Editorial to Political Ecologies of Inertia – Matters of Resistance

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"The tradition of all the dead generations weighs like a nightmare on the brain of the living."
Karl Marx (1852), The Eighteenth Brumaire of Louis Bonaparte

Today, as in 1852, humanity faces its past as systemic inertia. To deal with the ecological crisis and the 'warming condition' (Malm 2018) is to deal with history in the present. The carbon legacy of dead generations weighs heavy on the minds as well as the bodies of the living. There is an undeniably material quality to a storm, a rising sea and a burning forest as the repercussions of compounding CO_2 jump from the surface of paper to the surface of one's skin. A return to stable and subjectless socioecological settings of the Holocene is presumably lost for good (Latour 2014) and degrading environmental conditions have tangibly repoliticized the intersections of nature and society (Purdy 2015). To act politically in this situation is to face different modalities of inertia and seek to transform them towards life-affirming and socioecologically resilient alternatives.

In the Call for Papers for the 2020 NGP Yearbook, we outlined a sketch for 'inertial thought'. Our aim was to shed light on the manifold material and political inertias that have produced and are producing the disastrous ecological predicaments of climate change, biodiversity loss and mass extinction. The experience is comparable to being seated in a train careening towards a cliff. The train gaining its momentum from the interactions of matter, energy and human agency. From the coal lifted from the ground, the command from the locomotive's operator, the stoker feeding the fire box, and the boiler and pistons converting the embodied fossil energy into forward movement. The bigger the object, the more time and energy it takes to set it in motion and, conversely, the greater the struggle to slow it down or divert it from its path. The system of fossil fuel powered capitalism is, likewise, a complex configuration of matter, energy and human agency that propels these ecological and social crises. The ecological transformation starts from the untangling of these embedded configurations of the present and proceeds to the concrete revolution of our relations to nature and to each other.

Some of the material, institutional and infrastructural inertias are painfully concrete. Like the local power station that requires 140 truckloads of peat and wood pellets *a day* (a truckload every 10 minutes) in the peak of Finnish winter to provide warmth and electricity for the frozen city of Oulu. Or the oil pipelines piercing through indigenous lands from the Alberta tar sands to Gulf Coast refineries and the

pulp mills digesting eucalyptus in Central Uruguay. These fossil infrastructures stand as monuments of past choices haunting the present and as societal veins that keep pumping while the clock is ticking. Their demolition and replacement require more than a change in our mental conceptions. It requires labour, planned coordination of humanity's productive forces and work with matter that resists. Inertial thought should start from the premise of concrete materialism and the clear-sighted recognition of these material conditions. And to proceed, it should also take into account the social and political conditions that enable the perpetuation of fossil-business-as-usual; the ideological obfuscations, the ontological premises and the epistemological frameworks that cloud our understanding of the world.

The idea of systemic inertia can be interpreted from various perspectives. A *political* perspective to inertia is twofold (Zantvoort 2017). On the one hand, inertia can be seen as an inherent feature of democratic administration, resembling an inbuilt stickiness of the system to dilute the impacts of governmental shifts. On the other hand, inertia can be recognized as the political inability to respond to rapid sociotechnological change and modernization. In environmental policy, *institutional* inertia has been defined as "the inability of institutions to formulate timely responses to anthropogenic climate change" (Munck af Rosenschöld *et al.* 2014: 64). Here the focus is on the inability of institutions to overcome barriers, legacies and political drags that direct public decision-making. In light of the epoch of environmental crises, conventional politics and institutions seem anachronistic and ineffective (Torgerson & Paehlke 2005: 14). In this sense, inertia can be understood as a recurring feature of liberal capitalist democracies, creating an inherent democratic dilemma between virtues of democratic participation, control and consumerism, and needs of system level efficiency to implement policies (Dahl 1994). Looking at fossil-fuel based contemporary societies; lifestyles, identities and consumer liberties are causing another level of inertia to public decision-making, creating asymmetries between voters' priorities and adoption of environmentally sustainable policies.

Recently, calls to declare a climate emergency (e.g., Ripple *et al.* 2019) on global, national and subnational levels are further examples of "rebooting the system" in order to level the playing field and get rid of the political and technological design failures hampering the adoption of progressive environmental politics. Finally, inertia can be understood from a *cultural* perspective. Effective environmental politics needs to interfere in the formation of the fossil subject (Vaden & Salminen 2018) and, thus, it always runs the risk of reactive backlash and disrupting the cemented identities around consumption (Brulle & Norgaard 2019). One example of this is how emerging far-right movements have successfully politicized environmental issues through the defence of the fossil subject and the identitarian basis of fossil capitalism. Here, identities and habitus play a key role in inertia as individuals attempt to navigate the changing political and cultural terrains of environmental issues and relate their own agency and abilities to the systemic demands of ecological transformations.

These three dimensions of inertia offer a general background for reflecting this volume's contributions. Themes such as vested interests, path dependency, endowment

effects, lock-ins, short-termism, political asymmetries, questions of generational undervaluation and justice, and for example, institutional and market constraints are present in the volume. Equally important is to question the ideological nature of our epoch and the political implications of naming this epoch. Articles describing the endogenous characteristics of inertia point to the infrastructural and technological barriers that more environmentally sustainable options face, as well as political asymmetries and undervaluation tendencies in democratic systems. In devising politics and policies to overcome inertia, the second half of the articles provide thoughts and tools for surmounting existing unsustainabilities.

Carlos Tornel investigates the infrastructure politics and energy landscapes of petro-populism in Mexico through the case of the Dos Bocas Refinery. Tornel's paper draws upon the infrastructural turn in human geography and focuses on energy infrastructures as key sites of contemporary political struggles. These infrastructures lay the material groundwork for the functioning of the fossil fuel economy and capital accumulation and, as such, they are also sites of biopolitical strategies of the state and projects that reproduce spatial and temporal relations. In addition to the material sphere, infrastructure projects also connect to an array of different political discourses, promises and meanings which Tornel terms the 'poetics of infrastructure'. This lends credence to forms of petro-populism, as in the Mexican case, through which oil-dependent infrastructural projects become "symbols of progress, national pride, development and sovereignty" that produce political and material path dependencies. As can be extrapolated from Tornel's brilliant exploration, materialities of energy infrastructures and the politics of petro-populism form the pivotal inertial forces that compel the reproduction of fossil capital in Mexico. Both material and ideological 'inertias' bleed into one another as the 'post-neoliberal' government of Mexico has pleaded to "transform oil into a blessing" and wrest back national energy security and sovereignty in the name of 'the people'.

Marika Kettunen explores young people's environmental agency and citizenship in the context of Northern Finland. Kettunen's ethnographic fieldwork among 15-16-year-old lower secondary school pupils was conducted in the spring of 2019 during the height of the climate strike movement led by the youth. The unfolding ecological crises are now on young people's minds perhaps more than ever, resulting in climate grief but also in new and manifold ways of participation and resistance to fossil-business-as-usual in their everyday lives. The perspective from the youth in Northern Finland offers a fresh angle to the often urban-centric analyses of youth movements and provides an avenue to scrutinize how rural youths relate to these environmental movements. Kettunen investigates how young people face social and political inertias in practicing their environmental agency whether it be the political system that disenfranchises their political participation or the teachers and parents denying their participation in local climate strikes. However, as Kettunen vividly demonstrates, young people are not content in merely being passive receivers, but actively construct their own subjectivities and environmental agency in relation to these forces. The temporal character of ecological crises and phenomena like climate strikes shows how new fault lines of environmental politics are

emerging between the young and the old.

Ruiying Liu analyzes spatial planning and recognizes a key contradiction: While the total number of shrinking cities has surpassed growing cities in Europe, the tools, strategies and goals of spatial planning are often heavily growth oriented. In an epoch of (planetary) urbanization, not all cities are alike. Accumulation of capital and congregation of people has increasingly metropolitanized into sprawling 'mega-cities' while a large host of urban areas are facing the same issues as peripheries in capital flight, brain drain, aging population, declining services and dilapidating infrastructure. Liu focuses on how shrinking cities should transform their planning regimes to better accommodate these processes instead of trying to emulate the growth patterns of metropoles. One key issue of shrinkage is also planning for sustainability in a no-growth situation. Urban sprawl as well as unplanned shrinkage can both lead to sustainability problems through misallocation and misuse of resources and infrastructure. Liu dissects how shrinkage can also present an opportunity for urban areas to reorient their planning goals towards sustainability. Thus, growth-oriented regimes of spatial planning form institutional inertias which do not take into account the context-dependent circumstances different urban areas face. Accumulation-driven urbanization is taken up as a one-size-fits-all solution in times when other planning paradigms are sorely needed.

Keijo Lakkala scrutinizes the concept of the Anthropocene from a utopian studies perspective and argues for a conception of utopia as a "counter image of the present". The lively debate around the different designations of epochs and scenes has integrally contained visions of environmental utopia and dystopia, but a systematic engagement with the concept of utopia and utopian studies has, thus far, been lacking. Therefore, better integration of these literatures is needed. Lakkala explores what kind of utopian and dystopian images can be derived from the Anthropocene discourse and whether these images can actually inform social and political transformations. He argues that the abstract notion of 'Man' at the heart of the Anthropocene discourse delimits the political potentials of utopian counter images derived from the concept. By focusing on humanity in abstract, it sidelines the question of historical and ecological organization of humanity's activity on planet Earth and, thus, cannot point to concrete social alternatives. In contrast, concepts like the Capitalocene denote the social relations which have led to the current ecological breakdown and offer a way out of the dystopian cul-de-sac. As Lakkala sharply demonstrates, understandings of the current moment contain ideological inertias which can either aid or hinder our ability to imagine alternatives to the current mode of fossil capitalism.

Luke Struckman begins the discussion section of the Yearbook with an examination of the technological and institutional inertias that North American grain and oilseed farmers face in their overreliance on synthetic nitrogen fertilizers. Excessive use of synthetic nitrogen fertilizers developed as the norm with the high-input and high-output model of agribusiness that sought to maximize yields. It has led to increased water pollution, greenhouse gas emissions as well as poor soil health. While there are credible alternatives to fertilizer-heavy farming, Struckman recognizes key issues such as commercial crops that are dependent on nitrogen rich environments,

conventional tillage practices as well as risk-averse financial and insurance instruments which impede farmers in the transition. Suvi Huttunen responds to Struckman by expanding on the socio-cultural side of transforming farming practices. She highlights from a practice theoretical perspective how farming practices emerge from the combination of three elements: The materials needed for farming (fields, fertilizers and machines), the skills needed for farming practices and the meanings and identities that are related to these practices. Silvia Secchi responds to Struckman by first tracing the historical roots of fertilizer use in industrial agriculture. Environmental concerns were always secondary for the settler colonial agricultural practices that supplanted the indigenous practices through violent removal and genocide of Native peoples. Also, the mechanical and chemical revolution in farming after WWII produced a separation between crop and livestock production resulting in manure becoming more of a waste product rather than a complement to artificial fertilizers. Secchi argues that decoupling of subsidies from agricultural production is needed in order to address the environmental degradation of industrial farming.

The 2020 Yearbook's roster of articles and discussions provides in-depth examinations on the pressing issues of these ecologically precarious times from infrastructure politics, youth research, spatial planning and utopian studies to transforming farming practices. Despite the varied research fields from which our writers have approached the topic of inertia, a few common questions have animated them: How do we deal with the manifold crises humanity is facing, ranging from the concretely material (oil refineries to fertilizers) to the political and cultural (planning and environmental agency to crises of utopia)? And most importantly, how do we transform our relations to nature and each other in the age of fossil capital? The current Yearbook is only a small addition to that process, but it has hopefully achieved its humble goal of advancing the discussions and fostering new ideas.

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