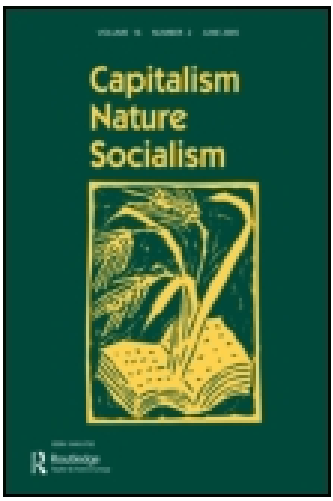

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Tahrir Submerged? Five Theses on Revolution in the Era of Climate Change

*Andreas Malm**

While Tahrir Square has become the iconic space—open, exuberant, jam-packed with power, bristling with possibilities—for the wave of rebellions sweeping the globe since 2011, another space has opened up in tandem over the past years, far away from hot Cairo, on the northern summit of the planet: the blue Arctic Sea. Almost with the same regularity as a ruler is toppled from Tahrir, a record-small ice cover is now reported from the Arctic. Is there any relation between the two spirals? Are there connections—visible, invisible—linking global unrest and global warming in a long, disorderly slide of generalized upheaval? Is climate change already present in the groundswell of grievances driving revolutions in the Arab Middle East and revolts in other parts of the world—and if so, what does it mean for their prospects of success? Can there be traffic in the other direction, from Tahrir to the Arctic? That is to say, can the mass mobilizations of the kind we have witnessed since 2011 intervene in the planetary fate and shut down business-as-usual?

In what follows, some aspects of these questions will be addressed through five theses on revolution in the era of climate chaos. Egypt will be taken as a case or a microcosm, in which the wider climate/revolution-nexus is intensely reflected; while drawing on localized data, including from fieldwork in the northern Nile Delta, the five theses—all highly provisional—will try to work through a sequence of more general contradictions and peer into the near future. The latter is an enterprise always fraught with pitfalls, and all the more so than when it comes to something as unprecedented as global warming. Yet the implications of climate change for the pursuit of human liberation demand it.

The task, then, is to explore the dialectic of revolution and climate change as seen from Egypt. What intellectual resources do we possess in this endeavor? Classical Marxism might offer a few clues, although no 19th- or 20th-century revolutionary ever came close to the burning embers of global warming. While there are certainly others with which to strike up this conversation, here the choice has fallen on Leon Trotsky to act as interlocutor: not because his writings and deeds provide us with some sort of immaculate guidance, but because they form one chamber in which the dynamics of revolution on a warming planet may reverberate.

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Thesis 1: Climate Change Increases the Likelihood of Revolution

Among the many distinctions of the revolutions associated with Tahrir Square—the Arab spring, in short—is the signal of anthropogenic climate change in the roar of popular discontent (see Werrell and Femia 2013). It has never before been detected in a revolution, neither in 1989 nor in 1917, 1848, 1789 or any other year putatively analogous to 2011, simply because palpable effects of a human-induced rise in temperatures are of a very recent date. But no matter how hot it gets, any climatic impact will *always* be mediated by, articulated and refracted through social relations. Global warming cannot be a sufficient cause for revolution: but it can be one ingredient in a powder keg, and it can, at least potentially, light the fuse.

In the Arab spring, then, the signal must have been one in a myriad. It was one factor in the food crisis of late 2010, which was—a doll within another Russian doll—one proximate cause of the uprisings, in a setting of persistently high unemployment. Researchers have pointed to similarities with the food crisis of 2008 (Lagi, Bertrand, and Bar-Yam 2011). That year the FAO Food Price Index rose steeply and reached a first peak, provoking riots from Yemen to Haiti; in the autumn of 2010, it briefly climbed even higher. In the run-up to these moments of acute crisis, the global food system had been severely strained by the biofuels boom, financial speculation in commodities, rising consumption of meat, high oil prices, exhaustion of some large-scale technologies for raising agricultural productivity, festering problems of soil degradation, and—in the midst of it all—the early signs of global warming.[1]

The immediate catalyst for the second spike was the drought on the Eurasian steppe in the summer of 2010. Wildfires and extreme heat slashed the Russian wheat harvest by more than a third. The fourth largest wheat exporter in the world, Russia reacted by banning all exports, with similar restrictions imposed in Ukraine. Meanwhile, the wheat harvests in Canada and Australia reeled under torrential rains, those in Argentina and the USA dwindled under dry weather, and those in China—the world's largest producer and consumer of wheat—succumbed to drought (Johnstone and Mazo 2011; Sternberg 2012). China responded to the domestic shortfalls by entering the world market to shop for wheat supplies, further driving up prices (Sternberg 2012, 520 and 522). An unbroken string of extreme weather events, so emblematic for a warming planet, exposed the underlying tensions in the food system—and prices shot through the roof.

No part of the world is more vulnerable to price shocks on the food markets than the Middle East. Of the ten countries importing most wheat per capita, nine are in the Middle East; eight are Arab countries; in seven, the average citizen spends around 40 percent of her income on food (to be compared with less than 10 percent in the USA

[1]For a recent survey from an exponent of mainstream environmentalism, see Brown (2012). Brown, whose work is endorsed by Bill Clinton and Ted Turner, among other luminaries, conveniently forgets to mention the devastating impact of the financialization of the food markets.

and the UK; Sternberg 2012, 523). Past decades have seen a constantly rising dependency on foreign grain in the region, and no single country in the world now imports as much wheat as Egypt. In 2009 and 2010, Egypt shipped in nearly half of all wheat the nation consumed, more than half of it from Russia. The bodily metabolism of the Egyptian population revolves around bread, accounting for a full third of daily caloric intake; subsidized bread made of imported wheat is the staple good of the nation (see Saluverakis and Abdel-Haleim 2008). But due to the drought, Egypt received 40 percent less Russian wheat in the second half of 2010 over the equivalent period in 2009, forcing it to look for dearer substitutes; as global wheat prices doubled, Egyptian workers, farmers and fishermen found their real incomes squeezed (Johnstone and Mazo 2011; Blanche 2011; WFP 2011; Sternberg 2012).

This was, of course, the moment in time when the people of Tunisia—number six on the list of countries importing most wheat per capita—began to wave baguettes in demonstrations or point them as symbolic guns against the soldiers, shouting "bread, water, and no Ben Ali." A key slogan of the Egyptian revolution became *aish, hurriya, adala igtimayia* (bread, freedom, social justice), sometimes varied into *aish, hurriya, karama wataniya* (bread, freedom, national dignity): always with the bread first. Indeed, as is so often pointed out, *aish* is also the word in Egyptian Arabic for life itself.

Expensive bread was an aggravating factor, one among several triggers unleashing oceans of dammed-up discontent onto the streets, and in this respect, Tunisia and Egypt followed a script as old as modern revolution itself. In his *History of the Russian Revolution*, Trotsky describes how on 23 February 1917, the international women's day in the Russian calendar, female textile workers in Petrograd went on strike:

> The overgrown bread-lines had provided the last stimulus.… A mass of women, not all of them workers, flocked to the municipal duma demanding bread. It was like demanding milk from a he-goat. Red banners appeared in different parts of the city, and inscriptions on them showed that the workers wanted bread, but neither autocracy nor war. (1967, 110)

This was the moment that set the whole train of 1917 in motion. We may call it *the he-goat moment*.

What does Trotsky mean when he says that demanding bread from the municipal duma was like demanding milk from a he-goat? There seems to be three components constituting the scene. First, there is a political authority widely regarded as responsible for ensuring food supplies to the people—the municipal duma of Petrograd, in this case—to which the demand for bread can be directed. Second, this entity is perceived as constitutionally incapable of satisfying the demand, just as a he-goat by his very nature is unable to produce milk. Third, there is an allusion to certain circles in the city—shopkeepers, speculators, affluent consumers—possessing bread and other foodstuffs in all the quantities they could wish for, but hoarding or monopolizing them for their own privileged use.

The experience of a he-goat moment among broad masses of propertyless people can kindle a revolution: it has done so more than once. Inability to access food has a famous capacity to radicalize, due to the unique nature of food as a commodity. Here the use-value is nothing less than to ensure physical reproduction, but since food also has exchange-value, it might suddenly become off-limits to those who do not command sufficient purchasing power (Bush 2010). In a he-goat moment, the ruling regime is perceived less as a guarantee than as a threat to the bodily metabolism of its people; it therefore risks losing all legitimacy, while the masses might feel that they have nothing to lose by challenging the dreaded *okhrana* or *amn al-dawla* or *shabbiha*.[2] As for Syria, it is now common knowledge that the exceptional drought—and the Assad regime's utter failure to tackle it—loomed large in the mélange of miseries that finally made the country boil over (on the drought, see, e.g., Erian, Katlan, and Babah 2010; OCHA 2010; Hoerling et al. 2012; Mohtadi 2012; Femia and Werrell 2013).

How, then, do we conceptualize an increased likelihood of revolution brought about by climate change? According to the most persistently popular theory of Trotsky, capitalist development is necessarily uneven: highly advanced in some places, retarded in others. It is also combined, since it proceeds by the "drawing together of the different stages of the journey, a combining of separate steps, an amalgam of archaic with more contemporary forms" (Trotsky 1967, 23). Evan Calder Williams has recently proposed that contemporary late capitalism is characterized not merely by uneven and combined development, but just as much by uneven and combined *apocalypse*. Dispensing with the notion of the apocalypse as an instant, universal one-off event, he points to an archipelago of zones of infernal breakdown already interspersed among the most advanced belts of high-tech life: the apocalypse is "unfolding, in slow motion with sudden leaps and storms" (Calder Williams 2010, 158; cf. Swyngedouw 2013). Just like development, this journey draws together different stages and combines separate steps. But it is headed backward.

Global warming can be understood as pressure of destruction, creeping and spurting by turns. It affects all forms of biophysical resources—from land to water to plants—and it already imposes apocalypse on some. Propertied classes, however, have amassed sufficient resources to insulate themselves from climate change for the time being: for them, life is characterized not by apocalypse, but by still seemingly endless development. The pressure of the rising food prices in Egypt mixed with the splendor of the *nouveau riche*, for whom food was a negligible budget item, and to whom the Mubarak regime performed with excellence (Farah 2009; El-Mahdi and Marfleet 2009). In the Arab world in general, the past decade has seen marvelous accumulation of capital, largely fuelled by high oil prices—the very same oil prices that contribute to the rise in food costs for workers and farmers, who are then further

[2]For an incisive analysis of the dynamics of "subsistence riots"—performed mostly by women—in the run-up to February 1917, see Alpern Engel (1997). For an account of the global food riots in 2008, with some prophetic observations on Egypt, see Bush (2010).

assaulted by the weather (Klare 2011). The Arab world today is an amalgam of glittering towers and parched earth.[3]

What is novel here is that, unlike in Trotsky's time, the journey of development does not merely leave behind some people in archaic poverty—it runs alongside a physically determined process actively driving some people toward misery. Development is not only uneven: it is combined with uneven apocalypse. This is a formula for he-goat moments in profusion. As in war-torn Petrograd, ruling classes on a warming planet will become less and less capable of ensuring the bodily metabolism of their subject populations, while clinging to and expanding their own wealth for as long as they can.

This might also be an explanation for why apocalyptic impacts of climate change do not always—in fact, still quite rarely—spark off insurrection. The 2011 drought in Somalia did not provoke any overthrow of a detested regime, because such a regime hardly existed. There has been precious little capitalist development in Somalia over the past two decades: hence no municipal duma or Ben Ali clan from whom bread could be demanded (though, one should not forget, Al-Shabaab's sabotage of the relief efforts did contribute to the spectacular loss in popular support for the movement (see, e.g., Chonghaile 2012)). A he-goat moment appears to presuppose the presence of a fairly fat he-goat.

Climate change under capitalism can thus be said to take the form of *uneven and combined development-apocalypse*. Each of these journeys is in itself uneven and combined: the social contradictions multiply when they cross-cut. But only one of them has an inherent tendency to speed up. In the area of food production, the threats are almost unimaginable. Under a continuing rise in temperatures, sea level rise could salinize and submerge deltas where grain has been grown for millennia; melting glaciers might leave India and China without water in the rivers on which their agriculture utterly depends; crop yields and fish stocks are set to decline—they have already begun to—while pests thrive in the heat; wildfires and droughts will devour one breadbasket after another (see, e.g., Vermeulen, Campbell, and Ingram 2012; Lobell, Schlenker, and Costa-Roberts 2011). The ensuing shocks would first and hardest hit people who depend on purchased food for their living and have little if any margins: in other words, the poorer sections of the world proletariat—particularly in major cities, and particularly in the Arab Middle East.

Then should we welcome climate change? If it spurs on social change, and if social change is desirable, should it be hailed as a unique historical opportunity? That would be about as perverse as delighting in the mass slaughters of World War I. In fact, global warming may be at least as effective as WWI in expediting the

[3]For a brilliant analysis of the political economy of the glittering towers—the accumulation of capital in the Gulf and its penetration of the wider region—see Hanieh (2011). The average Qatari consumes nearly 53 times more energy than the average resident of Yemen, a country struggling with extreme water scarcity (Saab 2012, 28).

revolution, and even more productive of unfavorable circumstances for its successful completion.

Thesis 2: Climate Change Will Cause Victorious Revolutions to Degenerate

When Trotsky sat down in the mid-1930s to assess the degeneration of the Russian Revolution, his explanation hinged on one primary factor: material scarcity. A shortage of means of subsistence had disfigured the newborn workers' state and fastened the bureaucracy like a blood-sucking parasite on its healthy body. The pivot of the theory was a scene from a queue, perhaps a breadline:

> The basis of bureaucratic rule is the poverty of society in objects of consumption, with the resulting struggle of each against all. When there are enough goods in a store, the purchasers can come whenever they want to. When there are few goods, the purchasers are compelled to stand in line. When the lines are very long, it is necessary to appoint a policeman to keep order. Such is the starting point of the power of the Soviet bureaucracy. It "knows" who is to get something and who has to wait. (Trotsky 2004, 85)

In this explanation, material scarcity calls forth a hierarchy of rulers and ruled, ordinary people standing in line and a policeman maintaining the order; it is the very physical shortage as such that engenders the stifling bureaucracy. We may call it "the breadline theory." It is highly dubious, for a number of reasons. But if we assume for a moment that there is a kernel of truth in it, we reach the conclusion that victorious revolutions in the era of climate change will give birth to bulky bureaucracies or even blood-soaked dictatorships, for if there is one thing global warming is bound to do, it is to extend the breadlines and create shortages of all sorts of basic goods. We would then be entering an era with more reasons than ever to make revolution, and with fewer prospects than ever to succeed. Any Tahrir-like spirit—democratic, egalitarian, sparkling—would be submerged by the sullen realities of progressively worsening scarcities, novel forms of draconic authority inevitably arising.

Does this have any bearing on the shortcomings and deformities—the missed opportunities, mass arrests and massacres—of the Egyptian revolution? The answer would seem to be "no," since the trajectory of Tahrir has deviated so markedly from that of Petrograd. There was no original seizure of the state from which the revolution could degenerate. Tahrir never made it to October. As Asef Bayat has brilliantly argued, the defining paradox of the Egyptian revolution—or "refolution," as he prefers to call it—is the combination of enormous prestige and total lack of direct administrative authority (Bayat 2013a, 2013b). The Tahrir revolutionaries built no organs of their own, no dual power or parallel governments, but rather relied on the military leadership of *l'ancien régime* to execute their will, from the ousting of Mubarak to the deposition of Morsi. Leaderless, horizontal, reveling in mass action,

apparently following the injunction to "change the world without taking power," the revolution never breached the walls of the state—and this has proven a disaster, leaving the Winter Palace first in the hands of the generals, then of the Brothers and then the generals again, neither of whom hail from Tahrir or intend to honor the three basic demands commencing with *aish*. Indeed, the revolution has now stumbled from brotherhood rule to a second military dictatorship bent on annihilating it.

One reason for the failure is the ideological *zeitgeist*. The Egyptian revolution has been carried by a generation of activists who—growing up after 1989 and fed on the lessons of the Stalinist century—is loath to assume central power (Abdelrahman 2013; Bayat 2013b). Swimming with the global tide of new social movements, celebrating the potential of the network rather than preparing to capture the state, the cadres have "had no ready plan, grand or otherwise, for the day after. Despite their fearless efforts to challenge the regime and its institutions, they never intended to replace it by themselves." (Abdelrahman 2013, 582)

Instead it is the deeply entrenched, old state that continues to manage the queues, regulating, manipulating, policing the distribution of notoriously scarce bread and fuel to the masses—and indeed, this might be one source of its seemingly unshakable power. Old state or new, climate change threatens to stretch those lines ever further; if some revolutionaries seize the proliferating he-goat moments and shoulder the task of October, they might be surrounded by an even more terrible wasteland than the Bolsheviks once were—or *l'ancien régime* will claim to do their biddings for them. In either case, success would be elusive.

Thesis 3: Revolution Improves the Prospects for Adaptation to Climate Change

Even if fossil fuel combustion were to be eradicated tomorrow, the coming decades would see the effects of past emissions pounding the globe and the temperatures slowly continuing to rise. Humanity will have to live with this. How can its vulnerability be reduced? According to three decades of critical vulnerability research, equal ownership of resources is the best protection against natural hazards. Vulnerability is a function not of an earthquake or a cyclone per se, but rather of the distribution of resources: whether a person lives in a solid mansion or a ramshackle hovel determines her exposure to the risks (see, e.g., Hewitt 1983; Bohle, Downing, and Watts 1994; Wisner et al. 2004). It follows that the best way to reduce vulnerability is to make a revolution. Ben Wisner (1979, 305), pioneer in the field, has consistently argued that "only radical changes in the organization of production and in access to political power will affect in a large number of direct and indirect ways vulnerability to disaster." When everyone lives in decently constructed homes, the ground may shake as it wishes.

Applied to the issue of climate change, this would imply that revolution has at least a potential to make the threats manageable, as was indeed suggested while the mass demonstrations against Mubarak were nearing their peak in Tahrir. Michael Cote (2011), a climate adaptation specialist at the University of Massachusetts, opined that:

> Hosni Mubarak's regime was not doing enough to protect the country in a changing climate. Let's hope Egyptians win this fight for a new government. It will be the only way they can win the longer-term fight against the rising sea.

The rising sea is salinizing the northernmost Nile Delta.[4] Every additional millimeter of sea level magnifies the immense hydraulic pressure of the Mediterranean, pushing it to pump salty water into the delta soil. Invading the land not from above but from below, the sea penetrates the coastal boundary and rises to the surface, making it more and more difficult—in some places impossible—to cultivate crops: the salt simply kills the plants. To adapt, farmers pour out sand to "elevate" their fields above the water table and then apply large amounts of fertilizers (Malm and Esmailian 2013).

But not everyone can afford to buy the requisite materials. Being commodities on a market, commanding rising prices, sand and fertilizers are accessible only to relatively well-off farmers. Others might have no choice but to abandon their land. Some settlements along the coast are now turning into virtual ghost towns, as the inhabitants decamp to the cities and commercial farmers seize their plots (Malm and Esmailian 2013). It would then appear that if the Egyptian revolution were to be revived and approach the social end of the spectrum, there would be a potential for remedying vulnerability to soil salinization: all farmers could be provided with sand and fertilizers; a new land reform could be launched to guarantee everyone livable holdings; margins and buffers of all sorts could be eked out by the state.

Or take the case of sea walls against the storms coming in from the Mediterranean with increasing frequency and force. As a corollary of the uneven and combined development presided over by the Mubarak regime, the safest walls, breakwaters and groins are found in front of luxury resorts and other sites of fixed capital, while farmers and fishermen are left almost completely without protection (see Malm 2012a; Malm and Esmailian 2012). A progressive state could build sea walls for everyone. Moreover, Egypt does have a potential for increased self-sufficiency in wheat and other basic foodstuffs—if the meat consumption of affluent consumers were to be curtailed, if the country would extricate itself from the grip of international financial institutions bent on making it a market for American grain exports, if cash crops and agribusiness were to make room for small-scale agriculture geared toward the needs of the people—if, in short, social relations were revolutionized (Bush 2002, 2007; Mitchell 2002).

[4]The following sections draw on fieldwork in the northern Nile Delta in the springs of 2011 and 2012, conducted together with Shora Esmailian. See also Malm (2012a) and Malm and Esmailian (2012, 2013).

Such cases—and they could be multiplied—seem to turn the breadline theory on its head: in times of impending scarcities arising from the destruction of resources, nothing can be better than a thoroughgoing revolution. Only the representative, reddish policeman can order the wisest possible use of the crumbs and make sure everyone gets enough bread to survive. But this thesis encounters a narrowing limit in the next.

Thesis 4: No revolution Can Survive Business-As-Usual, because No One Can

If global warming is allowed to run its course, one feedback mechanism kicking in after the other, no bulwarks will hold—revolutionary or otherwise. The situation in the Nile Delta makes this abundantly clear. There are no known methods for halting salt-water intrusion: it would continue apace under the mightiest sea wall. Permanent addition of sand would be a commitment to infinity and to ever deepening dependency on fertilizers. Egypt can distribute the burdens more fairly, but it cannot pull itself up by its bootstraps forever.

Under conditions of business-as-usual, sea levels are set to rise indefinitely—until, that is, the potential of 70 m from the melting of all ice sheets is eventually realized; the highest walls would sooner or later be overtopped; some 25 m would suffice to literally submerge Tahrir. Such a rise will, of course, not materialize this century—it lies far into the future—but the salinization of Egypt's breadbasket is picking up pace by the year, undermining aspirations to revamp food self-sufficiency. The Nile's flow will most likely plunge under increasing heat and enhanced evaporation, asphyxiating farmers downstream (Agrawala et al. 2004; Conway 2005; Beyene, Lettenmaier, and Kabat 2010). Opportunities for shielding Egypt from global impacts of climate change are thus gradually constrained by its local effects, and under business-as-usual, the region at large will remain the soft underbelly of a globalizing and warming world, incurably vulnerable to price shocks—perhaps a recipe for perpetual disorder if not for permanent revolution.

Global warming is a *force majeure*. Here the analogy with uneven and combined development breaks down. The accumulation of capital has no in-built spur that impels all societies toward the highest stages of modernity—the absence of any such linear movement is the essence of Trotsky's concept—whereas unmitigated global warming has one direction and one only, accelerating *ex proprio vigore*, sweeping up every ecosystem and human population in its way. "*De te fabula narratur!*," Marx famously wrote of industrializing England, holding up its mirror to Germany, France and other European countries on the path of capitalist development. The same could be said with much greater certainty about the drought in Syria, the floods in Pakistan and Sandy in Haiti.

The argument made here is different from the breadline theory. Our fourth thesis does not suggest that material scarcity caused by climate change will necessarily spawn totalitarian regimes—though this may well happen—but rather that any social formation, whatever the character of its relations, will succumb to the forces of global warming, because it cannot do without a biophysical resource base. A socialist Egypt cannot thrive in the desert or on the bottom of the sea, because no Egypt can. If there is any merit to a materialist conception of history, climate change is the meta-political issue of all times, in which other political projects will dissipate unless it is tackled with the urgency its unique temporality imposes.

The implications deserve to be formulated in more dramatic terms. What does it matter if Palestine is liberated, if Akka, Yafa and Gaza are under water and the trees of the Galilee have died from thirst? What is achieved if freedom is attained in Egypt, social justice established and national dignity restored, if there is no bread to eat? What is a democratic, pluralist, even—dream of it—communist Syria worth if the country has turned into one great dustbowl and desert? What is—at the highest level of generality—the point in fighting for human liberation in the Middle East or indeed anywhere else on this planet, if the conditions for human life crumble one after the other or disappear wholesale?

Thesis 5: The Only Revolution That Can Save Humanity Is The Climate Revolution. It Does Not Have A Subject. The Subject Must Be Invented

In the late 1990s, radical climate activists in Sweden raised the slogan "socialism or barbeque." We may already have entered the stage of barbecue—and it surely is a party for some, while others are burnt and roasted—but there just might still be time to cut it short. Consider the research of Kevin Anderson, deputy director of the Tyndall Centre and a leading authority on emissions and mitigation scenarios. In a series of papers in the *Philosophical Transactions of the Royal Society*, he and his colleagues have demonstrated that if global emissions of carbon dioxide continue to grow with around 3 percent annually as they have done since 2000, we are on track to a rise in global temperatures with 4°C within half a century (Anderson and Bows 2008, 2011; New 2011). Such warming would, in Anderson's (2012, 29) words, be "incompatible with any reasonable characterization of an organised, equitable and civilised global community. A four degrees future is also beyond what many people think we can reasonably adapt to." This is the direction in which we are heading.

To have any chance of maintaining some orderly civilization, we have to stay below a 2° global temperature increase. What would that require? According to Anderson's latest paper, to secure as little as a 50 percent chance of avoiding more than 2° warming:

> global energy-related CO2 emissions have to decrease by 10–20 percent per year, hitting zero between 2035 and 2045. Flying, driving, heating our homes, using

> our appliances, basically everything we do, would need to be zero carbon—and note, zero carbon means zero carbon. (2012, 25)

Cuts of this magnitude have no historical precedent. The collapse of the Soviet Union set the record, with emissions dropping by 5 percent per year in the 1990s—at best half the rate necessary to have a 50 percent chance of achieving the 2° goal.

Then what could possibly be done to accomplish this last-ditch effort? Anderson has to acknowledge the obvious: the market cannot do it.

> Conventional market economics is premised on understanding and making small (marginal) changes. But with climate change, we are not talking about small changes; we are dealing with a world of very large changes, outside the realm of standard market theory.

What is the alternative? Planning. Command economy. Anderson uses the term "planned economic recession" (Anderson and Bows 2008, 3880). He does not say it loud, but "planned economic recession" does of course objectively constitute a war against capital.

More precisely, and to be perfectly honest, upward of 10 percent annual reductions in CO_2 emissions is a program for war communism. This is Trotsky vintage 1920. Needless to say, the militarization of labor, the shooting of strikers and all the other inexcusable excesses should be avoided, but cuts of this depth would demand rationing and requisitioning, warlike state management of all industries, premature liquidation of astronomic amounts of capital sunk in fossil infrastructure, centralized decisions on who can consume what goods in what amounts, punishment of transgressors threatening the annual emissions targets (cf. Delina and Diesendorf 2013). They can only be feasible under an exceptional regime dealing with an unheard of emergency—or, to quote *Terrorism and Communism*, surely Trotsky's (2007, 163) least palatable book: "Comrades, we stand face to face with a very difficult period, perhaps the most difficult period of all. To difficult periods in the life of peoples and classes there correspond harsh measures."[5]

In their path-breaking paper in *Antipode*, Joel Wainwright and Geoff Mann (2013, 9) envision an entity they call "climate Mao," a planetary sovereign exerting "just terror in the interests of the future of the collective." Much like war communism, "just terror" is a term with an acid taste. What must be kept in mind here is that our period would not have been so difficult, nor would harsh measures be needed, had the dismantling of the fossil economy begun two decades

[5]There is an extensive debate in the historiography of the Russian Revolution on whether war communism was a result of (1) utopian programs, (2) a perceived necessity of emergency ad hoc measures or (3) a mixture of both; this is not the place for reviewing it, but the third position seems the most reasonable.

ago. At that time, when CO_2 concentrations in the atmosphere were some 355 parts per million rather than the current 400, the trick might possibly have been made with social-democratic nudging of the market: some taxes, a batch of new incentives, a little public investment here and there. But the politics of climate change mitigation follow a timeline running from Bernstein to Trotsky to Mao and further. The longer the postponement of emissions reductions, the more revolutionary will the measures have to be once the work is begun; this is fully recognized in climate change science.

Again, none of this is to be relished. The roads from war communism and just terror to brutal degeneration and tyranny have proven short indeed; new campaigns could crash in an instant, even if deployed by a democratic polity (cf. Delina and Diesendorf 2013, 378). But the point, as Mann (2013) has emphasized, is that our predicament inexorably pushes climate change mitigation strategies in a Leninist direction: neither gentle manipulations of the market nor local exercises in participatory democracy are likely to accomplish the necessary total overhaul of the productive forces. That realization is in itself an acknowledgment of tragedy. It returns us to the Achilles' heel of the Egyptian revolution and, indeed, the whole post-1989 paradigm of activism culminating in Tahrir Square: the question of the seizure of power. Maha Abdelrahman (2013, 583) asks if the experiences from Egypt over the past two years should prod activists to reconsider their aloofness or skepticism toward centralized power—and the most compelling answer might come from the melting Arctic. The time for consensus meetings and human microphones is over.

When Wainwright and Mann speak of climate Mao, they think of something akin to a dictatorship against fossil capital, based upon the mobilization of the masses —preferably in Asia, where they discern some prospects of the entity emerging. Most of humanity vulnerable to climate change lives "in East and South Asia, between Pakistan and North Korea: a belt of potentially revolutionary change. (The terrible floods of 2010 in Pakistan foretell something of the magnitude of potential unrest.)" (Wainwright and Mann 2013, 13). Could he-goat moments in Asia propel the masses to power and transform the Chinese, Indian, Pakistani—Wainwright and Mann even propose the North Korean—states into agents of green terror, swiftly extinguishing fossil fuel fires in the interests of human survival? Or, put differently, can the effects of uneven and combined development-apocalypse be turned into so many spring-boards for attacks on fossil capital?[6]

One could hope. But there are reasons to be pessimistic. The subject of the climate revolution is still nowhere to be seen. In fact, the revolutionary moment of 2011 distinguished itself not only for the presence of a temperature signal, but just as much for the absence of a climate agenda. If 2011 was the year when it was "kicking off everywhere" (Mason 2012), this certainly didn't extend to the field of climate change politics. Although the issue figured on the margins of the Occupy discourse, the climate movements of the world—largely debilitated by the COP-15 debacle and

[6]For the concept of fossil capital, see Malm (2012b, 2013).

the onset of the economic crisis—seemed to gain no momentum from the general turmoil. The Tahrir Squares multiplying across the planet never touched the Arctic. Given the extreme gravity of the situation, as conspicuous in 2011 as it is now, and as visible as it should have been from Syntagma Square as well as the Wisconsin State Capitol, this must surely count as a remarkable deficit, giving new pause for an old thought: why is it so excruciatingly difficult to muster a revolutionary climate subjectivity, even in a world burning with dissent?

Consider the Syrian drought. No demonstrators or armed rebels have blamed their plight on the 19th century British manufacturers who made steam-power the basis of industry, the Western capitalists who moved into the Middle East in the 1920s to inaugurate the oil era, BP or Shell or Exxon or Vattenfall, or any other villains of the present day. Naturally, all rage—including the part of it stoked by the drought—has been vented on the Assad regime. Anything else would be unthinkable. The basic coordinates of this myopia are no mystery. Cause and effect, perpetrator and victim in the field of global warming appear so diffusely constituted, so widely dispersed in time and space that spontaneous formation of a revolutionary climate consciousness seems out of the question.

Dispersion conduces to paralysis. This is the leitmotif in Stephen Gardiner's (2011) tome *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*, surely one of the most disconcertingly illuminating works on the politics of global warming to date. Three structural asymmetries conspire to create the cul-de-sac: an elite of rich people in the present systematically harm the poor, nature and future generations by binging on fossil fuels, positioned behind towering walls along the dividing lines—rich/poor, humans/nature, present/future—which the victims cannot touch, much less assail. Gardiner focuses on what he calls the "pure intergenerational problem": by dint of the back-loaded quality of climate change, each impact being the result of past emissions, every generation reaps benefits from the combustion of fossil fuels and passes the buck to the next generation, which does not yet exist and thus cannot have agency. In this "tyranny of the contemporary," opposition to emissions from those who will suffer is precluded. The same goes for nature—no polar bear will ever file his complaint—leaving the poor of the present as the sole subject with at least a hypothetical potential to answer back.

A moral philosopher, Gardiner is interested in "moral corruption"—the distance to the victims incites the emitters to continue harming them—but his insights may be transferred to the realm of strategy. You can rise up against a police who slaps you in the face, but can you rise up against a corporation in another part of the world and perhaps a deceased generation whose emissions are now contributing to your downfall? Can this type of slow violence become perceptible at all?[7] Would a Tahrir Square ever be able to keep something as deceptively distant as the Arctic and its oily plunderers in mind?

[7]For some masterly reflections on this problematic—with the glaring and telling omission of climate change—see Nixon (2011).

Every structure eliciting revolutionary action in modern history—autocracy, colonial occupation, imperial domination, egregious forms of class oppression—has nourished some proximity between subject and object; on the opposite side of the spectrum, the women's movement has struggled with an excess of intimacy between the two. In climate change, oppressor and oppressed are, sometimes literally, worlds apart. Unlike in other processes of domination and destruction, there is no way to pinpoint one particular emission as causally responsible for a specific impact; the identities of the triggermen have all been blended in "the great workshop of nature," to borrow Marx's metaphor for the atmosphere. This is not so much an ethical as a strategic tragedy, making it highly improbable that the tens of millions of victims of the next Pakistani flood will in fact convert their agony into a climate Mao or Trotsky, declare a state of emergency and attack their executioners—for how would they even reach them?

Real mitigation would necessarily require a totalizing subject prepared to wage war on the accumulation of fossil capital. This is the logic of the Luxemburgian pun, index of the present deadlock. It compels us to stretch our imagination to the utmost, to experiment wildly with creative strategies for revolutionary subjectivity where so little exists and so much is needed. The alternative would be to capitulate to an inversion of the Marxian dictum: mankind has set itself a task that cannot be solved. Reality poses urgent revolutionary tasks, yet no one is around to shoulder them. It is in this gap we now live and have to act.

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