Article

The climate crisis as a catalyst for emancipatory transformation: An examination of the possible

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Abstract
In 2018, a wave of climate change activism emerged in response to calls from scientists for urgent, unprecedented, and far-reaching changes to address the climate crisis. Three social movements, Extinction Rebellion, Fridays for Future, and the Sunrise Movement, have received the most attention and continue to grow. Synthesizing and integrating Erik Olin Wright's theories of social transformation, the authors apply Wright's work to analyze these movements and identify barriers and opportunities moving forward. While significant forces of social reproduction continue to shape politics and constrain climate action, unintended social consequences combined with new social movements are ripening conditions for transformation. The authors identify non-reformist reforms, a forceful form of symbiotic transformation pushed forward by social movements, as the most likely strategy to address the climate crisis and catalyze broader emancipatory transformation. While climate movements face significant opposition, they continue to grow and create a stronger trajectory for deep social change.

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We can't be like him, but we can be inspired by what he has laid down, to follow in his footsteps, guided by his map, refashioning it as we move forward. (Burawoy, 2019)

Introduction

In the last year, an increasing number of scientists, scholars, and activists have called for radical social transformation to avoid the projected impacts of climate change. In October 2018, the Intergovernmental Panel on Climate Change (IPCC) released a special report calling for 'rapid, far-reaching and unprecedented changes in all aspects of society' to keep the Earth's average surface temperature within 1.5 degrees Celsius above preindustrial levels (IPCC, 2018). This report triggered an unprecedented level of global mobilization aimed at pressuring governments to take bold action to reduce greenhouse gas (GHG) emissions, calling for mitigation strategies that in many cases would transform the political-economic system.

As the climate movement grows, a critical task for emancipatory social science is to identify barriers, opportunities, and pathways forward (Wright, 2010, 2019). In this article, we apply the work of Erik Olin Wright to examine the trajectories of the climate movement. Wright (2013) called for 'a social science of the possible' and we contribute to that vision through an examination of the possibilities for the climate movement to catalyze emancipatory transformation. We acknowledge that we write in a specific moment in time, in a rapidly changing world, yet many aspects of this discussion will maintain relevance in a range of possible futures. We also agree with Schulz (2016: 15), who argued that sociology should embrace more future-oriented work, and that '[i]nquiries into the social shaping of futures can make sociology more relevant.' We contribute to the growth of future-oriented work by examining the possibilities for climate catalyzed emancipatory transformation. We focus on three climate movement organizations increasingly calling for system change: (1) Extinction Rebellion, (2) Fridays for Future, and (3) the Sunrise Movement.

Three new climate movement organizations calling for system change

Following the release of the IPCC's special report, the climate activist group Extinction Rebellion (known as XR) initiated a wave of protests and acts of civil disobedience in the United Kingdom that have been sustained over time and have spread internationally. The group claims that because governments have failed to take meaningful action on the climate and biodiversity crises, the people should rebel until governments respond. In November 2018, over 6000 activists shut down five major bridges in London (Taylor and Gale, 2018) and in April 2019 acts of civil disobedience resulted in over 1000 arrests (Perraudin, 2019). In October 2019, rebellions emerged in over 60 cities globally. XR once again shut down Central London and over 1800 activists were arrested over a two-week period (Dodd, 2019). XR plans to continue to stage rebellions until the government

meets their demands to tell the truth about these crises, reduce global resource use and bring carbon emissions to net zero by 2025, and create a democratic citizens' assembly to decide how to address these existential threats (Extinction Rebellion, 2019). Other XR groups internationally have also participated in these rebellions and global coordination between these groups is increasing.

The youth-led group Fridays for Future was carrying out school strikes for climate action throughout late 2018 and increasing in size and scale into 2019. The strikes were initiated by a single 15-year-old, Greta Thunberg, in Sweden and have expanded into global participation. The group calls for school strikes on Fridays until governments meet the terms of the Paris Agreement. About 1.6 million students participated in a global strike in March 2019 (Haynes, 2019). Fridays for Future called for a global unified participation (with all ages) in September 2019 and between 6.6 and 6.7 million people (depending on the source) participated in two consecutive Friday strikes with protests on every continent. As Greta Thunberg recently told the United Nations: 'people are suffering. People are dying. Entire ecosystems are collapsing. And all they can talk about is money and fairytales of eternal economic growth. We will not let them get away with this. The world is waking up and change is coming.' Strikes continue to be held in various locations across the globe on Fridays.

In the United States, the youth-led Sunrise Movement has been pressuring members of Congress to support a Green New Deal (GND: House Resolution 109), calling for net-zero emissions by 2050. Championed by progressive Alexandria Ocasio-Cortez, the GND not only proposes extensive mitigation strategies but also targets inequality, racial injustice, and class exploitation. It has been called a product of social-democratic populism, targeting market fundamentalism and bringing forward a sweeping set of changes to transition to a new 21st century economy (Carlock et al., 2018; Roberts, 2019). Activists with Sunrise have been arrested outside congressional offices and have launched a nation-wide tour to gain support for the GND. Some version of a GND is supported by all leading Democratic presidential candidates.

Fully meeting the demands of these three climate movement organizations would require restructuring the economy, redistributing power, and transforming governance. Proposals from these groups have been called 'socialist' because they represent a shift away from capitalist and neoliberal ideologies, and toward deepening democracy, prioritizing well-being, and addressing inequality. Addressing climate change effectively inherently challenges the capitalist social order: increasing evidence shows a strong relationship between economic growth and GHG emissions, debunking the myths of green growth and 'win-win' scenarios for the economy and the environment (Hickel and Kallis, 2019; Schor and Jorgenson, 2019). As Klein (2014: 6) states, climate change can 'become a galvanizing force for humanity . . . a catalyzing force for positive change.' Beck (2016) also argues that climate change can be a pathway for metamorphosis, or radical social transformation that offers an opportunity to remake the world in positive ways. However, Beck (2016: 47) also notes that we cannot assume that 'the positive side effects of negative side effects automatically create a better world.' That better world has to be made. Now is a critical time for emancipatory social science to examine

the opportunities, barriers, and possible trajectories of the climate movement to serve as a catalyst for positive transformation. We apply the work of Erik Olin Wright (2010, 2019) to guide our examination of the possible.

Wright's vision of social transformation

To explore the possibility of the climate crisis serving as a catalyst for positive social change, we draw from Erik Olin Wright's significant contributions to understanding the processes of social transformation. In *Envisioning Real Utopias* (2010), Wright provided a comprehensive diagnosis and critique of capitalism, but also articulated alternatives and a detailed theory of social transformation to a better society. Almost a decade later, in *How to Be an Anti-Capitalist in the 21st Century* (2019), Wright modified and extended his vision of the necessary elements for emancipatory transformation. Our interpretation and application of these two books represents an effort to integrate the two works and reconcile differences. We draw primarily from these books, but also from the work and insights of additional scholars in our examination. First, we summarize Wright's vision of social transformation. Wright (2010) described four interlinked components of a theory of social transformation: (1) social reproduction, (2) gaps and contradictions, (3) the trajectory of unintended social change, and (4) transformational strategies. We summarize each component below and then use them to guide an examination of the possibilities for the climate movement to catalyze social transformation.

Wright argued that identifying possibilities for social transformation must begin with an understanding of how social reproduction maintains the current system and constrains both individual and collective action. This happens through both passive reproduction, the normalization of everyday routines, and through active reproduction, structures and institutions purposefully reproducing the current social order. While passive reproduction plays an important role in the climate crisis and the perpetuation of the system driving the crisis, this form of reproduction is largely driven by producers' efforts to increase consumption and profit, a structural byproduct of necessarily expanding capitalist production (Galbraith, 1958; Paci, 1972; Schnaiberg, 1980). While individual resistance to passive reproduction may raise awareness, the active reproduction of fossil fuel interests plays a more dominant role, which we discuss here.

Social reproduction serves to maintain the current social order, yet social transformation can occur due to the formation of 'cracks and openings in the system of reproduction' often based on the 'exposed limits and contradictions of reproduction' (Wright, 2010: 291, 297). Gaps and contradictions are important to identify and politicize because they can 'open up spaces for transformative strategies' (Wright, 2010: 290). In other words, exposing and politicizing gaps and contradictions can make meaningful social transformation possible: 'even when the spaces are limited they can allow for transformations that matter' (Wright, 2010: 290). Below, we examine increasing fissures and growing cracks that could open the way for positive change.

Wright (2010: 298) explained that his theory of trajectories of social change remained the least developed due to inherent challenges in predicting how 'spaces for action are

likely to expand or contract in the future.' What he emphasized is that throughout history social transformation has resulted from the combination of unintended social consequences from the existing social order and deliberate actions for change through social movements. We examine how several unintended consequences are combing to create new openings for social transformation.

The final component of Wright's (2010) theory of social transformation focuses on strategies for social emancipation. He identified three transformational strategies: (1) interstitial, (2) ruptural, and (3) symbiotic. In most cases, more than one strategy is necessary for social transformation. Interstitial strategies create alternatives in the cracks of the current system and 'by-pass the state,' or do not directly challenge or attempt to change the state. They provide important examples of alternative social arrangements. Ruptural strategies smash the current system through direct confrontation and, as seen in historical cases, militant revolution. Wright argued that revolutionary transitions today are unlikely and in fact undesirable, as they tend to not result in democratic and egalitarian outcomes. While Wright did not support militant revolution, he did see a role for the 'logic of rupture' that challenges and confronts power. Symbiotic strategies focus on collaboration or positive 'class compromise' through social reforms. This involves working within the political system to reform policy. Wright explained how symbiotic transformation largely depends on pressure from social movements.

In his 2019 book, Wright reframed his diagnosis, critique, and examination of alternatives to capitalism for a more general audience; but also modified and refined his vision of social transformation. He identified five strategic logics of change: smashing, dismantling, taming, resisting, and escaping capitalism. Smashing is largely analogous with ruptural strategies described above. Dismantling refers to state-directed incremental reforms such as the socialization of health care, transportation, and energy. Taming involves reducing the harms of capitalism, or treating the symptoms rather than replacing the system. Both dismantling and taming happen through state politics and fit into Wright's (2010) description of symbiotic strategies. Resisting largely refers to the work of social movements who oppose the state from the outside, aiming to influence or block the state through protesting and trouble-making, without being directly involved in state politics. Lastly, escape includes many of the activities that Wright (2010) described as interstitial strategies: the creation of worker cooperatives and lifestyle changes that represent alternatives attempting to evade the dominant system.

Echoing his assertion that more than one strategy is necessary (Wright, 2010), Wright (2019) introduced the overall concept of 'eroding' capitalism that includes both bottom-up and top-down strategies in the process of transcending capitalism. Eroding capitalism involves all strategies except smashing. Rather than an abrupt replacement of capitalism, the notion of eroding suggests capitalism can be weakened of reduced over time while alternatives are increased and slowly become the new norm. Applying these revised ideas and categorizations of strategies to the climate movement, we see efforts that in many ways aim to erode capitalism. There is a growing desire to tame and dismantle capitalism, as seen through rising support for a GND, Medicare for all, and a wealth tax. Resistance is also growing through the actions of XR and Fridays for Future, causing trouble and applying pressure on the state to act.

A critical addition in Wright (2019: 119, 121) is a discussion of what he called 'the most vexing problem' and 'the biggest puzzle' for emancipatory transformation: the creation of collective agency to drive forward change. The most important question remains: 'who is going to participate in such struggles? Where is the collect agent capable of sustaining struggles to erode capitalism?' (Wright, 2019: 117). Indeed, this is *the* ultimate question. As similarly stated by Gorz (1967: 6), many focus on the question of '[w]hen we are in power. . . . But the whole question is precisely to get there, to create the means and will to get there.' While '*how do we get there?*' is a difficult question to answer, Wright (2019) emphasized the role of identity, interests, and values in creating the collective agency needed to bring about emancipatory transformation. He also argued that most people are motivated by moral concerns rather than class or economic concerns. This argument is illuminating, as climate activists are increasingly reframing the crisis as a moral issue based on generational injustice. We discuss these trends in detail in the following section, examining possibilities for climate-catalyzed transformation.

Pathways for climate-catalyzed transformation

We now combine the insights from Wright (2010, 2019) to examine possible pathways for climate-catalyzed emancipatory transformation. We also incorporate the work of additional scholars who have examined transitions towards socialism, economic democracy, or degrowth. While clearly different, these efforts all represent a challenge to the dominant system and a desire to create a more just and sustainable society. We draw primarily from Wright (2010, 2019) but also from this larger body of work to examine the barriers, opportunities, and possible pathways for the climate movement to catalyze emancipatory transformation. This work represents a critical case study drawing from climate-related news and other literature describing recent developments in the climate movement. To explore the possibilities for the climate movement to catalyze social transformation, we apply the four components of Wright's theory of social transformation: (1) identifying social reproduction, (2) politicizing gaps and contradictions, (3) the trajectory of unintended social change, and (4) transformational strategies.

Identifying social reproduction

As argued by Wright (2010), understanding the mechanisms of social reproduction is a critical first task. Climate activists now widely acknowledge that they are up against powerful actors. Fossil fuel, automobile, and energy companies continue to influence public investment, policies, and the energy and transportation sectors to purposefully maintain the current fossil fuel-based system. In a recent US analysis, Brulle (2018) found that between 2000 and 2016 over $2 billion were spent on lobbying over climate change policy, the vast majority from corporations in the utility, transportation, and fossil fuel industries. For example, a ballot initiative in Washington state to institute a carbon tax failed to get enough votes in 2018 after the fossil fuel industry spent a record $30 million to defeat it (Groom, 2018). Representatives in the US Congress receive significant money from fossil fuel companies, some more than others. In the Senate, those who

do not support the GND have received on average seven times more money from the fossil fuel industry compared to those who publicly support the resolution (Kauffman, 2019).

Fossil fuel companies, especially those identified as the 'carbon majors,' are spending an increasing amount of money to block climate policy while misleading the public. A recent report found that fossil fuel companies spend around $200 million each year to block meaningful climate policy through lobbying and an additional $195 million each year on advertising campaigns that falsely suggest they are devoting significant funds to green initiatives (Laville, 2019). Others have found that fossil fuel companies will publicly support alternative energy and efforts to reduce GHG emissions while simultaneously lobbying to undermine climate legislation (Grumbach, 2015, in Brulle, 2018; Laville, 2019). Clear opposition to the GND has already emerged through new political action committees (PACs) and unsubstantiated claims that the resolution includes banning hamburgers, milkshakes, automobiles, and air travel (Crunden, 2019). Opposition from fossil fuel interests with ample financial resources is likely to increase as the battle over the GND intensifies heading into the 2020 national election (Klein, 2019).

Wright (2010) also emphasized the role of ideology in social reproduction. Specific to climate change, Gunderson et al. (2018b) explain how ideology has been used to conceal the relationship between capitalism's growth dependency and GHG emissions and how the promises of 'green' technology, markets, and growth are false. Ideology continues to mask the need for social transformation to address climate change and is reinforced through messages and narratives in the dominant media. As explained by Wright (2010: 284), '[t]o the extent that the beliefs and ideas people hold are shaped by the explicit messages they receive, this will then generate a rough correspondence between prevalent beliefs and the requirements of social reproduction.' While ideology is an obstacle to climate action, exposing ideology related to the climate crisis can open up increasing possibilities for social transformation. The effort made by capital to reproduce and expand the drivers of climate change show the continuing salience of questions of class and political economy.

Social reproduction explains why so many have done so little to address climate change. Public inaction is common even among those who are aware of (Norgaard, 2011), and very concerned about (Doherty and Webler, 2016) the threats of climate change. Members of climate activist groups are a tiny minority of the global population. The normality of climate change 'unconcern' (Lucas and Davison, 2018) in everyday life is not only due to ideologies perpetuated through media and lobbying efforts. There are also the related problems of helplessness in the face of climate change (Norgaard, 2011; Stoner and Melathopoulos, 2015) and climate change's irrelevance to the daily concerns of citizens of the Global North (Ollinaho, 2016). Despite the seeds of hope highlighted in this article, what is still missing is an organized, broad-based, and left-wing global movement to tackle climate change. In fact, the popularity of far-right parties and politicians has grown in the US, most of Europe, Brazil, Turkey, Australia, the Philippines, and other areas, most of whom will continue to oppose climate change policies.

Despite these challenges, identifying how vested interests are actively working to undermine climate action as well as exposing ideologies are critical steps to support

transformation. It is also important to recognize that as climate change impacts, awareness, and activism all increase, so too will the efforts of powerful fossil fuel interests. Wright (2010: 276) states, 'social structures and institutions that systematically impose harms on people require vigorous mechanisms of active social reproduction in order to be sustained over time.'

Politicizing gaps, limits, and contradictions

The harms of the current system must be identified and politicized. Wright (2010) explained that harms to society may not always be transparent, even though they are very real, due to a lack of exposure to relevant information. More people now recognize the harm of climate change with a record 72% of polled Americans stating that addressing climate change is personally important to them (Milman, 2019). Another poll by CBS News (2019) found that 64% of the US population views climate change as a 'crisis' or 'serious issue' and 69% stated climate change should be addressed now or in the next few years. Despite the temporal challenge of addressing climate change, namely that GHG emissions now will have significant impacts into the future, a significant level of concern about climate change is emerging. This trend can help to expose systemic failures and contradictions and create openings for transformation.

As explained by Gorz (1967: 5), 'capitalism is incapable of fundamentally resolving the essential problems which its development has brought about' and attempts to resolve contradictions 'in its own way by means of concessions and superficial repairs aimed at making the system socially tolerable.' Many argue that the 2008 financial crisis represented the exposure of the contradictions associated with capitalism, yet this crisis was resolved through capitalist means, furthering marketization and strengthening finance capital (Burawoy, 2015). In order to make openings in the system of reproduction, it is critical to expose contradictions as well as how capitalist solutions fail to successfully address these contradictions. The challenge is that ideology, as understood in the Marxist tradition, continues to conceal systemic contradictions (Althusser, 1971; Larrain, 1979, 1982, 1983).

Specific to climate change, the 'capital–climate contradiction' refers to the contradiction between capital's need to endlessly expand production, on the one hand, and the destructive effects expansionistic production has on the conditions of production, specifically the climate system, on the other (Gunderson et al., 2018b). As explained by Weis (2010: 318–319),

> … the failure to account for the atmospheric burden associated with fossil energy, and its impact on the Earth's climate system, represents one of the most fundamental biophysical contradictions of industrial capitalism.

As economic growth, a foundational goal of capitalism, is a root driver of climate change, the capital–climate contradiction must be exposed and addressed to effectively reduce GHG emissions (Gunderson et al., 2018b). Increasingly, these linkages are being made and exposed in books (e.g., Foster et al., 2010; Klein, 2014; Wright and Nyberg, 2015) and left-wing oriented news and media outlets (e.g., *Jacobin*, *Common Dreams*, and *The*

Guardian), although not widely in the mainstream media. Despite increasing awareness of these connections, market-friendly solutions to, and techno-fixes for, climate change, such as carbon markets and geoengineering, illustrate how capitalism continues to attempt to resolve issues in its own way, even if these ways may be ineffective and risky (Gunderson et al., 2018a, 2019; Stuart et al., 2019).

Gorz (1967: 4) argued that openings for social change can occur when it becomes clear that people's needs are not being met and this can increase awareness that 'society must be radically transformed.' The time delay between GHG emissions and the impacts of climate change make it difficult for many people to see that their needs, including protection from global warming, are not being met. However, this is not the case for all people. Hurricanes, storms, and floods are increasingly impacting larger numbers of people everywhere, but especially in the Global South. Examples include Hurricane Maria in Puerto Rico and Cyclone Idai in Africa.

Even those who are not yet impacted directly are increasingly aware that their needs are not being and *will* not be met. Scientist and XR co-founder Gail Bradbrook argues that '[w]hen a government fails to protect the lives and livelihoods of its citizens – as in the case of climate change – the people have the right to rebel' (Hood, 2019). These arguments are increasingly being publicized and politicized. Greta Thunberg and student strikers are also drawing attention to the failure of governments to protect their generation: governments are not doing their job and are not meeting their needs for a livable future (Carrington, 2019). Similarly, a Sunrise Movement activist argues that leaders who are not meeting their needs must go: 'If our leaders aren't willing to really address the crisis that we're facing right now, then they need to be replaced' (Horton et al., 2019). While these arguments are increasingly politicized and expose the failures of the current system, the challenge remains connecting these sentiments to the radical transformations necessary.

Creating a trajectory for change

Unintended change usually take place over a long time-scale, as people attempt to address the problems they face in the current social system (Wright, 2010). Today, we see a number of unintentional consequences emerging as responses to decades of neoliberal governance. For example, rising inequality has left large segments of the populations in the US and the European Union feeling disenfranchised, angry, and excluded (Hobolt, 2016; Hochschild, 2018). There are many signs that neoliberalism has resulted in a global legitimation crisis. While qualitatively different, the vote in the United Kingdom to leave the European Union (Brexit), the rise of the Yellow Vest movement in France, and the election of Donald Trump in the US can all be seen as a legitimation crisis (Inglehart and Norris, 2016; Tharoor, 2018). This crisis has resulted in polarized pathways for change as embodied through growing support for both socialist and fascist political leaders. As Schweickart (2016) argues, deep social change requires a legitimation crisis. Current trends may be setting the stage for radical social transformation.

In terms of the future trajectory of climate change politics, some pundits predict a 'post-Trump slingshot.' While Trump has brought the US into a very deep hole in terms of addressing climate change, the end of his presidency could result in a dramatic

slingshot out of the hole through radical measures for climate justice (Athanasiou, 2017). Results of the slingshot could be even more significant than the steps that a Hillary Clinton presidency would have entailed. In addition, in response to widening inequality, many citizens are now supportive of increased taxes on the wealthy (Bach, 2019), which is how the GND could be funded. Combining addressing inequality with climate change policy may galvanize a larger number of unsatisfied citizens into action (Klein, 2019). These cumulative social conditions related to inequality and climate change are creating an increased demand and sense of urgency for social change.

In addition to growing unintended social consequences, organized social movements must emerge to deliberately force change (Wright, 2010). Schweickart (2016) states that, beyond a legitimation crisis, social transformation requires a mass movement that is sustained over time. Similarly, Kallis (2018) explains that: 'political institutional changes will not come without a critical mass of people involved.' In line with Polanyi's 'double movement,' Gorz (1967) discussed the importance of 'counter-powers' and Reich (2016) the importance of 'countervailing powers' mobilized for social transformation. Reich (2016) further argues that 90% of citizens are now victims of neoliberal policies and that the emergence of strong countervailing powers is inevitable, as the current trajectory of deepening inequality cannot be sustained.

In terms of purposeful collective action, climate movement organizations have emerged separately and are now collaborating in sustained action to demand meaningful climate policy. Fridays for the Future leaders have promised that the strikes will continue until governments pass meaningful policy in accord with the Paris Climate Agreement. Carrington (2019) states that 'Anyone who thinks [the strikes] will fizzle out any time soon has forgotten what it is to be young.' Similarly, XR promises to sustain actions of civil disobedience until their demands are met. Lastly, Sunrise leaders have pledged to keep fighting for the GND, aiming for a policy window in 2020 dependent on the election of a Democratic Congress and President. Following the principle that no government has remained in power when over 3.5% of the population was engaged in active resistance, XR aims to recruit this level of participants into sustained action (Extinction Rebellion, 2019). All three organizations show no signs of ending and are already organizing for action on 22 April 2020, the 50th Anniversary of Earth Day.

Unintended consequences and collective action together 'ripen the conditions' for transformative strategies (Wright, 2010: 299). Wright offers several examples of unintended consequences combining with social movements, including the women's rights and civil rights movements. Wright (2010: 302) admits that theories about the trajectories of social change are at best 'simply extrapolations of the observable tendencies of the recent past to the present.' While we presently see both unintended social consequences and purposeful social movements combining into unprecedented conditions, social transformation will ultimately depend on specific transformational strategies.

Transformational strategies

The climate movement is growing and increasingly shaped by the three new organizations focused on here: XR, Fridays for Future, and the Sunrise Movement. Here, we illustrate how these groups have different approaches and how these approaches align

with Wright's (2010) identified strategies for social transformation: (1) interstitial, (2) ruptural, and (3) symbiotic.

Demonstrating alternatives: escaping and interstitial strategies. Specific to climate change, increasing attention has focused on how individuals can drive hybrid vehicles, buy more efficient appliances, turn off lights, fly less, and eat a plant-based diet and escape from carbon intensive lifestyles (e.g., Mackintosh, 2018). While there are many good reasons to promote these individual behaviors, even if adopted widely, these actions will not adequately address climate change. As the *Carbon Majors Report* illustrates, 70% of carbon emissions can be traced back to just 100 companies (Griffin and Heede, 2017). Individual behavioral changes may help, but they will fail to reshape our energy, transportation, military, industrial, and food systems in the ways necessary to mitigate climate change. The new climate movement organizations are aware of this reality and while many individuals have made lifestyle changes, escaping and creating alternatives is not their goal.

Largely in response to the lack of political will among global leaders, efforts to address climate change in the past have been largely lopsided, with a greater focus on individual and community (interstitial) change. These strategies, while not directly challenging the state, do offer examples of viable alternatives to the current fossil fuel-based system. Alternatives are incubators and as they expand they can undo what is held as common sense and change social conditions in ways that are favorable to greater transformation (Kallis, 2018). However, newly emerging climate movement organizations focus almost entirely on pressuring the state to take action. There is a growing realization that any effective action will have to be through national governments and international coordination among these governments. In addition, there is evidence that in the case of climate change, a primary focus on strategies at the individual and household level can distract and detract away from necessary efforts to influence the state (Werfel, 2017).

Pressuring the state: resisting and the 'logic of rupture.' Many Marxist scholars have called for revolution in response to the environmental crisis. As Debord (1971: 93) stated in his essay on pollution: '[t]he slogan "Revolution or Death" is no longer the lyrical expression of consciousness in revolt: rather, it is the last word of the scientific thought of our century.' More recently, John Bellamy Foster (Ferguson, 2018: 7) argues, 'we have reached a turning point in the human relation to the earth: all hope for the future of this relationship is now either revolutionary or it is false.' Specific to climate change, Foster (Ferguson, 2018) argues that keeping global warming well below 2 degrees Celsius requires nothing less than an ecological and social revolution. While we are not opposed to ruptural strategies, a militant climate revolution is highly unlikely and as Wright (2010) explains largely undesirable.

Presently, with XR, we might be seeing what Wright (2010) described as the 'logic of ruptural change.' This logic involves challenging and directly confronting the state rather than working collaborative through compromise. As explained by Boyer (2019), while XR has a list of government demands (policies similar to the GND), the key difference between Sunrise and XR is strategy. While Sunrise has adopted a strategy focused on working with government (see symbiotic strategies below), XR focuses on disrupting the

system, bringing 'the government to a grinding halt,' and taking a 'hatchet' to the extractivist capitalist system (Boyer, 2019). As quoted in Boyer (2019), XR leaders state they 'refuse to participate in the system' and instead focus on pressuring government through a 'massive upheaval,' the only strategy they believe can allow for mitigation actions 'at the scale and at the speed necessary to avert runaway warming.'

While these strategies may or may not match with Wright's (2010) idea of the 'logic of ruptural change,' they match with his description of 'resisting' strategies. Wright (2019: 49) explained that resistance is a 'ubiquitous response to the harms of the system.' While we saw signs of resistance in Occupy Wall Street and other movements, movements emerging in response to the current and future harms of the climate crisis are unprecedented in size, scale, and persistence. They show no signs of letting up anytime soon. While the level of disruption or 'causing trouble' is clearly greater in XR rebellions than Fridays for Future protests, they both raise awareness that business as usual is no longer an option and attempt to pressure government from the outside. Fridays for Future aims to generally influence the state to act, while XR rebels go further to block and disrupt the political and economic system until their demands are met.

XR especially uses non-violent acts of civil disobedience to put a spanner in the cogs of the current system. Through blocking transportation and massive arrests, XR aims to make government cave in to their demands through economic disruption. They believe the current political system is broken and do not wish to engage with it – demanding that an assembly of randomly selected and demographically representative citizens hear expert testimonies and collectively decide on the best course of action. Based on the historical analysis of Erica Chenoweth and Maria Stephan (2011), the co-founders of XR believe that when 3.5% of the population participates in civil disobedience, the government will cave to their demands. While not militant or revolutionary in the Leninist sense, their strategy is to continue to hold rebellions and bring political and economic systems to a halt to force the state to meet their demands.

Working with the state: taming, dismantling and symbiotic strategies. In the case of climate change, action by the state must go beyond compromises that involve simple tweaks to the current system. Taming strategies become unattractive as more evidence suggests that programs and policies that prioritize economic growth will fail to quickly and effectively stay within non-catastrophic climate targets (Hickel and Kallis, 2019; Schor and Jorgenson, 2019). For example, new markets and technological innovations in line with capitalist goals have not resulted in emissions reductions that would keep warming within 1.5 degrees Celsius (Gunderson et al., 2018a, 2018c, 2019; Stuart et al., 2019). Therefore, more meaningful policies that prioritize climate stabilization rather than profit are necessary. This demands more than mild efforts to tame capitalism involving 'class compromise' and requires a significant shift in our political, economic, and social priorities. To address climate change, social mobilization will need to focus on a radical and aggressive form of symbiotic transformation (Wright, 2010) in line with what Wright (2019) called 'dismantling' capitalism.

One transformative symbiotic outcome would be the implementation of 'non-reformist reforms' (Gorz, 1967). As described by Kallis (2018: 136), these are:

> … reforms that, if they were to be implemented, would require the very contours of the system to change radically to accommodate them. And reforms that, simple and commonsensical as they are, expose the irrationality of the system that makes them seem impossible.

Gorz (1967) explained that these reforms advance a radical transformation of society, and they may act as part of a 'transitional program' (Löwy, 2015: 37) out of capitalism. In this way, climate change would 'change everything' and result in policies that would, by necessity, serve as a catalyst for radical social transformation (Klein, 2014). Wright (2016) predicted that climate change would necessitate increasing the role of the state in mitigation and adaptation, the end of neoliberalism, and would 'open up more space for broader, socially directed state interventions.' This ultimately depends on whether movements can successfully push forward 'non-reform reforms.'

While Fridays for Future aim to pressure governments to meet the goals of the Paris Climate Agreement, the Sunrise Movement has a more specific vision as outlined in the GND. As explained by Goodrich (2019), the strategy of Sunrise is specifically to work within current US electoral politics – a symbiotic strategy:

> The only institution conceivably capable of effecting change on a massive enough scale to rapidly transition off fossil fuels – the federal government – responds most directly to two political parties. The fastest path to taking over the government is taking over the Democratic Party. By embracing primaries, town halls, and get-out-the-vote canvassing (in other words, the tactics of conventional political struggle inside the two-party system), Sunrise organizers have brought the Green New Deal from the Democratic Party's fringe to its mainstream.

Sunrise activists continue to target members of the Democratic Party in Congress, asking them to publicly support the GND and to sign a pledge not to accept donations from fossil fuel interests.

Could the GND represent a 'non-reformist reform' to dismantle capitalism? First, we need to ask what 'non-reformist reforms' for climate change would entail? Scholars studying climate change have identified a number of social changes to address climate change. First, a critical first step would be, not only transitioning to renewable energy as soon as possible, but also keeping remaining fossil fuels in the ground through buying out or nationalizing fossil fuel companies (e.g., Gowan, 2018; Skandier, 2018). Socializing energy systems through community energy initiatives supported by local and national governments can also help with a transition to renewables and reducing total energy use (e.g., Gunderson et al., 2019; Kunze and Becker, 2015). Economic democracy, e.g., worker-owned cooperatives and public banks, can open up spaces for communities to address climate change (e.g., Boillat et al., 2012; Johanisova and Wolf, 2012). In addition, work time reduction can significantly reduce GHG emissions through reducing overall resource and energy use (e.g., Fitzgerald et al., 2015; Knight et al., 2013; Pullinger, 2014; Rosnick, 2013; Rosnick and Weisbrot 2006; Schor, 2005). Lastly, restrictions on advertising and policies to reduce resource use and consumption are critical to reducing carbon emissions (Cosme et al., 2017; Hickel, 2018).

The GND (House Resolution 109) is currently a list of goals, without stated policies that would achieve these goals. Specific targets include net-zero emissions by 2050 and

a transition to renewable energy. While these goals suggest reducing fossil fuel use, there is no mention of phasing out fossil fuels in the resolution. Regarding how to attain net-zero emissions, many of the strategies listed above are suggested by language in the resolution. First, it supports community-based energy and climate-focused initiatives including building 'wealth and community ownership' and 'investments for community-defined projects and strategies.' The promotion of economic democracy is clear in the GND. It promotes public banks and worker-cooperatives. Workers' rights are also a clear priority, calling for 'strengthening and protecting the right of all workers to organize, unionize, and collectively bargain free of coercion, intimidation, and harassment' and 'ensuring that the Green New Deal mobilization creates high-quality union jobs that pay prevailing wages.' Work time reduction that includes fair wages and job sharing could be key in reaching these goals.

While the GND is currently still a list of goals, progressive think tanks and congressional staffers are working on legislation. All major 2020 Democratic presidential candidates now support some version of a GND – although some versions are more transformative than others. As the GND develops and social movements increase the pressure for bold action, it will become clearer how much of a 'non-reformist reform' it could be. Noticeably absent in GND proposals are calls to limit advertising and consumption as well as nationalizing fossil fuel companies and keeping fossil fuels in the ground. Instead we see a call for 'growth in clean manufacturing' and to 'invest in infrastructure and industry' (House Resolution 109), both goals in accord with popular pro-growth capitalist rhetoric.

Additional strategies for eroding the system. Wright (2019) explained that together all of these strategies can be used to *erode* capitalism. Eroding involves both the top-down and bottom-up actors and strategies. It is building the alternatives and making the political space for them to grow and become the new norm. These strategies together can help to transcend the current system. In the case of the climate crisis, we see the actions of cities and states demonstrating alternatives as well as the actions of the three movement groups highlighted here (Sunrise, XR, and Fridays for Future), demanding state action from within the political system and outside of it. These combined strategies and efforts to erode the system perpetuating the climate crisis continue to grow. In addition, activists are also working to erode the power of those perpetuating the current system (social reproduction) through strategies focused, not on the state, but on the fossil fuel and banking sectors.

In the absence of policies that would end subsidies for fossil fuels, phase out fossil fuel use, or buy out fossil fuel companies (as discussed in the previous section), financially harming fossil fuel companies continues to be a pressure point. Largely instigated by 350.org, for almost a decade the divestment movement has worked to convince large institutions, including universities, churches, museums, foundations, and governments, to terminate their investments in fossil fuel companies. A wide range of institutions have divested, including major universities in the US and the UK, the Unitarians, the Lutherans, The Nobel Foundation, New York City, and the country of Ireland. According to Fossil Free (2019) more than $11 trillion have been divested from fossil fuel holdings. Goldman Sachs has called the divestment movement a key driver in the decline of

coal (McKibben, 2018). In 2019, the University of California, which is the largest university system in the world and manages over $83 billion in investments, announced its plan for full fossil fuel divestment (Irfan, 2019). XR actions also continue to target and shame fossil fuel giants, including protests at the Shell Centre, targeting an event sponsored by British Petroleum, and staging a 'die-in' at Chevron's headquarters.

There is also increasing attention toward the role of banks who continue to lend money to fossil fuel companies for extraction projects. Rainforest Action Network (2019) created a report titled, 'Banking on Climate Change,' which lists banks in order of climate impact. The major banks supporting the fossil fuel industry include JP Morgan Chase, Wells Fargo, Citigroup, and Bank of America. JP Morgan Chase remains the biggest lender. Increasingly, XR activists and others have organized actions targeting these banks in attempt to change their lending patterns and publicly shame them for their role in the climate crisis. In interviews and YouTube videos, XR co-founder Gail Bradbrook is calling for a mass movement to take out loans from these big banks and refuse to repay them as way to erode the power of the financial sector.

While the level of impact these strategies will have on fossil fuel companies and big banks remains to be seen, in many ways they serve as a form of public shaming and bring more attention to the need for governments to challenge these powerful actors. As described by Wright (2019), we see a collection of strategies eroding the system: individuals and communities showing how change can happen, actors working with the state in attempt to change the system through a transformative GND, pressure on the state from the outside with actors like XR and Fridays for Future causing disruption and bringing attention to the need for action, and efforts to shame and reduce the power of those reproducing the dominate social order. These efforts attempt to erode the power of the current system and open the door for radical change.

Toward a critical mass of collective actors

Pushing forward transformative policies to address the climate crisis will require a critical mass of collective actors. Wright (2019: 119) admitted that he could not 'provide a real answer to the question of where these collective actors are to be found' but aimed to clarify the importance of the task and the challenges involved. We contribute to Wright's discussion here, highlighting factors that influence the growth of collective actors demanding system change in response to the climate crisis. Wright (2019) emphasized how identities, interests, and values are important foundations for building collective actors.

Identities are important because 'shared identity facilitates the solidarity needed for sustained collective action' (Wright, 2019: 128). Roger Hallam of XR argues that exclusiveness is largely what has limited environmental movements and it was a catastrophe that climate change became a left-wing issue, as it is about survival. XR aims to make the climate crisis not a political issue but a universal issue of survival that all people can relate to. They have specific identity focused groups to encourage all types of people to be involved such as XR farmers, doctors, lawyers, Muslim, Jews, and Grandparents. Time will tell if XR's attempt to make the climate crisis 'beyond politics' and universal

is able to break through political and economic identity barriers. The Sunrise movement has made supporting a GND a growing part of the identity of the Democratic Party. Fridays for Future and other youth organizations identify as young people demanding the right to a livable future. These identities differ bringing in diverse actors, yet we have yet to see an established shared identity to solidify solidarity between the movements.

Interests are related to identities but focus more on the solutions to problems (Wright, 2019). All three groups analyzed here have interests in addressing the climate crisis, yet their specific solutions differ. While Fridays for Future aims to pressure governments to generally act, 'unite behind the science,' and do what scientists say is necessary to stay below a 1.5 degrees Celsius global temperature increase, the Sunrise Movement has a more specific vision about how this should be done as outlined in the GND resolution. XR claims that the political system is broken and cannot function properly to bring about the changes necessary. Instead, they call for a citizens' assembly of randomly selected citizens to hear expert testimonies and collectively decide on the best course of action. These interests could be seen as fractured, although they are largely complementary – pushing forward different routes for change. They also represent more diverse opportunities for those with these specific interests to become involved in system change.

Values relate to the 'beliefs people hold about what is good, both in terms of how people should behave in the world and how our social institutions should function' (Wright, 2019: 131). Climate change threatens some of our core values including *equality* (framed as climate justice, intergenerational justice, and climate apartheid) and *freedom*, as in freedom to a life not impaired by the climate crisis. Lawsuits such as *Juliana* v. *US* and *La Rose* v. *Her Majesty the Queen* (Canada) from youth continue to bring attention to the question of a constitution right to 'life, liberty, and security' as well as the unequal impacts of climate change (Tollefson, 2019). An international group of youth have also formally filed a human rights complaint with the United Nations, stating that under the UN Convention of the Rights of the Child, world leaders must protect all children from the catastrophic impacts of climate change. A shift is occurring, moving the climate crisis from the confines of left-wing politics toward becoming a universal issue of equality and freedom.

Wright (2019) argued that most people are motivated by moral concerns rather than class or economic concerns. As youth activists increasingly demand that world leaders protect their future, they draw attention to the immorality of continuing with business as usual. Climate change is becoming a moral concern due to increasingly obvious generational injustice. As more children are convincing their parents and grandparents to protect their future and support climate action, the climate crisis is shifting from a political to a moral issue. In other words, inaction knowingly leaves children exposed to a catastrophic future. The fact that the system, as currently configured, is unable to respond to a moral imperative that resonates with nearly all humans may help unmask the system for what it is: inhumane. A moral framing of the climate crisis is changing the political and legal terrain. For example, in 2019 the Dutch supreme court ruled that the government must act to protect its citizens from climate change and, according to a UN official, this represents 'the most important climate change court decision in the world so far, confirming that human rights are jeopardised by the climate emergency' (Kaminksi, 2019).

One criticism when applying Wright's work to the climate crisis is a lack of attention towards temporal urgency. Wright (2010) explained that social transformation in most cases takes place over long time-scales, similar to evolution. A problem of applying this idea to the climate crisis, is that transformation is needed right away, and that waiting will result in increasing catastrophic outcomes. While applying Wright's (2010, 2019) work illuminates clear challenges and opportunities for the climate movement moving forward, the temporal urgency of the climate crisis differs from other social issues he discusses. Perhaps if Wright had been focusing on climate he would have altered his evolution metaphor: the realities of the climate crisis demand that actions resemble punctuated equilibrium – a period of rapid evolutionary change emerging after years of relative stability.

Climate change is a physical reality: it is already here and is increasingly changing the material conditions of human and other life. These changing material conditions also change the opportunities for social transformation. As Beck (2016: 4) describes, climate change can be an 'agent of metamorphosis' towards a better world, yet the risks and challenges along the way are formidable. Beck (2016: 35) raises the question: 'What is climate change good for (*if we survive*)?' (emphasis added). While climate change will continue to result in casualties and losses, such a fundamental threat could ultimately result in a better world through what Beck (2016: 35) calls 'emancipatory catastrophism.' The actions of and responses to the climate movement could influence the extent of casualties and losses along the way.

Conclusion: Moving forward

Moving forward, climate movement organizations will need to focus on forming alliances with other groups experiencing the harms of capitalism. Although there are already competing ideas about the GND, a unifying vision and broad support will improve chances for implementation. Joining forces with labor unions, teachers' strike movements, and groups fighting for social justice will strengthen the climate movement and provide guidance as to how to organize, strategize, and win (McAlevey, 2019). XR has been deliberately working on collaboration and building a 'movement of movements' – uniting groups and activists working on animal rights, social justice, racial inequality, and health and well-being. These issues are all related, and increased inclusivity will enhance movement participation and the chances for systemic change. In addition the 'movement of movements' in XR is increasingly working with groups in the Global South – providing funding for them to do what they decide, rather than following the UK model. While XR is a UK-based organization, members are well aware of the disproportionate impacts of climate change on people in the Global South and have taken actions against the government of Brazil for its treatment of indigenous people and the Amazon rainforest (Philips, 2019). While our focus here is on three new groups featured in Western media and calling for system change, more attention and collaboration with other groups, especially in the Global South, will be critical for a successful international climate movement.

The climate movement will also have to maintain momentum and grow. Compared to one-time events like the 2014 People's Climate March, with over 300,000 participants in

New York City, the events of XR, Sunrise, and Fridays for Future are all part of an ongoing strategy with participants committed to repeated involvement. Together they represent an unprecedented and sustained force. All three climate groups came together, along with other environmental and indigenous groups, for the impressive climate strikes in September 2019 bringing out between 6.5 and 7.5 million people across the globe. According to the data analyzed by Harvard professor Erica Chenoweth and collaborator Maria Stephan (2011), when comparing all movements from 1900 to 2006, no movements analyzed had failed after reaching the involvement of over 3.5% of the population in a major protest event. In the UK 3.5% of the population is about 2.3 million people and in the US it is about 11 million people. Current involvement will need to significantly grow to meet the 3.5% mark – one of XR's primary goals.

Along the way, climate movements will need to avoid cooptation. Marcuse (1972) and Debord (1983) both warn against the cooptation of creative and potentially liberating projects that can be transformed into additional ways to perpetuate capitalism. Cooptation has already occurred in the environmental movement as seen through pro-growth 'green' initiatives and the commodification of alternatives. Some cooptation is also false. For example, fossil fuel companies promote energy alternatives and green initiatives, a form of 'green washing,' which are not supported by their financial investments (Brulle, 2018). In addition, political declarations of a 'climate emergency' do not necessary result in meaningful policies, as seen in the UK. Cooptation is a clear tool of social reproduction. Those working towards synergistic strategies, such as the GND, need to be especially cautious of attempts to turn policies into mechanisms that maintain the current system.

A successful climate movement will need to be globally coordinated. As explained by Burawoy (2015: 24), a 'countermovement will have to assume a global character, couched in terms of human rights since the survival of the human species is at stake.' One step in this direction is pursuing avenues to democratize global climate governance (Stevenson and Dryzek, 2014). Almeida and Chase Dunn (2018) argue that social movements are becoming increasingly globally integrated with new levels of connectedness and coordination. The September 2019 international climate strikes involved events on every continent. These globally coordinated efforts need to be strengthened and expanded, and movements will need to start demanding similar and coordinated policies from national governments and stronger mechanisms for global governance.

Climate organizations need to keep their momentum and expand; however, many people are inhibited from participating or may lose momentum due to fatalistic and cynical views. Wright (2010) cautions against succumbing to fatalism and cynicism, both forms of ideology that help maintain the current system. Wright (2010: 24) warns,

> … fatalism poses a serious problem for people committed to challenging the injustices and harms of the existing social world, since fatalism and cynicism about the prospects for emancipatory change reduce the prospects for such change.

Instead he states that individuals must channel their anger, fears, hopes, and visions into meaningful action for social change. While fatalism involves views of inevitability and hopelessness, cynicism masks contradictions by allowing people to carry out practices

that reproduce social conditions despite being very aware of the ideologies that legitimate these practices: 'they know very well what they are doing, but still, they are doing it' (Žižek, 1989: 29). In this case, cynicism closes off possibilities for social transformation to address climate change. As the dire realities of the climate crisis become increasingly understood, countering fatalism and cynicism will be critical for the climate movement to grow and succeed.

The climate movement will continue to face strong opposition from deeply embedded ideologies, corporate power, and a weakened democratic system. While we cannot predict the future, a trajectory for change has begun and at this moment in time it is *possible* that the climate crisis could become a catalyzing force for emancipatory transformation.

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Résumé

En 2018, une vague de mobilisation contre le changement climatique est apparue en réaction aux appels de scientifiques réclamant des changements urgents, exceptionnels et ambitieux pour faire face à la crise climatique. Trois mouvements sociaux, Extinction Rebellion, Fridays for Future et le Sunrise Movement, ont suscité le plus d'intérêt et continuent à prendre de l'ampleur. En synthétisant et en intégrant les théories de la transformation sociale d'Erik Olin Wright, les auteurs recourent à ses travaux pour analyser ces mouvements et identifier les obstacles et les possibilités d'aller de l'avant. Alors que de puissantes forces de reproduction sociale continuent d'orienter les politiques et d'entraver l'action sur le climat, certaines conséquences sociales non intentionnelles combinées à de nouveaux mouvements sociaux rendent mûres les conditions nécessaires au changement. Les auteurs identifient les réformes non réformistes, une forme puissante de transformation symbiotique poussée par les mouvements sociaux, comme la stratégie la plus probable pour faire face à la crise climatique et catalyser une transformation émancipatrice plus générale. Bien que les mouvements pour le climat soient confrontés à une forte opposition, ils continuent à prendre de l'ampleur et à tracer une voie plus solide pour un changement social en profondeur.

Mots-clés

Avenir, capitalisme, changement climatique, changement social, science sociale émancipatrice

Resumen

En 2018, surgió una ola de activismo por el cambio climático en respuesta a las llamadas de los científicos pidiendo cambios urgentes, excepcionales y de gran alcance para abordar la crisis climática. Tres movimientos sociales, Extinction Rebellion, Fridays for Future y Sunrise Movement, han recibido la mayor parte de la atención y continúan creciendo. Sintetizando e integrando las teorías de la transformación social de Erik Olin Wright, los autores aplican el trabajo de Wright para analizar estos movimientos e identificar barreras y oportunidades para que se produzca el avance. A pesar de que importantes fuerzas de reproducción social continúan dando forma a la política y limitan la acción climática, ciertas consecuencias sociales no intencionadas combinadas con nuevos movimientos sociales hacen surgir las condiciones necesarias para la transformación. Los autores identifican las reformas no reformistas, una forma contundente de transformación simbiótica impulsada por los movimientos sociales, como la estrategia más probable para abordar la crisis climática y catalizar una transformación emancipadora más amplia. Si bien los movimientos climáticos se enfrentan a una oposición importante, continúan creciendo y trazando una vía sólida para un cambio social profundo.

Palabras clave

Cambio climático, cambio social, capitalismo, ciencia social emancipatoria, futuro