, I have traced the material, theoretical, and organizational trends that have led to contemporary conditions. The Castro regime has consistently put forth socially-oriented policies. They have used the planned economy to eradicate illiteracy, provide universal healthcare, and secure a ration to ensure food security. These are all massive gains considering the incredibly low levels of development prior to the 1959

Revolution and the stringencies of the nearly 50 year embargo enforced by the world's superpower. But the Cuban state is undermined by its own political nature. The bureaucracy has reached a dead end. It cannot maintain its position against the slow erosion of global capitalism, but nor does it wish to completely reject capitalism in the only way possible - by allowing a worker's democracy to come to power. Industrial and agricultural productivity is stymied, the gains of the planned economy including healthcare and the ration eroded further each year, yet the masses are not yet resigned to the returning desolation of capitalism. The political prognosis is such: "either the bureaucracy, becoming ever more the organ of the world bourgeoisie in the workers' state, will overthrow the new forms of property and plunge the country back to capitalism; or the working class will crush the bureaucracy and open the way to socialism." (Trotsky 1981).

Cuba has proven that democratic control of the economy, in the face of a crisis that involves us all, cannot be gained without ownership of the means of production. The nature of production in a state that owns the means of production, without mechanisms of democratic control of the state, incompletely takes advantage of the power of the planned economy and represents inevitable democratic risks, even assuming genuine concern for public welfare. Cuba has come as far as it has because power monopolies over capital investment enables society to use available, though now necessarily limited, resources to meet need within non-negotiable biophysical limits. Even imperfect, Cuba has succeeded in providing the highest standard of living for the smallest per-capita ecological footprint. But Cuba has reached a turning point. Any "misunderstanding of the real lessons of the Cuban Revolution could be fatal for the revolutionary forces today. It is therefore not pedantry, or an attempt at self-justification, which has led us to take up [this critique]" (Taaffe 2000). The gains of the Cuban Revolution, for its people and the world at large, can only be preserved and surpassed through the power of a worker's democracy.

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