

# Degrowing and Democratizing the Economy

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A Major Paper submitted to the Faculty of Environmental Studies in partial fulfillment of the requirements for the degree of Master in Environmental Studies

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## Foreword

My Area of Concentration is “Critical Perspectives on Energy Transition”. Its primary focus is on social, institutional, and economic barriers to a transition away from fossil fuels to mitigate climate change. Its components are political economy, technical aspects of sustainability, and alternative economics. This paper will focus on reforms that can be made to the existing political economic system in order to move to a qualitatively different system that is sensitive to biophysical limits and that is considerably more egalitarian and democratic than the present. So far in the program I have been learning about the structural barriers to sustainability and energy transition. Now I would like to carry this further into an analysis of the options and choices that may present themselves to people searching for alternative political economic arrangements. In this way, the paper progresses as my plan of study progresses, from learning about the state of the world and the ways that it is determined by political economic forces (among other things), to the concrete alternatives that exist to challenge the existing inequality and unsustainable growth in resource throughput. Thus, the paper will serve as a fusion of my components, with an emphasis on what could be done.

## Abstract

This paper investigates the transition of societal institutions in light of the climate crisis. It proceeds from an understanding of capitalism shaped by recent literature on the “metabolic rift”, primarily drawing upon the work of Jason Moore. From here, it considers the origins of the degrowth movement and literature, which has been one of the more radical forces originating from an explicitly ecological framework. Degrowth is traced from its origins in the work of Georgescu-Roegen and the entropic implications on the economic process, through the French revival of his ideas, and its reincorporation into the academic literature. Degrowth institutional reforms are summarized and it is provisionally concluded that they represent a significant break with certain tenets of capitalist development, although the way in which they are integrated is thought to be crucial. However, the question of the role of the market is raised in consideration of a break with capital accumulation. This leads into the second major part of the paper in which a debate on market socialism is revisited, in order to clarify how the market can be theorized in the transition away from capitalism (and towards degrowth), as well as how the economy can be democratized. The debate reveals some of the essential differences between market socialists and non-market socialists and enables the elaboration of their strategies for democratizing economic life. The debate is also contrasted with an understanding of markets in the development of capitalism, in which markets came to mediate two elements of life that were previously uncommodified: land and labour. In considering degrowth on the market debate, it is suggested that markets should be initially socialized and democratized (along some of the lines exposed in the elaboration of the debate) and then gradually reduced as the economy moves toward a more sustainable basis. This follows from the similar conclusion that degrowth and democratization must be integrated parts of a societal transition. The paper concludes with some promising avenues of political mobilization which incorporate a spirit of systemic change in both an ecological and social direction.

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# 1. Introduction

"We all got to figure. There's some way to stop this. It's not like lightning or earthquakes. We've got a bad thing made by men, and by God that's something we can change." - tenant, *Grapes of Wrath*

The quote above from John Steinbeck's *Grapes of Wrath* makes a clean distinction between lightning and earthquakes (natural forces), and the eviction of tenant farmers from their land during the Great Depression ("a bad thing made by men"). Today that separation is hard to maintain; anthropogenic climate change is now making storms more likely and the practice of hydraulic fracturing has been linked to increased earthquake activity. But the general point remains the same: there has got to be a way to stop the "man-made" social system that is simultaneously producing intense inequality and undermining the ecological conditions of human society in general (not to mention for other species).

The general focus of my research is on political economic alternatives. What are the structural reforms that can be made to reduce inequality, enhance democracy, and reduce the throughput of resources? This question is important at the present moment of human society because of the necessary transition away from fossil fuels (both for reasons of climate change and because the reserves will run out sooner or later). This transition requires the transition of societal institutions that have evolved alongside fossil fuel exploitation and contribute to its continuation. Finding the political will or mass mobilization necessary to implement these reforms is another related matter and one that I will touch on only tangentially. Within the context of the above question, I have separated the paper into two sections: 1) degrowth, and 2) democratization. This analytical separation reflects my thought around societal transition, that by necessity must proceed in the direction of lowered energy and material throughput, but also as a matter of desirability, could proceed in the direction of increased participation

by people in the management of that transition. Although, democracy may be a precondition for lowering energy and material throughput. By analyzing separately two movements that assume as their starting point different objectives (i.e., one a lower footprint, the other democratic control) I hope to reflect on how they both may sustain each other.

Degrowth represents a diverse movement that pivots around, but is not restricted to, the need to lower the material and energy throughput of society, at least for the Global North. It arose out of the limits-to-growth paradigm popularized by the Club of Rome and has been (and continues to be defined) by a variety of authors from different intellectual traditions. For this first part I will read a selection of the available literature, some from contemporary sources that will give me a sense of how the term is being currently used and also some that would be considered more foundational.

Economic Democracy refers to the desire to ground control over society with the people that make up that society, primarily through an extension of democracy into the economic realm. While political democracy (albeit limited) has been extended to all members of society (at least in the Global North), the economy is seen as a separate sphere that operates under laws akin to natural ones. I will read a contemporary account of Economic Democracy as it could be applied, along with debates in the *New Left Review* around markets and planning. The outcome will be to contrast a practical market socialism with its detractors, and then further, to consider the implications of degrowth on this debate.

## **1.1 Methodology**

The overarching philosophies that shape my understanding are dialectical materialism, critical realism, and radical realism. Dialectical materialism<sup>1</sup> is a Marxist-inspired philosophy on social and natural change. I will elaborate on six points, although this is not exhaustive. First, it holds that there

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<sup>1</sup> This exposition of dialectical materialism draws heavily upon Foster et al. (2010, Chapters 11–12), Levins and Lewontin (1987), and Harvey (1997).

is an underlying material reality but that there are different levels of reality that “emerge” from lower levels. For example, the social (or cultural) is different from the biological which is different from the chemical which is different from the physical in some qualitatively irreducible way. This is not to suggest that there is a discrete distinction between these levels but rather that there are emergent properties of each that cannot be deduced from the underlying parts. It also is important to note that lower levels certainly constrain what is possible at higher levels. A second related important corollary of dialectical thought is that whole makes part and part makes whole. In other words, it is impossible to conceive of the parts (of a system) independent of the whole, but both must be seen as in a process of mutual development. Third, processes are irreversible and sometimes the conditions of the whole can change in ways that allow for new possibilities or close off existing ones. For example, the way that early microbial life on Earth created the atmospheric conditions suitable for human life, or the way that human society is currently changing that same atmosphere in ways that are potentially making Earth uninhabitable for humans and other animal life. Fourth, what has been inherited from the past often constrains present possibilities. For example, in the evolution of an organism not just any mutation is viable but only those that are compatible with the inherited structure accumulated thus far.<sup>2</sup> Finally, while change is a constant process, its rate often varies and in fact there are often periods of relative stability punctuated by periods of abrupt change that occur when certain tipping points or thresholds are reached. For example, it has been suggested that the climate system is subject to such tipping points.

Critical realism maintains that although there is an underlying material reality, our understanding of it is necessarily sifted through human perception, which is itself affected unavoidably by society (Foster, Clark, & York, 2010, Chapter 14). Thus, what we know, or think we know, about the world

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<sup>2</sup> It is often good to use caution when extrapolating from a natural example to social systems, however, this is a well accepted concept that historical conditions constrain the agency exhibited by present actors

around us, is influenced by social factors. This is not to suggest that all truth claims are completely relative or equally valid, rather that what is studied, how it is studied, and the interpretations derived, can be better understood by placing them within their historical and social context. Further, although we can say that nothing is completely objective the next best thing is inter-subjective verification (Eckersley, 2004, p. 123). That is to say, that if something is overwhelmingly supported by a majority of people it can become as fact. This is one of the hallmarks of the scientific method. Theories are never fully proven but they become accepted on the basis of repetitive experiments or how well they fit with the larger whole of scientific knowledge.

Radical realism (Malleon, 2014, pp. xxii–xxiii) holds that utopian visions are important both for inspiring people and providing something to work towards. Otherwise, the seeming determinism and seeming inevitability of the present society may perpetuate existing social relations. Also, a vision provides a framework within which to create and evaluate possible reforms. On the other hand, radical realism attempts to outline how the vision is achievable given the current state of society. It tries to recognize alternative social arrangements that already exist within the current society (or that are not too far-fetched), that could be nurtured and expanded to transform it. It also does not idealize different social relations, but presents a balanced perspective in terms of what is being gained but also what is being given up. In this way it avoids presenting an idyllic picture, recognizing that society will never arrive at a “final destination”, but still is able to move along lines that most would accept as progress.

## **1.2 Method**

For both sections I will identify, compare, and contrast key reforms in and between the literature to make arguments about potential future transition paths. The method can be approximately divided into four parts: 1) Read a representative sample of the field (in this case degrowth and economic democracy), 2) Provide a historical context for the readings to better understand how the ideas have



developed over time, 3) Identify strategies for societal reform within and between each body of literature 4) Analyze these strategies from an understanding of capitalism's development and from the standpoint of revolutionary reforms, 5) Reflect on how these two lines of thought inter-relate or could inter-relate.

### **1.3 Capitalism: The Context**

My research must inevitably contend with the dominant economic system, a globally integrated capitalism. It is certainly a contention that a green capitalism or an eco-capitalism is not possible (Sarkar, 1999; Smith, 2015) Although, whether it is not possible or whether we just have yet to implement the necessary restrictions and counter-balances is up for debate (see Victor, 2008). Much of it pins on semantics; whether capitalism must continually “grow”<sup>3</sup> and whether a system that does not grow could still be considered capitalism. I am inclined to argue that a system that does not grow is not capitalism<sup>4</sup>. Nevertheless, capitalism is the departure point and thus must be understood in order to be changed. It is necessary to outline my understanding of capitalism so that I can analyze the strategies advocated by the degrowth and economic democracy literature.

Capitalism can be identified by several characteristics. First, by the private ownership of the means of production (in relatively few hands) and the compulsion on the part of workers to sell their labour for a wage. Second, the capitalist retains ownership of the products of the production process and must bring them for sale on the market to realize profit. Third and lastly, production and consumption are predominantly coordinated via a market mechanism according to supply and demand. Note that these features can be contested (on the grounds of what has been included and what may have been left out)

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3 Typically measured by indicators such as GDP (money value of all final goods and services produced in a country), although an increase in GDP does not necessarily imply an increase in throughput of energy or raw materials.

4 Since capitalism is characterized by the continuous accumulation of capital (money in pursuit of more money), if this process is interrupted then I think we would be compelled to find another word or modifier that could describe the resulting system

since they represent generalizations of a historical process. Thus, it is necessary to actually engage with the history of capitalism's historical development in order to come to a fuller understanding; although this history is also contested.

Capitalism is a system of economic organization that emerged out of the feudal system in England (or at least Western Europe, depending on the interpretation) and subsequently spread unevenly around the world. This transformation has been detailed by Marx (1999 [1867]), Polanyi (2001 [1944]), Wood (1995), Moore (2003), and Heller (2011) among others, and there is still some (much?) debate over the determining factors. The debate typically pins around the exact location, timing, and crucial determinant factors of the capitalist transition. For example, Wood places the development in the English countryside and on the particular change in social relations that occurred there. Heller, on the other hand, sees capitalist development as imminent in several western European countries but the English state was the first to successfully reinforce these dynamics. For Heller, the state has a more prominent position and the class relations within the English peasantry are slightly different from Wood's account. Similarly, Moore does not specify an exact location for the origins of capitalism but prefers the use of "western Europe", drawing attention rather to how this incipient capitalist transition took place through the colonization and exploitation of the Americas, western Africa (slave trade), and eastern Europe. I will draw primarily upon Moore's account because I think he best theorizes nature and society within the development of capitalism.

Moore builds on Marx's value theory, Foster's (2000) theory of the metabolic rift (which was also derived from Marx), and Wallerstein's World Systems Theory. The essence of this combination is that capitalism must be understood not as a social system that causes environmental destruction but as a world-ecological system (a way of organizing nature). The "law of value" of capitalist production can be understood as a "durable pattern of power and production that has obtained over the time and space

of historical capitalism” (Moore, 2015, p. 52). This law of value refers to the historical transition (beginning around 1450) “from land productivity to labour productivity as a metric of wealth and power” (Moore, 2015, p. 58). Central to the formation of the law of value was the colonial exploitation of commodity frontiers. Thus, capitalist development has been dependent on a dual process: concentration of wealth through the private ownership of the means of production, which both depends on and facilitates continual appropriation of “Cheap Natures” (food, labour-power, energy, and raw materials).

The appropriation of nature on the periphery of capitalism's geographical centre depended on new ways of standardizing, quantifying and mapping nature (the bundle of relations which Moore calls “abstract social nature”) in service to increasing labour productivity. This coincides with the scientific revolution, new ways of conceptualizing nature (as external to humans), and even changes in the way that space and time were understood. “The systemic formation of value relations occurred through a cascading series of small and large shifts in the Atlantic world after 1450. These shifts transcended the convenient boundaries of economy, culture, politics, and so forth; they favoured a reality and a practice of material transformation that encouraged a mathematized and mechanical world-praxis” (Moore, 2015, p. 214). These “value relations” are the systemic counterpart to the “substance” of value: abstract social labour. The new knowledge-practices of early capitalism were not independent of either colonial expansion or private property but rather interacted with these things in a “virtuous” circle. “The cascading processes that facilitated – but did not ensure – the triumph of capitalism emerged sometimes from commodification, sometimes from imperial and state machineries, and sometimes from new modes of knowledge production” (Moore, 2015, p. 216).<sup>5</sup>

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5 Commodification refers to the transformation of goods and services into ones that are produced for exchange on the market.

This implies that the rise of capitalism actually began much earlier than many accounts based on the primacy of the industrial revolution would attest.

“The rise of large-scale industry, co-produced through a new phase of appropriation (centred on fossil fuels), was unthinkable in the absence of these symbolic-material revolutions – producing abstract time, space, money, and nature. This family of abstractions was central to the revolutionary transformation of the Atlantic-centred capitalist world-ecology, three centuries before the steam engine reached maturity.”  
(Moore, 2015, p. 209)

Technological innovations (especially the ability to harness the energy in fossil fuels) were essential to capitalist development, yet rather than fossil fuels being the spark of capitalist development it would be more accurate to say that capitalism remade itself through the exploitation of fossil fuels. The machinery in and of itself cannot be understood outside of capitalist social relations. Indeed, mechanical improvements such as steam power were not necessarily adopted because they represented a cheaper or more powerful alternative to water wheels, but because they enabled greater control over the production process and the emerging working class (Malm, 2013). The upshot is that the history of technological development cannot be separated from the private ownership of production and the “need” (especially in the early days of the Industrial Revolution) to create a class of tractable and disempowered workers who would not question the factory division of labour, the intensity of factory work, or the need for capitalist control (Marglin, 1974).

The market, in this context, can also be seen as a tool or technique for reorganizing nature. The state-driven process of market creation goes hand-in-hand with the creation of particular private property regimes<sup>6</sup> and a class of “free”<sup>7</sup> waged labourers. Thus, markets expanded from their

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6 The ability to sell property.

7 Freed of the means of production and free to sell their labour for a wage.

traditional role in facilitating luxury exchange, on the margins of the economic process, to encompass the very land itself and the people who were slowly (or sometimes abruptly) dispossessed from it. This separation of people from the land, facilitated by market reductionism<sup>8</sup> and colonial practice, has systematized the conditions under which nature is continually transformed and its benefits concentrated. This concentration takes place in particular geographical locations which have been able to strategically transform nature, realize its benefits, and externalize some of the impacts onto distant populations and future generations; all facilitated by flows of money and violence.

What all of this affirms is that we cannot reduce capitalism to an “economic” system. Indeed, even beyond these technics of appropriation and production Moore references what have been called “cultural fixes”, which can serve to naturalize “not only capital's appropriation of unpaid work by humans but also new epoch-making practices of appropriating unpaid work by extra-human natures” (Moore, 2015, p. 198).

Since capital is constantly running up against barriers to accumulation the history of capitalism has been one of a series of ecological revolutions:

“An ecological revolution occurs when the innovations of capital, science, and empire forge a new unity of abstract social labour, abstract social nature, and primitive accumulation. These unities are world-ecological regimes. Technical and organizational innovations allow for rising labour productivity. Ways of mapping, quantifying, and discovering new historical natures – and new use-values – allow for the rising appropriation of unpaid work/energy. And the coercive-intensive processes of territorial conquest and dispossession open new, largely uncommodified, natures to the penetration of global value-relations. This trinity – agro-industrial revolutions, scientific revolutions, and “new” imperialisms – forms the core of capitalism's *world-praxis*. These three moments are always uneven, but tend to converge during periods of systemic crisis. Their successful

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8 The idea that everything is exchangeable at the right price.

convergence restores the Four Cheaps [i.e., food, labour, energy, raw materials]” (Moore, 2015, p. 150)

This interpretation of ecological revolutions parallels but deepens what some would describe as technological revolutions that dramatically increase the productivity of labour. They emerge in response to major crisis (i.e., depression), which can be understood generally as combinations of overproduction (i.e., too many goods produced), overaccumulation (i.e., too few productive outlets for investment) and underproduction (i.e., a lack of effective demand due to a rise in the cost of production inputs – e.g., raw materials) (Moore, 2015, pp. 91–92). Essentially, it is incorrect to think of economic crises that are not also ecological and ecological crises that are not also economic. They are both crises in the particular metabolism of human beings and the rest of nature.

What implications does this understanding have for transitioning from capitalism? For one thing, it is sometimes recognized that capitalism is reaching the limits of its “Cheap Nature” strategy and therefore of continual accumulation (see Meszaros, 2014; Moore, 2015; Wallerstein, 2007). Moore describes the neoliberal era as a “magisterial final act of redistribution without [a] productivity revolution”; the financialization of the economy is an instance of “*taking* first, and *making* second” (Moore, 2014, p. 39). Nevertheless, even if capitalism is entering an era of permanent stagnation, irreparable damage to the planet could occur (and is occurring) in attempts to restart the cycle of accumulation, and even though the limits to capitalism are both at the same time natural and social, only human beings can dismantle it. This understanding also suggests that to force capitalism to internalize its externalities, to force capital to pay the costs of reproducing nature, is to end capitalism. “To call for capital to pay its own way is to call for the abolition of capitalism” (Moore, 2015, p. 145).

## 1.4 Transition

The speed of transition often demarcates reform or revolution. Although a series of reforms over a period of time may look like a revolution when viewed on a longer time scale (Malleon, 2014). The transition from feudalism to capitalism took place over hundreds of years, yet some moments have been identified as more formative (revolutionary) than others. This transformation may provide valuable insight into future societal transitions, although really the context is totally different. Incremental change would appear to offer the most painless and self-conscious way to transform society, yet at the same time sustaining momentum for reforms over the long term has been historically difficult. The incremental advance of social democracy (associated with the so-called class compromise of the post-war years) was met with the neoliberal counter movement of the 1970s (Harvey, 2007). Unfortunately, historical revolutionary changes have also proven difficult to sustain (as in the case of Russia or China) and have often brought much repression even if they also achieved many worthwhile goals (equality, full employment). Of course, any revolutionary project cannot be analyzed in isolation from the capitalist system, nor capitalism in isolation from revolutionary projects<sup>9</sup>. The historical failure of alternative projects to flourish is matched (and exceeded) only by the historical failure of capitalism to provide adequate development for all and not undermine the conditions of life. Thus, although the historical precedents are few the hope is that in such times of existential crisis for both capitalism and human society generally, alternatives will be seen as imperative. As the contradictions of capitalism accumulate and crisis tendencies amplify, there may be more and more disillusionment with the status quo, which could translate into viable movements for reform.

It might be worthwhile to suggest that while actual physical changes will have to proceed slowly due to the nature of the accumulated infrastructure (which cannot be simply replaced in a day), changes in

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<sup>9</sup> The existence of the Soviet Union had an impact on how capitalism functioned after World War II, allowing greater concessions in the era of social democracy (1940s to the 1970s).

power structures, forms of ownership, or collective ideologies could occur more quickly (e.g., the election of a new government). While getting rid of capitalism requires change on all fronts to effect a complete shift to a different mode of production and consumption, the actual physical transition process of built environments and technological infrastructure should probably proceed within the context of a long-term plan. This accords with Peter Victor's modelling of an economic steady-state in which a gradual levelling off (over many years) of material production results in favourable outcomes, whereas a dramatic end to growth would be painful (Boyd, 2015, p. 271). Eckersley also notes that an ecological tax regime is likely to have inflationary consequences unless carefully phased and managed (Eckersley, 2004, p. 64)

In this research I will focus on institutional reforms that will be analyzed for their ability to act as non-reformist reforms or revolutionary reforms (Andre Gorz, 1968), which are those that challenge the underlying logic and structure of the capitalist system. In this way, I seek a middle path between reform and revolution, recognizing that many of the reforms proposed will likely require revolutionary action to carry them out.

Why the institutional reforms? Why not just change capitalism from the bottom up? I agree with Kallis (a degrowth author) who wrote, in response to those who would rather pursue voluntary action: "I can't see, however, how this can happen without occupying also the state, with a mutual reinforcement of civil and political society, grassroots practices and new institutions" (Kallis, 2015). Given the global nature of the environmental challenge any change that is to have enough of an impact must be institutionalized at the level of the state (or at least a semi-autonomous regional government) if not internationally. It is equally clear that states have played an integral role in the development of capitalism, whether during the transition from feudalism (Heller, 2011, p. 7) or in the 20<sup>th</sup> century (Panitch & Gindin, 2013). However, if states are capable of creating and sustaining capitalism they are



also capable of unmaking it (in practice it probably depends on which states), although this will probably require a political movement and organization that is capable of garnering the needed support or pressure to do this. The question that I seek to answer, or at least shed light on, is what reforms could be offered at the level of a regional or national government in order to move beyond capitalism?

## 2. Part 1: Degrowth

For the first part of the paper I have chosen to review the literature on the “degrowth” movement that has emerged in recent years. The reason for choosing degrowth, as mentioned above, is that this movement takes seriously the need to lower the energy and material throughput of industrialized societies. I will provide an overview of degrowth, outline the institutional reforms for transition found within the degrowth literature, and then consider how these reforms challenge capitalism. To lead into the second part of the paper I will consider the treatment of economic democracy and the market within the degrowth literature.

### 2.1 Overview of Degrowth

Degrowth is a broad term that encompasses many intellectual currents. One of its most fundamental ideas is the recognition of ecological limits to economic growth. To this can be added a critique of development, productivism, and the “economic” as a category in and of itself. Within the history of degrowth as a concept, it was the ecological limits critique that was adopted first.

In the early 1970s there were a slew of writings on resource limits including Nicholas Georgescu-Roegen's 1971 paper *The Entropy Law and the Economic Process*, the January 1972 journal collection *A Blueprint for Survival*, the May 1972 report *Limits to Growth* commissioned by the Club of Rome<sup>10</sup>, and E.F. Schumacher's 1973 book *Small is Beautiful*. While all of these references could conceivably be degrowth precursors (and Schumacher is usually included) it is Georgescu-Roegen (G-R) who is

<sup>10</sup> A global think tank that deals with international political issues

usually cited due to the nature of his economic analysis and his influence on French activists who went on to popularize and transform the term.

André Gorz was the first one to use the term degrowth (actually *décroissance* in French) but he does so in a passage of his *Ecology as Politics* (1975) that references G-R. Romanian mathematician and economist (who studied under Schumpeter), it was G-R who investigated the implications of thermodynamics on the economic process and revealed that regardless of how many fossil fuel reserves were left, their combustion entailed an irreversible process that could not be sustained. Further, the reserves of inorganic raw materials (e.g., metals, minerals) is also finite and subject to deterioration over the long term (Georgescu-Roegen, 2011b [1971]). G-R made the mistake of trying to install this latter point about inorganic raw materials as a fourth law of thermodynamics, which turned out to be incorrect and undermined its (and indeed G-R's) credibility somewhat. Nevertheless, despite its theoretical thermodynamic shortcomings, it still has relevance for the economic process (Bonaiuti, 2011, p. 37). Essentially, it suggests that recycling of materials can never be 100% effective due to losses during use of the material and losses in the recycling process itself. For example, theoretically every molecule of metal could be recovered and recycled but practically this would not be possible due to the tremendous amount of energy and time needed to accomplish this. Thus, to the greatest extent possible, the economy should rely on derivatives of solar<sup>11</sup> and geothermal energy, and on organic materials (plants, animals, bacteria, etc.) that reproduce themselves within reasonable time frames.

Perhaps it is no surprise (given the uncomfortable implications of G-R's critique) that G-R's ideas were largely ignored by mainstream economists. It was almost 20 years later before they were picked up again in the North American academic literature in 1989<sup>12</sup>, within the emerging field of ecological

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11 Although fossil fuels are a derivative of solar energy they do not recreate themselves on a time frame that is useful for humans, therefore the derivatives referred to here are those that are influenced by the current flow of solar radiation, namely wind, water, and biomass.

12 Although within France G-R's ideas were kept alive by Gorz and Grinevald

economics (Bonaiuti, 2011, pp. 28–29). However, his ideas, especially those on the recycling of matter, were debated once in the journal of *Ecological Economics* (edited by Robert Costanza and co-edited by Herman Daly) and then never again (Bonaiuti, 2011, p. 44). The purpose of this debate seemed mostly to call into question the “Fourth Law” and its attendant uncomfortable economic consequences. The result was to entrench the concept of the steady state economy (which was developed by Daly and criticized by G-R) within ecological economics and accept in principle the paradigm of sustainable development (which was famously articulated in the Brundtland Report of 1987).

The steady-state economy has a “constant population and constant stock of capital, maintained by a low rate of throughput that is within the regenerative and assimilative capacity of the ecosystem” (Bonaiuti, 2011, p. 44). For G-R this is unachievable *in the long run* due to the inevitable deterioration of fossil fuels and inorganic raw materials. The important thing for Daly, it seems, was presenting a model of a *relatively* sustainable society, as compared with the growth-oriented development of contemporary society that is disrupting life-sustaining processes in the here and now, let alone the distant future. For G-R this seemed dishonest in its presentation, since a steady-state implies sustainability in the long term. Relatedly, G-R also objected to the steady-state economy on the grounds that it was a developmental impossibility. The reality of constant change (i.e., the irreversibility and evolutionary nature of the economic process) resists any permanent stability of the kind that a steady-state seems to suggest. He also said, a bit disingenuously<sup>13</sup>, that the full application of the steady-state model would condemn poor countries to their present state of development. Today it is often acknowledged, and argued especially by Kerschner (2010), that degrowth and a steady-state economy are complementary ideas, and that some degrowth is required before a steady-state can be implemented. Also, that while a steady-state aims for certain levels of energy and material throughput,

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13 It would seem obvious that Daly's model was intended for developed countries.

these would necessarily oscillate around the desired levels since it is impossible to exhibit absolute control at all times (Kerschner, 2010, p. 548).

Sustainable development was defined by the Brundtland Report<sup>14</sup> as that which “meets the needs of the present without comprising the ability of future generations to meet their own needs” (Brundtland & others, 1987, p. 16). In the almost 30 years since this was written down, the colossal failure of this rhetoric to make any difference has been striking (indeed, half of the carbon dioxide emissions added to the atmosphere since the Industrial Revolution have occurred in the last 30 years (Heede, 2013)<sup>15</sup>). I imagine Daly does not approve of the way that sustainable development was co-opted and turned into a project of ecological modernization<sup>16</sup>. However, he was comfortable with the language itself, arguing that only *sustainable growth* should be considered an oxymoron. Development on the other hand does not require quantitative increases in consumption but is rather a qualitative change that can occur under different levels of material throughput. While this is useful in the sense of clearly defining terms, according to Bonaiuti it reveals some “pre-analytical” differences between G-R and Daly. For G-R, growth and development are intertwined historical processes and cannot be considered separately, even in constructing an ideal case. As G-R said, “who could think that development does not imply some growth”. Bonaiuti argues that this attempt to separate growth and development on Daly's part has led to a focus on stopping growth through external controls, rather than confronting the real causes of growth internal to the economic system. In other words, ecological economists are more prone to argue that it is “best to let existing institutions (i.e., transnational corporations and global markets) deal with

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14 The final report of the United Nations' World Commission on Environment and Development headed by Gro Harlem Brundtland, then Prime Minister of Norway

15 Part of the “Great Acceleration” in ecological impact that began around 1950 (Steffen, Broadgate, Deutsch, Gaffney, & Ludwig, 2015)

16 Ecological modernization refers to the competitive strategy pursued by states through increasing the stringency of environmental regulations (Eckersley, 2004, p. 69). Although there is a range of practices and understandings of ecological modernization, the usage I employ here refers largely to the “technical case” (Eckersley, 2004, p. 74) which is concerned with technological adjustments at the level of the firm. It does not challenge existing institutions or dominant neoliberal economic policies.

the efficient production of wealth in order to intervene at a later stage in its distribution and impose ecological limits” (Bonaiuti, 2011, p. 47). This is a part of G-R's critique of sustainable development and the reason why policies of sustainable development have not been effective over the last 30 years. This is also why “reflections on degrowth have been preferred to go back directly to G-R's bioeconomics rather than to ecological economics” (Bonaiuti, 2011, p. 48).

In 1993 and again in 2002, a Lyon-based magazine, *Silence*, published articles on Georgescu-Roegen and his ideas. The editors of the 2002 edition of the magazine, Bruno Clémentin and Vincent Cheynet, had earlier in 2001 copyrighted the term “sustainable degrowth” and “playfully warned against its future misuse and conventionalization” (D’Alisa, Demaria, & Kallis, 2014, p. 2). The favourable reception of the 2002 edition, which sold 5,000 copies, was probably the starting point of the degrowth *movement* (D’Alisa et al., 2014, p. 2). The degrowth movement of activists began in Lyon (around car-free cities, communal meals in the streets, food cooperatives, and campaigns against advertising), spread to Italy and Spain as part of anti-globalization activist movements, was popularized in magazines and through the first conferences organized on the topic, and eventually globalized through a network of researchers. This second phase of degrowth (from the early 2000s) was oriented around a critique of the hegemonic concept of sustainable development (D’Alisa et al., 2014, pp. 2–3). Since it originated in France it has some particularly French attributes.

First, there is a French intellectual history that revolves around a criticism of modernity. This can be found in the writing of Jacques Ellul and Bernard Charbonneau. Charbonneau anticipates some of the arguments of Schumacher's *Small is Beautiful* (1973) in his 1969 work criticizing the “gigantism” of cities, factories, and capital accumulation (Martínez-Alier, Pascual, Vivien, & Zaccai, 2010, p. 1742). Ellul criticized the “technique” of modern society and inspired thinkers such as Ivan Illich, who would in turn inspire Gorz. Illich, although not from France, is perhaps the pre-eminent writer and inspiration

for this “cultural” aspect of degrowth. His essential point is that human institutions can reach such a scale, preponderance, and centralization that they begin to undermine the goals that they set out to achieve. He was particularly critical of the school system and the medical system, but his analysis extended to technology in general (Illich, 2001 [1973]). He called for “convivial” tools that allow for user understanding and control, as opposed to machines which tend to subordinate the user.

This thinking overlaps with the post-development school of thought and the work of Serge Latouche, who is considered the main French intellectual on degrowth. “The essence [...] [of post-development] is the critique of the uniformisation of cultures due to the widespread adoption of particular technologies and consumption and production models experienced in the global North” (Demaria, Schneider, Sekulova, & Martinez-Alier, 2013, p. 196). For Latouche, degrowth is a merging of the two intellectual traditions of political ecology (with its attendant critique of productivism<sup>17</sup>; see Gorz and Grinevald) and criticisms of the concept of development (Martínez-Alier et al., 2010, p. 1742). Martínez-Alier et al. (2010) suggest that, in line with post-development thinking, degrowth is concerned with “establishing other social ideals rather than calling for development as such” (Martínez-Alier et al., 2010, p. 1743). It is concerned with re-examining the dominant economic values of affluent societies and what it means to enjoy “the good life”. For Latouche, as well, degrowth is about challenging the dominant ideology of economic growth and economic calculation (repoliticizing the economic). Thus within the degrowth concept there is the idea of not just producing and consuming less but changing the whole foundation of dominant economic thinking. These specifically French attributes of degrowth history served to further separate degrowth from steady-state theorists who did not recommend such a radical break with development or mainstream economics. Nevertheless, there may be some convergence happening as the degrowth concept spreads outside of

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17 Productivism is the idea that more production is necessarily good.

Europe.

The internationalization of degrowth has signalled a growing popularity for the concept, at least among academics. One could say that degrowth aspires to represent an alternative paradigm to that of sustainable development, ecological modernization, and mainstream economics. Building on its history, contemporary authors have sought to clarify and broaden the term. Schneider et al. (2010) identified five sources of degrowth thought: 1) post-development, 2) democracy, 3) ecology, 4) meaning of life, and 5) bioeconomics<sup>18</sup>/ ecological economics. Demaria et al. (2013), building on the work of Flipo (2007), have identified the same five sources and add one more: justice. These two papers show a significant overlap in degrowth sources but they also have two authors in common. D'Alisa et al. (2014) suggest that degrowth has eight contributory “lines of thought”, which overlap with the just mentioned sources: 1) anti-utilitarianism, 2) bioeconomics, 3) critiques of development, 4) environmental justice, 5) currents of environmentalism, 6) societal metabolism<sup>19</sup>, 7) political ecology, and 8) steady state economics<sup>20</sup>. It is clear that these intellectual roots are not brought together without tension, yet together they represent a relatively coherent ideological challenge (if not yet an actual challenge) to the system of global capitalism. Even the very idea of producing and consuming less is incompatible with capitalism, except under conditions of recession.

To present an actual challenge to capitalism degrowth ideas will have to be put into practice. The strategies for action can take many forms including opposition (e.g., to development or infrastructure projects), building alternatives (supporting or creating projects/practices that are thought to be compatible with degrowth), reformism (working within existing institutions to change them), and research (Demaria et al., 2013, pp. 201–204). There is also a recognition within the degrowth

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18 G-R's brand of economics

19 A school of thought that is concerned with understanding the flows of material and energy that sustain society.

20 Conspicuously absent is democracy.

movement that it is important to be active at different spatial scales including the local, national, and global (Demaria et al., 2013, pp. 204–205). The different strategies can create tension between degrowth proponents, as can the ultimate vision of society that people subscribe to. For example, will there be a centralized state in a future degrowth society? Or, how will democracy be institutionalized? I have already outlined why I am focusing on institutional reforms primarily at the level of a national government.

## **2.2 Degrowth Proposals for Transition**

G-R offered his thoughts for a minimal bioeconomic program in 1972. He outlined eight points, including, 1) the prohibition of all weapons manufacturing, 2) the development of the underdeveloped nations (to a good, not luxurious, life), 3) the lowering of world population to a level that can be adequately fed by organic agriculture, 4) the avoidance of energy wastage, 5) the curbing of consumption of extravagant gadgetry (e.g., golf carts and two-car garages), 6) the production of durable goods and a rejection of fashionable obsolescence, 7) the design of products for repairability, and 8) the avoidance of the infinite regress of technological development (e.g., shaving oneself faster so as to have more time to work on a machine that shaves faster so as to have more time to work on a machine that shaves still faster, and so on) (Bonaiuti, 2011, pp. 90–91). The strength of G-R's proposal is that it is firmly grounded in the biophysical dimension of the problem. However, it does not investigate how the reforms can be implemented from within existing institutions of private property, wage-labour, or markets. However, his point about weapons manufacturing is well taken.

While G-R's bioeconomic program is a guidepost for other degrowth proposals, contemporary writers have sought to think through the social changes that might accompany the technical changes that G-R proposes. This social dimension is characteristic of degrowth's evolution from an ecological limits framework to one that focuses on how to actually enact such a degrowth transition from within



the confines of the existing system. The reforms that could be implemented or at least supported at the level of the state are summarized below. Most of these have been found within journal articles and books published in the last eight years, although I will occasionally reference degrowth precursors when their ideas seem relevant or reinforce the contemporary literature.

Degrowth ideas for transition include collective ownership (worker cooperatives, community land trusts, credit unions, etc.) (Johanisova, Crabtree, & Fraňková, 2013; Johanisova, Padilla, & Parry Philippa, 2014; Kallis, Kerschner, & Martinez-Alier, 2012, p. 175; Schumacher, 1989, pp. 250, 258); job guarantee (Alcott, 2013; Unti, 2014) and basic income (Alexander, 2012, p. 16, 2014; Kallis et al., 2012, p. 175); reduced working hours, work sharing, and reduced labour productivity (André Gorz, 1980, p. 41; Jackson, 2014; Kallis et al., 2012, p. 175; Schor, 2014); maximum income (Alexander, 2012, p. 16, 2014; Kallis et al., 2012, p. 175) and reduction of private inheritance/bequest (Alexander, 2012, p. 17); alternative/intermediate/convivial technology (Domènech, March, & Saurí, 2013; André Gorz, 1980, p. 41; Schumacher, 1989, p. 138) and renewable energy (Alexander, 2012, p. 17); resource and energy caps/taxes (Kallis et al., 2012, p. 175) and population control (Martinez-Alier, 2014); public money (Mellor, 2014) and debt audits (Cutillas, Llistar, & Tarafa, 2014); limitations on private property (Kallis et al., 2012, p. 175); and new indicators of macro-economic progress (Alexander, 2012, p. 17).

### **2.2.1 Collective Ownership**

For degrowth, the scale of the production process should determine the structure of ownership. Schumacher articulated this in 1973: “It is immediately apparent that in this matter of private ownership the question of scale is decisive. When we move from small-scale to medium-scale, the connection between ownership and work already becomes attenuated; private enterprise tends to become impersonal and also a significant social factor in the locality; it may even assume more than local significance. The very idea of *private property* becomes increasingly misleading” (Schumacher,

1989, p. 248, emphasis in original). In other words, what was private becomes increasingly a matter of collective importance as the scale and scope of an operation increases. It is worth noting that property is not a thing but rather a social relation between the person or group who “owns” something and the rest of society who respects certain rights of ownership (often through the enforcement of the state or other governing body); “*all property rights flow from the collective*” (Bromley, 1991, p. 5, emphasis in original).

According to Johanisova et al. (2014), there are three reasons why co-operative ownership structures are more appropriate for a degrowth transition than typical joint-stock firms: 1) share ownership rules, 2) democratic governance structure, and 3) freedom from the legal obligation to maximize return to shareholders. On the first point, shares in a cooperative are usually non-transferable and only redeemable at their original value. This prevents speculation and a growth for growth's sake outlook since share values do not increase with the growth of the firm (Johanisova et al., 2014, p. 153). Additionally, the growth incentive is reduced in another sense, since “doubling the size of the enterprise may double the net profit, but it will also double the number of workers who must share that profit” (Schweickart, 1996, p. 96)<sup>21</sup>. In contrast, a private owner (or owners) can realize double the profit by doubling operations without any dilution of the profit amongst more people.

Regarding the second point (on democratic governance), it is argued that a cooperative firm, at its best, collapses the distinctions between owner, shareholder, worker, and consumer, and operates according to a “mutual-aid needs-satisfying logic” (Johanisova et al., 2014, p. 153). The third point (no legal requirement to maximize profit) is important so that other considerations, such as employment and environmental protections, can be prioritized.

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21 Schweickart is not a degrowth author (in fact we will see him in the second part of the paper) but I thought this point was well suited for this section.

Johanisova et al. (2014) recognize that co-operatives can be characterized by a loss of the co-operative ethos derived from the seven co-operative principles defined by the International Co-operative Alliance (ICA)<sup>22</sup>. This can happen for a number of reasons, including their integration in a competitive capitalist market, stratification between members and managers, or lack of access to sufficient credit from their members. To prevent this from happening there should be a strong focus on education within the co-operative, explicit policies to strengthen member participation in management, the creation of links between co-operatives that bypass the mainstream economy, and the pursuit of a strategy of replication (i.e., many small co-operatives rather than one big one). In an earlier article Johanisova et al. (2013, p. 13) noted that collective ownership need not be reserved exclusively for businesses but can extend to collective ownership of land (as exemplified by community land trusts) and finance (credit unions).

While the state can nationalize certain large-scale industries (and implement some kind of democratic worker self-management), for smaller firms it is more likely that the state create conditions in which co-operatives are supported and encouraged. For example, workers could have the legal right to buy out their employer after the company achieves a certain size or after a certain period of time has passed. The education system could encourage co-operative businesses and it could be made easier for co-operatives to access needed credit. Government contracts could be preferentially offered to co-operative firms.

### **2.2.2 Job Guarantee and Basic Income**

The job guarantee requires that the government provide employment to anyone who is seeking employment (acting as an employer of last resort). This reform does not actually seek to degrow the economy per se, but rather would serve as a check against the capitalist tendency to create involuntary

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unemployment during periods of slow or negative growth. Also, since degrowth requires eliminating jobs in many sectors (such as the fossil fuel sector) the job guarantee could serve as a means of cushioning and retraining those likely to lose their jobs (Alcott, 2013, p. 57). It also recognizes the importance of employment to people's well-being, as opposed to welfare, which does not provide socially meaningful work. The two major objections to a job guarantee are around inflation and affordability (Unti, 2014). However, it is argued that the job guarantee can actually help stabilize prices through the buffer stock of workers employed in the program which would take pressure off of conventional labour markets. Second, in the US it is estimated to only cost 1% of the GDP, with many of the costs being offset by reductions in spending on other welfare programs. The actual implementation of the job guarantee could be accomplished by setting national level wage and benefit packages but allowing for a decentralized administration through local governments, non-profits, and community organizations (Unti, 2014). Finally, the jobs provided could be channelled towards environmentally sustainable projects and methods of production that will not be undertaken by the private sector. The jobs could even serve to broaden our conception of work by including things like raising children, caring for the elderly and infirm, education, habitat restoration, community gardening, the arts, etc (Unti, 2014).<sup>23</sup> Alcott (2013, p. 59) notes that there is an ongoing debate in the literature around the desirability and feasibility of a job guarantee.

The basic income is usually recommended for everyone (not just those who earn less than the minimum), regardless of employment status, although it could be tied to performing some community service outside of the formal economy (Alexander, 2014). With this latter responsibility it would be closer to a job guarantee. Like the job guarantee, there are two standard objections to its

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23 The devaluation of the work of social reproduction and care has been a consistent criticism of capitalism on the part of feminist socialists. Although I didn't emphasize this point in the section on capitalism, Moore explicitly incorporates this critique into his theorization by claiming that women's work is another form of "unpaid" work that is appropriated in service to accumulation.

implementation which are that it will give rise to a society of free-loaders and that it will be too expensive. As for the first, it may be true that there will be some free-loading but generally human beings are “social creatures who find being engaged in their community's work more meaningful and fulfilling than being isolated, idle, and parasitic on their community” (Alexander, 2014, p. 147). Regarding affordability, the basic income could be phased in over time or started as a negative income tax for those who make less than the minimum amount (Alexander, 2014). Obviously the basic income must be financed out of tax revenues, however the basic income would allow for the elimination of other conflicting welfare programs that are also tax-financed.

### **2.2.3 Reduced work hours, work sharing, and lower labour productivity**

Reduced hours of work and work sharing are complementary measures of both decreasing overall production and decreasing unemployment. Economic growth is equal to the average level of labour productivity multiplied by the average work time multiplied by the number of employed people (Jackson & Victor, 2011). Therefore, in an intentionally shrinking economy, work time must fall if there are no corresponding decreases in labour productivity or overall level of employed people. In fact, many European countries already practice work sharing in times of economic recession (Schor, 2014). Essentially, work sharing, a basic income, and a job guarantee are all different strategies attempting to maintain economic security in an economy that is shrinking. Work sharing is the only one of these strategies that could lead directly to a decrease in economic growth, since if work time reductions are not offset by increased employment levels or productivity increases then the economy will shrink. Although, if a basic income or a job guarantee leads to a structural shift to lower labour productivity (for example, if more people are engaged in “unproductive” work) then these policies could also result in a shrinking of the economy.

On that note, the “new economy” (see Jackson, 2014) is about shifting the economy towards a lower

level of labour productivity through the expansion of those activities that require little materials and energy and are correspondingly labour intensive (but also enjoyable and serve to strengthen community ties). Jackson puts much emphasis on the service sector as an area that could be expanded. Following the formula identified above, this would lead to lower economic growth provided that work time and the level of employed people did not increase to counteract it. The idea of the new economy has some relationship with Schumacher's (and Gorz's) idea that society extend the amount of time spent on “actually productive” activity in order to give everyone the “opportunity of working usefully, creatively, with his own hands and brains, in his own time, at his own pace – and with excellent tools” (Schumacher, 1989, p. 144).

#### **2.2.4 Maximum Income and Inheritance Taxes**

A maximum income simply designates a level over which any income would be taxed at a rate of 100%. The reason for this policy is so that society does not become stratified between those who earn a basic income and the super-rich (Alexander, 2014). It also serves to recognize the negative effects that inequality can have on society, as identified by some social science research (e.g., Pickett & Wilkinson, 2010).

Inheritance taxes are a policy that aims to reduce the accumulation of wealth across generations by limiting the amount of money and property that can be passed on to descendants. The wealth seized could be used to fund other things such as a basic income or renewable energy technology. Alexander suggests that “upon death a citizen's property would revert to the state rather than being passed down from generation to generation” (2012, pp. 17–18).

#### **2.2.5 Technology**

All of the points in G-R's bioeconomic program deal with technology, either directly or indirectly. For G-R, the powerful mastery of technology was a distinguishing feature of human beings and a

crucial component of his bioeconomics<sup>24</sup>. Other degrowth precursors such as Illich and Schumacher have called for what they have respectively called convivial tools or intermediate technology. For Illich, this means “modern tools that are used by everyone in an integrated and shared manner, without reliance on a body of specialists who control said instruments” (Deriu, 2014, p. 79). Interestingly, Illich does not emphasize the ecological dimension of technology but the social. It is not that technology is based on unsustainable resource use but rather that industrial technology sets in motion a vicious circle of lost autonomy and commodification (i.e., more and more human needs are met through money exchange). Consequently, people are forced to work more and more in order to afford the needs that industrial production monopolizes and that were previously satisfied in non-commodified ways.

Illich places particular emphasis on the structure of the tool itself as opposed to the structure of the relations in which the tool is embedded. However, Deriu points out that tools do not exist in a vacuum and that even seemingly convivial tools (such as the sewing machine, as Illich identifies) can be used in non-convivial ways (e.g., sewing machines in a sweatshop). This does not mean that Illich's analysis of industrial technics is unwarranted but that the “structure of social relations and the structure of the instrument are codetermined and develop in a circular and non-unidirectional fashion” (Deriu, 2014, p. 81). This ambiguity can lead to situations where it is unclear whether technology can be considered convivial or not, such as the Internet.

It is also worth noting that Illich did not condemn industrial production altogether but only its monopoly form. From his standpoint it is desirable to have a balance between industrial production and those tools which favour personal autonomy. A convivial reconstruction would also require limits

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24 Humans operate according to “exosomatic” evolution whereby they have partially transgressed biological (“endosomatic”) evolution through their incorporation of external energy and external tools, along with the human social capacity for shared representations and planned organization.

on the rate of change of technology (Deriu, 2014, p. 81).

The contemporary degrowth literature does not have much written on actual alternative technological systems. Alexander (2012, p. 17) calls for a transition to renewable energy sources and Domènech et al. (2013) investigate alternative means of providing water in Barcelona. However, in general there is a greater focus on the social acceptability of degrowth ideas and the macroeconomic structures of a degrowth economy than on the actual material basis of a degrowth society. While there is a rejection of the ecological modernization discourse and its technological optimism (and certain degrowth precursors, like Gorz, have much hope for the 3D-printing, makerspace movement of recent years), clearly more research is needed into the technological basis for a degrowth society in the absence of fossil fuels. What might be that balance between industrial and convivial technology and how can this balance be achieved in a transition from current levels of technological development? Who will decide on the technology to be adopted? This question implies the need for different levels of social deliberation over the kinds of technology that should be fostered; instead of primarily private investors making those choices with the only avenue for social choice being exhibited in the market after production has already been carried out.

### **2.2.6 Resource Caps**

“[S]ince ... there is no such thing as the cost of undoing an irreparable harm or reversing an irrevocable depletion, and since no relevant price can be set on avoiding the inconvenience if future generations cannot bid on the choice, we must insist that the measures taken ... should consist of quantitative regulations, notwithstanding the advice of most economists to increase the allocation efficiency of the market through taxes or subsidies” (Georgescu-Roegen, 2011a, p. 90 [1972])

Kallis et al. (2012) identify resource caps as a potential degrowth reform. As the above quote from G-R argues, taxation and subsidies are not stringent enough. “Let no one ... forget that the



irresponsible deforestation of numerous mountains took place because 'the price was right' and that it was brought to an end only after quantitative restrictions were introduced” (Georgescu-Roegen, 2011a, p. 90 [1972]).

Since quantitative limits decrease the supply and therefore increase the price of goods, they essentially have the same effect as a tax but with the benefit of immediately achieving the desired effect rather than merely encouraging but not ensuring the use of alternative resources. In the case of fossil fuels the rise in price (ideally phased in over time as the cap is lowered) would send ripple effects throughout the economy and encourage either reduced consumption or a switch to less resource intensive production methods.

It is worth noting that while fossil fuels are amenable to a declining cap and trade system, this could trigger the renewed exploitation of renewable energy sources provided that the demand for energy does not decline to the same extent as the decline in energy that fossil fuels provide. But renewable energy sources (e.g., forests) cannot be managed via a cap and trade system since they represent living systems that cannot be utilized in a purely quantitative manner. In other words, there is a difference between the clearcutting of a forest and selective logging. So in addition to fossil fuel caps (which could also take the form of geographical planning or the rejection of certain techniques such as fracking) there would have to be systems to maintain renewable energy sources and ensure they aren't irreversibly degraded.

### **2.2.7 Population Limits**

We have seen that G-R recommends reducing the world population to that which can be fed by organic agriculture, which is due to the unsustainable nature of conventional agriculture. Usually any talk of controlling the population is controversial, however G-R's basic rationale is hard to argue

against. Martinez-Alier (2009) has identified three strains of Malthusianism: 1) that of Malthus himself, who crudely argued that population growth would always be checked by natural limits (according to mathematical formulas), 2) the Neo-Malthusians (circa 1900) who organized collectively in anti-capitalist ways and believed that humans could regulate their population growth through contraception, and 3) the Neo-Malthusians of the 1960s and 1970s who advocated a top-down approach to population control and believed that population was the root of global poverty and environmental destruction. It is the second group that Martinez-Alier identifies as an inspiration for the degrowth movement. The neo-Malthusianism of this era was part of a radical, feminist movement in the US and Europe (Martinez-Alier, 2009, pp. 1114–1115). In France it took the name of *la grève des ventres* (“strike of the bellies”). In the US, Emma Goldman's writing is indicative (see Goldman, 1916). There was a similar movement in India (as part of the “self respect” movement) and similar sentiment in the writing of a Brazilian anarchist (‘Love one another more and do not multiply so much’).

It would seem that the contemporary degrowth literature does not advocate any institutional changes related to population (unless related to women's control over reproduction), advocating instead for the reproductive rights of women amidst a movement that recognizes the threat of population growth against wage levels, sustainability, and human subsistence (Martinez-Alier, 2014). Yet, there is some debate, since Kerschner (2010), in comparing degrowth and the steady-state, has argued that degrowth does not take the population question seriously enough, especially in the context of a decline in fossil fuel energy.

### **2.2.8 Public Money and Debt Audits**

Probably the most ambitious monetary reform from the degrowth literature is that of public money.

Mary Mellor explains:

“Proposals to create new public money as a public resource would aim to create all new money either under democratic control through a national monetary budget or through an independent monetary authority (Jackson and Dyson 2013). Public money would be issued free of debt and would be spent directly into the economy. Enough money could be circulated to enable sufficiency provisioning and needs-led economic activity (Mellor 2010).” (Mellor, 2014, p. 176)

Mellor thinks that the loaning of money with the expectation of interest creates a growth imperative that is endogenous to the money system. As such she accords much significance to the idea of a “debt-free” money supply. She is not alone in this view, however this growth imperative has recently been challenged by Jackson and Victor (2015). If we discard the idea that the existing money system produces an inherent growth imperative then the idea of public money becomes more a question of social control over finance according to criteria other than maximum profitability (depending on the investment). Investments could be purposely made in areas that do not generate a profitable return, such as the purchase of land to establish a nature reserve.

Debt-audits have to do with assessing the legitimacy of accrued debt. It is noted that debt can be used by powerful social classes to maintain hierarchical order through social customs and laws that prioritize debt repayment (Cutillas et al., 2014, p. 156). Also, that debts often “originate in circumstances that are unjust due to violence and the exercise of undue power” (Cutillas et al., 2014, p. 156). Thus, a debt audit is performed (often by citizen groups or citizen groups in partnership with government) to decide which parts of a country's debt is legitimate and which are not. This practice will likely need to be a key part of any transition, to take into account the historical role that debt has played in subordinating countries in the Global South to those in the Global North.

### **2.2.9 Limitations on Private Property**

Griethuysen argues that “private property must be constrained within a set of collectively agreed social minima and environmental maxima” (Kallis et al., 2012, p. 176). In other words, there should be limits on what can be done with property (whether private, common, state, or open-access). It is further suggested that common property regimes and state property regimes might be more conducive to a degrowth transition than those of a private nature (Kallis et al., 2012, p. 176).

## **2.3 Discussion**

In considering how these reforms challenge capitalism, it is clear that they do in several crucial respects. First, limitations on private property through the construction of collective forms of ownership in the areas of production, land, and finance, would undermine the private property basis on which capitalism is based. Second, the implementation of declining caps on the use of fossil fuels and limits on the use of other resources would directly challenge the accumulation of capital that rests on the appropriation of “Cheap Nature”. Third, the idea of lowering labour productivity would seem to directly contradict the tendency to maximize labour productivity under capitalism.

The degrowth reforms elaborated above are largely consistent with those advocated by the steady-state literature (except perhaps in the area of population control) (Kallis et al., 2012, p. 175). This might seem strange given the differences between ecological economics and degrowth identified previously. However, while the steady-state literature considers these institutional reforms at the theoretical level, the degrowth literature more actively discusses the political feasibility of these reforms in practice (Kallis et al., 2012, pp. 177–178).

However, the way that these reforms are brought together and integrated is crucial and can open degrowth up to critique. For example, Foster (2011) has criticized degrowth (especially Latouche) for

not challenging any of the institutions of capitalism, such as private property. While it is clear that there is a certain focus on overcoming private property within the degrowth literature (in terms of creating co-operative ownership structures) this is not considered as the central component of a degrowth transition and can romanticize the voluntary proliferation of co-operatives without state support. Co-operatives are sometimes considered another element in a list of things that could be conducive to a degrowth transition; not as a way of over-turning one of the defining long-term characteristics of the capitalist system.

Blauwhof (2012) has suggested that the socio-economic reforms proposed by ecological economics (and degrowth since they recommend similar things) not be dismissed out of hand but rather reconsidered with the benefits of a Marxian analysis. Drawing on the steady-state literature, Blauwhof identifies seven reforms that overlap more or less with what I have listed in the previous section: minimum and maximum income, progressive taxation, job guarantee, basic income, reduced work hours, spreading ownership of wealth and business, and creating producer co-operatives. The first five are considered redistributive and unlikely to fundamentally challenge the accumulation imperative<sup>25</sup>; since they leave the structural power of the capitalist class intact. The last reform, democratizing the workplace through producer co-operatives, is considered the most promising but it is noted that co-operatives will still have an incentive to grow in a competitive market environment. What is needed then is “if not a complete abolition of commodity production for the market, at least some kind of effective regulation, whether provided by a state or an umbrella organisation set up by the cooperatives themselves” (Blauwhof, 2012, p. 260).

Marx originally conceived of the “metabolic rift” as a rupture in the recycling of soil nutrients

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25 With the possible exception of the job guarantee, since it allows for some political determination of work to be done independently of market pressure.

between the town and the country. This occurred because agricultural products were being used to feed a growing urban population without returning the waste to the soil, which undermined soil fertility in the long-term. Foster (2000) generalized this concept to apply to the way that capitalism created subsequent “rifts” in order to temporarily overcome previous ones. For example, importing guano from Pacific islands to fertilize English farm fields. Or creating synthetic fertilizer using the energy from fossil fuels, which not only disrupted the global nitrogen cycle but also the global carbon cycle. Moore (2000) then further expanded the concept of the metabolic rift to apply to the entire history of capitalism. Getting rid of capitalism then requires repairing this metabolic rift. This will require living within the regenerative capacity of ecosystems as the degrowth literature recognizes. Yet, the metabolic rift, while constitutive of capitalism is part of the larger whole of private property, imperialism, markets, and shared representations (i.e., culture).

Thus, the need for a suite of reforms. Certainly, any one reform taken in isolation will not result in a break from the current system. For example, the implementation of a basic income is being trialed in Ontario (Israel, 2016), however this is taking place in a context of increased privatization of government services, such as the provincial electric utility (Marchese, 2015). This is why a basic income is often supported across the political spectrum, because it can be implemented in different ways. However, a basic income must only be a complementary measure to the reconfiguration of the ownership structures and division of labour that currently deprive many people of a sense of meaningful work, in jobs that are contributing to the medium-term (short-term?) disruption of a stable climate system for human civilization. In the same way, the international Conference of Parties can agree to limit the global temperature increase to 1.5°C (Goldenberg, Vidal, Taylor, Vaughan, & Harvey, 2015) while many world leaders continue to promote trade agreements in an attempt to jump-start accumulation through greater exploitation of natural resources. At the same time, trade agreements

give further power to corporate actors and tie the hands of states to make the needed changes to their economies to meet their carbon emissions targets. This is the strengthening of private property regimes, the global market, and the exploitation of natural resources, which is expected to lead to lower carbon dioxide emissions.

A change in values and a re-evaluation of human need is also necessary (as the degrowth literature explicitly recognizes) but cannot, I think, be seen independently of restoring individual and collective autonomy from the grips of a globalized market designed for corporate dominance. Practically, implementing limits on resource use will require not only overcoming the power of private investment and finance, but also a reorientation of the collective ends of society<sup>26</sup>, less energy and material intensive consumption patterns, greater equality to ensure that declines in living standard are shared, a shift to a different energy system, and different methods of production and consumption.

The actual physical transformation of infrastructure and technological forms is a key element in imposing restrictions on fossil fuels. Since you can't stop using fossil fuels if alternative energy sources are not capable of meeting basic needs. To a certain extent consumption can be reduced and collectivized (e.g., public transit as opposed to private automobiles, sharing of tools) but not all consumption can be done away with and alternative energy sources must be cultivated to meet those needs. The greatest technological challenge will be moving towards local and regional production and consumption. This will likely require great changes in how land is used within and around our cities, not to mention the capacity of surrounding ecosystems to support the current population levels.

Yet this will happen only through political struggle over the types of technology and organizational structures necessary for the transition. As Gorz says: “The theoretical and practical definition of

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<sup>26</sup> Re-evaluating the idea of endless progress, a growth for growth's sake attitude, and excessive individualism.

alternative technologies, and the struggle of communities and individuals to win, collectively and individually, control over their own destinies, must be the permanent focus of political action” (André Gorz, 1980, p. 20).

## **2.4 Connections to Economic Democracy (and markets)**

The degrowth institutional reforms have much in common with an Economic Democracy agenda as proposed by Malleson (2014). For instance, the focus on cooperative work, the reform of the financial system, strong measures of wealth redistribution, some kind of job/income security, and even the use of quantitative limits on resource use. The contemporary degrowth literature emphasizes democracy (although not always strongly or consistently) and the repoliticization of the economic, which are also consistent with Economic Democracy. However, there is also an emphasis within degrowth of a “downscaling ... of the role of markets and commercial exchanges as a central organizing principle of human lives” (Sekulova, Kallis, Rodríguez-Labajos, & Schneider, 2013, p. 1); a sentiment that Malleson does not completely share. Schumacher, as well, has called the market, the “institutionalization of individualism and non-responsibility” (Schumacher, 1989, p. 42). Further:

“In the market place... innumerable qualitative distinctions which are of vital importance for man and society are suppressed; they are not allowed to surface. Thus the reign of quantity celebrates its greatest triumph in 'The Market'. Everything is equated with everything else. To equate things means to give them a price and thus to make them exchangeable. To the extent that economic thinking is based on the market, it takes the sacredness out of life, because there can be nothing sacred in something that has a price” (Schumacher, 1989, p. 43).

Here Schumacher reveals the reductionist tendency of the market to make everything interchangeable, especially those things which should not be; for example, fossil fuels. Similarly, the quest to incorporate everything into the market by assigning it a price runs up against obvious



problems. For example, Gorz says: “Then, dear neoliberal economists, tell us quickly: how much is a ray of sunlight worth? Fresh air without lead or sulphur fumes? A dip in the sea or the lakes?” (André Gorz, 1980, p. 65).

Blauwhof (2012; cited in the previous section) has suggested that commodity production for the market must either be abolished or subject to strong regulation by the state or a worker umbrella organization, in conjunction with the proliferation of worker cooperatives. Also, Klitgaard and Krall (2012) argue in the journal of Ecological Economics that “[m]arkets are more than just allocative mechanisms. They are also social institutions. There are no allocatively efficient markets that can be easily disentangled from this broader economic reality. Rather than treating markets as single purpose allocative mechanisms, we believe it is more productive to abandon the disaggregation of scale, distribution, and allocation and the premise of efficient allocation and treat markets as a component of an integrated whole called the Market System, or capitalism” (p. 248). This was written in response to the thought of some ecological economists who argue that the market can provide optimal allocation of resources but cannot (or should not) designate the scale of economic processes or an optimal distribution of resources<sup>27</sup>.

On the contrary, Malleson (2014) argues that markets can be successfully embedded within other democratic institutions. However, Malleson also does not argue against economic growth, which led me to think about the relation between markets, growth, and democratic control of the economy. Can a market society be amenable to the kinds of changes that the degrowth literature calls for? Many of the institutional reforms that degrowth calls for assume the existence of the market, so one would assume so. Is it possible to remove the economy from market control completely and operate on the basis of

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<sup>27</sup> Allocation is the division of resource flow among alternative product use, whereas distribution is the division of the resource flow, embodied in products, among different people.

full planning? In the second part of this paper I will consider these interconnections and compare the market model with a more explicitly planned approach.

### **3. Part 2: Democratizing the Economy**

This part of the paper arose out of two contradictions: 1) the need for a decline in the use of energy/materials in the Global North coupled with the seeming inability of people to make collective decisions in this regard (even if individually they recognize that consumption patterns must change), and 2) a contradiction that I identified between two books that were both quite persuasive. The first is Tom Malleon's *After Occupy: Economic Democracy for the 21<sup>st</sup> Century* and the second was Richard Smith's *Green Capitalism: The God That Failed*. Both are about replacing capitalism with a different system, one that can be subject to democratic control. Malleon's book retained the market mechanism while Smith called fairly explicitly for a non-market approach (although he admitted that he couldn't spell out the exact mixture of "planning, rationing, and democracy" (Smith, 2015, p. 102)). While I am inclined to agree with much of Smith's analysis around the urgency and need for broad-scale planning of the economy in light of the climate crisis, this part about completely abolishing the market struck me as undeveloped, whereas Malleon's analysis of the market was quite well articulated. I realized that this debate between the market and planning was part of a longer (and larger) one around market socialism. I think it is important to revisit this debate because of the implications it has on potential transition paths. If the market is inherently isolating and individualizing and perpetuates a growth dynamic through competitive behaviour, then what is to be done? On the other hand, if the market can be accommodated to democratic control (including a degrowth agenda) then this may make a transition easier in the sense that we do not have to invent entirely new coordinating institutions.

It may be argued that of course we will have to maintain the market in the near future; but then what of long term goals? The degrowth literature seems to suggest that market exchange will recede in

importance, although this would appear to go hand in hand with the relocalization of production and a more self-sufficient / communal provision of goods and services. What about with a more complex division of labour? In the course of interrogating the market other ideas for democratizing the economy will be exposed (both market and non-market). First, I will outline the history of economic democracy and market socialism. Second I will summarize the arguments for and against the market, as debated in the *New Left Review*, and in the accounts of McNally and Malleon. Finally I will summarize the institutional reforms that are revealed along the way.

### **3.1 Economic Democracy**

In his 1980 essay *Capitalism or Worker Control?: An Ethical and Economic Appraisal* David Schweickart set out a model of socialism that he would explicitly call Economic Democracy in his 1993 book *Against Capitalism*. Schweickart is an American mathematician and philosopher. The use of the term “economic democracy” actually goes back even further, at least to 1920 when C. H. Douglas, a British engineer, published *Economic Democracy* which argued for monetary reform based on the observation that systematically workers were not paid enough to buy back what they had made. Although Douglas' use of the term does not do justice to the kind of reforms that Malleon and Schweickart defend, his ideas did have some influence in Alberta as part of a political party that came to power in 1935.

In his 2014 book Malleon writes about democratizing the economy (parts of which he borrows from Schweickart). The book is divided into three sections: co-operative work, the market, and finance/investment. The market would still play a pivotal role in distributing goods and services, while the surplus is socialized (amongst workers in each firm or amongst society generally in the case of nationally owned firms) and production in the workplace and finance/investment is subject to democratic accountability. Economic activity is still regulated and planned by government, as

currently exists, except the regulatory process could not be influenced by a capitalist class interested solely in maximizing return on investment (since the economy would be largely composed of worker co-ops and nationalized firms). As Malleson admits, the model that he has laid out is really a form of market socialism.

### **3.2 Market Socialism**

The market socialism tradition was revived in 1983 with the publication of Alec Nove's *The Economics of Feasible Socialism* which was written in reaction to the economics of the Soviet Union, of which he was considered an expert. This book precipitated a debate in the journal of the New Left Review (based in the UK) in which Nove, Ernest Mandel, Diane Elson, Paul Auerbach, Meghnad Desai, Ali Shamsavari, and Robin Blackburn participated. The debate centres on whether the market is a necessary or desirable mechanism to coordinate production and consumption in a future socialist economy.

First, Ernest Mandel wrote a response to Nove's book defending a planned economy in a 1986 issue. Then, Nove wrote a response to Mandel in 1987. Mandel wrote another response in 1988. Later in 1988 Paul Auerbach, Meghnad Desai, and Ali Shamsavari wrote an article in response to Mandel; and Diane Elson wrote on socialized markets in response to both Nove and Mandel. In 1991 Robin Blackburn wrote a historical account of the market socialist debate, not specifically responding to the particular ideas or positions already outlined, but ultimately expressing support for Elson's position. A little later in 1993 David McNally of York University wrote a book called *Against the Market* which argued against the market socialist position as portrayed in various forms by Nove, Elson, and Blackburn (among others). This written debate took place within the context of both neoliberalism and the decline and fall of Communism in the Soviet Union.

This is not meant to be an exhaustive account of the market socialism debate. Indeed, McNally shows that the debate has been going on in radical political economy since Adam Smith, and Blackburn shows that it was active within the Soviet-Marxist tradition and economics profession during the early 20<sup>th</sup> century (e.g., the “calculation debate”). There have also been other more recent accounts. However, including Malleson, this selection of work should provide adequate coverage of the market debate.

### **3.3 The Market**

Clearly, there is much debate over the role of the market in a future economy. Market socialists (and market capitalists) generally argue that the market is necessary to coordinate production on a large scale with many different products. Also, that the market does not in itself lead to undesirable social consequences; that the market should not be confused with capitalism as a whole. In contrast, those against the market generally argue that the Soviet Union cannot be used to definitively demonstrate the failure of economic planning, that democratic planning on such a large scale is possible, that the market (and the competition implied) does not dispense with capital accumulation or a market in human labour, and that market socialism would not lead to full control over the economy.

#### **3.3.1 Nove**

Alec Nove wrote the *Economics of Feasible Socialism* after a nineteen year career as Professor of Economics at the University of Glasgow. He was born in Russia but was educated in England, and he was considered an expert on Soviet economy. He was particularly concerned with presenting a model of socialism that he thought would be feasible given the current state of human nature and society. Based on the experience of the Soviet Union this could only be a market model. To this end he recommended a mixed model of ownership with five levels including: private individuals, small-scale private firms, co-operative firms, state-owned enterprises with full autonomy, and centrally controlled

and administered state enterprises. The banks and other credit institutions would be of this latter centrally controlled form, as would other things that operate with large, closely interrelated units (due to technological economies of scale) or exhibit a natural monopoly. Some examples given are the electricity grid, large integrated steel works, rail networks, and oil/petrochemical complexes. These centralized state-owned enterprises could be subject to “tripartite supervision”, with management responsible to the state, the users and the workforce. Not that this accountability would be simple or easy to achieve. Socialized and co-operative enterprises would have managers appointed by an elected committee of workers and the division of functions could be democratically decided amongst management, the elected council, and the rest of the workforce in light of their own experience. The main difference between socialized and co-operative enterprise is the difference in property relations; in the former the means of production would belong to the state. Private property would be subject to limits such as a certain number of employed people or on the value of capital assets, and could vary by sector. Above this limit there could be a choice to convert into a co-operative or a socialized enterprise, with proper compensation for the original entrepreneur.

As for planning, major investments would be handled by the state, planners would monitor decentralized investments (to avoid duplication and clearly unsound projects), major public goods would be extensively planned (e.g., electricity, oil, railways), and ground-rules would be set for the autonomous and free sectors to operate within. In addition, there would also be functions associated with foreign trade and the drafting of long-term plans for approval by the legislature. “The centre” would have a vital role in ensuring a balance between the present and the future, including the overall level of investment. Democratic vote could decide the boundary between the commercial or market sectors and those where goods and services could be provided free.

### 3.3.2 Mandel: Response to Nove

Ernest Mandel was a revolutionary Marxist, member of the Fourth International, and a fairly prolific author (Lowy, 2009). *In Defence of Socialist Planning* (1986) provides a response to Nove's 1983 book, arguing against the market and in favour of a democratically planned economy. The article is divided into eight sections. The first section is broadly about how the level of planning within the large firm is suggestive of how an entire economy can be planned (Auerbach et al. are critical of this view as we shall see); that the tendency within capitalism is towards a fully planned economy (p. 6). Second, it is argued that for many necessary goods (such as water) the amount of use does not depend on price (i.e., people simply use what they need), and that with the advance of the productive forces the number of goods society can distribute free of charge can progressively increase (p. 13). Third, that basic human needs are relatively predictable and that it would be simpler and more democratic to simply ask people what their needs are rather than interpose the medium of money (p. 17). Further, that market relations be reserved for those non-essential goods and services, where real choice (i.e., not based on subsistence) can actually be exercised (p. 20). Fourth, he suggests that market incentives (such as different wage levels or productivity bonuses) inevitably leads to the work of the producers (e.g., the intensity or duration) being subordinated to the needs of consumers (pp. 21-22). Fifth, that informal cooperation and relations of familiarity between firms, and between consumers and firms, often override market signals (i.e., changing prices); and that this requires neither a real market economy nor a bureaucratically centralized planning (pp. 22-23). Sixth, that the loss of market incentives would not impact the degree of innovation, since this is often not the primary motivation anyway.

In section seven Mandel outlines how his democratic planning would function, what he calls: “articulated worker self-management” (p. 26). Essentially, it would involve elected councils of workers at the national or international level who decide between different combinations of “average

workload (length of the working week); ... priority needs to be satisfied for all through guaranteed allocation of resources ('free' distribution); volume of resources devoted to 'growth' (reserve fund + consumption of additional population + net investment as a function of technological choices again clearly spelt out); volume of resources left for 'non-essential' goods and services to be distributed through money mechanisms; minimum and maximum money incomes; pricing policy for marketable goods and services" (p. 27). On the basis of these decisions a more detailed plan is drawn up on the basis of input-output tables and material balances, indicating the resources available for each separate branch of production (industry sectors, transportation, agriculture, etc.) and for social life (education, health, communications, etc.). Self-managing bodies would then divide up the workload according to their various capacities. Consumer good production would be based on feedback between workers' councils and elected consumer representatives.

Finally, in section eight it is argued that Nove's model of mixed ownership and mixture of plan and market suffers from three (actually four) pitfalls. First, the retention of the profit motive within each economic unit, which would introduce powerful impulses toward economic irrationality as decisions are taken as a function of particular, fragmented interests (i.e., the workers in each firm would pursue their own collective self-interest). Second, the retention of income differentials, which, contra Nove, can be abolished on a large scale and have been abolished for quite large groups of people including trade unions and churches. Third, the argument that large scale organizations cannot be self-managed by the producers due to the technical scale and complexity. Mandel argues that they can be self-managed through the formation of small cells of workers who then appoint delegates to make decisions at a higher level. Fourth, the retention of competition and monetary incentives, which Mandel argues, similar to point one, would undermine the solidarity necessary for a socialist economy to function.



### **3.3.3 Nove: Response to Mandel**

Nove's 1987 article in response clarifies the stakes of the argument: that the transition to socialism will involve gradually dispensing with the market; a proposition that Nove disagrees with. His key arguments are 1) the inevitable centralizing tendency involved with fully planned production, 2) the inevitability of fragmented interest, 3) the inevitability of competition, and 4) the necessity of rewards and differentials to elicit the desired effort. On the necessity of a centralized authority: "Unless 'abundance' is assumed, in the sense that there is enough for everyone and so no problem of mutually exclusive choices, some body (somebody) must allocate resources between alternative uses. Yes, the market does this too, and does it imperfectly. But the existence of innumerable freely-negotiated horizontal contractual links removes an otherwise impossible burden from the centre..." (p. 100). On the second point it is argued that a central authority (even an elected one) will unavoidably make errors in distribution due to inadequate information and particular interests on the part of the planners. Thus, the problem of particular, fragmented interests operating in a market economy is equally problematic under one that is democratically planned. Third, competition is an inevitable result of consumer choice, since producers necessarily compete for the limited preferences of consumers. Fourth, while higher forms of motivation (e.g., "commitment, loyalty, pride in work well done, a sense of service to the community" (p. 103)) are desirable and preferable, the "acquisition of purchasing power is, and is likely to remain, one of the more important (though I trust not the sole) human motive" (p. 103). Nove contends that these motivations are capable of coexisting within individuals.

### **3.3.4 Elson: Response to Nove and Mandel**

In 1988, Diane Elson wrote an article *Market Socialism or Socialization of the Market?* in which she argues that the market is necessary but should be socialized (i.e., publicly provided). Further, socialism is not defined as the absence of commodity production (production for monetary exchange) but as an economy that is concerned primarily with the production and reproduction of labour power, rather than

capital<sup>28</sup>. For her the question should rather be about “whether the conditions necessary for the market to function adequately as a form of free association can actually be sustained” (Elson, 1988, p. 4). Her major criticism of Nove is his idealized model of the market. “A market is a cash nexus between buyers and sellers, but this nexus does not just exist; it has to be made” (p. 10). Consequently, the amount of resources and human labour that goes into the market must be recognized and not assumed to be a costless process in contrast to the administrative inefficiencies of planning. Primarily, the market is constructed by profit-seeking enterprises who have control over means of trade such as credit, communications, transport, warehousing and information. The government intervenes as a regulator and provider of infrastructure but mostly the creation of markets is devolved to self-financing enterprises who must recoup the costs of market-making through sales. Further, certain firms operate to set price norms, which ensures a degree of stability but at the same time concentrates price-making influence. Later in the paper she will suggest that a proper socialist response to markets is to have them be publicly provided, with certain conditions for entry.

Elson's criticism of Mandel is that he not only rejects the market, but also prices, which she sees as essential (along with Nove). First, she claims that Mandel's starting point of dividing up the Gross National Product (at the national or international level) implies prices of some kind. Second, she questions whether his system is flexible enough to meet the (often unexpected) changing needs of families, and that his conception of consumer needs dominating producer needs is both heavily gendered (in that many women do not engage in productive activity outside of the house) and not the root cause of the ills with which he associates it. “The adverse effects Mandel sees as stemming from 'consumer freedom', such as unemployment, speed-up, health hazards, 'the authoritarian discipline of production squads', do not arise from consumer choice *per se* but depend on the overall conditions in

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28 This resonates with Schumacher's “economics as if people mattered”

which choice is exercised” (p. 25). Third, it is unclear how his concept of self-management would resolve the tensions between production units that would face much the same problems as the Ministries in the USSR. “Self-management in itself would not overcome divisions between different self-managing groups” (p. 25).

However, she recognizes that prices can have irrational outcomes. One of the fundamental criticisms of the market is that it atomizes decision-making and therefore does not consider how decisions made by individuals or firms are affected by the decisions that other units make. This can lead to irrational results, for example, the pig-cycle<sup>29</sup>. “The problem is that the steps which an isolated decision-maker in a sequential process takes to limit his or her risks, may increase the risk to which the system as a whole is subject” (p. 18). This is also the problem that can lead to a lack of aggregate demand in a market economy (since in the face of an uncertain future isolated economic units can attempt to maintain flexibility by holding money) although Elson asserts that this is mostly a problem of money being used as capital (i.e., money in pursuit of more money). This is so because “if an enterprise is not confident of selling its output, it makes more sense to hold on to money, rather than use it to buy means of production and labour power” (p. 20). Since corporations can generally put off consumption longer than households (because they don't need to eat; although their owners do), economic crises can be exacerbated. The Keynesian answer is to correct these micro-economic irrationalities with macro-economic spending by government to stimulate the economy in times of recession and curtail spending (and tax back the wealth) when the economy is doing well. Yet this “intervention in markets provides no institutions to facilitate collective reflection before individual units take decisions” (p. 20). One possible mechanism to offset isolated decisions is the nexus of informal relationships that has been shown to play a vital role in economic coordination (outside of markets or regulations). This can be

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29 “When the price of bacon is high farmers breed more pigs; when all the pigs are grown enough to be marketed for bacon, this pushes down the price and results in a reduction in pig breeding, which in turn leads to a rise in the price of bacon, and so on.” (Elson, 1988, p. 18)

understood as an “implicit contract or a moral commitment which helps to cement continuity in relations between buyers and sellers” (p. 22). The problem for Elson is how to institutionalize this nexus; “how to ensure that the cooperation is freely given, genuinely a product of trust or goodwill” (p. 22). Indeed, this underlies her whole project of market socialization in which the “nexus of trust, reciprocity, and goodwill [sets] the limits within which the market operates, rather than being subordinate to the market” (p. 27).

Two immediate features of Elson's socialism are the provision of a basic income and the public provision of a number of services free of cost, including health, education, water, sanitation, possibly transport, and information networks (p. 28). These public services are provided for free because of the nature of these services, not because they are “basic”<sup>30</sup>. The last public service, information networks, is essential for ensuring equal and easy access to information, a necessary condition of socializing the market. So what is a socialized market? Firstly, it is “one in which the market is made by public bodies, which are financed out of taxation of enterprises and households, rather than out of sales” (p. 32). Another aspect is the information network just mentioned which would serve the role of institutionalizing the “informal relationships” nexus that market economies have found necessary to construct to some degree. Information that would be provided alongside the price of an item would be the unit cost and mark-up, so that the price formation process is transparent to consumers. The idea is to overcome the secrecy which dominates the private market and encourage collaboration rather than competition between firms. This transparency would extend to production methods and production plans. Effectively there would be an “absence of private property in knowledge” (p. 42). Third, the market would be embedded within “buyer-seller networks”, the focus of which would not be prices and

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30 Things that should be publicly and freely provided include “goods which by their nature cannot easily be parcelled up and charged for separately - such as street lighting, clean air, and services where there are strong 'spillover' effects, such as health and education, where one person's ill-health can be contagious, and one person's lack of adequate skills can reduce the performance of a whole team" (Elson, 2000, p. 9).

costs, but quantities and characteristics of goods and production processes” (p. 34).<sup>31</sup> The tax-financed secretariats of each buyer-seller network could “interact with a national planning agency to generate an overall agreed strategy for the national economy” (p. 35). “Overall economic planning has a vital role to play in setting the parameters in which individual enterprises operate, and in anticipating major interdependencies. But it would take the form of a guiding strategy, a vision of the future, not a procedure for detailed allocation of material inputs” (p. 42). What would prevent cooperative economic units from acting as collective capitalists? “[A] process of social control is required at the points of metamorphosis, so that enterprise performance has to meet certain social criteria before goods and services can be sold or bought, surplus income retained and reinvested, or loans obtained” (p. 80).

### **3.3.5 Blackburn: In Support of Elson**

Robin Blackburn is a British historian and former editor of the *New Left Review*. In 1991 he wrote an article in the *New Left Review* that examined the question of the market through the history of the Soviet Union. His concern was with reorienting socialism after the collapse of the so-called communist system. He presents a detailed historical account of the intellectual debates around the market, Soviet economics, and socialism. His ultimate conclusion is that “for the foreseeable future” institutional reform must include what Elson identified as the socialization of the market (Blackburn, 1991, p. 47). He reaches this conclusion after an interrogation of Soviet economic irrationalities and through an engagement with critics of centralized distribution. In his support of socializing the market he supports a guaranteed income (p. 54), income differentials (p. 54) within maximum and minimum bounds (p. 52), disclosure of information on production costs (not just prices; p. 52), and limits on the size of private firms after which they would have to be socialized (p. 50). This is broadly in line with Elson (and sometimes Nove), not to mention much of the degrowth literature.

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31 Note that this has much in common with Mandel's idea for coordination between workers' councils and consumer groups.

### 3.3.6 McNally

David McNally is a professor of political economy at York University. In 1993 he wrote a book that investigates the history of market socialism, the roots of which can be found in the utopian socialist tradition of the early 1800s. Marx considered these socialists utopian because of their strategies for social change; particularly their emphasis on constructing small-scale alternatives rather than building a movement for taking political power. Marx was particularly critical of Proudhon who did not advocate class struggle or revolutionary action and favoured reform of the money system as opposed to a reform of private property (McNally, 1993, p. 155). McNally uses Marx's critique of these utopian socialists to respond to contemporary market socialists such as Nove, Elson, and Blackburn<sup>32</sup>. His essential point is as follows:

“This, then, is the central flaw in all notions of market socialism: by accepting market relations (commodities, prices and wage-labour), market socialists must logically accept the inevitable consequences of these relations – exploitation, class inequality and economic crises. But market socialists fail to see this because they do not understand that without the market in human-labour there is no generalized commodity exchange. If labour-power is not bought and sold, it will not have a market-determined value. And if this crucial input into every production process is not marketized, then commodity exchange will not be general, and goods will not have true market values (since the labour embodied in them will not have been priced by the market). The only true market economy is thus a capitalist economy with a generalized labour market – a point pursued in more detail in the next chapter. Market socialism thus means 'socialism' with wage-labour and exploitation – i.e., a non-socialism. All talk of market socialism is for this reason illogical and incoherent. This is why Marx insists that socialism requires the abolition of wage-labour – which can only mean the decommodification of labour-power. The elimination of exploitation and class inequality is impossible without the abolition of the labour market. And this can only mean the demarketization of economic life. A consistent socialism can only be unrelentingly hostile to the market as regulator of economic relations.”

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32 Although Elson and Blackburn would not consider themselves market socialists but rather “market socializers”.

McNally argues that any retention of a market mechanism with wage-labour implies exploitation of the direct producers by the means of production and the incessant drive to develop and expand them. “One of the greatest misconceptions about capitalism is the notion that these tendencies flow from the motivations of a class of private owners of the means of production” (p. 180). Thus, worker collectives will become their own collective capitalists, compelled to maximize labour productivity on pain of bankruptcy. It is only by overcoming the separation between producing units that the compulsion to accumulate can be halted (p. 182).

In McNally's model of planned production he still retains a market for non-essential goods (similar to Mandel) which he suggests can be “regulated according to social criteria and need not, therefore, involve any move towards market regulation” (p. 205). But basic needs would be provided by planned overproduction (to account for fluctuating demand) and distributed free of charge. The only tangible difference between this and Elson's market socialization is between the degree of free provision of services. This is a serious philosophical difference between market socialists and non-market socialists: the sphere of free provision of services. The latter argue for the free provision of basic needs (food, shelter, clothing, etc.) while the former would retain a market in these goods while ensuring that everyone has the means to purchase them (e.g., a basic income). As McNally says: [t]he struggle to liberate distribution of wealth from market regulation is a drive to supersede the principle of fee for service. What applies to socialized healthcare and education (at least to some degree in most advanced capitalist nations) can equally apply to housing, basic diet, transportation, communication, energy, recreation, and so on” (p. 203). In this vein he suggests that the socialized markets advocated by Elson “embody a fundamental contradiction: the coexistence of market and non-market logics of economic regulation” (p. 215). “Recognizing that autonomous markets are inherently asocial, I have argued that

socialism must strive to limit, restrict and subordinate them within a framework governed by a commitment to decommodifying economic life” (p. 215).

### **3.3.7 Auerbach et al.**

The conflation of the market and capitalism that McNally defends is rooted in the way that planning and the market are seen as separate modes of regulation. However, as Auerbach et al. say: “[m]arkets, like other economic forms, are a product of human action and human consciousness as manifested in acts of planning, and not entities whose necessary existence can be postulated away from the sphere of planning and decision-making” (1988, p. 73). In this article Auerbach et al. refute what Mandel and others have tended to see as the single factory model of the economy, in which the economy is progressing towards fully planned control akin to a giant factory. In contrast, “[e]ven the most recent triumphs of capitalist planning and co-ordination within and between enterprises, such as the famous Japanese kanban system for the control of inventories (stock and work in progress), emerge from market pressures to minimize holding costs while retaining maximum flexibility to respond to changes in demand” (p. 76). Instead of the divide between planning and the market, in the history of capitalism “we observe not objective, anonymous economic ‘laws of the market’, but a complex, dialectical and symbiotic connection between firms, on the one hand, and the behavioural relations we reify with the name ‘markets’ on the other” (p. 73).

One implication of this is that planning, not just markets, is absolutely essential to capitalism; it is just typically done for the benefit of capitalist and imperial interests. As Smith (2015) says:

“capitalists *indirectly* plan the national and global economies all the time. They meet every year at Davos to shape the world market for their benefit. They conspire to privatize medicine, schools, public transportation, force us to buy 'their' water or eat GMO foods. They use the IMF and World Bank to shackle countries with debt, then open them up to



U.S. corporate takeover. They've been using their states for centuries to expropriate peasants and tribes, even to exterminate them when necessary as in the Americas, to steal and privatize common lands, break up pre-capitalist societies, re-organize, re-plan whole continents to set up the right “business climate” for capital accumulation” (p. 103).

Of course, socialism would have to have a substantial amount of planning, but of a more inclusive kind and for different ends. “In the absence of the mythical ‘natural rate of interest’ of economic orthodoxy—which automatically solves all problems of weighing present against future benefits and costs in the decision process—all economies must resolve the question of resource allocation through time” (Auerbach et al., 1988, p. 77). Therefore, “[a]ny socialist society is likely to assume, as a minimum, substantial direct control over the proportion of resources allocated to investment. By imposing such control in an explicit way, society clarifies for itself the decision-making process by which it creates its own future” (p. 77).

### **3.3.8 Control over Investment**

McNally recognizes this fundamental need for investment control: “whatever may be said about the ability of markets to provide information relevant to individual decision-making – and this has been vastly overrated – they are not equipped to calculate trans-individual effects and are thus biased against social decision-making” (1993, p. 199). Further, market information is “incapable of providing rational criteria for investment” (p. 199). Similarly, Elson has said that “[t]he atomized decision-making of the market enables choice to be made between alternative, piecemeal, marginal adjustments, but not between alternative states of the world: choice in the small does not provide choice in the large” (Elson, 1988, p. 18).

Malleon (2014, Chapter 4) identifies six ways that markets can undermine democracy. First, markets respond to purchasing power, so those with more of it have more say over what is produced.

Second, monopolies can distort prices away from their true social costs and benefits. Third, externalities can be unreflected in market prices. Fourth, markets are not very good at providing public goods (those goods that once provided for some are difficult to keep from others). Fifth, markets are inadequate guides for making long-term investment decisions. Finally, markets can fail to reflect collective choice since aggregating individual decisions is unlikely to accord with what people think is best for society as a whole.

The first three issues relate to what Malleon terms “consumer democracy” and the last three to “citizen democracy”. Malleon argues that consumer democracy can be achieved within a market framework by ensuring a relatively equal distribution of wealth, preventing monopoly, and internalizing externalities via regulation, taxes, and subsidies. These things are practical problems (albeit difficult) and not intrinsically a problem of the market institution. However, the last three points relate to citizen democracy which the market is, by its very nature of short-term preference aggregation, incapable of supplying. This then calls for public institutions that are capable of providing this collective, long-term, public good decision making. Essentially, this is a call for social deliberation over investment decisions, since investment is the process, as already noted, by which we create our own future.

Malleon (2014, Chapter 6) recommends four things to democratize finance and investment. For finance: capital controls and public community banks, for investment: co-operatives and participatory budgeting. Malleon distinguishes between finance as the provision of credit and investment as the actual use of that credit to do something.

Capital controls are simply regulations that control how money is brought in or out of a country. They are necessary to prevent financial capital from “punishing” economies that attempt democratizing

(or other social justice) reforms. For instance, left-wing governments that have come to power have historically been unable to carry out their mandates due to the economic turbulence exerted by capital flight (and investment strikes by business but that's an investment issue). The problem is that democratic sovereignty is typically vested at the national level while the financial system is global. If financiers feel that a country's change in governance will negatively affect their investments then they will take their money elsewhere, devaluing the currency, making imports more expensive, resulting in inflation, which further encourages financiers to leave (since inflation erodes the value of financial capital), and so on. All of this combined with the power of investment capital (i.e., business owners) to halt their investments can lead to economic stagnation. Thus, to safeguard democratic sovereignty, capital controls are required.

The second reform of finance is public community banks. Basically it is argued that since finance is so crucial to the functioning of the economy (serving as a way to resolve the time discrepancy between when investments are made and gains realized), it essentially acts as a public utility. Its purpose is simply to enable other productive economic activity to happen, like the electricity network or the post office. Yet, the financial system is largely privatized in North American and the UK. Which can lead to the situation in 2008-2009 where the banks had to be bailed out because they were "too big to fail". The perverse incentive is that private banks can make risky decisions with few consequences because the public sector has to bail them out anyway (resulting in a colossal redistribution of wealth from the public sector to the private sector without any fundamental changes in ownership). So banks should be made a public service; but how should they be set up under public control to enable the greatest democratic participation? The community in public community bank reflects the need to decentralize the democratic control of finance beyond what could be provided by a state centred banking system. Essentially the state would distribute funds to municipalities who would then distribute funds to

community banks. These community banks (operating as non-profits) would provide credit to businesses on the basis of three criteria: profitability, ability to create employment, and other municipal priorities. The bank staff would be public servants but a citizen advisory board would be set up in order for community members to have a more direct say in deciding the local priorities that the bank should prioritize in giving loans.

In terms of democratizing investment, the spread of co-operatives would go a long way since, at least within individual firms, investment decisions would no longer be made by a minority owner or manager. Also, the democratic control over credit vested in public community banks would indirectly serve as a check on investment priorities. This would also check the structural power of business owners to implement a business strike (mentioned above), since everyone would be a part-owner. In terms of publicly funded, collectively provided services, a good part of that planning could be decentralized through what has come to be known as participatory budgeting. Of course, it would all depend on the scale of the service being provided but generally it is preferable to maximize participation at the local level where possible. For larger scale public investments, democratic control would likely be of a representative (as opposed to a directly participatory) kind.

### **3.3.9 Summary**

The main theoretical differences between market socialists and non-market socialists is between the degree to which capitalism is defined by the market itself and by extension the degree to which basic needs are provided free of charge and not on the basis of monetary exchange. Non-market socialists argue that the market has a logic of its own, independent of the private ownership of the means of production. Market socialists suggest that markets can be embedded within collective plans, regulations, and democratic processes that can shape investment decisions that the market itself is incapable of providing.

Market socialists (or market socializers) call for tiered ownership structures depending on the size of the economic unit, publicly provided markets with certain criteria for entry (especially around open access to information on costs, mark-ups, and production techniques), free public provision of certain goods (education, healthcare, access to information networks, finance), consumer-producer feedback loops, a basic income, minimum/maximum incomes, inheritance taxes, social control of investment decisions, regulations that establish the ground rules for production units, and some measure of central planning to guide overall economic development. Essentially, they suggest that the coordinating benefits of the market can be separated from private property, a market in labour, and ecological externalities.

Non-market socialists (or just socialists?) call for the production of basic needs through the democratic coordination of various economic sectors on the basis of planned levels of output. Production for need, not for exchange. This could be accomplished through the nesting of various levels of worker councils in each industry and through the interaction of worker and consumer groups around quantity and quality of output. While I do think this is in principle achievable, I do question the underlying premise that the market abstracted from power and private property is inherently antagonistic to democratic control. I think the market socialists present a compelling case that the market can be molded in various ways to ensure economic security, foster democratic control of investment, and halt the cycle of endless accumulation. Contrary to McNally I think that private ownership is one of the defining feature of capitalist economy and that the tendency to accumulate cannot be divorced from it (or reduced to it). As Moore has argued, the tendency for capitalism to accumulate is a multifaceted phenomenon that is rooted in private property, perceptions of nature, imperial projects, and cultural developments. Evidently, the capitalist market has been part and parcel of this historical process. However, this does not imply, I don't think, that markets cannot be subjected

to democratic control or can exhibit inevitable tendencies, since it all depends on the context and structure of markets (which predate capitalism). If democratic control can be exerted over planning and investment then markets need not express any inevitable tendencies towards accumulation. Indeed, if the scale of economic processes can become a democratic concern then so can accumulation, since any measures to reduce the amount of energy and material throughput (to lower environmental impact) will impose limits on accumulation.

However, the uniqueness of capitalist markets revolves around their incorporation of land and labour, two things that historically were not exchanged for money. Along with land goes the market in fossil fuels, which, as we know now, should not be burned at any price. The question is, if these things are once again taken out of the sphere of market exchange, what is left for the market to allocate? If, as McNally says, the price of human labour is not set by the market then how can any other prices be set by the market without the market setting the price on such an essential input into the production process? Market socialists would respond that labour should only be partially taken out of the market, subject to guaranteed wages within definite lower and upper bounds. This would negatively effect “efficient” market allocation but should be considered a necessary sacrifice for ensuring the health and well-being of all members of society.

Every market transaction requires a reduction to a certain quantity of money. If that reduction does not serve to undermine the long-term sustainability of living ecosystems (including human beings), then it could be considered a tolerable one. Currently, the entire economic system is based on the exchange of fossil fuels, which should be left in the ground in order to avoid catastrophic climate change. Obviously, this reduction cannot be tolerated, but it also cannot be simply stopped. The weight of past practices makes changing course a more protracted affair. Restricting and removing land and labour from market reductionism must be a process that moves hand-in-hand with the

technological reorientation of society towards one that exists within the regenerative capacities of Earth's ecosystems. In this sense, I will argue that the reforms proposed by the market socialists and Economic Democracy proponents are a step in the right direction, in that they allow for a certain reclaiming of democratic sovereignty over market reductionism and anarchy; including the withering away of the market itself as sustainability is attempted.

While the institutional reforms advanced by market socialists and Economic Democracy proponents are not entirely consistent, it is certainly possible to identify the commonalities and understand the principles on which the economy can be democratized. Specifically, democracy can be extended within workplaces through co-operative ownership structures; and over the future structure of the economy through citizen participation in the distribution of credit, citizen participation in public investment, constructing links between producer and consumer groups (and planners), and some measure of representative central planning. The free and equal access to information that Elson proposed I find to be a particularly promising direction of reform and prescient of the free software movement. The “free” in free software does not represent distribution without a price but rather that “the users have the freedom to run, copy, distribute, study, change and improve the software” (“What is free software?,” n.d.) This is freedom in the sense of autonomy: where users control the software instead of vice versa. Especially in a period when technological transition is imperative, barriers to the free proliferation of ideas and designs could slow the adoption of alternative technologies. But more than this the private property in knowledge (as a subcategory of private property generally) has been a key way that technology and power have been concentrated within the history of capitalism (between countries, between competing firms, or between workers and owners). Instigating a co-operative ethos within society as a whole (and between societies in a global sense) would seem to imply equal access to the cumulative social knowledge that humanity has produced. How can co-operation be fostered when

knowledge is jealously guarded (and institutionally protected) to advance the interests of particular groups or individuals?

## 4. Degrowth and Democratization

The paper has proceeded from degrowth to economic democracy. Yet, both sets of literature relate to the other through the inter-relation of collective choice in the direction of lower material and energy throughput. The degrowth literature is particularly concerned with making a degrowth transition “socially sustainable” and by that it is meant that the transition must maintain a certain level of security for everyone (especially those who have jobs in sectors that must be downsized). It is interesting but perhaps not surprising, that many of the reforms suggested to accomplish this are similar to what is articulated from a perspective of Economic Democracy: reducing inequality (through minimum/maximum incomes and inheritance taxes), moving from private to collective property, guaranteeing employment and a basic income, and taxing / capping resource throughput. This lends credence to the idea that degrowth and democratization must be integrated parts of a societal transition.

In the first chapter degrowth's historical development was explored and it was revealed that degrowth is a multifaceted movement that originated within the limits to growth critique but has expanded beyond these roots into the realm of social system change. While its philosophical roots (in G-R's bioeconomics) are somewhat different from ecological economics and the steady-state literature, the proposals for institutional reform do tend to converge on similar measures. A discussion of these measures opened up the question of the market and whether the market can be separated out from the rest of capitalism, even with certain crucial reforms in place (such as producer co-operatives, full employment, and strong redistribution of wealth).

The introductory section on capitalism had identified that markets were part of the historical



development of capitalism, as a tool for reducing and equating previously unexchangeable items: land and labour. State-enforced markets, along with colonial exploitation and the labour-capital relation were pivotal in mobilizing extra-human nature in service to rising labour productivity. The second chapter of the paper explored the debate over markets in the socialist tradition. For the most part, the debate ignored this historical role of markets in the development of capitalism and the metabolic rift. Elson had the insight that markets are not costless, ready-made institutions, but she does not consider the implications of market reductionism on the historical trajectory of capitalist society and the ecological crisis we now confront. McNally argued that the market in human labour is the crucial defining feature of capitalism and that the market institution is not compatible with labour's decommodification. While ultimately, I agree with McNally that the market cannot be harmlessly retained in a post-capitalist society, I think this process of decommodification can only proceed in partial steps, and that it must be accompanied by a transition in the relationship between human beings and the rest of nature. The market is such an embedded institution, not only within the culture of the Global North, but also within the metabolism of humans and nature, that it can only be restricted in tandem with other changes in that metabolism.

So while it is argued that the market should diminish in importance as an ecologically sustainable human civilization is attempted, in the here and now, it must be treated as an element of existing technological infrastructure that must be somewhat gradually and partially reduced, and restricted. This should entail measures to socialize the market and democratize it, along the lines of Elson and Malleson. Specifically, the market could be publicly constituted with conditions for entry that ensure the transparency of mark-ups and production methods. Producer and consumer groups could be set up to deliberate over product design and best practices, with this information feeding into larger plans. Co-operatively owned and operated production units could receive credit from publicly owned and locally

controlled banks. Strong measures of redistribution could ensure that the market adequately represents the population's preferences. Full employment policies and a guaranteed income would partially decommodify labour. Capital controls could prevent the undermining of national sovereignty by international finance. The result would be to set up the institutions through which the market can be constrained by qualitative, deliberative, and collective decisions.

Smith (2015) I think is right to suggest that major fossil fuel industries should be nationalized and slowly shut down according to a plan. The fossil fuels could even be rationed. But this does not require, I think, getting rid of markets whole cloth in this present moment. Smith (2015) writes that all market attempts to combat climate change (such as carbon taxes or cap-and-trade) are doomed to fail. However, this is less a problem of markets per se and rather a problem of fossil fuels being so central to accumulation and to society in the Global North. Cap-and-trade schemes have proven successful in the case of acid rain where the ability to shift production methods was relatively easy and did not threaten profits to any considerable degree. The recent failures of the European Union fossil fuel cap-and-trade scheme says less about the merits of market approaches and more about cap-and-trade schemes that included serious loopholes (like the Clean Development Mechanism) and ceded too easily to corporate lobbying for more permits in the midst of a recession (Böhm, 2013). There is the need for a movement that can challenge both corporate power and continual accumulation, which is incompatible with lowering fossil fuel use to any considerable extent. This would have to be a degrowth movement in some capacity since the decline of fossil fuels (barring perhaps a nuclear renaissance<sup>33</sup>) would spell the end of economic growth. The state would have to take on an explicit no-growth or degrowth project rather than its illusory ambitions of “green growth” whose contradictory logic frustrates any attempt to impose restrictions on fossil fuels because accumulation is assumed to continue.

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33 Nuclear power is still non-renewable and is usually quite controversial due to the dangerous and long-lived waste that is generated.

Socializing the means of production through the proliferation of co-operative and state-owned enterprise must be a key part of the transition. However, once the means of production have been socialized the problem of individual, collective, public, and global interests, present and future, must still be resolved. This will entail its own social conflicts but at least there will not be a class of people who can profit from the continuation of the status quo, prevent action on reducing fossil fuel use through their powerful position in the economy, and insulate themselves from most negative effects of environmental destruction and social unrest. Of course, nationalization does not ensure that the state will be willing or able to act in the long-term interest of ecological sustainability. Many Latin American countries have nationalized their extractive industries but continue to extract resources in order to fund their social programs (Gudynas, 2010). This extraction often proceeds against the protests of indigenous people and environmentalists. While reforming the democratic structure of the state would not remove these conflicts, it could promote greater accountability to the people who are ultimately served by it. While the focus in this paper has been on democratizing the economy<sup>34</sup>, clearly the administration of the state itself could be further democratized as well. The limit of democratic participation to a vote every four years is quite clear. Malleon has suggested participatory budgeting as a way to bring ordinary citizens into the local budget decisions that will affect them most directly. Other avenues could include what Panitch (1993, pp. 10–12) has suggested: overcoming the division between administration and representation, promoting full public disclosure of information and encouragement of debate, and fostering an active citizenry. Or the citizen environmental regulatory councils that Secombe proposes (1993). In addition, the work of Eckersley (2004) has shown how democracy can be enhanced to include consideration of future generations and other species (what she calls “ecological democracy”).

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34 While recognizing that there is no clean distinction between “government” and “economy” but rather a differentiation of functions that has proceeded in tandem with capitalist development.

Practically, the reduction of fossil fuel use must go hand in hand with investments in reducing fossil fuel dependency, and sequestering the carbon dioxide that has already been emitted in order to prevent runaway climate change. The program of reducing fossil fuel dependency should start with those areas essential to human survival (such as food and shelter). Fortunately, there is a lot of potential for sequestering carbon in the soil (in the form of biochar) so reversing climate change could be part of re-establishing a non-fossil based agriculture (see Matovic, 2011). There is a substantial worldwide movement that is simultaneously challenging corporate control over the food sector but also attempting to re-establish sustainable methods of food production. This movement collapses the discrete distinctions between private ownership, technological change, and democracy, since the move to transform the technological basis of agriculture is simultaneously a move to transform property relations and simultaneously a move to take back control over food production.

The investments in renewable energy and materials along with the divestment from fossil fuels will result in a reconfiguration of the division of labour and the lowering of labour productivity. Many people will lose their traditional jobs and be looking for work. An essential part of the technological transition will be the retraining of the labour force into those jobs that help lower societal dependence on fossil fuels. In terms of funding these investments, the revenue from carbon taxes or carbon caps could be used (an idea which recognizes that fossil fuel energy cannot simply be stopped but must be used to reconstruct the organization of production, consumption, living patterns, and land use along sustainable lines).

I have already shown that caps are better than taxes from an ecological standpoint, however it is hard to say what will gain the most political traction since “cap and trade” seems to have been largely discredited by the European experience while the “carbon fee and dividend”<sup>35</sup> seems to be much more

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35 Again, I focus on fossil fuels but the logic could apply to any resource. A fee and dividend scheme returns any

popular among environmental activists (although that is my own anecdotal experience). Unfortunately, the efficacy of the fee and dividend approach is questionable since the money is not necessarily being spent on making investments to lower fossil fuel dependency. There would be an incentive for producers to lower the carbon intensity of their products however the incentive still plays into the individual preference aggregating logic of the market and the dividend could fuel increased consumption (even if oriented towards greener products). Instead, the tax revenue could be explicitly geared to provide support to implement different scales of sustainable infrastructure (i.e., that which lowers energy dependency to levels which can be provided by renewable energy). Government could distribute the taxed money to a combination of individuals, neighbourhood councils, communities, or municipalities for explicit construction of alternative energy projects, urban/regional agriculture, public transportation, or energy efficiency improvement projects (e.g., housing retrofits) which would I think more effectively accelerate the transition to a low-carbon economy. There is even evidence that people in the United States prefer that carbon tax revenues be used to fund research and development of renewable energy technology (see Amdur, Rabe, & Borick, 2014). This funding could form the seeds of the public community banks that Malleson describes. The Canadian Union of Postal Workers and the authors of the Leap Manifesto have called for the transformation of the nationally owned post office network into hubs for community banking, renewable energy financing, local food distribution centres, etc. (“Delivering Community Power,” 2016). There is an opportunity to use the revenue generated from a carbon tax to facilitate a democratic process towards the investment of that revenue in lowering fossil fuel dependence.

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generated tax revenue back to the population via an equal dividend.

## 5. Conclusion

Capitalism is an extremely durable and flexible system but it is not inevitable. Its substantial momentum is less and less all the time as the ecological contradictions, that are integral to its existence, intensify. Unfortunately, capitalism is a world-ecological system that threatens the basis on which all of humanity exists. In writing this paper I have sought to show that capitalism can be transformed into something that is not capitalism. Sometimes the use of “capitalism” in discussion can serve to minimize agency and prevent the adoption of transition measures because they will not overthrow capitalism in one fell swoop. In contrast, I have sought to show that overthrowing capitalism must be about a process of restoring a sustainable relationship with the Earth; not something that can be easily accomplished or quickly done (although time is of the essence). This is simultaneously a process of transforming private property and private control (particularly that embodied in large monopolistic corporations). There are significant structural barriers towards reforming the existing system: a preoccupation with economic growth (on the part of many, not just elites), class power structures that can obstruct change, a division of labour that concentrates technical capacity and deprives people of individual and collective autonomy, the gap between democratic governance and global economic activity, the dependence of society on fossil fuels, and the private control of information and media, etc. Nevertheless, the ideological foundations of capitalism are more and more being called into question. The reforms to be fought for must be those that undermine the dynamics that have contributed to the present state of the world economy. This includes private property, markets, imperialism, concentration of technological capacity, inequality, and accumulation itself. What I have tried to contribute in this paper has been reforms worth fighting for at a large scale, how to theorize the market within this transition, some feeling for the inter-connectedness of different transitional elements, and how democracy and degrowth inter-relate or could inter-relate.

While I have tended to focus on the issue of climate change and the need to transition our energy systems away from fossil fuels, this transition must inevitably involve changing the whole system; from one of accumulation, to one of regeneration. Or as Naomi Klein (2014) has put it: from extraction to renewal.

Klein's book has spawned a coalition of Canadian organizations and activists who have put forward the radical proposal for a “leap” to a different economy (“A call for a Canada based on caring for the Earth and one another”). This is part of the broader climate justice movement. Another part of this movement is the joint Canadian and US coalition of eco-socialists called “System Change Not Climate Change”, united in their belief that capitalism is driving climate change. They believe the climate justice movement will unite with the labour movement to create an alternative system to that shaped by fossil fuels and corporate power.

The labour movement must be a key ally but in the sense that Gorz has described: “the widening of the union's sphere of activity and the working out of an overall political-ideological concept can not be simply a reaction to the increased rigidity of the capitalist system, but must offer a common ground for action to a highly differentiated class of manual, technical and intellectual workers. For their unity in action can never be obtained by adding up the immediate interests of their respective trades, but only through an overall vision transcending these interests” (André Gorz, 1980, p. 135). It would appear that labour unions must adopt a strategy of worker control in the recognition that capitalist private property and the endless pursuit of capital accumulation is a vehicle for both the exploitation of labour and nature. There are some examples of unions taking on an explicit degrowth position in France and Spain (Bayon, 2014) and the working class has long been engaged in a struggle to reduce working time.

Another promising avenue for political action is in the reconstitution of an organic agriculture system, and as a result, a reciprocal relationship with the land. As Moore notes: “[F]ood and agriculture has become a decisive battleground of the world class struggle. It is no longer largely a struggle of peasant against landlords. Food security, safety, and sustainability have become central questions in the everyday lives of the world proletariat, from Beijing to Boston” (2015, p. 288). This movement has not taken hold as powerfully in the Global North as in the Global South (due to the different divisions of labour) but it offers a powerful ground for challenging the industrial fossil-based model of food production, the metabolic rift, and capitalism itself. Within Canada the National Farmer’s Union is a founding member of La Via Campesina, a global movement “that brings together organizations representing small- and medium-scale farmers, peasants, agricultural workers, rural women, and indigenous communities. It is pluralistic, democratic, multi-cultural, and non-partisan” (“NFU and La Via Campesina,” n.d.).

Hopefully, these movements can coalesce into a sufficient political force capable of achieving the necessary system change that is so desperately needed.



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