

Postdigital Science and Education

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Petar Jandrić and
Derek R. Ford *Editors*

Postdigital Ecopedagogies

Genealogies, Contradictions, and
Possible Futures

 Springer

Postdigital Science and Education

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Petar Jandrić 

Zagreb University of Applied Sciences, Zagreb, Croatia

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Editors


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Editors

Petar Jandrić 
Department of Informatics and Computing
Zagreb University of Applied Sciences
Zagreb, Croatia

Derek R. Ford 
Education Studies
DePauw University
Greencastle, IN, USA

Faculty of Education Health & Wellbeing
University of Wolverhampton
Wolverhampton, UK

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Series Editor's Preface

One fine evening, almost a decade ago, I watched a historical program about the fictional medieval jester Till Eulenspiegel. His surname is a playful word game which means owl (*Eulen*) + mirror (*Spiegel*) in standard German and wipe + arse in Low German. The standard German meaning reminds us that wisdom and knowledge (symbolized by owl) arrive from awareness of our *Zeitgeist* (symbolized by mirror). The Low German meaning is a humorous device meant to soften the dangers of speaking truth to power.

The story of Till Eulenspiegel reminded me of academic culture today. Juicy scatological jokes have fallen victim to political scrutiny, yet speaking truth to power has remained an existential threat. The medieval 'witch' faced the prospect of immolation; today's non-conforming researcher faces long-term precarity. Protection provided by tenure is getting increasingly weak and selective (see Griffey 2016), so many academics publicly bow to neoliberal principles while silently murmuring 'and yet it moves'¹. Based on these and other concordances, I wrote a book chapter comparing the positions of today's academics and medieval court jesters (Jandrić 2013).

I proudly emailed my chapter to Hamish Macleod, who responded: 'This is great! Have you seen this?' Attached to his email was the chapter, 'Structure, Authority and Other Noncepts: Teaching in Fool-ish Spaces' (Macleod and Ross 2011), which compares medieval court jesters to online tutors. Hamish's email embarrassed me to no end: I unconsciously borrowed my friends' idea, and I failed to source their chapter elaborating that idea. Hamish and Jen waved off my concerns, yet the question of reasons for my unintended 'plagiarism' has continued to hang in the air. In a later chapter based on the jester metaphor, Hamish Macleod and Christine Sinclair (2015: 96) notice that 'this parallel between jester and academic

¹ 'And yet it moves', or *eppur si muove*, is a phrase that Galileo Galilei allegedly murmured to himself after a close encounter with the inquisitors who threatened him with immolation if he does not publicly recant the claim that the Earth moves around the Sun, other than the other way around. It is not confirmed whether Galileo said these exact words, yet the image of a scientist publicly revoking his claims to survive has remained a prominent motif to this day.

has also been noted by one of the editors of the current volume ... We take great delight in such synchronicities.'

The history of research teaches that our experience is not at all uncommon. In the late seventeenth century, Isaac Newton and Gottfried Wilhelm Leibniz independently developed infinitesimal calculus. Quantum mechanics, which is the scientific backdrop behind our modern science and way of life, was developed by a loosely connected group of brilliant researchers over the first few decades of the twentieth century. Between the two world wars, the Frankfurt School of Social Science turned the humanities and social sciences upside down with their brands of critical theory. These little time-space pockets of highly influential research activity cannot be attributed merely to political economy or a chance encounter of highly talented individuals. Centuries ago, German philosophers recognized that *Zeitgeist* is more than an arithmetic sum of its parts. Over the years, I became more and more interested in the magic of *Zeitgeist* in knowledge development (McLaren and Jandrić 2020).

Following recent techno-scientific convergences (e.g., bioinformatics) and their dialectically intertwined counterparts in the humanities and social sciences (e.g., bioeconomy), today's *Zeitgeist* is at the intersections between biology, information, and society (Jandrić 2021). Global struggles to manage the Covid-19 pandemic have further exacerbated this *Zeitgeist*, as the viral behaviour of SARS-CoV-2 is mirrored in the infosphere and our social lives (Peters, Jandrić, and McLaren 2020). Will our today's *Zeitgeist* result in scholarly achievements and social effects of a similar order of magnitude to quantum physics and critical theory?

I dare not answer that question, but I do recognize the pressing need to understand our rapidly changing *Zeitgeist* and the responsibility to shape it towards a better future. In a recent book in the Postdigital Science and Education series, a group of us explored *Bioinformational Philosophy and Postdigital Knowledge Ecologies* (Peters, Jandrić, and Hayes 2022). This book, *Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures*, takes that work further and explores ecopedagogies as forms of educational innovation and critique that emerge from, negotiate, debate, produce, resist, and/or overcome the shifting and expansive postdigital ecosystems of humans, other animals, machines, objects, and so on.

The two books share many similarities, some of which are shaped by their editors' positionalities (Hayes 2021): a postdigital understanding of our work as a rupture and continuation of existing theories and practices (Jandrić et al. 2018; Reader and Savin-Baden 2021), a strong focus on Marxist analyses of the relationships between capital and education (Ford 2021; Malott 2021; Rikowski 2020); the importance of the commons (Ford 2016; Means 2014), and walking the Freirean talk of critical praxis (Pruyn, Malott, and Huerta-Charles 2020), beautifully summed up in Antonio Machado's (2007) verse 'Traveller, there is no path. The path is made by walking.' *Postdigital Ecopedagogies* brings in an additional, and most welcome, focus to postcolonial theories and arts. Yet postdigital studies of biology, information, and society are in their very infancy, and it is hard to say where these budding research approaches will take us.

For the time being, that is perhaps irrelevant. In order to make sense of our reality and direct our present towards a better future, we first need to develop 'the language of critique and the language of hope' (Giroux in Jandrić 2017: 153). *Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures* charts some histories, contentions, and orientations for experimenting with the utopic postdigital ecopedagogies. In doing so, the book develops a postdigital language of emancipation and freedom that I think is fit for our *Zeitgeist*. This language is made by writing and telling, re-writing and re-telling, where each new utterance is a rupture and continuation of past utterances, and a fundamental steppingstone for future utterances, soon to be made obsolete by even newer utterances.

Since I started writing this editorial, I've been haunted by an uncanny feeling that I already told the story about my chapter on jesters. I cannot remember in which text, and Google does not seem to remember either; but this time, I don't care. This editorial reflects the early-2022 *Zeitgeist*, which is a rupture and continuation of earlier *Zeitgeists*; a fundamental and ephemeral steppingstone for the future. This book is predestined for a similar fate. Our words in *Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures* will soon end up neatly stored in database vaults of history, but the developed postdigital language of emancipation and hope will retain its invisible presence in ruptures and continuations to follow.

Zagreb University of Applied Science
Zagreb, Croatia
University of Wolverhampton
Wolverhampton, UK

Petar Jandrić

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Foreword: The Time Has Come but Has it Gone

Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures is a collection of essays designed to stretch the ecological imagination and has been resoundingly successful in meeting the postdigital challenge of the Capitalocene, even as the Covid-19 pandemic continues its assault into 2022. The emergent ecopedagogies produced by this international collection of scholars are deftly positioned outside the ordered and corrective precincts of the knowledge factory and out of reach of the disciplinary measures and mechanisms of the academy, moving into different arenas and registers of analysis that give this work a pathfinding quality steeped in the dialectical universe.

The challenges taken up in this volume are many. Drawing from the authors' own descriptions, they include experimenting with utopic (messianic rather than prophetic) postdigital ecopedagogies demanded by our current (post)pandemic reality that exist as potentialities immanent in the irreducible excess of the present (Jandrić and Ford 2020); understanding the demise of linear hierarchies of progress and its implications for ecopedagogies of attainment (Hayes); examining how contemporary postdigital educational processes limit subjective and political potentials by dictating and naturalizing individuality as a finished product and starting point of sociality and facilitating capital's demand for transparent knowledge (Hall); exploring the intersection between (*insurrectional* and *Pandoran*) democracy, the postdigital context, (pervasive) militarization, and ecopedagogy (Carr); extending concerns about the transformations taking place in the name of health and biosecurity, and exploring the new logic of temporality that accompanies it called *the meantime* (Bourassa).

The authors engage in developing the field of critical media literacies for socio-environmental justice and planetary sustainability reinvented from Freirean pedagogies (Misiaszek, Epstein-HaLevi, Reindl, and Jolly); building upon Ford and Sasaki's (2021) work on postdigital listening and anti-colonialism and considering the ways in which it can expand our understanding of decolonial movements in Africa and simultaneously open possibilities for current struggles (Malott); unveiling through 'mythographical walking' during Covid-19 the Postdigital Settler Spectacle used by settler capitalist society through mass media and digital

technologies, which systemically hides the truths of social inequity in our daily lives (Burnam and Brett); and make a modest proposal for a pedagogy of alienation (Tolbert, Azarmandi, and Brown).

The book inquires second-wave architectural ecopedagogies (Brown); considers intercreativity as a concept and strategy in contemporary collective knowledge production (Escaño and Mañero); explores learning in the context of sound art (Brynjolson); and offers an alchemical exploration of the aesthetic dimension of ecological awareness and environments by examining how things in our world are constantly malfunctioning (Triggs and Bazzul).

Taken together, the chapters reveal how far ecopedagogy has developed over the years and the importance of situating the field into the postdigital realm. Clearly, ecopedagogy has moved beyond the limitations of neo-Malthusian and neo-Keynesian environmentalists, while at the same time stretching both Marxist concepts (that remain hostage to crude economic determinism) and those of critical pedagogy. This includes what I have called revolutionary critical pedagogy (which traces its lineage to Marx, Gramsci, Freire and the Frankfurt School theorists), echoing the justified admonishment that we need to de-fetishize our theories and refuse to treat them as unsullied, sacred objects (McLaren and Jandrić 2020a, b).

The authors in *Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures* have been seized upon by a clear obligation to forego the recurrent eco-friendly panaceas in favor of a deep ecological reading of capitalist exploitation, exploring in more granular detail the uneven relations between paid and unpaid labor, between knowledge and power, between theory and practice, between human agency and systems of intelligibility and mediation, between the digital and the analog. There exists not only a willingness but an eagerness among postdigital scholarship to examine capitalism's systems of knowledge production in relation to capitalism's social relations of production that invariably lead to structured hierarchies that pivot on domination, exploitation, and the creation of the colonized subaltern, to asymmetrical relations of power and privilege, to disproportionality related to race, gender and class antagonisms which in turn are affected by relations of scale, temporality, geopolitical encounters, settler colonialism, indigeneity, pandemics, generational influences and a multitude of ideological abstractions that move between both new and established conceptual claims (Jandrić et al. 2018; Peters and Besley 2019; Malott 2019).

Class struggle is a theme that underlies many of the essays. As Jason Moore (2021) notes in reference to climate change in the era of the Capitalocene, the orthodox left (including ecosocialists) has failed to deal with how the climate class divide is related to climate patriarchy and climate apartheid: '[T]here's a class struggle on the level of everyday life that has to be confronted head on. . . . that's a class struggle of everyday life, at the level of buying food, shopping for groceries, cooking food, buying clothes, and everything else. All of which is an irreducibly gendered class struggle.'

Those who work in the field of postdigital ecopedagogy recognize that we are facing a systemic threat based on the mass exploitation of both nature and labor, on the predatory logic of market growth, and on an expanding scale that has put the

very survival of the human species at risk. Today's ecological consciousness demands that we move away from ecopedagogical models that posit a compromise with neoliberal capitalism, or that do not recognize that socialism can sometimes be more productivist than even the most despotic tendrils of capitalism. What we clearly need is a revolutionary transformation of society beyond unlimited commodity production, one that emphasizes a qualitative transformation of development.

Over the years ecopedagogues have tried to answer persistent questions such as: How do we reconcile production and the protection of nature? What is the role today of the producing class against the appropriating class? How do we move ahead in our development of political ecology in the midst of a seemingly all-pervasive hegemony of productivism run by capitalism's techno-bureaucrats?

While it is a commonplace to argue that human beings create new nature while, simultaneously, nature acts on and changes the human being, I agree with Heather Brown (2020) that this dialectical unity is a differentiated one since human beings are conscious beings, potentially capable of self-consciously changing their behavior. But being reminded that one is a self-conscious being is of little consolation to those living in 'Cancer Alley ... an 85-mile area between New Orleans and Baton Rouge that is home to more than 150 chemical plants and refineries. This area has seen five times higher death rates from Covid-19 than the rest of the nation.' (Brown 2020) This stipulates that we need to expand our concept of ecology to the arena of consciousness itself, to the field of learning and pedagogy, to the aesthetics of our built environment, to the ecology of the general intellect, to Marx's (1894/1991) notion of the 'irreparable rift in the interdependent process of social metabolism' or what is more commonly known as 'metabolic rift'.

Human beings continue to interact with the natural world in different and diverse ways given the changes in relations of production and technological interventions. Hence it is important to map these interactions at the level of everyday life in order to expose the micro-rationality of the capitalist market, and this requires that attention be paid to the postdigital iterations that are now manifest in so many aspects of our daily lives. This challenge will also require a completely new moral economy. As Michael Lowy notes:

That challenge requires building what E. P. Thompson termed a 'moral economy' founded on non-monetary and extra-economic, social-ecological principles and governed through democratic decision-making processes. Far more than incremental reform, what is needed is the emergence of a social and ecological civilization that brings forth a new energy structure and post-consumerist set of values and way of life. Realizing this vision will not be possible without public planning and control over the 'means of production,' the physical inputs used to produce economic value, such as facilities, machinery, and infrastructure. (Lowy 2018)

Such a moral economy will be impossible without a postdigital ecological consciousness. *Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures* marks an advance in the field of ecopedagogy as it builds upon the important contributions of the past by examining new terrains that are only now beginning to reveal themselves to the discerning researcher. New avenues are opening up for understanding the ecological predicaments that we now face and the challenge

ahead is to find ways of consolidating our efforts into a movement that will yield results sufficient to postpone planetary disaster and, more importantly, to make the necessary inroads for developing a socialist consciousness capable of leading us from planting seeds in the dung heap to the cultivation of sustainable ecosystems where life and meaning can flourish.

Chapman University
Orange, CA, USA

Peter McLaren

Northeast Normal University
Changchun, China

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Introduction: The Many Faces of Postdigital Ecopedagogies

Times of Ruptures, Times of Continuations

In 2020, the largest percentage of refugees resettling in the U.S. came from the Democratic Republic of the Congo (Migration Policy Institute 2021). While living standards, violent conflict, and child and gender-based violence are often cited to account for this, the reasons that produce these realities are often ignored. As Walter Rodney (1982) noted more than 50 years ago, the reason that African nations are so poor is because they are so rich. ‘From an African viewpoint’, he wrote, colonialism ‘amounted to consistent expatriation of surplus produced by African labor out of African resources. It meant the development of Europe as part of the same dialectical process in which Africa was underdeveloped.’ (Rodney 1982: 149) The people of the Democratic Republic of the Congo are forced to flee because of the imperialist desire for the enormous resources of minerals, other raw materials, and labor power in the country.

This is particularly crucial in the postdigital era, as cobalt and coltan are so central to not only smart phones and computers but automobiles, sound systems, and more. Imperialist nations like the U.S.—and their proxies—will, by any means, force access to ‘critical precious resources that are essential to produce its commodities, such as the cobalt and coltan from the Eastern provinces of the Democratic Republic of the Congo’ (Christiansen 2020: 340). The case of the Congo highlights the pressing need for reinvigorated ecopedagogical practices in the postdigital era, in which humans, machines, objects and materials, digital systems and devices, and more interact in increasingly complex ways that blur the boundaries between them.

The postdigital ecosystem of our era is, importantly, contextualized in and productive of new bioinformational reconfigurations in capitalism, imperialism, colonialism, and ontological and political hierarchies more generally (see Peters, Jandrić, and Hayes 2022). Such a revitalization of ecopedagogy is necessary in order to move beyond the tradition’s general confinement to the tradition of Paulo Freire’s work and the North American critical pedagogy project out of which it originally emerged. These origins were—and continue to be—radical, particularly

relative to environmental pedagogies more generally, which are ‘frequently non-critical and narrow in discipline, theory, and epistemologically’ (Misiaszek 2020: 29).

In *Critical Pedagogy, Ecopedagogy, and the Planetary Crisis*, Richard Kahn (2010) articulates the praxis of ecopedagogy as one organized around ecological literacy, coalition and movement building, and dialogue. This was a foundational book that connected teaching about environmental justice and its structural implications in economic, political, social, and epistemic violence. Relative to Freirean-inspired critical pedagogy, ecopedagogy supplemented the critique of dehumanization with a critique of ecological objectification and reframed the project of humanization within the ecosystems within which humanization might be possible. In other words, ‘ecopedagogy widens Freire’s initial notion of reading the world ... to reading the Earth’ (Misiaszek 2021: 1). Reading here is not merely the act of processing written content but of actively generating and participating in the construction and reconstruction of the world.

This world is now, in many ways, postdigital, in that it’s no longer feasible to draw hard-and-fast lines of demarcation between the digital and analog, the virtual and material. The concept of the postdigital champions a ‘holding-to-account of the digital that seeks to look beyond the promises of instrumental efficiencies, not to call for their end, but rather to establish a critical understanding of the very real influence of these technologies as they increasingly pervade social life’ (Jandrić et al. 2018: 895). The digital is not located in a space separate from the analog. For example, the label of ‘traditional’ or ‘face-to-face’ classrooms are irrelevant and too simplistic in nature. Digital education is not independent of the material world, as technology and education are interdependent. It is no longer useful to distinguish between digital and nondigital frameworks of learning because technology is now a driving force behind the engagement of materials within the classroom.

As such, the complex nature of the terminology of postdigital allows for ‘both a rupture in our existing theories and their continuation’ (Jandrić et al. 2018: 895). ‘The essence of postdigital culture’, writes Angela Butler (2021: 63), ‘stands not for a time after the digital but as an acknowledgement that the materiality of the digital is not reducible to the screen ... It is a massively distributed reality that in turn conditions our perceptual realities.’ The Earth that ecopedagogy reads is postdigital, and the literary practices and technologies we use to engage in such generative reading are implicated in new geopolitical and social realities.

These new realities are precisely what the contributions in this book investigate, and as they do so they each not only critique but, more importantly, identify and pry open opportunities for ruptures that can lead toward more egalitarian states of liberation. As contradictions confront each other, they’re exposed to the intervention of humans and machines, objects and stuff. The task of postdigital ecopedagogy is precisely to inaugurate and intensify such ruptures, through postdigital dialogue, theory, and praxis (e.g., Ford 2021; Jandrić et al. 2019). And as this happens, ‘as ruptures expand and catalyze others’, it creates ‘the possibility of complete rupture ... the revolutionary overthrow and transcendence of the system as a whole’ (Cleaver 2017: 77).

What's in the Book?

Part 1: The Educational and Intellectual Coordinates of Postdigital Ecopedagogies

The first part of the book explores several of the diverse theoretical faces and potential trajectories of postdigital ecopedagogies in order to map out a partial constellation of the educational and intellectual coordinates of postdigital ecopedagogies. The first chapter, Petar Jandrić and Derek R. Ford's 'Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures', is a reprint of book editors' 2020 paper. This chapter, which circulated along with the Call for Papers, lays out many of the theoretical trajectories of postdigital ecopedagogies, many of which are further developed in later chapters. The second chapter, Sarah Hayes' 'Postdigital Ecopedagogies of Attainment and Progress', intervenes in the struggle over conceptions of temporality by, first, articulating the assumptions of hegemonic interpretations of time as progressive, linear, and developmental. Contrasting mainstream models of progress with those of attainment, the chapter explores openings in the former and the potential effects of the postdigital ecopedagogies of the latter.

The third chapter, 'From the Knowable and Transparent Individual to The Secret Thought of Individuation: An Anti-Capitalist Postdigital Ecopedagogy', is by the book's co-editor Derek R. Ford and his two fourth-year students in Education Studies, Katie Swenson, and Megan Fosher. They articulate the contours of capitalist postdigital ecopedagogies, showing how they rest on the demand for transparency, individuality, and knowledge, before showing how the binary between the individual and collective subject-form should be understood postdigitally. Throughout, they enunciate anti-capitalist ecopedagogies that emerge from the opaque transindividual commons to produce thought. The next chapter, Richard Hall's 'Composting the Anti-Human University', moves to juxtaposing ossified, abstracted, and universalized ways of knowing that operate to reproduce capital (in terms of exploitation, expropriation, and extraction) with those of 'a fuller, human knowing of the world'.

The last chapter in this section, '*Insurrectional and Pandoran Democracy, Military Perversion and The Quest for Environmental Peace: The Last Frontiers of Ecopedagogy Before Us*', by Paul R. Carr, takes place at the junction of what he calls two contemporary forms of 'anti-democratic democracy'. Insurrectional democracy refers to the 6 January 2021 right-wing attempted coup in Washington, D. C. and Pandoran democracy refers to the Pandora Papers leaked and then released to the public on 3 October 2021. Insurrectional democracy is 'a metaphor of the chaos, fragility and lock-jaw, ping-pong interplay of elites exchanging positions of formal power' while Pandoran democracy refers to the overall domination of a minority of ultra-rich elites over the democratic system itself. They are both premised on militarization and violence, and Carr argues that postdigital ecopedagogies have the potential to counter both manifestations of anti-democratic democracy through the true mobilization of the masses.

Part 2: Postdigital Ecopedagogies in Global Anti-Imperialist, Anti-Colonial, and Decolonial Struggles

Chapters in the second part of the book present a wide range of anti-imperialist, anti-colonial, and decolonial praxes across the globe, from Italian Critical and Marxist Theory and Freirean pedagogies to Pan-Africanism, Communism, and Indigenous theories and practices. The opening chapter, Gregory N. Bourassa's 'Biopolitics, Postdigital Temporality and the New Chronic: Pedagogical Praxis Within, Against, and Beyond the Meantime', builds on the work of Giorgio Agamben to explore 'the transformations taking place in the name of health and biosecurity' and 'the new logic of temporality' that accompanies these transformations. The chapter develops the notion of the logic of the meantime, as a postdigital temporality in which the present and future can only be the repetition of the past 'an ideological and temporal formation of late capitalism that offers the future as nothing other than an extension of the present'. Bourassa ends supplementing Agamben's work and the educational literature on it as well as decolonial thought by arguing for an *exit* from the meantime, especially through his theorization of the rhythms of exit, ecopedagogy, and exopedagogy.

The next chapter, 'Ecopedagogy Disrupting Postdigital Divides of (Neo) Coloniality, (Eco)Racism, and Anthropocentrism: A Case Study' by Greg William Misiaszek, David Yisrael Epstein-HaLevi, Stephan Reindl, and Tamara Lee Jolly, discusses 'the needs, possibilities, and challenges of teaching ecopedagogical literacies reinvented from Freirean pedagogies to critically read technologies through lenses of postdigitalism, media culture theories, globalizations, (de)coloniality, (eco)racism, (eco)feminism, queer theories, and Southern/Indigenous epistemologies, among others'. Using a case study, the authors prioritize the ecopedagogical requirements, obstacles, and potentialities we have to attend to in order to interrupt and transform the divides between the social and environmental.

Next, Curry Malott's 'Pan African Socialism and Postdigital Considerations' offers a fascinating postdigital reading of some key anti-imperialist, anti-colonial, and Marxist thinkers such as Kwame Nkrumah, Amílcar Cabral, and Paulo Freire. Focusing on the postdigital and political changes in musical production, distribution, and reception throughout the twentieth century, the chapter shows how such changes both produced and reproduced forms of colonialism and created and recreated liberatory struggles against them. Hugh O. Burnam and Maureen S. Brett's 'The Postdigital Settler Spectacle' uses an autoethnographical and 'decolonized' framework to understand the authors' pedagogical practices that locate and 'attempt to move beyond the veil of the Settler-Spectacle'. To advance their own ecopedagogical practices, they turn to the theory of the *dérive* and 'mythographical' as they manifest through practices of walking during the pandemic.

The section concludes with 'A Modest Proposal for A Pedagogy of Alienation', by Sara Tolbert, Mahdis Azarmandi, and Cheryl Brown. Their narratives produce a map of the varied potentials and hurdles of postdigital ecopedagogies in the unique environment of the New Zealand university. This charting of challenge and

possibility leads to a praxis of ‘venting’, which in turns moves us to an inventive pedagogy of alienation. Whereas alienation is typically conceived of as a deficit to overcome, they show how the ‘double alienation’—or the alienation from both the feeling of alienation and the alienation from that feeling can mobilize creativity and imagination by finding inspiration in the anger and rage of the politics of refusal immanent in alienation (in their particular context).

Part 3: The Aesthetics of Postdigital Ecopedagogies

The chapters comprising the final section of the book bring a range of aesthetic practices to bear on postdigital ecopedagogies. James Benedict Brown’s ‘Towards Second-Wave Architectural Ecopedagogies’ explores three first-wave architectural ecopedagogies – Arcosanti, the Women’s School of Planning and Architecture, and the Centre for Alternative Technology in Wales – ‘to speculate about the need for radical responses to the climate emergency, and about the challenges that will be faced by emergent second-wave architectural ecopedagogies’.

Carlos Escaño and Julia Mañero’s chapter, ‘Postdigital Intercreative Pedagogies: Ecopedagogical Practices for the Commons’, explores intercreativity as a concept and pedagogical strategy in relation to collective knowledge production on two case studies: the MOOC ‘Free Culture from Education’ and the collective audiovisual reflection project ‘Quadraginta’. ‘Ripple Effects: New Frameworks for Learning in Postcommodity’s Sound Art’ by Noni Brynjolson examines several site-specific public art projects involving sound by the art collective Postcommodity. The chapter ‘highlights productive alliances between postdigital practices, ecopedagogy, and decolonial aesthetics, and invites questions about how small-scale actions ripple outwards and produce larger transformations’.

The last chapter in the book, Jesse Bazzul and Valerie Triggs’ ‘Malfunctioning Right in Our Backyards OR The Strangeness of Ecological Awareness’, explores ‘the aesthetic dimension of ecological awareness and environments by looking at how things in our world are constantly malfunctioning, as well as how our understanding of this aesthetic dimension, and how we use this understanding for learning and teaching, can begin right in our backyards’. The chapter closes the book with the important conclusion that ‘ecological awareness is strange and pleasurable, and so are the pedagogical practices and elements that come from such awareness’.

The Many Faces of Postdigital Ecopedagogies

Postdigital ecopedagogies have many faces. These faces sometimes align with each other, sometimes fulfil and expand each other, and sometimes present straightforward Janus-like contradictions. This multifacetedness is one of the key difficulties in working with postdigital ecopedagogies, and also one of their biggest advantages

over more coherent theories. In the words of the Rastafarian movement, postdigital ecopedagogies are not aimed at replacing our rigid capitalist Babylon with another, perhaps more left-oriented but nevertheless just as constrictive Babylon. This book clearly shows that we need to challenge the very concept of the Babylon and allow, in words of Chairman Mao Zedong, ‘a hundred flowers blossom and a hundred schools of thought contend’.

This richness and diversity are further exacerbated by the fact that decolonial theories have started to connect with ecopedagogical ideas only in late twentieth century (Jandrić and Ford 2020), while postdigital theory, with its first mention in 2000 (Cascone and Jandrić 2021), is the child of the twenty-first century. As the first book on postdigital ecopedagogies, and hopefully a signpost for further research, *Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures* shares the fate of early research efforts in any field: uncertainty, non-predictability, and rapid changes. This, in our opinion, brings about certain lightness and speed of (theoretical and practical) movement which provides postdigital ecopedagogies with the agility, and flexibility, necessary for grappling with challenges of today’s postdigital world.

Hopeful about potentials of postdigital ecopedagogies for social and environmental change, and convinced in human ability to make the world a more just and sustainable place, we offer *Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures* as a proud overview of latest research, a humble recognition of limits of our theories, and an invitation to join us in further explorations of ecopedagogies in and for our postdigital world.

Zagreb University of Applied Science
Zagreb, Croatia

Petar Jandrić

University of Wolverhampton
Wolverhampton, UK

DePauw University
Greencastle, IN, USA

Derek R. Ford

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About the Editors

Petar Jandrić is Professor at the Zagreb University of Applied Sciences, Croatia, and Visiting Professor at the University of Wolverhampton, UK. Petar's research interests are at the postdisciplinary intersections between technologies, pedagogies, and the society, and research methodologies of his choice are inter-, trans-, and antidisciplinarity. He is the Editor-in-Chief of *Postdigital Science and Education* journal <https://www.springer.com/journal/42438> and book series <https://www.springer.com/series/16439>. His recent books include *Postdigital Dialogues on Critical Pedagogy, Liberation Theology and Information Technology* (2020), *Knowledge Socialism. The Rise of Peer Production: Collegiality, Collaboration, and Collective Intelligence* (2020), *The Methodology and Philosophy of Collective Writing* (2021), and *Bioinformational Philosophy and Postdigital Knowledge Ecologies* (2022). Personal website: <http://petarjandric.com/>.

Derek R. Ford is assistant professor of education studies at DePauw University and instructor at The People's Forum. They teach and research around the nexus of pedagogy and political struggles and are especially concerned with what the latter can contribute to the former. Their work has appeared in a range of academic journals, including *Cultural Politics*, *Educational Philosophy and Theory*, and *Rethinking Marxism*. They've written six books, the latest of which are *Encountering Education: Elements for a Marxist Pedagogy* (2022) and *Marxism Pedagogy and the General Intellect: Beyond the Knowledge Economy* (2021). Ford is associate editor of *Postdigital Science and Education* and deputy editor of the *Journal for Critical Education Policy Studies*. Outside of the academy, Ford is an organizer with the ANSWER Coalition and the Indianapolis Liberation Center, a member of the Party for Socialism and Liberation, education department chair at the Hampton Institute, and editor of LiberationSchool.org.

About the Authors

Carlos Escaño is an Associate Professor of Art Education at the University of Seville, Spain. His principal research interests are the intersection of the arts and audiovisual and digital culture under a critical pedagogical approach and oriented towards social transformation. He is coordinator of international cooperation projects developed in India and Greece, and Editor-in-Chief of *Communiars* journal, <https://revistascientificas.us.es/index.php/Communiars/>. His recent publications include 'Empowerment of the refugee migrant community through a cooperation project on art education in Greece' (2021), 'Art Education and Development Cooperation: A Project in Educational Centres for Children with Special Needs in India' (2021), and 'Arts and the Commons Practices of Cultural: Expropriation in the Age of the Network Superstructure' (2021).

Cheryl Brown is an Associate Professor in e-learning in the School of Education Studies and Leadership at the University of Canterbury, Aotearoa New Zealand, and co-Director of the Digital Education Futures Lab, <https://blogs.canterbury.ac.nz/UCDeFLab/>. She has worked in higher education in South Africa, Australia, and now New Zealand. Her research focuses on how inequality influences University students' digital experience and consequently their digital identities. She is currently exploring the role technology plays in students' learning and in the development of their digital literacy practices, particularly in resource constrained contexts. She is co-editing a book *Wellbeing: Global Perspectives and Policies*.

Collin L. Chambers is PhD Candidate at Syracuse University in the Department of Geography and the Environment, where he earned an MA in geography in 2017 with the thesis, 'The People's Republic of China and the Global Class War' supervised by Don Mitchell. His current research attempts to connect and synthesize Marxist theories to transition with the ongoing green energy transition. His research has appeared in peer-reviewed journals such as *Human Geography*, *Area* and a forthcoming article co-authored in *Rethinking Marxism*. Collin has also written for Liberation School (<https://www.liberationschool.org/>) and Hampton Institute (<https://www.hamptonthink.org/>).

Curry Malott is Associate Professor in the Department of Educational Foundations and Policy Studies in the College of Education and Social Work at West Chester University of Pennsylvania. Dr. Malott completed a PhD in Curriculum and Instruction with an emphasis on the social studies and progressive, radical pedagogies from New Mexico State University in 2003. Focusing his work on the political struggles within education Dr. Malott has authored dozens of books and articles. His latest book, *A History of Education for the Many: From Colonization and Slavery to the Decline of U.S. Imperialism* (2021), is available open access.

David Yisrael HaLevi Epstein is the grandchild of Holocaust survivors and the son of a teacher and social worker. He is a third-generation resident of the city of Albany, NY, where he is writing the last chapter of his dissertation at the University at Albany's Department of Educational Policy and Leadership. His publications have focused on climate change, eco-pedagogy, critical-theory and civics education. David is a dual citizen of the U.S. and Israel, ran an NGO in Uganda, and helped create sustainable farms around the world. He has been a teacher and (occasionally) a farmer for twenty years. He is grateful for nature therapy, yoga, oil painting, and time with his friends and partners. David is the scholar-activist at the Adirondack Diversity Initiative.

Greg William Misiaszek, Ph.D. (UCLA), is an Assistant Professor at Beijing Normal University's Faculty of Education. He is an Associate Director, Paulo Freire Institute, UCLA, and an executive editor of *Teaching in Higher Education* journal. His work focuses on critical, Freirean environmental pedagogies (e.g., ecopedagogies) through theories of globalization, citizenships (local-to-planetary), race, gender, migration, Indigenous issues, linguistics, and media, among others. His published books focusing on this analysis are *Ecopedagogy: Critical Environmental Teaching for Planetary Justice and Global Sustainable Development* (2020) and *Educating the Global Environmental Citizen: Understanding Ecopedagogy in Local and Global Contexts* (2018). Personal website: www.ecopedagogy.com.

Gregory N. Bourassa is Associate Professor of Social Foundations at the University of Northern Iowa. His research is dedicated to the relationship between life, power, and capital in schools. He has sought to develop and extend theories of autonomist Marxism and educational biopolitics. He is particularly interested in theorizing forms of collective subjectivity, and has developed new insights that both challenge and extend various traditions within the field of educational studies, including critical pedagogies, reproduction theories, and resistance theories.

Hugh O. Burnam (Hode'hnyahä:dye') is Mohawk, Wolf Clan from the Onondaga Nation. Hugh is an Assistant Professor of the Humanities in the Interdisciplinary Studies Department at Medaille College and a PhD Candidate in the Cultural Foundations of Education program at Syracuse University. Through an Indigenous Research Paradigm, his dissertation examines Haudenosaunee masculinity and

experiences of Native students in higher education. Burnam studies power relations within Indigenous/Settler spaces, borders, and time. Hugh is the proud father of two boys, the inspiration for his work.

James Benedict Brown is Associate Professor of Architecture at Umeå University in northern Sweden, where he has taught design and history. He has previously taught at Norwich University of the Arts, De Montfort University, the Royal College of Art, and the University of Nottingham. His research is concerned with architectural pedagogies, including live projects, design-build and the social and environmental responsibility of the architect. He is the author of *Mediated Space* (2016) and co-editor of *A Gendered Profession* (2018) and *Architectural Thinking in a Climate Emergency* (forthcoming).

Jesse Bazzul is Associate Professor of education at the University of Regina, Saskatchewan, Canada. His research interests include science and environmental education, ethics, and educational philosophy. Jesse thinks it's vitally important to view education as a transdisciplinary field, and that traditional social sciences have dominated the study of education for too many decades. Jesse is in the middle of authoring an open access two-volume set entitled: *Reimagining Science Education in the Anthropocene*. Jesse is also the author of a forthcoming book called: *An Intense Calling: How ethics is the essence of education*.

Julia Mañero is a lecturer of Art Education at University of Seville, Spain. She is Associate Editor of *Communiars* journal, <https://revistascientificas.us.es/index.php/Communiars/>. Her current research interests include art education and digital education from a critical and social perspective being a member of the Research Group Education and Audiovisual Culture. Her academic interests also include cooperation projects, having been part of projects and research in India and Greece. She has recent published 'Empowerment of the refugee migrant community through a cooperation project on art education in Greece' (2021) and 'Art Education and Development Cooperation: A Project in Educational Centres for Children with Special Needs in India' (2021).

Katie Swenson is a fourth-year student in Education Studies at DePauw University.

Mahdis Azarmandi is Senior Lecturer in Educational Studies and Leadership at the University of Canterbury in Aotearoa New Zealand. After obtaining her PhD from the National Centre for Peace and Conflict Studies at the University of Otago, she held a position as Assistant Professor at DePauw University. She has also taught in Germany and Denmark. Her research looks at anti-racism and colonial amnesia in Aotearoa New Zealand and Spain. She has published on the politics of memorialization in Spain as well as on the absence of race critical research in the field of Peace Studies. She is one of the editors of the book *Decolonize the City! Zur Kolonialität der Stadt - Gespräche | Aushandlungen | Perspektiven*. Her research interests are anti-racism, critical race and whiteness studies, memorialization, and decolonization.

Maureen S. Brett is a School Counselor for Buffalo Public Schools, working at Leonardo DaVinci High School, serving families throughout the city. She is also an Ambassador for the Northland Workforce Training Center, helping students pursue educational training in the fields of mechatronics and advanced manufacturing. As a retired dance teacher, Maureen has redirected her creative passion toward choreography and musical theater production at the high school level. Her interests are in education, curriculum expansion, social justice, and the arts. She continues to collaborate with both district level and community resources to increase opportunities and accessibility for her students each year.

Megan Foshier is a fourth-year student in Education Studies at DePauw University.

Noni Brynjolson is an Assistant Professor of Art History at the University of Indianapolis. Her research focuses on contemporary public art projects, and she is currently working on a book about art, activism and urban development. She is part of the editorial collective of *FIELD: A Journal of Socially Engaged Art Criticism* and her writing has appeared in *FIELD* as well as in *Public Art Dialogue*, *Hyperallergic*, and *Akimbo*. She has also published chapters in a number of edited books, including ‘The Making of Many Hands: Artisanal Production and Neighbourhood Redevelopment in Contemporary Socially Engaged Art’ in *The New Politics of the Handmade: Craft, Art and Design* (2020).

Paul R. Carr is a Full Professor in the Department of Education at the Université du Québec en Outaouais, Canada, and is also the Chair-holder of the UNESCO Chair in Democracy, Global Citizenship and Transformative Education (DCMÉT). His research focuses on political sociology, with specific threads related to democracy, global citizenship, media literacy, peace studies, the environment, intercultural relations, and transformative change in education. He has seventeen co-edited books and an award-winning, single-author book, *Does your vote count? Democracy and critical pedagogy* (2010) as well as a new book with Gina Thésée, ‘*It’s not education that scares me, it’s the educators...’: Is there still hope for democracy in education, and education for democracy?* (2019).

Peter McLaren is Distinguished Professor in Critical Studies, The Donna Ford Attallah College of Educational Studies, Chapman University and Professor Emeritus, University of California, Los Angeles. He is Co-Director of the Paulo Freire Democratic Project and International Ambassador for Global Ethics and Social Justice. Peter is the author and editor of over 40 books and his writings have been translated into 25 languages. His forthcoming book is titled *Critical Theory: Ritual, Pedagogies and Resistance*.

Richard Hall is Professor of Education and Technology at De Montfort University, in Leicester, UK. He is also a National Teaching Fellow. He is the author of *The Hopeless University: Intellectual Work at The End of The End of History* (2021), and *The Alienated Academic: The Struggle for Autonomy Inside the University*

(2020). He is a trustee of the Open Library of Humanities, an independent visitor for a looked-after child, and a governor of the Leicester Primary Pupil Referral Unit. He writes about life in higher education at <http://richard-hall.org>.

Sara Tolbert is Associate Professor in the Faculty of Education at University of Canterbury in Aotearoa New Zealand, formerly Associate Professor in Teaching, Learning, and Sociocultural Studies at the University of Arizona. Her scholarship draws from feminist studies, anti-colonial/critical theory, science studies, and critical pedagogy. Some of her current projects include Ōtautahi Food Justice Research Collaborative, Postdigital Pedagogies of Care, and Reimagining Science Education in the Anthropocene. Recent collaborative publications include ‘Teaching science to transgress: Portraits of feminist praxis’ (2021) in the *Journal of Research in Science Teaching* and ‘Reflecting on Freire: A praxis of radical love and critical hope for science education’, for the special issue for *Cultural Studies of Science Education* (2022).

Sarah Hayes is Professor of Higher Education Policy in the Education Observatory at the University of Wolverhampton, UK. Previously Sarah worked at Aston University, where she led programmes in Education and Sociology and is now an Honorary Professor. Sarah has also taught at the University of Worcester, at international partner institutions, and has led a range of research projects. Sarah’s research spans sociology, education and policy, technological and social change and she has published in a variety of related journals. Her recent books include *The Labour of Words in Higher Education: Is it Time to Reoccupy Policy?* (2019) and *Postdigital Positionality: Developing Powerful Inclusive Narratives for Learning, Teaching, Research and Policy in Higher Education* (2021). Sarah is an Associate Editor for *Postdigital Science and Education*. Personal website: <https://researchers.wlv.ac.uk/sarah.hayes>.

Stefan Reindl is a postgraduate researcher at Beijing Normal University’s Institute of International and Comparative Education. He does research in the fields of education and business and comes from an interdisciplinary education background of business and public administration, international studies, and tourism. His professional background includes work as a trainer and consultant in an intercultural context (EU, USA, China), as well as work in academia, including teaching and international program administration. Stefan’s main research interests lie in education technology, media literacy, and related topics such as postdigitalism, media and culture studies, and shared value. His recent publications and conference contributions focus on various aspects of - and critical perspectives on - technology in education. Personal website: <http://cv.stefan-reindl.com>.

Tamara Jolly is a biologist and high school science teacher serving students in Baltimore City Public Schools. Her passion to educate and protect the natural world, inspired her to continue her studies in environmental and natural resources conservation. She strives to ensure that access to nature, nature education, and the

promotion of environmental stewardship, is truly inclusive, especially for traditionally marginalized and underrepresented communities. Additionally, Tamara works as a Diversity, Equity, and Inclusion consultant and is a fellow at the Adirondack Diversity Initiative. She also works as Master Teacher Ambassador for the Half-Earth Project Educator Program at the E.O. Wilson Biodiversity Foundation.

Valerie Triggs is Professor in the Faculty of Education at the University of Regina, Saskatchewan, Canada. Research interests include initial art teacher education, curriculum theory and ecological possibilities of ethics and aesthetic experience in pedagogic practice. Valerie has published in such journals as the *Review of Educational Research*, *Journal of Social Theory in Art Education*, *Visual Inquiry*, *Curriculum Inquiry*, *Canadian Journal of Environmental Education*, *Canadian Journal of Education*. She has one co-edited book, *Arts Education and Curriculum Studies: The Contributions of Rita L. Irwin*. Forthcoming co-edited books (spring 2022) include *Eco-pedagogical walking: Decolonizing place through Kinship, Nature and Relationality* and *A/r/tography: Essential Readings and Conceptual Conversations*.

Part I
The Educational and Intellectual
Coordinates of Postdigital Ecopedagogies

Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures



Petar Jandrić  and Derek R. Ford 

We Need New Utopias

As we write these words in November 2020, the Covid-19 pandemic approaches its first anniversary. Reflecting on our early responses to the pandemic,¹ we cannot but notice significant changes in our thinking and feeling over the past months. During our first lockdowns in Spring, the pandemic seemed like a terrible event that we needed to get over with. Yet our bad feelings had been strongly alleviated by a tremendous sense of local and global solidarity, and the crisis felt like a unique historical opportunity for desperately needed changes in global capitalism (Jandrić 2020a, 2020b; Mañero 2020; Jandrić et al. 2021). As we approach the end of the year, many of these solidarity projects continue—and have been intensified in the USA in light of the uprisings against racism and police terror—yet many people are just exhausted. Beginning with our ambiguous and precarious situation, what we need to run to now is the development of more sustainable and just ways of being. This is a global cognitive and affective project, which stretches beyond environment and

¹ *Postdigital Science and Education* 2(3) contains 56 articles about the first six months of the pandemic. See <https://link.springer.com/journal/42438/volumes-and-issues/2-3>. Accessed 9 November 2021.

P. Jandrić (✉)

Department of Informatics and Computing, Zagreb University of Applied Sciences,
Zagreb, Croatia

Faculty of Education Health & Wellbeing, University of Wolverhampton,
Wolverhampton, UK

e-mail: pjandric@tvz.hr

D. R. Ford

Education Studies, DePauw University, Greencastle, IN, USA

e-mail: derekford@depauw.edu

indeed education. We need critique and criticism as well as courage, creativity, imagination, hope, and organization. We need new goals and new practical measures towards reaching these goals. We need new utopias, new pedagogical and political programs, designs, and experiments that fit our pandemic age of the (post-) Anthropocene.

Prior to the Covid-19 outbreak, there was no shortage of crises facing our world and way of being; crises which social movements and researchers were analysing and trying to move beyond. Indeed, revolutionary praxis has always emerged in response to and in anticipation of crises. In our age of the Anthropocene, crises have multiple planetary impacts; politics and economy cannot be thought of without the environment. Now more than ever, we need to think seriously and creatively about the postdigital pedagogies that can articulate, embody, advance, and debate new presents and futures.

According to Tyson Lewis (2010: 234), the Freirean critical utopia serves ‘both a cognitive (critique of the present through imaginative reconstruction of the future) and affective (opening up the possibility for hope, for desiring differently) function’. Speaking of the cognitive function, we urgently need to develop a better understanding of living systems and their interactions with technology at all scales—from viruses, through human beings, to Earth’s ecosystem. Focusing on the affective function, we need to align our hopes and desires with our (post-) Anthropogenic reality, acknowledging and negating our affectivity—our capacity to affect and to be affected by others known and unknown, human and machine, animal and mineral, subjective and objective, cognitive and affective. Crucially, this utopia is messianic as opposed to prophetic because the latter is located in the future and takes place according to chronological time, while the former is located in the *now*. More specifically, critical Freirean utopia ‘is a creative time that exceeds chronological time by introducing future eternity as an internal surplus to the everyday’ (Lewis 2010: 238). Situated between being and becoming but without disparaging the past or adhering to linear models of development or time, utopian pedagogies have an urgent and important role in intervening in our (post)-pandemic reality.

Given this, it seems useful to outline *some* of the lineages from which we might draw, extend, sublate, subvert, or otherwise tinker with as we think and act out new ecopedagogies, lineages that often—but not always—crosspollinate and merge. Our use of the term ecopedagogies, while unavoidably linked with the first group of literature we broach, are educational praxes that are not strictly about or for the physical environment. Instead, it names a set of pedagogies that emerge from, negotiate, debate, and produce the shifting and expansive postdigital ecologies within which we write, think, and act. We use ecopedagogies in the plural to keep the field open to various understandings and interpretations. In what follows, we will outline some themes and fields of inquiry that need to be taken into account en route to develop new postdigital ecopedagogies fit for our (post-)Anthropogenic and pandemic moment in a liberatory manner.

As a group of diverse scholars who met in 2018 to push the concept of the postdigital into the humanities and social sciences wrote: ‘The postdigital is hard

to define; messy; unpredictable; digital and analog; technological and non-technological; biological and informational. The postdigital is both a rupture in our existing theories and their continuation.’ (Jandrić et al. 2018: 895) thinking the postdigital as an ecosystem means that they—like all ecosystems—are not stagnant or fixed but living, breathing, expanding, and fluid. They are both conditions and questions of our nonchronological present.

The Ecopedagogy Movement

Postdigital ecopedagogies are connected to but not determined by the ecopedagogy movement that extends critical pedagogy to environmental issues. While we soon broaden some of the contours of postdigital ecopedagogies, we find it helpful to begin with this connection. Officially founded at the second Earth Summit held in Rio de Janeiro in 1992, the ecopedagogy movement’s underlying ideas and principles can be traced back to the 1960s and 1970s. As it often happens, two key approaches to ecopedagogy can be illustrated using the works of critical pedagogy’s key figures from that period: Ivan Illich and Paulo Freire.

In *Deschooling Society*, Illich starts from a deep critique of institutionalization of society. ‘Medical treatment is mistaken for health care, social work for the improvement of community life, police protection for safety, military poise for national security, the rat race for productive work.’ (Illich 1971: 3) An institutionalized society, inevitably, has institutionalized education. ‘The pupil is thereby “schooled” to confuse teaching with learning, grade advancement with education, a diploma with competence, and fluency with the ability to say something new.’ (Illich 1973: 3) Institutionalized education reduces human beings to producers and consumers, which makes it dehumanized. Furthermore, institutionalized society is firmly based on economic growth, which inevitably leads to ecological destruction. In response, Illich makes the radical proposal of replacing institutionalized education with non-institutional largescale educational infrastructure which strongly resembles today’s Internet [for a detailed discussion of this argument, see Jandrić (2014)].

In *Tools for Conviviality* Illich expands this critique to human relationships with our tools. His analysis begins with a typification of six main hazards associated with technologies of his times: biological degradation, radical monopoly, overprogramming, polarization, obsolescence, and frustration (Illich 1973). Based on the analyses of these hazards, Illich proposed the concept of conviviality. ‘[O]nly within limits can machines take the place of slaves; beyond these limits they lead to a new kind of serfdom.’ (Illich 1973: 12) Acknowledging these limits, Illich proposed a ‘triadic relationship between persons, tools, and a new collectivity’. A society based on this triadic relationship would mean that technologies are subservient to the new political collectivity.

Illich used the concept of conviviality as ‘a technical term to designate a modern society of responsibly limited tools’ (Illich 1973: 12). Convivial tools cannot be produced within capitalism—therefore, Illich develops a deeper concept of

convivial reconstruction. It is worthwhile to note that the term “convivial” is used by Illich with a special meaning’, which does not correspond to typical dictionary definitions, and is associated ‘with tools for joint inquiry *and action*’ (Goodyear 2020) (emphasis from the original).

Freire’s work is much more focused to development needs and to the practical role of technology. Freire often used the latest technologies such as slide projectors in his projects, and during the early 1990s, he established the Central Laboratory for Educational Informatics in Sao Paulo which heavily invested in digital equipment (Kahn and Kellner 2007: 437; Freire 1993: 152). However, Freire never developed a full theory of technologies. His sporadic comments on technology in early writings such as *Pedagogy of the Oppressed* indicate a strong instrumentalist position²: ‘[i]t is not the media themselves which I criticize, but the way they are used’ (Freire 1972: 136). In *Pedagogy of the Heart*, Freire (1997: 56) sees technology as a capitalist enterprise: ‘[t]oday’s permanent and increasingly accelerated revolution of technology, the main bastion of capitalism against socialism, alters socioeconomic reality and requires a new comprehension of the facts upon which new political action must be founded’.

To a point, Freire echoes some broader concerns explored by Illich: for example, that technologies can ‘create a cult of worship’ (Freire 2000: 62). Yet unlike Illich, Freire never explicitly connected digital technology with planetary ecological concerns. It is fair to say that Freire’s Promethean view of technology as something that needs to be utilized for a good purpose, demystified, or even conquered is starkly opposed to Illich’s Epimethean approach which seeks broad planetary balance.³

In spite of these theoretical issues, Freire’s work was much more practical and applicable than Illich’s utopian ideas, and it is hardly a surprise that his views were built into then-emerging fields such as critical media literacy (Kellner and Share 2007) and ecopedagogy (Kahn 2010; Misiaszek 2020; Misiaszek and Torres 2019). In *Critical Pedagogy, Ecoliteracy, and Planetary Crisis: The Ecopedagogy Movement*, Richard Kahn outlines the program for ecopedagogy which focuses on (1) ‘ecoliteracy programs both within schools and society’; (2) creating scholar-activist coalitions to promote ecopedagogies; and (3) promoting ‘critical dialogue and self-reflexive solidarity across the multitude of groups that make up the educational left’ (Kahn 2010: 27–28).

Kahn’s book was a key contribution to today’s development of the ecopedagogy movement based on Freire’s ideas. According to Misiaszek (2020: 748), ‘[e]copedagogy emerged from Freirean, popular education models of Latin America (Misiaszek 2011, 2018; Gadotti 2008c; Gadotti & Torres 2009; Gutierrez & Prado 2008; Kahn 2010), that center environmental teaching on critically understanding the connections between social and environmental violence’. Therefore, today’s ecopedagogies are ‘reinventions of Paulo Freire’s work and the topic of an unfinished book due to his untimely death’ (Misiaszek 2020: 748). This fascination with Freire’s work runs so deeply, that Greg Misiaszek and Carlos Alberto Torres even wrote a missing

²For a more extensive account of Freire’s views to technologies, see Kahn and Kellner (2007).

³Just before he died, Freire had been working on a new book on ecopedagogy which might have addressed these questions.

‘fifth chapter’ of Freire’s *Pedagogy of the Oppressed* focused to ecopedagogy (Misiaszek and Torres 2019).

Already in 2010, Kahn (2010: 27) warned about ‘a possible historical over-reliance upon Freirean positions within the field of critical pedagogy’. Kahn does not imply that Freire’s works have lost their relevance; he simply (and rightfully) points out that we now live in a very different world. For others, critical pedagogy remains too tethered to (a particular interpretation of) Freire, too muddled and liberalized, too focused on critique, too anti-communist, and too divorced from revolutionary praxis to continue providing an adequate basis for political pedagogy (e.g. Ford 2017; Malott 2016). We use political pedagogy here to designate all forms of explicitly political educational praxis. Whether or not one chooses to endorse, develop, or leave this kind of Freirean thought, it is evident that changes within the relationship between and within the human-nature-machinic require a serious reconsideration. While we are currently strongly focused to the Covid-19 pandemic, the argument equally applies to a wide array of environmental questions (Jandrić 2020b). Today, the world’s strong reliance on various digital and biotechnologies requires a deep reinvention of ecopedagogies in the light of recent socio-technological developments which embody emancipatory and oppressive tendencies.

Ecopedagogies, in fact, might be thought better as exopedagogies, which envision and enact education as a project of exodus (Ford 2019; Lewis 2012; Lewis and Kahn 2010). Exodus is neither an escape or withdrawal from our common ecologies, nor a form of opposition or negation—which can end up affirming that which they oppose. Instead, exodus is a *reconfiguration* of proposed alternatives, thus shifting the very terrain on which we operate. In this way, exopedagogies dwell in the endless indeterminacies of the postdigital age, the crossing and hybridization of borders between the human and nonhuman, the analog and digital, the subject and object (Ford 2020a, 2020b). As Lewis and Kahn (2010: 11) put it, ‘the prefix “exo” designates the beyond, an education out of bounds, whose location resides at the very limits of the recognizable—where we learn to study the zone of uninhabitability that indicates the untimely arrival of a swarm of monsters and strangers’. To put this in the postdigital era, we could turn to Dominic Pettman (2016: 3) who writes that today we are ‘suspended between bot and not, between anonymous and tagged, generic and specific’. We cannot divorce ourselves from the earth, animate and inanimate beings and objects, algorithms and postdigital platforms, and the political and social restrictions and possibilities therein. Moreover, we cannot treat these as distinct entities and must instead engage them as *indeterminate ecosystems* that require *ecopedagogies*.

Critical Philosophy of Technology and Studies of Science and Technology (STS)

During the past few decades, much of political pedagogy has either ignored emerging techno-social challenges or has approached them using one or another determinist and/or instrumentalist position. In the meantime, philosophers such as Andrew

Feenberg, Christian Fuchs, and many others have built on a body of work from Karl Marx to Frankfurt School of Social Science and developed nuanced approaches to human relationships with (today's) technology. In a recent article, Feenberg explains the relevance of this philosophy to political pedagogy:

The study of technology in philosophy and the social sciences is politically relevant today as never before. Much discussion in these fields turns on refuting cognitive errors such as the notion that nature can be 'conquered,' or that a 'great divide' isolates human beings from nature. While it is useful to refute erroneous views, a focus on beliefs tends to put the onus on the human species. Cognitive errors do not explain the power structures that are actually responsible for the civilizational crisis we are living today. (Feenberg 2020)

In the context of scientific research, critical philosophy of technology gave birth to the field of inquiry called science and technology studies or Science, Technology, and Society studies (STS). STS explores complex relationships between culture, politics, technological innovation, and society. It claims that all knowledge and technology is socially constructed and reaches all the way into questions pertaining to collective decision-making including but not limited to democracy. A prominent theoretical and methodological approach in STS is Actor-Network Theory (ANT), which focuses to networks and relationships. Building on various posthumanist theories, ANT gives equal agency to human and nonhuman actors (Latour 2005); in more traditional disciplines such as sociology, this causes some controversy. Another theme in STS is Garrett Hardin's (1968) concept of 'tragedy of the commons' and its application to emerging commons such as the Internet. Recent developments in STS look into transformations such as commodification and assetization of various public goods (Birch and Muniesa 2020). STS research reaches all the way to the nature of human beings and often ending up in various posthumanist (Fuller 2011) and transhumanist (Fuller and Lipinska 2014) approaches.

Insights from critical philosophy of technology and science and technology studies are important for adequately understanding power structures and techno-social relationships that shape today's society, critical epistemologies, struggle against various forms of epistemicide, self-reflective solidarity, etc. In our age of the (post-) Anthropocene, these traditional concerns of political pedagogy are especially relevant for development of new postdigital ecopedagogies.

Big Data, Algorithms, Artificial Intelligences, and New Capitalisms

During our constant interactions with various digital systems, we produce huge streams of data. These large streams, often called the big data, feed algorithmic artificial intelligence (AI) systems, which 'are provided [by human programmers] with some initial rules of behaviour, and then they are "taught" by large datasets.

Then, a computer independently establishes various connections between input data and produces “intelligent” solutions to new problems in non-predetermined ways’ (Jandrić 2019: 32). This interplay between big data and algorithms is used to sell us products, calculate our taxes and eligibility for social and other services, monitor our health, assess our students, and so on. Algorithmic processes are far from neutral, as ‘the complex systems of data production and representation co-constitute the very systems they purport to describe, and in this process, they often embed, replicate or reinforce pre-existing attitudes and prejudices’ (Jones 2018: 49). Furthermore, digital technologies are very carbon intensive; according to a recent report, computers now cause more carbon emissions than global aviation industry (The Shift Project 2020).

Depending on their focus, authors describe these changes using various names including data capitalism (Fuchs 2019), algorithmic capitalism (Peters and Jandrić 2018: 32), communicative capitalism (Dean 2009; Ford 2018), surveillance capitalism (Zuboff 2019), technoscientific capitalism (Birch and Muniesa 2020), high-tech and low-pay capitalism (Marcy 2009), and more. Yet a common thread concerns the changing relationship of knowledge within capitalism and the ways that knowledge—even oppositional and critical knowledge—can be captured within the circuits of surplus production (Ford 2021). Critiques of capitalism have always been at the heart of many political pedagogical projects, and engaging them as postdigital ecopedagogies can mitigate against the risk of absorption within the surplus of capital rather than the excessive surplus of utopia.

Artificial intelligence, moreover, directly pierces the heart of so much educational thought, organized as it is around knowledge and intelligence, whether it be liberal, conservative, critical, radical, and so on. In *Inhuman Power*, Nick Dyer-Witheford, Atle Mikkola Kjøsén, and James Steinhoff question and explore not only what artificial intelligence is but, more interestingly, what intelligence itself is. They note, for example, what they call the ‘AI effect’, whereby ‘as soon as AI can do something, it is no longer considered to require intelligence’ (2019: 9). In other words, the AI effect is a constant destabilization of what we *think* of what we *think*, and therefore of *who* it is that *we think can think*. Intelligence and knowledge, under capitalism, are defined and valued according to their ability to contribute to the production and circulation of capital, and are therefore equated with speed, efficiency, and development. Ecopedagogies have to wrestle with the implications of such definitions and their destabilizations, the extent to which we should embrace or reject the very idea that intelligence could be ‘artificial’ or ‘organic’, embodied in humans, machines, and other objects (or in the relations between and within them). We need to seriously consider the material side of digital technologies, including their carbon footprint, and, of course, decide upon further course of action with existing AI technologies and platforms.

Bioinformational Capitalism and Viral Modernity

During the second half of the twentieth century, we slowly but surely digitized every kind of traditional information source—books, music, films, and even human genome. These days, the focus of digitization has taken a turn towards the biological. In 2008, Craig Venter declared that we are in a new era defined by a shift from decades of ‘digitizing biology’ to ‘trying to go from that digital code into a new phase of biology, with designing and synthesizing life’, and asking if it’s possible to ‘regenerate life’ or ‘create new life, out of this digital universe’ (Venter 2008). In his 2012 presentation, ‘What Is Life? A 21st Century Perspective’, Venter responds to his own question: ‘We can digitize life, and we generate life from the digital world. ... Scientists send digital code to each other instead of sending genes or proteins. ... It’s faster and cheaper to synthesize a gene than it is to clone it, or even get it by Federal Express.’ (Venter 2012)

These scientific developments are inextricably linked with political economy. We now live in the age of bio-informational capitalism ‘based on a self-organizing and self-replicating code that harnesses both the results of the information and new biology revolutions and brings them together in a powerful alliance that enhances and strengthens or reinforces each other’ (Peters 2012: 105). In our pandemic times, the idea that various techno-social systems such as ‘codes and ecosystems in information, publishing, education and emerging knowledge (journal) systems’ (Peters and Besley 2020; Peters, Jandrić, and McLaren 2020) can be described using our insights into viral behaviour, now also attracts a lot of attention. For instance, ‘the Covid-19 pandemic has sparked a viral research response’ (Jandrić 2020c: 534), thus exemplifying the wider ‘dialectic between biological viruses and information viruses, or more generally between inanimate matter and life’ (Peters et al. 2020). Bioinformation, its emerging political economy, and viral behaviour of many social phenomena, are crucial for development of new ecopedagogies.

As Tony Sampson (2012: 4) insists, the biomedical concepts of virality are not mere metaphors for describing human behaviour. Instead, virality ‘is all about the forces of relational encounter in the social field’, and is ‘located in an epidemiological space in which a world of things mixes with emotions, sensations, affects, and moods’. This, again, points us to our postdigital age in which the boundaries between the human and nonhuman are as porous and up for debate as ever. Digital viruses, for example, initiate a ceaseless creation, probing, breaching, and reconstruction of knowledges, subjects, and systems. The unknown becomes the organizing principle of immunology, such that ‘the binary filtering of immunological self and nonself exceeds abstract diagrammatic forces’ and emerges as ‘part of the concrete relations established between end users and the software they encounter’ (134). This, again, speaks to the cognitive and affective project of contemporary ecopedagogies, in that these flows are prior to and outside of any mind that might make sense of them, let alone capture, control, or direct them. Such ecopedagogies

might acknowledge that viruses as teaching forces themselves are at times more agential than any authoritarian teaching might be.

Anti-imperialist, Anti-colonial, and Decolonization Studies/Movements

While critical pedagogy projects have generally engaged with critiques of capitalism, others have insisted on the international, global, or transnational nature of capitalism and its intrinsic relationship to colonialism and imperialism (e.g. Erevelles 2011; Ford 2017; Grande 2004; Malott 2016). Sandy Grande, for example, builds on revolutionary critical pedagogy—particularly that of McLaren—while attending to how its concepts of development and progress, which are based on linear chronology, can exclude and dismiss ‘indigenous cultures as “primitive” or precapitalist entities’ (Grande 2004: 88). Indeed, such a caution and critique could be waged against many strands of postdigital scholarship if they do not acknowledge the uneven development and impact of digital technologies, including their production, distribution, use, and impacts. In his critique of the anti-communism of critical pedagogy, Curry Malott (2016) importantly shows that anti-imperialism is also a theory and movement against colonialism and settler-colonialism and that the struggle for socialism entails—at its very core—the struggle for the self-determination of oppressed nations, including those within the USA. These struggles must not be ignored or condemned but rather looked to as inspiration for our own struggles. It is interesting to note that Freire himself too has taken this perspective, not only by calling on V. I. Lenin, Fidel Castro, and Che Guevara in *Pedagogy of the Oppressed* (Freire 1972), but also in his *Pedagogy in Process: Letters to Guinea-Bissau*, where he looked to the pedagogy of Amílcar Cabral (Freire 2016).

In a globally networked postdigital age, which has transformed global structures of imperialism, settler-colonialism, and colonialism without changing their core features, issues of digital sovereignty come into play. These issues concern ‘the relation between sited territories of local communities and the network systems that link us to global communications’ as ‘deeply shaped by geopolitical projects, corporate mechanisms, and governmental agencies’ (LaBelle 2018: 82). This is why, for example, the Bolivian government under Evo Morales began constructing sovereignty—that is, *independent from Western political and corporate control*—digital infrastructure. This also explains the recent US-led opposition to China’s peaceful rise on the world stage insofar as it could provide an alternative route that would free them from the domination of Western imperialism. Today’s ecopedagogies cannot be thought of without considering these recent transformations, without theorizing and experimenting adequate responses and resistances to them, without taking all forms of exploitation and all systems of oppression into account, and without grasping the cognitive and affective consequences they have on our lives and being.

Postdigital Feminisms

Feminism is a broad concept which includes a wide range of theories, social movements, and practices aimed at combatting gender-based oppression. While feminism has always questioned and challenged what gender is and the reasons why it still dominantly remains a fundamental grid through which to view the human and the social, it has increasingly taken up questions of technology and intersectionality. Some strands of feminist theory have for decades now been at the vanguard of postdigital thinking. The best example is undoubtedly Donna Haraway's 1985 article, 'A Cyborg Manifesto', originally published in *Socialist Review*, in which she famously declared that, 'in short, we are cyborgs', that cyborgs are 'our ontology' and the basis of 'our politics' (Haraway 2006: 118). The cyborg is not, in other words, a *metaphor*. By abandoning the dualisms of essence/construction, public/private, mind/body, nature/culture, and human/technology that constrain thought and politics, the cyborg signals the postdigital ecologies through which subjects and identities are produced, oppressed, and potentially liberated.

More recently, others have considered the contemporary digitally networked ecologies of feminism. One example is what some call the 'fourth wave' of feminism. These focus on 'technological innovations such as social media', which enable feminism to consider micro and macro politics by 'situating their individual lived experiences within broader global discourses' (Parry, Johnson, and Wagler 2019: 1). This is evident in 'the number of collective movements based on social, economic, and political agendas'. Probably the best example of the 'resistance and challenges to sexism, patriarchy and other forms of oppression via feminist uptake of digital communication' is the #MeToo movement (Mendes, Ringrose, and Keller 2018: 236–237), which has significantly expanded the traditional limits of feminist activism.

None of this can escape the contradictions of bioinformational capitalism, whether they be the network effect (Dean, Medak, and Jandrić 2019: 223–224), which creates a celebrity culture based on principles of viral modernity, or the way in which feminism could become just one of many possible and commodifiable identities. In its mainstream instances, the fourth wave of feminism has thus become co-constitutive with new capitalisms. On the other hand, Harriet Kimble Wrye (2009: 187) shows that fourth wave feminism also reaches beyond mere expansion of traditional feminist struggle into new media and addresses 'the limits of materialism; the need to turn from concerns about "me" to concern for the planet and all its beings; and the sense that, for us in the Fourth Wave, what is most important is to put ourselves in the service of the world'.

The fourth wave of feminism directly speaks to the bioinformational challenge of new capitalisms, viral modernity, (critical) posthumanism and transhumanism, and other postdigital and ecopedagogical challenges. By moving from dualities to networks, postdigital feminisms also name the ecologies through which postdigital ecopedagogies might intervene.

Intersectionality and Identity Politics as Ecologies of Collective Resistance

Intermixing significantly with the trajectories in the former sections, Black and anti-racist scholarship has insisted on the *centrality* of racial categories within knowledge, research, and pedagogy, although it has predominantly centred on US and Western education. From critical race theories (see Delgado and Stefancic 2001 for an overview) to critical whiteness studies and abolitionist pedagogy, racism and white supremacy can no longer be viewed as individualist attitudes. At the same time, the proliferation (and transformation) of intersectionality theory has productively disrupted and reconfigured this scholarship. In ‘Mapping the Margins’, Kimberle Crenshaw (1991: 1296) presented intersectionality ‘as a way of framing the various interactions of race and gender in the context of violence against women of color’, while noting that it ‘might be more broadly useful as a way of mediating the tension between assertions of multiple identity and the ongoing necessity of group politics’. Intersectionality is a way of understanding and thinking through the matrixes through which identities are constructed *to advance* the ‘necessity’ of political coalitions across identities—and not to further fracture political movements.

Crenshaw was building on identity politics, a concept attributed to the Combahee River Collective, a group of socialist Black feminists organizing and researching together in the 1970s. In the ‘Combahee River Collective Statement’, they state that their identity politics were rooted in collectivity and solidarity and an extension of Marxism (Combahee River Collective 1977). Advocating neither factionalization nor uncritical unity, identity politics as initially formulated was precisely about building alliances and solidarity—ecologies of resistance—insisting that this cannot be done *without* considering these complexities and contradictions (see Taylor 2017).

The extent to which research in this trajectory has accurately or inaccurately interpreted identity politics and intersectionality is up for debate, and it runs the same risks identified in the previous section: the network effect and absorption within bioinformational capitalism. A revolutionary project of this will be fraught with tensions but will undoubtedly entail building the kinds of alliances that Crenshaw and the Combahee River Collective proposed. In addition, it will entail debating and understanding the historical origins and transformations of these structures and systems (see Alexander 2010 and Puryear 2013 for contrasting political histories and trajectories). Wherever one stands in these debates, the shape and components of ecosystems based on national and identity oppression inescapable and urgent problems for ecopedagogies to consider and address.

(Critical) Posthumanism and Transhumanism

Posthumanism is a common name for a wide array of theories which reject human dominance, and often human uniqueness, in nature. It responds to the crisis in historicity, rejects generality of human knowledge (intersecting with STS), and is strongly interested in the boundaries of our understanding of the human (see Savin-Baden's 2021 work on postdigital humans). Transhumanism accepts many features of posthumanism yet retains human exceptionalism: 'transhumanism is an extension of the humanist project, whereas posthumanism is critical of humanism' (Bayne in Jandrić 2017: 197). Critical posthumanism focuses to the intersections between human and nonhuman agency, and 'conceptualises knowledge and capacities as being *emergent* from the webs of interconnections between heterogeneous entities, both human and nonhuman' (Jones 2018: 47). In ANT, this leads to radical equality between human and nonhuman actors (Latour 2005).

For Rosi Braidotti, what makes posthuman studies *critical* has to do with its relationship to the developments in capitalism outlined above. While her position is unclear in that at times she embraces posthumanism's alliance with cognitive capitalism while at other times she insists it keep its distance, her ultimate wager is that posthuman knowledge and thought pose too great a challenge. When the human and nonhuman become collective thinking subjects, they create 'forms and subjects of knowledge that cannot fully be captured by the schizoid speeds and acceleration of capital' (Braidotti 2019: 103).

While projects critical of humanism have a long history in educational theory and practice, over the last few decades, they have gained increasing prominence in a range of subdisciplines. It's not just the decentering of the student-teacher relationship or the inclusion of nonhuman actors as pedagogical agents that's pursued, but a complete reconceptualization and reorganization of the educational process overall. Indeed, during and after the Covid-19 lockdowns, where digital communication is at a historical peak, these new contours are crucial for the development of ecopedagogies.

Critical Disability Studies

One of the most important insurgencies in educational theory and practice has undoubtedly been the emergence of critical disability studies. Emerging with the distinction between the medical model of disability—which locates disability as a problem *within* the individual—and the social model of disability, which locates disability as the *organization* of society that turns an impairment into a disability, the field has since moved beyond this binary, rejecting the idea strict biology/sociology distinction. Moreover, Erevelles (2011) considers disability not as another identity but as the matrix through which identity-based oppression occurs: by placing certain groups closer to or further from 'the human'.

As we have witnessed militarized responses to the spread of the pandemic, critical disability studies push us to acknowledge the fiction of immunity in the first place. Viruses circulate in and between beings, which means that ‘bodies are not closed systems—as bodies, we take in the *other* in all manner of ways—exchanges of breath, blood, saliva, and more’ (Ferri 2018: 7). Ferri writes based on her own embodied state of autoimmunity about the ways that one’s own body is not one’s own body, can be pitted against itself, both defendant and victim. Autoimmunity here is not a disease to be cured but an opportunity to grasp the ecologies through which we ‘are mutually dependent and often indistinguishable from one another’ (14).

The war to which McGuire (2016), Ferri (2018), Sampson (2012), and others (e.g., Wagener 2020) refer is also not just a metaphor. Indeed, the ongoing history of the oppression of the disabled is one of repression, violence, and murder; one tied up in the quantifying and bioinformational logics of capitalism. For instance, Stephanie Wheeler locates the quantification of the subject in the 1800s as a primary motor in the eugenics movement. ‘During this time’, Wheeler writes, ‘anthropometrics became the tool that determined the need for this editing’ necessary to distinguish, segregate, and eliminate non-normative ways of being (Wheeler 2017: 380). Anthropometric technologies—now fully postdigital—continue to produce ontological hierarchies of being, orders of exclusion and (differential) inclusion that also produce surplus value for bioinformational capitalism. After all, as Nirmala Erevelles (2000) shows, the demonstration of capacity, citizenship, and so on are motivated capitalist demands for efficiency, productivity, and exchange value. As such, ecopedagogies should not be organized as development processes of acquiring knowledge but rather entail errant and wandering movements that, as the ‘AI effect’ does, challenge and explode our conceptions of knowledge—perhaps even *queer* them.

Queer Theories

While ‘queer’ has been taken up—reclaimed some might say—as an identity, an expansive body of literature foregrounds queerness as that which, as Lee Edelman puts it, can never *be* an identity but ‘can only ever disturb one’ (Edelman 2004: 17). While there are plenty of detractors from Edelman’s general arguments, the virality of queerness continues to infect queer theory. Queerness is an unstable and opaque relation, what Sara Ahmed examines as a phenomenology. Here, queerness is not in the body but a *capacity* of the body as it moves throughout the world in errant yet not entirely free ways. Repetition makes bodies and spaces ‘straight, which allow[s] straight bodies to extend into them, such that the vertical axis appears in line with the axis of the body’ (Ahmed 2006: 92). Queer bodies disrupt such repetitions and expose the developmental lines through their deviance. Mel Chen offers an opening to such a pedagogy while discussing their own daily embodied movements, which are guided not by efficiency but instead ‘follow the moment-to-moment changes in

quality of air to inhale something that won't hurt me, turning toward a thing or away from it correspondingly' (Chen 2012: 202).

This might be an ecopedagogy of exodus that resists chronological and linear development that 'requires healthy doses of forgetting and disavowal and proceeds by way of substitutions,' which can allow us to 'access other modes of relating, belonging, and caring (Halberstam 2011: 72–73). Queering is an irreducible eruption of a glitch, which asks us to solve or dwell in it, including the queer glitches of digitally-mediated urban areas. Sara Elwood, for example, examines the queer glitches of such spaces to argue that 'apprehending a wider range of possibilities for life and liberation in "smart" cities starts from mapping theorizations such as glitch politics from Black and queer code studies to the sociospatial relations of digitally mediated urbanism' (Elwood 2021: 215). Elwood's analysis emerges within the ecosystem of postdigital urbanism, identifying and pursuing lines of closure and exposure, intelligibility and opacity, which are not prophetic but properly messianic (e.g., Muñoz 2009).

Postdigital Aesthetics

It is noteworthy that the first documented use of the term postdigital originated in aesthetic theory and in particular sound theory. In 'The aesthetics of failure: "post-digital" tendencies in contemporary computer music', Kim Cascone coins the term as a result of the fact that 'the revolutionary period of the digital information age has surely passed' (2000: 12) and digital technologies no longer significantly disrupt life. At the same time, the implications of postdigital sound at the time had not been fully fleshed out relative to the new Internet-based music scene in which digital technologies are both tools for and means of distribution of computer music. Cascone is particularly interested in the *failures* of digital technologies like glitches and bugs—we might add viruses—that become agential forces that act upon what was previously considered the raw material of sound.

Postdigital aesthetics take up the ways in which the postdigital era transforms the production, distribution, and reception of artistic works and practices. Do we today, as Michael Hardt and Antonio Negri put it in *Empire* (2000: 291), 'increasingly think like computers'? Or, because we create computers, do computers think like 'we' do? For David Golumbia, this binary is itself dangerous, as there's a lack of consideration of the wording involved: thinking—and sensing, creating, and so on—*like* computers is different from thinking computorily. Responding to 'The new aesthetic: Thinking like digital devices', a panel at the 2012 South by Southwest event, Golumbia (2015: 123) maintains that *sight* itself *is* digital, but that digital technologies do not see like humans 'or even animals do'. They might see the same data, and information, but seeing is something *embodied*. Machines see qualitatively and quantitatively differently, and they see other machines in ways that the human cannot. Yet to return to Braidotti's (2019) challenge, what remains unthought

here is the *subject* of the sight and the separation of the machine from the human or animal, let alone the relationships between the two.

Pedagogy and educational processes more generally are always aesthetic processes in that they concern what we can sense and not sense, as well as the organization of sensibility, orders of intelligibility, or ‘distribution of the sensible’ of which Jacques Rancière writes (e.g., Rancière 2006). Here, the possibilities of ecopedagogies to embrace the aesthetic open up a variety of important pursuits with pedagogical and political consequences. Pursuing this line of aesthetics more broadly as a zone of indeterminacy and uncertainty of our age, postdigital ecopedagogies can help attune education, politics, and research to the vast and complex ecologies that act on, inform, and transform our senses and perceptions. This is true not only for other-than-human voices, but for those human voices deprived for recognition and those forms of discourse and matter that appear beyond the sensible (see Ford 2020b).

(Science) Fiction and Future Studies

Science fiction has anticipated many inventions such as submarines, space travel, and the Internet. According to Paul Levinson, ‘if you look at the history of science, you will find science fiction as its profound backdrop. This relationship is two-directional, because science fiction inspires science and also has to be based on science – the interplay between science and science fiction is a trajectory of progress’ (Levinson in Jandrić 2017: 286). Refining this thought, McKenzie Wark says that science fiction provides an exchange between specialized work ‘trapped in worldviews and metaphors derived from that specialization’. Because science fiction is about the future and the present—or the messianic utopia—it ‘is one of the things that enables you to think through relationships between different kinds of knowledge’ (Wark in Jandrić 2017: 132). This argument extends beyond the narrow genre of science fiction and encompasses various other forms of fictional thinking.

A more systematic approach can be found in the area of future studies. Seminal books in the area, such as *Future Shock* (Toffler and Toffler 1970) and *The Singularity Is Near: When Humans Transcend Biology* (Kurzweil 2005), reach beyond the theoretical appeal of literature and have a wide range of applications (Bell 2003, 2004). Sohail Inayatullah (1990: 115) defines 3 perspectives ‘on how the future is planned for: namely, the predictive-empirical, the cultural-interpretative, and the critical-post-structural’. In the case of Covid-19, the predictive-empirical perspective would consist of predicting future pandemics and developing appropriate responses; the cultural-interpretative perspective would consist of culturally sensitive interpretations of future pandemics and their responses; the critical-post-structural perspective would focus to pandemic power relationships and politics. In the latter perspective, ‘[i]nstead of the search for the objective or the grand design of things (transcendental truths that cause events and trends), the real is made political, it is historicized and made peculiar; it is no longer seen as Being itself, as an eternal *verité*’ (Inayatullah 1990: 128).

Responding to the inherent messiness and non-predictability of our postdigital existence, (science) fiction and future studies offer inspiration and years of methodological experience in grappling with the future. In our current pandemic moment, which require urgent development of new (approaches to) present and future, this inspiration and experience is crucial for the development of new ecopedagogies.

Myth, Religion, and Belief

Humans are not just beings of logic—we are also beings of myth and faith (McLaren 2021: 255). Critical pedagogy has recognized this a long time ago, especially (but far from exclusively) through strong connections with the Latin American tradition of liberation pedagogy. According to Peter McLaren, '[t]he realm of religion is the realm of myth, symbol, art, mystery, legend, theater, and poetry—realms where we can delve deeply into the meaning of life' (in McLaren and Jandrić 2021: 143). As '[w]e need to understand the world in order to change it', claims McLaren, 'liberation theology needs social science as much as social science needs theology' (in McLaren and Jandrić 2021: 99). Setting aside the debates on religion within Marxism, liberation theology has clearly made positive contributions to the anti-imperialist, anti-colonial, and de-colonial movements outlined above. Various forms of spirituality are influential in our postdigital reality in both reactionary and liberatory forms.

One does not need to belong to an organized religion to succumb to placing our own customs and beliefs before (sometimes very evident) truth. A typical case in point is the question of post-truth and fake news, which stems from our postdigital 'environment which can seduce people into having or maintaining false beliefs with such swift stealth that the power to deceive goes unchecked' (McKenzie, Rose, and Bhatt 2020). It is a long way from genuine belief in God to being deceived into believing that a deepfake viral video is real and/or believing into a developed conspiracy theory. However, these three types of belief, and numerous shades of grey in between, are closely linked to virtue epistemology, which 'is a branch of philosophy that is concerned with the intellectual and character qualities a person requires in order to inquire about the state of knowledge' (MacKenzie and Bhatt 2020: 1). Looking at history and philosophy of science, Steve Fuller reaches all the way to the very basics of Western civilization and argues that 'we wouldn't have gone down the path of modern scientific inquiry at all without the predominance of the world-view associated with the Abrahamic faiths' (Fuller and Jandrić 2019: 203).

From inquiring into deep philosophical questions about one's own purposes and methods, to reaching out to religious believers, to addressing obvious threats arriving from climate change deniers, anti-vaccinationists, and believers in other conspiracy theories, today's ecopedagogies cannot will away the ongoing centrality of myth, religion, and belief in our postdigital ecologies.

Towards New Postdigital Ecopedagogies

These days, Freire's messianic utopia with its hopeful and courageous view of the future and to the futurity that is here *now* as a surplus is more needed than ever. Political pedagogies offer decades of experience in the trenches of formal and informal education, finding ways through the direst of crises, reinventing themselves across contexts, and even contributing to revolutionary movements. While the ecopedagogy movement is undoubtedly relevant to our pandemic moment, it is still too deeply connected to the Freirean understanding of human relationships with technology and is therefore ripe for a deep reinvention and reconsideration in and for our postdigital, bioinformational reality. Postdigital ecopedagogies need not approach the Freire or Illich as the Fathers from which they cannot depart. In fact, it may be that the postdigital era—in which our notions of intelligence and knowledge, subjectivity and machinery, sovereignty and dependency are being contested, reified, and reconfigured constantly—ecopedagogies can benefit just as much from a rupture with that legacy.

The contestations, lineages, debates, and directions charted in this chapter address some of the contemporary coordinates of our postdigital ecologies. Some of these perspectives are not fully commensurable, while others significantly overlap and use different paths to arrive to similar conclusions. We are at the very brink of the postdigital age; at this stage, this messy and sometimes paradoxical nature of our knowledge is just a part of the game. If communicative and bioinformational capitalisms continue, then one day, probably, our postdigital condition will be condensed in concise encyclopaedia entries and routinely explained by undergraduates. One task is to ensure this does not happen, and that the postdigital remains—for as long as it is productive—a concept that constantly resists any final definition.

At this moment in history, however, we cannot be sure which of the listed (and indeed non-listed) perspectives and/or combinations thereof will be more relevant than the next one. This will depend on the cognitive and affective dimensions of our utopic pedagogic imaginings. Yet we do know, and without hesitation, that the questions and dilemmas of our postdigital age need to be addressed in educational theory, policy, politics, and practice, and that ecopedagogies are a particularly ripe place for their growth. We may not know where we are going, and we may have even less idea about how we might get there, yet we cannot remain idle as the new ecologies of capitalism and imperialism, with their ontological hierarchies and divisions, tailor our destiny.

Ecopedagogies have to, then, consider the nexuses identified above (and more!), while disavowing fantasies of political, bodily, and digital immunity and embracing the opacity, contingency, uncertainty, and interdependent vulnerability of all things to transform the animacy hierarchy into a horizontal configuration of human/nonhuman/object. We need to invent new postdigital ecopedagogies that are critical and creative, certain and indeterminate, transparent and opaque, and that accept and negotiate the contamination of the constantly shifting borders between humans, machines, nature, nonhuman animals, and objects. In our pandemic moment, the

lines of inquiry identified in this chapter—while *far* from exhaustive—offer some signposts and references we might use to develop such ecopedagogies. But we ourselves remain open to, curious about, and excited for the ecopedagogies that can emerge from the excessive future that is here already.

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Postdigital Ecopedagogies of Attainment and Progress



Sarah Hayes 

Introduction

Across the globe attempts to widen participation (WP) in education meet with varying degrees of success. However, this also depends on how we are collectively defining WP, what it means to ‘progress’ in education, and indeed to progress beyond education, in broader life and work. As Bowler points out: ‘any definition of progress requires a value judgement as to the desirability of what is unfolding’ (Bowler 2021). So, who decides – and on what basis, that something desirable has actually been accessed and attained, that important goals have been reached for diverse participants and that these should be rewarded in some manner linked to one particular notion of success?

In recent years, vast funds have been poured into boosting access to Higher Education (HE) and support for student retention and progression. Yet although more students from disadvantaged backgrounds now attend universities those students leaving before completing their studies has risen, alongside the related challenges that dropping out brings for these individuals, for universities and for society more widely (Pope, Ladwa, and Hayes 2017; Office for Fair Access 2017; Social Mobility Commission 2017). This is a situation that is further complicated by universities being highly vocal concerning their commitments to inclusion (Boliver 2017; Kimura 2014) which some have argued has become an end in itself, particularly for elite universities (Baltaru 2020).

The notions of attainment and progress in HE are therefore also increasingly entangled with the agendas of universities to claim that they are addressing issues of equality and diversity. Kimura (2014: 523) has examined how this leads to students becoming ‘raced, classed, gendered, or nationed subjects, while they struggle to

S. Hayes (✉)
University of Wolverhampton, Walsall, UK
e-mail: sarah.hayes@wlv.ac.uk

form their own agency'. Ahmed (2007: 590) points to how such acts in HE are part of a 'new politics of documentation, which takes diversity and equality as measures of institutional performance'. Ahmed suggests that not only is the writing of policy documents that express a commitment to promoting race equality now a central part of equality work there is a tendency for such documents to conceal, rather than address, issues like racism. This is because the 'doing of the document' becomes the main focus of progress in addressing inclusivity. Ahmed (2007: 590) advocates going further to 'follow such documents around, examining how they get taken up' and to 'expose the gaps between words and deeds' within organizations.

If I interpret this as to literally 'stalk' such policy initiatives and look for the gaps between what is written and where real change has been evidenced, it is an appealing but also challenging route, particularly given the hybrid, postdigital context that HE now occupies (Jandrić et al. 2018). How to undertake a 'postdigital stalking' of policy to track real change is a topic I will look forward to hearing the thoughts of others on. For example, at that moment when we read a tweet or a posting on a social media site from someone in HE about a new policy or framework for inclusivity and WP, should we seek to track down the document itself to read it, and maybe 6 months later revisit any changes that have actually taken place with those who wrote it?

As I have argued elsewhere, this is not easy when most HE policies do not identify their authors, let alone linguistically attribute the academic labour discussed to real human beings (Hayes 2019). Given that we have come to directly connect *access* with *progress* in HE, and to shift our emphasis from tangible 'structural' inequities faced by traditionally underrepresented students and staff towards a more superficial stating of 'organisational commitment' (Baltaru 2020), there is now a strong case for scrutinising what it really means to 'attain' or 'progress' for individuals, and for HE institutions. In considering these points, we can also question what it means to fail to progress and what new ecopedagogies of attainment and progress in postdigital contexts might look like.

This chapter therefore examines firstly, the possible 'demise of a model of progress based on the old system of arranging living forms into a linear hierarchy, the "chain of being" (Bowler 2021: vii). It then reviews some of the assumptions we have based on this model of progress and considers implications for ecopedagogies of attainment when unpredictable new developments in technology could now potentially alter how we understand progress itself. In reconsidering 'history itself as inherently unpredictable and open-ended' (Bowler 2021: 2), this calls into question our reliance on the current neoliberal model of progress, assumptions and related political economic discourse (McPolicy) in education.

If the old goals we were seeking in society should alter, due to a new circular bioeconomy enabled through new biodigital technologies, then do we need to fundamentally re-think educational policy surrounding how access and attainment is perceived? If so, how might this alter political economic discourse about inclusivity and WP and what might a new political bioeconomic discourse of attainment bring? If attainment is no longer a time-limited, cumulative form of progress, what other shapes might achievement (and indeed failure) take?

The Idea of Progress as Wider Than McProgress

The idea of ‘progress’ is routinely referred to in education and whole nations are judged on the progress they make as societies: ‘the progress of humanity is the general test to which social aims and theories are submitted as a matter of course’ (Bury 1921). Yet in our current neoliberal model of progress, and related political economic discourse, our approach towards the development and attainment of human beings is based on rather narrow values and contradictions, which I have previously referred to as embodied in HE ‘McPolicy’ (Hayes 2019, 2021a). Drawing on McDonaldisation theory (Ritzer 2018, Ritzer, Jandrić, and Hayes 2018) this describes a rational manner of writing institutional policy, in a linguistic structure that depersonalises human actions and tends to credit non-human entities (such as strategies, technologies and buzz phrases) with tasks that people usually undertake. Such an approach reveals linguistic patterns in policy documents that support a simplified model of learning where decontextualized humans produce and consume. This emphasizes human performance in a disembodied manner that escalates in a way that rather resembles automation in society.

However, problems arise for WP due to assumptions in this linear model of progress, that all individuals will be able to benefit. These issues, where we progress statements rather than people, are compounded further if we simply ‘document’ an idea of ‘access’ or ‘progress’ (Ahmed 2007) and then look to these written statements or policy frameworks, as if these have agency to address WP. Baltaru (2020: 11) points to a rise in this form of ‘agentic inclusion’ where ‘universities’ “talk” about inclusion has become a “walk” of its own, but a walk towards maintaining institutional status as opposed to more direct concerns about enhancing inclusion among underrepresented groups’.

Competition between individuals and their positioning as consumers in a marketled, McDonaldised society (Ritzer 2018) means that some people are from the outset much better placed than others to make progress, as it is defined in the neoliberal model. This makes WP for students from disadvantaged backgrounds a considerable challenge, especially when McPolicy discourse emphasises the measurement of generic forms of ‘the student experience’ (Hayes 2021a) but fails to acknowledge the contextual positionalities of individuals in postdigital society (Hayes 2021b). Furthermore, neoliberalism relies on consumer demand to promote economic growth, but consumer demand and economic growth are now clearly recognised for their contributions to the ecological destruction of our global environment. We are now experiencing multiple effects and impacts from global crises reminding us that ‘[p]olitics and economy cannot be thought of without the environment. Now more than ever, we need to think seriously and creatively about the postdigital pedagogies that can articulate, embody, advance, and debate new presents and futures.’ (Jandrić and Ford 2020)

In order to open debate on new ecopedagogies of attainment, it is necessary to reimagine how all elements of life, inclusive practices and environment are interacting with technology and data, and to move away from the narrow route of McProgress

we have set ourselves for too long. As well as attending to the damage we have done to the earth's ecosystem, we need to review our collective aspirations for education and attainment in a postdigital society. This means reconsidering how progress and potential are currently linked to our diverse 'postdigital positionalities' and through an 'airing cupboard' of circulating opinions (Hayes 2021b) that also act as agents to either further or hamper social justice. It means allowing students to 'experience themselves in their potential' and not routing potentiality towards predefined consumer-focused models of education that promote false divisions and linear chronology (Lewis 2010).

Chronological Progress That Leads to A Better Future?

Progress is generally treated chronologically, or incrementally, like climbing a hill, reaching a certain marker within a given time, or notching up achievements. In education there are patterns that are recognisable: access (a student lifecycle), retention (completing study within a specific timeframe), attainment (cumulative achievements), progression (in and beyond education). These are all considered to be components of student success, along with the broad consensus now that children, students, workers and the economy will all need to 'catch up' after the global effects of the Covid-19 pandemic. Such a logic encounters problems though, when people are not 'catching up' from an equal positionality. As we entered the Covid-19 crisis, we relied heavily on digital technologies to support emergency remote teaching (ERT) but it has been argued that we were, at the same time, risking an entrenchment of existing inequalities.

Wright, Haastруп, and Guerrina (2021) suggest that responses by universities to the pandemic have exacerbated 'ontological insecurity among minoritized groups, including women'. They point out that when coupled with increased caring responsibilities, this calls into question who can be creative and innovative, and the necessary conditions for knowledge production. They add:

While university managers seek to reassure university staff of the temporary nature of COVID-19 interventions, we argue that the possibilities for progressive leaps at a later state of institutional regeneration is unlikely when efforts to address structural inequalities are sidelined and crisis responses are undertaken which run counter to such work. (Wright, Haastруп, and Guerrina 2021)

Such concerns though do not sit easily with educational policies and reports that look towards a future that progresses from the past relying on patterns of progress that appear to have gone before, and assuming that what lies ahead will always improve on this. Both the pandemic and widespread digitalization have displaced the human-centric aspects of such an approach towards modernization which is underpinned by an assumption that human mastery of the natural and social worlds will lead to greater freedoms and benefits. The discussion of successive industrial revolutions and a categorization and sequencing of periods of historical time

according to technical advances in how humans produce things, places technological innovation as a driver of momentous change.

These technological breakthroughs range from the industrial revolution in the eighteenth century and the invention of the steam engine, the later generation of electricity to the more recent digital revolution, with discussions of a Fourth Industrial Revolution characterized by a fusion of technologies that are blurring the lines between the physical, digital, and biological spheres (Schwab 2015). Subsequent discussions of what appears to be a trend of accelerating automation have raised concerns of mass technological unemployment and new related questions on the role of education against this backdrop (Peters, Jandrić, and Hayes 2018).

Yet there are now reasons to question too whether these former linear models of progress can even be relied upon, or whether they were ever really there in the first place. Not only has the Covid-19 pandemic brought about considerable shifts globally, in our postdigital-biodigital society, a convergence between digitalisation and biological sciences is also observed, which can provide us with a different and more open '[w]orld view which encompasses various reconfigurations between technologies and humans. This applies to all kinds of technologies, including but not limited to biodigital technologies.' (Peters, Jandrić, and Hayes 2021c: 3)

Educational Assumptions of Progress in McPolicy and The *Scala Naturae*

The idea that humans will progress or advance towards predefined goals within a linear and temporal model of development has been a long-held view in education. McPolicy discourse reflects how education has come to be valued for its direct contribution to this particular vision of progress. In our current global model of neoliberalism there is also a strong focus on learning as an individualistic concept. Students are measured in relation to how well they progress towards attaining preconceived models of 'excellence' and institutions are audited and rated on their role in supporting this particular vision of human progress (Hayes 2021a; Shore and Wright 1999).

In recent years the regulatory bodies that oversee the work of educational institutions have increased the categories of activities that they measure progress against. In a recent Office for Students (OfS) consultation (2021) on their proposed strategy for 2022–2025, there are 38 mentions of 'progress'. The OfS are the regulator for English universities, and they specify two areas of HE where they 'will focus over the next strategic period'. The first is 'quality and standards' (including graduate outcomes, performance above what is expected from an existing Teaching Excellence Framework and freedom of speech) and the second is 'equality of opportunity' (covering WP, diversity of courses offered, mental health and wellbeing, harassment and sexual misconduct). The OfS state that 'we believe our focus on these two areas will be the most effective way to progress our mission' (Office for

Students 2021: 23). Whilst these aims to ensure that both quality and equality are prioritised for students remain important, there are questions to be raised concerning how the interests of students are determined.

In a recent collective article for *WonkHe*, that questions whether OfS is the right regulator for the times we now live in, Paul Ashwin argues that

[o]ften the Department for Education (DfE) appears to have determined what students 'real' interests are. It is significant how many OfS press releases focus on issues that reflect the priorities of ministers rather than student representatives – grade inflation, grammar and spelling, 'low value' courses. This is not to imply these issues are not of interest to students, but it is concerning that they are framed in terms of the government's agenda rather than diverse priorities of students. (Ashwin 2021)

The diverse positionalities of students, educators and indeed policymakers in post-digital society (Hayes 2021b) tends to be overlooked when generic agendas and the 'missions' of regulators are prioritised. What also seems to remain problematic is the assumption that such policies can 'drive progress ... focusing on securing compliance with our minimum requirements is the most proportionate way to drive progress towards attaining our overall mission' (Office for Students 2021: 23).

These assumed patterns of attainment, underpinned by the notion that policy-makers can drive progress, have come to structure how education is discussed in HE McPolicy (Hayes 2019). McPolicy discourse embodies rational assumptions about how humans will progress through education in a language that reflects the forms of efficiency, calculability, predictability, and control that Ritzer (2018) described as defining neoliberal, McDonaldised society. It is assumed that it is possible to 'measure the excellence' of something universities can 'deliver' within a certain time frame and offer, referred to as 'the student experience' (Hayes 2021a). This has led also to an irrationality, as linguistically, the active academic labour of human beings seems to be missing from this policy discourse (Hayes 2019). Even amid new campaigns to emphasise equality and diversity agendas in education, progress is still generally treated chronologically, or incrementally. Within this approach, technology is discussed as a simple tool to drive educational progress forward and improve on what has gone before.

Peter Wagner (2012: 28) places such associations in the wider context of modernity, when he argues that this 'idea of progress emerges in the late eighteenth century, and it gives rise to the view of a coming – bright – future that disassociates itself from the – often miserable – present'. This also links with an idea that our children should have better lives than ourselves, which Wagner points out, has persisted as part of the concept of progress across time. Ada Palmer (2017: 319) questions: '[I]s progress inevitable? Is it natural? Is it fragile? Is it possible? Is it a problematic concept in the first place?'

In Peter Bowler's broad examination of the notion of 'progress' and the changing structure of this idea through history, he considers the biological, social and technological applications. Rather than a continuation of the *scala naturae* (the great chain of being) where progress is understood as a 'built-in historical trend that will continue into the future' (Bowler 2021: 1), it is argued that new insights might be gained by looking across disciplines and history. 'There are parallels between the

changing views in evolutionary biology, in archeology and anthropology, in studies of modern history and in how we think about the future.’ (Bowler 2021: 271)

Debates and Underpinning Assumptions

Bowler raises two debates that are worth reflecting on in terms of what underpinning assumptions we are basing our current ideas of attainment and progression in education on. These two positions have different connections with how we might understand historical development and therefore how we might think about future progress. Either we see human development as a linear, goal-directed model of progress in a temporal chain of being [the framing which seems to be underpinning HE policy discourse, as in the Office for Students (2021) strategy], or Bowler suggests, more like evolution, whether biological or social, where progress is ‘a branching tree of developments, which had no predetermined goal’ (Bowler 2021: 271).

The latter way of envisioning progress involves reinterpretation of the history of the idea of progress. As such, it ‘unchains’ former ways of thinking and enables us to look with fresh eyes at the idea of progress as open-ended and unpredictable. It can be helpful to examine the more ecological, branching and open-ended vision of progress (and linked to this attainment) in the light of what a bioeconomy may offer as a shift from neoliberal economy.

This approach has different temporal interpretations and biodigital implications to consider in a postdigital society where numerous convergences across disciplines can be observed. The Covid-19 pandemic has surfaced many questions too. For example, rather than an assumption that some students are behind others and need to ‘catch up’, a more wide-open perspective might place value on other things that those students have been doing, experiencing or contributing. This helps us imagine alternative more sustainable political bioeconomic futures in which progress and attainment might take on different forms. It therefore has implications for reimagining policy and related McPolicy discourse.

Temporal Assumptions and Postdigital Convergences

In our current political economic context, the structuring of education seems to be based on an assumed continuation of the *scala naturae*, rather than a questioning or ‘unchaining’ of this model. The passage of time in relation to technology and learning can be observed in the paradigm of 24/7 teacher/student availability and an acceleration of study programs and research, because ‘these themes are dialectically intertwined with human learning in the age of global neoliberal capitalism’ (Hayes and Jandrić 2017: 11). Time has even been discussed as the ‘fourth dimension in the globalisation of higher education’, due to the experience of compressed time and a perception of ongoing pressure for academics to master time (Walker 2009: 483).

This treatment of time is as if it were a reified resource, or an investment that is definable and exchangeable.

A commodification of time has accompanied the establishment of capitalism to pervade our lives, our language, our education institutions, and our teaching and learning (Walker 2014). As modern global capitalism has progressed from industrial production to incorporate new digital technological innovations and knowledge-based economies there are assumptions too that technology drives our accelerated experiences of time (Hayes and Jandrić 2017). This isolation of technology as a driver or force is no longer a sustainable logic when the multiple dimensions of time intertwined with digitalisation are experienced intimately and contextually by individuals (Hayes 2021b).

This calls into question ongoing institutional processes in education where linear attainment points and related awards within disciplines remain largely unchanged across decades, and digital technologies are simply treated as neutral platforms to support this model. Fundamental and different technological convergences globally demonstrate a need to rethink these assumptions. A discussion of these changes as ‘postdigital convergences’ requires a little explanation though when the placing of ‘post’ ahead of any term tends to also infer a linear progression from one thing to another. Early conceptions of a postdigital condition were based on the idea that what is digital has simply blended into the background of our lives only to be noticed whenever it is absent (Negroponte 1998). However, more recent postdigital theory focuses on the idea that digital technology, media and data are not ‘separate, virtual, or “other” to a “natural” human and social life’. Postdigital life is viewed as unpredictable and inclusive of both ‘digital and analog; technological and non-technological; biological and informational’ (Jandrić et al. 2018: 895).

Bioinformation and biodigitalism are now intrinsic parts of the postdigital idea, which strongly critiques the concept of the digital in education as a technological fix (Peters, Jandrić, and Hayes 2021c). Postdigital interpretations enable us to re-examine technological, cultural and evolutionary shifts across time and to reinterpret the ways in which we are viewing human progression and attainment, including our focus on WP.

Environmental Assumptions and Success as Progress

In the linear, goal-directed model of progress the assumption is that progress looks like success. As Wagner (2012: x) has observed, it was once common to think that modernity would lead to a bright future based on reason and hopes of opening up a new and better era. Such Western beliefs have since been challenged as globalisation has revealed the effects of mass consumerism on the global environment through exploitation of complex ecological systems (Peters and Jandrić 2018). Neoliberalism has treated environmental resources primarily as commodities, with McDonaldised practices in businesses and institutions leading to humans being discussed in the same manner.

The emergence of bioeconomy is now presenting alternative and more holistic approaches towards technological progress that could help to alter our course from the damaging route we have taken towards a more sustainable economy (Peters, Jandrić, and Hayes 2021b). Now that the ecological destruction of our global environment is clear, it is necessary to consider the role of failure in modernisation as well as the hopes of success. The lack of sustainability of modernity as it has emerged as a single, Eurocentric model of consumption is now confronted with questions of how the freedom of global citizens relates to the freedoms of the buyer and seller (Wagner 2012: x). Wagner adds that ‘the current constellation of modernity forces us to reconsider our ways of theorising it’. Therefore can we sustain the dominant idea of progress ‘if modernity has more than one shape and goes on changing’ (Wagner 2012: xi) and are there new ways we situate the modern experience in time and space (Wagner 2012: 153)?

This leaves something of a dilemma if we need to rethink the foundations of progress, because within the educational assumptions of attainment in McPolicy there is little mention of failure. This is a point that Felicitas Macgilchrist raises when she asks: ‘How does *failure* figure in imaginations of digital futures, as higher education is trying to make the world a better place?’ (Suoranta, et al. 2021) (emphasis from the original).

Technological Assumptions and Failure in A Neoliberal Context

Macgilchrist raises the issue that the EdTech industry orients primarily towards ‘success’ and that ‘[d]igital technology will—in this view—help students to reach their potential, enable instructors to support, motivate and teach successfully, and facilitate institutions to lead their faculty, staff, and students into a successful future’ (Suoranta et al. 2021). This reproduces a linear path towards a future that looks bright for successive generations, but Macgilchrist questions: ‘What counts as “success”, and for whom? Whose priorities are being imagined?’ Furthermore, Macgilchrist questions if there will be room to consider the ‘queer art of failure’ (Halberstam 2011)?

Macgilchrist distinguishes between the place of failure in the linear, goal-directed model of progress, where the idea of ‘learning from mistakes’ is an imperative in educational and EdTech spaces, and we reflect on our mistakes, and move onwards to success. She contrasts this with the queer art of failure as a struggle for *other* futures, which is about ‘critically assessing the politics and positionality of achievement; about exploring how failure is both bleak and hopeful’ (Suoranta et al. 2021). Taking this approach towards failure even further, Macgilchrist (2021) argues that there are even pleasures that might be acknowledged, as we confront failure as a form of resistance to systems of values that prioritize achievement and success.

Shifting ways of thinking about progress in this broadest sense raises questions about the reasoning that is often adopted to support technological advancement in neoliberal society, and also in education. When technology is treated, on the one hand, as an efficient way to fix societal processes, to enhance teaching or to measure ‘excellence’, there may on the other hand, be an omission of related consequences. Deterministic assumptions that are made about technologies and their links with inevitable improvements and linear forms of progress tend to view technology as an independent entity from the social and political context in which it was designed and deployed. This overlooks the different ways in which people might experience technology, as well as treating it in isolation from commercial ownership and control. This is a situation that with digital technologies has now become closely related to the collection and use of all kinds of data, to new algorithmic cultures and the intimate role that internet-based data-driven platforms have assumed in peoples’ lives.

Assumptions About Educationalization and ‘Harnessing’ Technology and Data

A quick Internet search around the idea of ‘harnessing technology’ or ‘harnessing data’ reveals that this is a concept that has sustained across all kinds of societal institutions. Treating technology and data as if these are impartial entities or resources to be brought in or ‘harnessed’ in order to ‘fix’ a business, health or education system, is a form of ‘solutionism’ that has only increased during the pandemic. In education this may be accompanied by a narrative claiming: ‘education is broken, and it should and can be fixed with technology’. Yet, ‘such technologization, often seen as neutral, is closely related to educationalization, i.e. imposing growing societal problems for education to resolve’ (Teräs et al. 2020: 863; see also Peters, Jandrić, and Hayes 2018). The irrationality of a rationality that simply places WP issues into this existing political economic context, and within a commodified vision of progress, emerges when these concepts prove to be incompatible.

Rather than create a supportive learning ecology where diverse routes are possible for the different postdigital positionalities and levels of disadvantage people find themselves in (Hayes 2021b), WP has instead become constrained in a narrow and competitive consumer environment where not everyone can attain. Despite much investment in WP over recent years, including outreach interventions and attempts to ‘raise aspirations’, there is still a lack of evidence of impact on enrolment rates (Robinson and Salvestrini 2020: 5) and harnessing technology and data in the current model of educational progress does not look set to resolve via ‘sat nav learning’ (Beattie and Hayes 2020).

The datafication of society within the neoliberal model of progress tends to be seen as another tool ‘for enhanced efficiency, security and innovation’ but there is also an increasing concern with ‘[t]he multiple ways in which datafication both

introduces and entrenches key questions pertaining to a broader concern with social justice, such as issues of inequality, discrimination, and exclusion’ (Dencik, Jansen, and Metcalfe 2018). The concept of ‘data justice’ is raised by these authors in response to the issue of simply treating data as another ‘resource’, that might be harnessed to support efficiency and progress. They point out that ‘it is not clear, in this datafied society, where, and of relevance to whom, data is located, travels and impacts’ (Dencik, Jansen, and Metcalfe 2018).

Postdigital Stalking of Policy Commitments to Identify Progress

This adds to the challenges of undertaking a ‘postdigital stalking’ of policy commitments that are written, tweeted, spoken, datafied and easily dispensed with, because it is not only humans who are mobile, data of all kinds, is too. Data of all kinds slips with silent ease between physical and virtual locations and public and private spaces. Any bias contained therein can also intersect with and influence the best laid plans to be inclusive. Thus, I have previously identified a pressing need for university policies aimed at equality, to also address matters of data and digitalisation (Hayes 2021b). Accompanying an approach that assumes that data-driven technologies will automatically enhance teaching, collect analytics that support student engagement or measure student progress, is the problem that students are frequently treated as if they are of one universal identity (Hayes and Jandrić 2018). Indeed, the student body can come to be referred to as just another data source when institutions seek to quickly demonstrate progress with WP. A postdigital stalker of policy would therefore need to ask detailed questions about why some forms of data (and not other kinds) had been collected, selected and referenced.

Furthermore, in environments, around each of us are new developments where data is underpinning technologies that are altering our cities, homes and places of learning. These developments will also have impact on WP initiatives and how students access HE at various points and make progress. Bibri (2021) points out that advances in big data computing ‘have brought new visions on how cities as a microcosm of societies will evolve and the kind of opportunities that will be created and explored in the context of sustainability’. However, the contributions of new technologies to the global goals of sustainability are still positioned in a particular broader debate over the role of science-based technology in societal development. Given that there are now complex intertwined societal factors - in terms of materialization, success, expansion, and evolution - that underly data-driven smart sustainable urban environments, there is a need to:

[f]acilitate collaboration among different disciplines for the primary purpose of providing the theoretical underpinning and interactional knowledge that are necessary for a more integrated and broader understanding of the phenomenon of data-driven smart sustainable/sustainable smart urbanism. (Bibri 2021: 18)

With such examples in mind, critically reflecting on how datafication is now operationalised in the linear, efficient progress model is crucial, if we hope to further matters of social justice and WP in universities.

Disrupting the Very Grammar of Justice

If datafication now ‘disrupts the very grammar of justice’ (Dencik, Jansen, and Metcalfe 2018) then its place in imagining new ecopedagogies of attainment and progress in postdigital contexts, alongside new forms of policy discourse that might emerge is important. In a context of datafication, Couldry and Mejias (2019: 3) suggest that ‘there is a capitalisation of life without limit’. They argue that whilst much focus has been placed on whether digital labour is being exploited, via ‘data colonialism’ ever more layers of human life, such as work, school, health, are now being appropriated ‘potentially for profit’ (Couldry and Mejias 2019: 5). Therefore, to ‘situate datafication in the context of the interests that are driving such processes, and the social and economic organisation that enables them’ allows societal implications and social justice concerns to be examined (Hintz, Dencik, and Wahl-Jorgensen 2018). It permits questions to be asked about how these issues might look different in a bioeconomical political economy and how this may in turn, alter the relating discourse. How may a new circular bioeconomy and more globally sustainable ways of existing, alter how progress is perceived in society and in turn change how we understand attainment in education?

If there is no longer a McDonaldized culture of waste and replacement and disposable McPolicy churned out in education, perhaps the ‘chain of being’ would be disrupted. Our old system of arranging living forms into a time-limited, linear hierarchy may begin to look more ecological and open ended. If data and digital resources are not so much harnessed as part of a competitive market, but instead examined in terms of data justice, then inclusivity and WP may take a different shape amid new ecopedagogies of attainment, achievement and even failure. Amid such a shift our long held ‘reasoning’ about attainment and the foundations we have based it on in modernity could be called into question.

From A Neoliberal Model of Progress Towards Bioeconomical Progress

Reflecting on the old linear notion of progress model, we have taken a wasteful, disposable stance as we have constantly swapped one existing thing for the next new thing, to support a neoliberal economy. This is not helpful in a new environment of postdigital convergences, where everything old and new remains present in a messy, hybrid, inclusive fashion. Recent scientific changes that include biodigital

convergences between biology, physics (nanotechnology), and information science, are reconfigurations that ‘are dialectically intertwined with a strong technologization of today’s sciences’ (Peters, Jandrić, and Hayes 2021b). As technological development has now taken the lead in scientific inquiry, scientific theories now have more practical applications than ever. Recently published collaborative volume, *Bioinformational Philosophy and Postdigital Knowledge Ecologies*, explores the many ‘philosophical and social implications of this great convergence at length’ and concludes: ‘In the context of the bioeconomy, we need to turn to its new practical applications now that humanity has scope for environmental self-renewal and enhancement, which is key to sustainability.’ (Peters, Jandrić, and Hayes 2022)

In failing to be sustainable in the linear progress model (as our landfill sites and many other assaults on our environment reveal) there has been a tendency to hide this failure behind a neoliberal rhetoric of a pursuit of excellence and attempts to harness technology and data, as if these might be driven by humans. Those who have worked in HE long enough will also recall the writing and discarding of strategies and frameworks that could occupy a sizable ‘policy landfill’, ‘junk email’, and deleted items space on each of our laptops. Rather like the throw away McDonalds coffee cups and other fast food packaging, in education McPolicy we have repeated these patterns of replacement, writing empty disconnected statements about what buzz words and phrases will enact. In this model of success and progress WP has struggled.

The global crisis we now face in our environment has though prompted progress towards climate targets and international collaboration based on biodigital technologies and their implications and contributions to the bioeconomy (Organisation for Economic Co-operation and Development 2009; Peters, Jandrić, and Hayes 2021b). With arguments that the convergence of bio-, nano-, and information technologies, alongside neuro- and cognitive sciences, could be a scientific transformation as powerful as the Industrial Revolution (Salter et al. 2016), we have the emergence too of bioeconomy, and new related policy frameworks (Peters, Jandrić, and Hayes 2021b).

The bioeconomy involves approaches towards environmental self-renewal that include moving to fossil free materials and replacing carbon intense products such as plastics, concrete, steel and synthetic textiles with renewable biobased materials that can outperform carbon-intensive materials (Palahí, Hetemäki, and Potočník 2020). Crucially, as these authors demonstrate, it involves ‘connecting the dots’ in replacing a quantity-oriented, profit-driven economy with an economy focusing on delivering people’s needs in a holistic and sustainable way and it ‘cannot be articulated through separate policies as currently presented’. The authors conclude: ‘The bioeconomy can be a catalyst for systemic change to tackle holistically the social, economic and environmental aspects currently not yet addressed coherently.’ (Palahí, Hetemäki, and Potočník 2020)

Given that the bioeconomy is considered fundamental for inclusive prosperity and fair social transition and able to address our past failures in the former model of progress, it would seem worthwhile to imagine how such an ecological and economic shift might also alter our policy and related discourse for inclusivity and WP

in education. If the bioeconomy can help us to build new synergies between technology and nature to benefit society, then alongside such a shift we need new synergies between technology, education and related policy discourse, that lead to inclusive and sustainable models for WP.

From Political Economic Discourse in Education to A Political Bioeconomic Discourse

A political bioeconomic discourse could provide room for a review of the ‘politics and positionality of achievement’ (Suoranta et al. 2021). Out of an acknowledgement of our former failures, a new appreciation could arise for digital technologies and data and the ways in which these are now experienced from the earliest of ages in contemporary digital culture (Gennaro and Miller 2021) and throughout life and learning. A new understanding of the relational, rather than linear nature of humans and all that surrounds them is also ‘central to the development of an ethical perspective that is built around the significance of care and participation in all our lives’ (Barnes, Gahagan, and Ward 2018).

Currently we seek to promote and measure the success of WP in narrow ways that aim to punish universities where they fail to retain students or to recruit diverse cohorts. Less attention has been paid to the political economic context and linear model of progress that has conspired against efforts to improve inclusivity. In this model we fail to attend to the relational nature of disadvantage as it connects with systems where only some people can make progress. We even distract ourselves from the structural inequities within neoliberal political economy by producing isolated frameworks, slogans and training courses in HE that focus on perceived shortfalls in people, and not systems and structure. Such a narrow focus on WP, and measuring average income returns for example, could be replaced with a wider conversation concerning the role of universities and their social benefit (The Sutton Trust 2021) in a postdigital society.

Taking account of our postdigital lives in an ecopedagogical context, our individual or collective failures do not need to be rapidly dismissed, so that we simply move on to attain the next milestone. Instead, they can become part of a critically disruptive ecology, that imagines these transgressions differently and values each person’s positionality (hooks 1994: 11; Hayes 2021b). As we face the reality that even our skills to drive vehicles are now called into question with the development of self-driving cars, we can take a moment to challenge the human centric lens through which we have long viewed progress.

Looking again at what an ecological lens on progress reveals is liberating as the possibilities for new relationships of respect emerge. Addressing a ‘past dichotomy between economy and ecology that very much defined the 20th century’ through bioeconomy refocuses our attention to synergies (Palahí, Hetemäki, and Potočník 2020). When synergies, rather than replacements, are the focus then attainment

looks, sounds and reads differently. Working towards more sustainable global society through green deals and bioeconomy alters the dialogue and a McPolicy style of writing about human endeavours is no longer relevant.

Bioeconomy is evolving from the mostly policy and industrial drive toward a more active inclusion of societal issues such as: investing in education and research; favoring a healthy and innovative industrial environment and, promoting a genuine dialogue with all societal stakeholders related to bioeconomy. (Aguilar et al. 2020)

If I imagine a political bioeconomic policy discourse, I envisage less of a ladder or chain of being, that we rush along - with a McDonalds in our hands - writing McPolicy that replaces the former with what comes after. I picture more of a branching network of paths that are ecological, with relational postdigital positional connections, enabling people to join from wherever they are, in a genuine dialogue with all societal stakeholders, as discussed by Aguilar et al. (2020).

In the context of teaching, Arantes (2021) suggests exploring postdigital teacher identities is a liberating praxis. Drawing close links with the notion of postdigital positionalities working within cages of educational technology consumption (Hayes 2021b), Arantes (2021) argues that ‘postdigital teacher identities could begin to disrupt and fragment patterns of teachers as active and cognizant consumers of educational technology’. This suggests that amid new postdigital ecosystems determined by the bioinformational reconfigurations taking place around us, there will be opportunities to link new forms of pedagogical research, practice and policy discourse to the challenges of our pandemic Anthropocene moment.

Currently university agendas or frameworks aimed at inclusion and WP remain biased in themselves towards a model of progress that is unsustainable. These flawed approaches towards addressing all manner of inequities will simply linger (on the shelf or the hard drive) as disconnected McPolicy (Hayes 2019) until we actively join up the dialogue. In postdigital society, each individual positionality matters and exclusionary McPolicy discourse is no longer an option.

We are not ‘chained’ to our current political economic model of progress. We can now closely examine ‘political bioeconomy’ as a new, or extended field of thought, or alternative way that society is organised. The new discourses and related behaviours that might now emerge through political bioeconomy give promise of a new sustainable environment for much wider models of WP and inclusivity and an opportunity to reimagine progress and attainment as ‘unchained’ and ‘uncaged’ in new forms of political bioeconomic discourse.

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From the Knowable and Transparent Individual to the Secret Thought of Individuation: An Anti-Capitalist Postdigital Ecopedagogy



Derek R. Ford, Katie Swenson, and Megan Foshier

Introduction

The political and pedagogical landscape today is dominated by what Alexander Means (2018: 1–2) calls solutionism: the idea of ‘the future as a computational project whereby seemingly intractable problems such as resource depletion and global poverty are rendered as technical issues to be “disrupted” through Silicon Valley business ingenuity and data platforms’. One of the main functions such an ideology serves is to present what are in reality structural problems of capitalism as mere technological problems that only capitalism can solve. One of the educational problems inherent to solutionism is that its ‘ambitions have extended into K-12 schooling, where data processing and adaptive analytics are being promoted as a means of “customizing” and “personalizing” learning in the name of “reinventing” education for the twenty-first century’ (Means 2018: 97).

In this chapter, we follow Means and shift the epistemological and political terrain to postdigital ecopedagogy, demonstrating how contemporary postdigital educational processes limit subjective and political potentials by dictating and naturalizing individuality as a finished product and starting point of sociality and demanding transparent knowledge. In response, we propose alternative anti-capitalist pedagogical modes that, consistent with the postdigital era, don’t choose between the individual and the collective or between knowledge and non-knowledge but rather open other registers through presenting the unfinished *process* of individuation and asserting *thought* over calculation.

D. R. Ford (✉) · K. Swenson · M. Foshier
Education Studies, DePauw University, Greencastle, IN, USA
e-mail: dereford@depauw.edu; kswenson_2022@depauw.edu;
meganfosher_2022@depauw.edu

The Postdigital Landscape of Contemporary Ecopedagogy

It is increasingly clear to many that it is no longer feasible to distinguish between the digital and analog, the virtual and material. In response to the ongoing digitization of the world and the blurring of the borders between the digital and non-digital, the critical sociopolitical approach of the ‘postdigital’ emerged. This concept that the postdigital champions is a ‘holding-to-account of the digital that seeks to look beyond the promises of instrumental efficiencies, not to call for their end, but rather to establish a critical understanding of the very real influence of these technologies as they increasingly pervade social life’ (Jandrić et al. 2018: 895). Defining the postdigital and what it designates among education studies, social science, art, music, biology, and others has been difficult and such work is still in the early stages. These designations feel messy and blurred, which is perhaps a condition of the postdigital ecosystem in which we live. The prefix ‘post’ allows for a critical view of both the subject and the philosophy it is intertwined with—similar to post-humanism (Sinclair and Hayes 2019)—yet also allows the postdigital to dismantle binaries so often surrounding understandings of the digital (Fawns 2019).

The digital is not located in a space separate from the analog. For example, the label of ‘traditional’ or ‘face-to-face’ classrooms are irrelevant and too simplistic in nature. Digital education is not independent of the analog world. While the physical and virtual spaces of education are not homogenous, neither are they totally heterogeneous. It is no longer useful to distinguish between digital and nondigital frameworks of learning because technology is now a driving force behind the engagement of materials in and out of, before and after, the class. As such, the complex nature of the terminology of postdigital allows for ‘both a rupture in our existing theories and their continuation’ (Jandrić et al. 2018: 895). ‘The essence of postdigital culture’, writes Angela Butler (2021: 63), ‘stands not for a time after the digital but as an acknowledgement that the materiality of the digital is not reducible to the screen ... It is a massively distributed reality that in turn conditions our perceptual realities.’

One way to approach our postdigital reconfiguration and to link it with ecopedagogy is to revisit Marx and Engels’ (1970) efforts to break from Hegel in *The German Ideology*. Written in 1845–1846, in these notebooks they acknowledge that nature and humans are abstractions. ‘Nature, the nature that preceded human history’, they write, ‘is nature which today no longer exists anywhere’ (63). We could think of this as the post-natural move, in which it was no longer possible to demarcate any lines between the two categories.

Although Marx’s use of nature throughout his works isn’t totally consistent, one continuity is that there is no distinct nature separate from the human. Nature is produced and forms of humanity are produced, and the communist project, as Neil Smith (1984/2008) puts it, ‘is not somehow the completion of mastery over it’ (88) but a struggle over ‘*how* we produce nature and *who* controls this production of nature’ (89). Such production is simultaneously the production of subjectivity, and the political, economic, and social order is the determining factor of the struggle. While the movement hasn’t always admitted it, ecopedagogy has always been post-digital (Jandrić and Ford 2020)!

Similarly, the digital technologies surveyed below are not new, at least in U.S. education and, in many ways, continue capitalist pedagogies in the ‘pre-digital’ era. Insofar as the very word digital comes from the digits on the hand, the digital is essentially the division of the world into categories, units, numbers, etc. (Jandrić 2019). The U.S. educational system has always operated digitally insofar as its entailed assigning grades and categorizing students as groups and individuals. The nature of such digitalization, however, changes significantly as the capitalist mode of production has moved from large-scale industry to Taylorism and, finally, to post-Fordism.

Capitalist Postdigital Ecopedagogy

In 2017, a group show, *Blinding Pleasures*, displayed at the arebyte Gallery in London, reoriented spectators, probing how humans might recognize how digital media might shape our own social relations and senses of self through ‘Go Rando’, created by Ben Grosser.¹ ‘Go Rando’ is a browser extension download that will randomly choose one of the six reactions on Facebook to respond to posts, explicitly making ourselves and contacts subjects of algorithms. ‘Every “like,” every sad or laughing icon is seen by your friends’, Grosser says, ‘but also processed by algorithms used for surveillance, government profiling, targeted advertising and content suggestion. By obfuscating the limited number of emotions offered to you by Facebook, the plug-in allows you to ... perturb its data collection practices.’ (Regine 2017) This software-based political art is an act of defiance that disrupts the data collection efforts of Facebook that ‘enhance’ its algorithms and their efforts to predict or modify behavior and provide data for capture and sale.

Shoshana Zuboff (2019) discusses ‘Go Rando’ in *The Age of Surveillance Capitalism*, an age she describes as the newest frontier of capitalism that intersects and permeates all aspects of human experience but, of course, doesn’t have to determine our collective futures. For Zuboff, surveillance capitalism is based on the omnipresent capture of ‘human experience as free raw material for translation into behavioral data’ (8). This data, in turn, represents a ‘behavioral surplus’ that is not only a form of surplus value but one that shapes or ‘herds’ (8) our behaviors in an effort to generate additional surpluses. Corporations like Google, for example, profit from this behavioral surplus by targeting advertising to specific users, which demonstrates a shift from ‘serving users to surveilling them’ (84) and at the same time blurs the distinction between consumption and production and ultimately commodifies the entirety of our existence.

The capture, modification, ‘herding’, and surveillance of our behavior occurs through economies of scope and action. Economies of scope refers to the extension from the ‘virtual’ to the ‘real’ world as well as the depth of the intimate patterns of

¹ See <https://www.arebyte.com/>. Accessed 1 November 2021.

oneself. Surveillance capitalism aims to profit from this through ubiquitous economies of action, designed to provide certainty of user behavior by nudging, poking, herding, manipulating, and modifying behavior in specific directions (Zuboff 2019: 202). This optimizes user behavior to the profitable benefit of information and communication technology corporations.

Surveillance capitalism is thus an implicit theory of postdigital ecopedagogy in which humans are almost completely subjected to the dictates of capitalism—but capitalism not as a mode of production but, rather, as ‘a specific group of human beings in a specific time and place’ (85). Capitalism isn’t the problem, then, but only *surveillance* capitalism, and we should respond by reuniting ‘markets and democracy’ in a way that ‘has served humanity well’ in the past (517). The problem of this capitalist postdigital ecopedagogy is that it’s predicated on an ‘opposition between a benign capitalism and a distorted capitalism’ (Kivotidis 2021: 105). In order to pursue the inaccuracies of the articulated problematic here and the proposed political response, and to propose elements of alternative postdigital ecopedagogies, we now turn to recent developments in and critical research on postdigital educational systems and forms.

Algorithmic educational technologies exacerbate existing and create new inequalities within schooling. Kathy O’Neil (2016), for example, details these effects in *Weapons of Math Destruction* and their solutionist presentation as neutral codes and operations. While it’s obvious that ‘our own values and desires influence our choices, from the data we choose to collect to the questions we ask’ (21), the results amassed by their computations increasingly depict themselves as incontestably objective and, more importantly, accurate. This widely maintained presumption of technological impartiality further facilitates a false framework of understanding subjectivity as the summation of scores, an understanding that in turn structures our values and social relations.

ClassDojo is one such technology that pervades many elementary and middle school classrooms across the West. The central function of ClassDojo is behavior modification through the addition or subtraction of ‘Dojopoints’ from students’ digital avatars (fun, colorful monsters).

The behavior component of ClassDojo operates by way of teachers issuing feedback to individual students, groups of students or the entire class for particular behaviors or skills performed. The behaviors and skills to be targeted are customizable, with default options such as working hard, on task, displaying grit, off task and unprepared. The datafication of this feedback is integral to Class-Dojo’s discipline approach. Two feedback categories are available: ‘positive’ and ‘needs work’. Despite the obvious intention to apply a positive vocabulary, the visual and auditory cues accompanying each category expose a more traditional separation between ‘positive’ and ‘negative’ feedback. ‘Positive’ feedback is colored green and arrives with a pleasant ding sounding auditory cue, while ‘needs work’ feedback is colored red and arrives with an auditory cue to match, a harsh buzz sound. (Manolev, Sullivan, and Slee 2019: 40)

ClassDojo establishes a classroom environment in which students exist as individuals within a Dojopoint limbo of unique value. Any moment or action could incite a change in class ranking.

Even the bodies of students are transformed into metrics to produce data. Biometric measurement is the latest iteration of such commodification. Kenneth Saltman (2017) writes about a few of these projects. In one funded by the Bill and Melinda Gates Foundation, ‘students wear biometric bracelets (Q Sensors) that run an electric current across the skin to measure changes in electrical charges’. Another project uses ‘facial recognition algorithms [to] measure the students’ facial expressions with webcams, analyze facial movement, and generate feedback reports to teachers’ (Saltman 2017: 55–56). This is backed by research and confirmed in the projects underway. An analysis of policy documents for technologies of personalized learning found that they emphasize skills and human capital capacities, not social justice or knowledge for the public good.

Such data collected now measure ‘noncognitive factors and student dispositions’ through, for example, the online tutoring system Wayang Outpost, ‘where researchers use *four biometric sensor systems* on students to measure and collect data on dispositions and engagement such as levels of frustration, motivation, confidence, boredom, and fatigue’ (Roberts-Mahoney, Means, and Garrison 2016: 412). The gathering of this information promises elevated individuality for its users at the same time that it creates standards and distributions around the norm. The uniqueness of the individual can only be *known* relative to another individual.

These postdigital pedagogies produce subjectivity as a quantified and atomized individual and are not limited to education. This is evident in Moore and Robinson’s (2016) study of Wearable and other Self-Tracking Devices, which can ‘are worn around wrists, set within fabrics or sewed under the skin’ or can ‘take the form of wearable cameras taking location-specific pictures’ (2776). ‘A central aspect of such technologies’, they write, ‘is the quantification of what were formerly treated as immeasurable, qualitative aspects of the labour process or the self—such as mood, fatigue, psychological well-being, the desirability of cultural products and the worker’s breaks and time-off’ (2779).

Moore and Robinson (2016) locate the quantification process with Taylorist production, which worked to transfer ‘the tacit, qualitative knowledge that empowers workers’ to ‘knowledge work within the planning division’ (2781). This is a tendency within capitalism, which could only emerge on the productive forces of machinery. Handicraft and manufacture are insufficient for capitalism because they relied on the knowledge and skills of workers. Capitalism required machinery because, as Marx (1867/1967) wrote, it ‘performs with its tools the same operations that were formerly done by the worker with similar tools’ (353), and thereby replaces living labor as the driving force of production with objectified, dead labor. Taylorism extended this by increasing the detailed division of labor within production and across spheres of industry.

Moore and Robinson (2016) locate two differences with today’s quantification technologies. One is that workers’ knowledges (including non-cognitive forms) are still located in the workers but are expressed *through* the devices. Another is that Taylorism was confined to factories but today’s quantification processes permeate life itself because the knowledge captured ‘cannot, by definition, be measured by traditional Taylorist devices’ (2781). This second difference may be more of a

continuity. Melissa Gregg (2018) writes about the Hawthorne experiments at Western Electric in the 1920s–30s, which weren't confined to the workplace: 'Observations covered the content of workers' lunches, dental health, footwear choices, and number of hours slept at night.' (44). They even sent (women) workers to medical clinics for examinations to produce more data.

Nonetheless, Moore and Robinson (2016) hit on a few elements of contemporary postdigital ecopedagogy. First, they make 'workers permanently visible to management' (2779). Second, they not only make the qualitative into quantitative, but they also make it so that 'anything that cannot be quantified and profiled is rendered *incommunicable*—meaning that it is marked and marginalised, disqualified as human capital and denied privilege' (2775) (emphasis in original). In the same manner as ClassDojo, they present subjectivity as individualized and quantifiable by devaluing that which can't be attributed to the individual subject-form or quantifiable data. They therefore show us not what social relations are but rather the 'determinate social formation which they co-constitute' (2785). This social formation isn't a radical break with capitalism—a new *surveillance* capitalism—but a continuation of capital's demand for ever-greater transparency, a demand that structures postdigital pedagogy.

The Terror of Transparency

Postdigital ecopedagogy seems to be open and customizable and flexible through the technological opportunities of exposing oneself to others. As Fiber Calder and Kathrin Otrek-Cass demonstrate—and even celebrate—these technologies can 'enable perceived and actual open-mindedness and discovery', by, for example, offering 'students opportunities to reveal their concerns and delights' (2021: 456). 'Inhabiting' digital spaces', they claim, coincides with 'the user's perceived control, having choices and individualizing the space' (454). Although they recognize such visibility is limited by 'the conditions under which it occurs' and 'that the technology has a materiality that permits certain actions while making others impossible' (463), they nonetheless endorse such student expression.

Yet the expression under capitalism is a demand that defines contemporary pedagogy and politics. Thus, Byung-Chul Han labels this contemporary moment the 'society of transparency'. 'Everything,' he says, 'has been turned outward, stripped, exposed, undressed, and put on show. The excess of display turns everything into a commodity; possessing "no secret," it stands "doomed" ... to immediate devouring' (2015: 11). This includes devouring the necessary *distance* of difference and the other, as well as the necessary distance within each subject.

Distance is an inherent obstacle to capital, both spatial and temporal distance. As Marx wrote in the *Grundrisse*, 'economy of time, to this all economy ultimately reduces itself' (1939/1973: 174). Within production, society, and the school, the trend is towards intensification and increasing productivity, both of which—*under capitalism*—entail speeding up work and our sense of time itself. The law of value

compels individual capitalists to decrease the labor time within their own factories. That same law compels capital to decrease circulation time. ‘Thus the creation of the physical conditions of exchange—of the means of communication and transport—the annihilation of space by time—becomes an extraordinary necessity for it’ (525).

There’s a contradiction between the production and realization of capital, in that the production of surplus value necessitates driving down the value and price of labor power and displacing workers via technology, while realization necessitates enough ‘effective demand’ to realize the value produced. As Marx wrote in the manuscript for volume 2 of *Capital*: ‘Contradiction in the capitalist mode of production: the labourers as buyers of commodities are important for the market. But as sellers of their own commodity—labour-power—capitalist society tends to keep them down to the minimum price.’ (1882/1967: 316, f32) The contradiction is between these two necessities, as capital can’t do both at the same time, so it either switches between the two or finds other ways to smooth over or delay the contradiction, such as credit.

The postdigital era allows for a different response to the contradiction: by linking production more tightly to realization. Nick Srnicek gives the example of chemical manufacturer BASF SE, whose ‘assembly line is capable of individually customising every unit that comes down the line: individual soap bottles can have different fragrances, colours, labels, and soaps, all being automatically produced once a consumer places an order’ (Srnicek 2017: 66). Under Fordism, commodities were mass produced and the planning process was distinct from the production process. For example, planners would design and propose commodities, test them with certain markets or focus groups, and then send the designs to production.

Under post-Fordism, this arrangement is not only linked together but actually *inverted* through information and communication technologies, which ensure ‘the communication is the smooth running of the entire production process’ so that the relationship between production, planning, and consumption is turned upside down (Marazzi 1994/2011: 21). In terms of distribution and consumption, ICTs collect data that determine future production instantaneously, like scanners at supermarkets and credit cards and demand precedes production. This is because the market for commodities assumed in Taylorist production is no longer expanding absolutely but only relatively, in that there’s a ‘compression of purchasing power’ that makes it so that production and demand are tightly united so that the former is determined on the spot and in response to the market.

One nodal point is the demand for ever-more transparency, for when the market is limited ‘contingency reigns, the unforeseeable becomes the rule and everything rests on immediate adaptability’ (Marazzi 1994/2011: 45; Ford 2021b). Who can really predict the next trend, which surely won’t last too long? Unable to do so, capital requires the production of labor-power that is rapidly adaptive and flexible. In other words, capital requires a particular pedagogical *form* through which students and subjects generally acquire and actualize skills, knowledges, habits, beliefs, and so forth at the service of global capital (Peters, Jandrić, and Means 2019).

With the capitalist landscape described above, which is flexible, adaptable, and organized around the unpredictable, postdigital ecopedagogy produces lifelong learners who continually re-took and re-skill ourselves in response the shifting demands of capital. Moreover, labor market competition compels us to constantly *individualize* ourselves and *express* our uniqueness as we struggle for the few jobs available.

Thus, capital carries with it an incessant demand for more transparency. This is always couched in progressive-sounding language, just how imperialist wars today are couched in humanitarian rhetoric. For example, Emily Nelson and Jennifer Charteris document how the insistence on ‘student voice’ is really part of a project of commodifying students and transforming them into subjects ‘both “authoritative and “accountable” for their own learning’ (2021: 215). Teaching is ‘oriented toward students’ needs and interests ... for student consumption’ (Lewis 2020: 39). Pedagogy is supposed to *respond* to students’ expressed needs and desires, which, as we saw with Calder and Otrell-Cass, is a fundamental component of educational technologies. We’re not arguing that teachers should never respond to students’ needs but arguing against the *demand* that students articulate their needs—as if they, or we, could actually *know* them. Thus, even as they conclude by noting the link between personalization and ‘layers of control’, they ultimately end on a hopeful note because ‘social media are influential in opening up space for openness (and across borders)’ (Calder and Otrell-Cass 2021: 454).

The problem is that the structures of power in technologies and social media aren’t transparent. Yet to call for more transparency is to reinforce capital’s drive for more knowledge it can capture and put into circulation and rests upon the individualized form of subjectivity. This aligns learning technologies that promote ‘personalization’ and ‘customization’ with corporate interests, as the technologies owned and pushed by corporations like Netflix and Google, who capture and then own data.

Postdigital Ecopedagogy Against Capital: From the Transparent Individual to Thought of Individuation

The presupposition of the individual as the unquestionable form of the subject is the very thing that Marx (1939/1973) criticized bourgeois political economists for: taking this form and imagining it ‘as an ideal, whose existence they project into the past. Not as a historic result but as history’s point of departure’ (83). The individual form here arose in the eighteenth century as a particular form of subjectivity, and capital has incessantly worked to reproduce it in order to fight against the gravediggers it creates: the collective laborer. As capitalism develops, the category of productive labor widens as labor becomes collective: ‘The product ceases to be the direct product of the individual, and becomes a social product, produced in common by a collective labourer.’ (1867/1967: 476)

Indeed, under capitalism no product (including services or other immaterial commodities) can be attributed to any particular individual. Yet there's a fundamental contradiction for capital because if workers—a category that includes those with and without work, engaging in waged or unwaged work—realize their collectivity they'll realize the insufficiency of capitalism and their ability to—as a collective—overthrow the capitalist mode of production. One task of alternative postdigital ecopedagogy is thus, to borrow the words of Mario Tronti, 'continually recompose the material figure of the collective worker against capital, which itself seeks to dismantle this figure' (2019: 30).

Capitalist postdigital ecopedagogy works to reinforce individuality to prevent the collective class of working and oppressed people from uniting into many. Our postdigital landscape, however, produces ever-expansive networks that link different subjects together. As such, the contradiction fundamental to capitalism is only displaced to a different, even higher level. This is why Jodi Dean claims the individual subject-form is failing today. Importantly, she argues that 'the technologies that further individuation ... provide at the same time an escape from and alternative to individuation: connection to others, collectivity' (2016a: 64). In other words, as we take to social media to post our different 'takes' on events and articles, we at the same time *repost* those of others. And the singular post is not what we desire: we're interested in retweets and reposts.

Dean (2016b) gives an interesting example in an essay on selfies. 'In communicative capitalism', she writes,

images of others are images of me. Each day, millions of tweets include text saying 'this is me' or 'then, I'm like' with an accompanying GIF of someone who is not actually them. I convey who I am by sharing a photo of someone else. My identity or sense of self is not so singular or unique that it can only stand for itself, only represent itself. It's interchangeable with others. Their faces and expressions convey my own. Not only do I see myself in others, I present others as myself. The face that once suggested the identity of a singular person now flows in collective expression of common feelings. (Dean 2016b)

We feel joy as we immerse ourselves in the networks and take part in collective activity. This is a postdigital experience in which the boundaries between our analog and digital embodiments are blurred and ultimately indecipherable. My—and our—subjectivity is sensed *materially* and *virtually* at once.

Yet just as the postdigital blurs the lines between the digital and analog, so too might it blur the lines between the individual and collective, thereby rendering the choice between the two alternatives false. This is the line pursued by Paolo Virno and others who, following Marx, insist that 'the individual is a *result*, not a presupposition' (2021: 80). One can't understand subjectivity and its relationship to ecopedagogy by taking the individual as it is already conceptualized. The individual is the result of a process of *individuation*, which means, in turn, that there's a *pre-individual* stratum of reality, a common and public space from which individuations result.

For Virno, this only 'becomes a real possibility ... in the age of the technological reproducibility of experience and the absolute centrality of technological-scientific intelligentsia within material production' (2021: 81). Under Taylorist production,

machinery determines the labor process. ‘Labor adjusts itself, in a memetic way, to the system of efficient causes: not only does it comply with it but it also interiorizes it in its procedures and lets itself be defined by it.’ (102) The separation of planning and execution, embedded in machinery at this age, however, is broken under post-Fordism thanks to new digital technologies.

Unlike machinery, information technologies ‘do not produce possible states of affairs, but the formal possibility of as yet undetermined states of affairs’, so that they—unlike industrial machines—‘do not in any way indicate *what* eventuality will be realized’ (68). ‘The identity between rules for planning and rules for performing’, Virno continues, ‘diminishes the validity of a distinction between the two moments and implies a significant overlapping between intention and realization’ (109). The forces of production under contemporary capitalism are a pre-individual, common terrain of individuation.

The classic example of pre-individual commonality ‘is the way in which crystals are the crystallization of a solution, which is to say the individuation of conditions, compounds, and elements that exist initially in flux’, as Jason Read (2015: 109) writes in his book on transindividuality. ‘What is called pre-individual exists’, he continues, ‘primarily as a metastable state, as a set of possibilities and relations’ and ‘individuation is in part the reconciliation of the tensions and potentials of this metastable state’ (109). The pre-individual common is not ‘pre’ as in *prior* to the individuated individual because individuation is never final or complete. Thus, the digital technologies of postdigital ecopedagogy provide a pre-individual common syntax from which infinite potential individuations can emerge. This is also true for Gilbert Simondon (2020), from whose work Virno develops his theories. For Simondon, ‘any technological device is made up of multiple components’ and ‘it is often difficult to draw a line of demarcation between one device and others’ (Read 2015: 107–108).

The problem with capitalist postdigital ecopedagogy is that it limits individuation to the capitalist form of individuality and reinforces our conception and experience of individuality as a finalized starting point rather than an end point. The tracking devices worn by workers and utilized by corporations and schools, for example, limit the process of individuation to a quantifiable and transparent form of subjectivity. The pre-individual resources from which we can draw are owned and controlled by capital rather than people. The political task is thus to wrest such technologies from capital and the pedagogical task is to demonstrate—through practice—the infinite possibilities of individuation.

Disorienting Individuality and Knowledge

If, as Virno says, the human subject doesn’t leave behind its own origins as an individual but is continually haunted by them, then the collective prehistory of the subject ‘is inscribed in every single historical moment’ (2003/2015: 93). Postdigital ecopedagogies against capital find their educational potentiality within such a

haunting that permeates every moment. Our positionality within the postdigital necessitates a reorienting of the subjective forces of political struggles that untangles us and society from capital's algorithmic individuating apparatuses. For such a practice to occur, for us to realize the possibility of individuations that are more than accumulations of scores and metrics, demands a disorientation and reorientation. Capitalist postdigital pedagogic technologies, in other words, orient us in particular ways. Sara Ahmed's *Queer Phenomenology* is helpful here, as she writes that 'the repetition of the tending *toward* is what identity "coheres" *around* (= tendencies)', so rather than 'inherit our tendencies ... we *acquire* our tendencies from what we inherit' (2006: 129). The ability to do something isn't *in* the body, but in the spatial and social position of the body and is determined by the things that are close and easy to take up.

One practice of postdigital ecopedagogy could be hacking the technologies we find near us at work and school. Hacktivism shifts digital autonomy to the hands of 'netizens'. Rather than utilizing technologies to guide, generate knowledge and data about, and individuate subjects to pedagogically reinforce capitalist relations of exploitation, hacking allows for a disruption of this educational and political process. Just as the GoRando software collects data for private corporations, hacking interrupts and reorients the pre-individual substratum of postdigital society. As we stated earlier, capital requires individuals that will acquire skills in order to be flexible and adaptable for its ever-evolving demands. What disrupts this concept of the lifelong learner—as shaped by individualization, personalization, and capitalization—is the pedagogy of hacking.

The difference is not between a pedagogy guided by ends or pure means (e.g., Ford 2017), as hacking is goal-oriented, although such goals do not remain linear. Drawing on Deleuze, Tyson Lewis and Daniel Friedrich write that hacking is a process akin to plugging something 'into multiple networks of signs in order to unleash intensified flows of becoming' (2016: 243). Hacking thereby 'disrupts, disorganizes, and interrupts the good sense of the law and the law of good sense by inserting difference into the perceptual distribution of the same' (244). Capital's postdigital ecopedagogy presents technologies as neutral or as 'good sense' and, in the same moment, presents subjectivity as individual and knowable.

Hacking doesn't reject the individual but rather opens us to other registers, replacing the individual with the process of individuation. Hacking, that is, 'repositions the very possibility of determining functions and meanings back into the common—a common that always stand *in excess* of any given law of good sense' (246). Digital technologies are never determined solely by the political and subjective coordinates in which they operate, and hacking reveals their limitless potentiality by demonstrating that technologies and subjectivities can be more and different than they are. The argument here is *not* a call for digital inclusion, as 'there is little evidence either of forms of *resistance* being acquired in relation to personal data and human rights, despite a multi-agency approach to furthering digital inclusion' (Hayes et al. 2021). Inclusion assumes the structures that exclude can and should allow more participation, whereas hacking disrupts these very structures, which aren't worthy of our inclusion.

Moreover, hacking doesn't reject transparent knowledge but augments it with the opacity of *thought*. Here, we affirm Han's assertion that 'in contrast to calculation, thinking is not transparent' (2015: 30). Calculation requires surveillance, data collection, postdigital personalized and customizable devices. It reduces students and teachers and all of us to *individuals* via numerical inputs and outputs. Organized around the demand for actualization, calculation produces transparent *knowledge*. In other words, pedagogy is currently structured around visibility and transparent knowledge, which reinforces the capitalist requirement to eliminate all *distance*, the demand that guides postdigital educational technologies and pedagogies. 'Illumination is exploitation. Overexposing individual subjects maximizes economic efficiency', as Han writes (2015: 49). Capitalist technologies detect and monitor flows across surfaces and between subjects and our broader ecological systems so that our contagious affects can be used to, for example, market products more effectively to us. Consider eye-tracking technologies that use 'new methods of persuasion that aim to capture multisensory data from consumer testing' (Sampson 2012: 173). They track the eye to figure out where attention is, but they're also more generally interested in feeling. It thus seems like it's hard to drift, to wonder, to *think* because we're always being tracked. Yet, Tony Sampson reminds us, 'digital contagions and glitches will seep in from time to time and remind the end user of what a messy, patch-up job the network can be' (188). Viruses can get us lost, immerse us in *thought*. Instead of differentiating calculation from thinking, the pedagogical demand is to differentiate knowledge from thought (see Ford 2021a).

The transparent society is *pornographic* for Han because 'pornography has no interiority, hiddenness, or mystery' (26). The pornographic is the paradigmatic example of the terror of transparency, of the obliteration of the secret. The most private parts of bodies in relation are, thanks to digital technologies, made increasingly explicit visually and aurally. Pornography, that is, signifies a world in which *thinking*, in which the unknown disindividuated ecological subject is annihilated. There is no tolerance for the unknown, which is reduced to something that can and *must* be known (Ford 2020). Yet thinking is precisely that which *can't* be known, that which remains ineffable.

Grebowicz's work on Internet pornography can help connect knowledge to the kind of pedagogy we imagine. The typical arguments – liberal and radical – about pornography are that it's didactic (instructional) ideological (content), and repetitive. The problem with pornography, Grebowicz counters, isn't that it didactically relays violent norms and acts, 'but that it teaches conformity and subjection to social success rather than risk and invention' (2015: 119). The pedagogy of pornography she proposes is one in which we move the Internet from the realm of 'social meaning' to 'transgression and risk'. One example is creative viruses that 'risks damage' to the technology and makes 'information ... less immediate and available, and instead brings with it imaginaries of unwelcome invasion and contagion' (122). To disindividuate ourselves, we should embrace the contagion that defines human existence.

Viruses are 'out there' but they get in us. 'In turn, bodies are not closed systems—as bodies, we take in the *other* in all manner of ways—exchanges of breath,

blood, saliva, and more.’ (Ferri 2018: 7) Yet this isn’t just a metaphor. Ferri has an autoimmune disease, and this is a real concern for her. She wants to theorize based on her embodiment of autoimmunity, which reveals the limits of conceptions of contagion, immunity, and protection—or the individual form of subjectivity. Autoimmune diseases prevent the body from distinguishing itself from others. Yet the body is *never* the self, and what happens when the body is both the victim and the invader? This is why the metaphor of autoimmunity ‘has the potential to deconstruct dichotomies of “us versus them”’ because ‘if the body is a battleground, the enemy is the selfsame’ (11). This leads Ferri to conceptualize the autoimmune body as ‘confused’ and as a place of ‘mystery’ and ‘wonder’ (13) — or a place of *thought*.

Conclusion

Capitalist postdigital ecopedagogies limit subjective and political potentials by reproducing, shoring up, and naturalizing individuality as a finished product that serves as the entry point for sociality and that requires the incessant production of knowledge and relentless attacks on the unknown. Educational technologies intensify this process, subjecting almost everything to quantification, measurement, and surveillance. At the same time, the prominent responses to these pedagogies are lackluster and disproportional to the major transformations and power of capital. They want to ‘create the social conditions in which these capacities can develop and flourish’, invest in public education, and use technology in the interests of ‘progressive, democratic, and sustainable communities and futures’ (Roberts-Mahoney, Means, and Garrison 2016: 418). Means’ response is more adequate in that he calls for ‘mass intellectuality’ which ‘reflects a vision of education as a commons—a collaborative process and a social relation rather than as a machine to be optimized and calculated’ (2018: 167). The neglected dimension here is the *postdigital pedagogical* forms that can move forward these political projects, which have been the focus of our project.

The democratization of capitalist educational technologies leave the underlying pedagogical demand for transparency, knowledge, and individuality untouched, and thereby reproduces the very logics the democratic proponents denounce. Anti-capitalist postdigital ecopedagogies don’t *oppose* or *deny* transparency, knowledge, and individuality but rather open us up into new registers through presenting the unfinished *processes* of individuation and disindividuation and mobilizing the *contagion of thought* as a stay against transparency and knowledge (see Pappachen and Ford 2022). When the virus grips our digital screens, we’re sent into a state of shock and wonder as communication continues without any identifiable content. Faced with the opacity and uncertainty of the virus-infected screen, whether it’s glitching or blank, exerts a pedagogical force in which communicability occurs without communication, thinking occurs without knowledge, and the collective subject remains suspended between individuation and disindividuation.

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Composting The Anti-Human University



Richard Hall

Introduction: The Living Death of Capitalism

The ‘web of life’ (Moore 2015) describes how the temporal and spatial logics of human, material production are deeply connected to the biosphere upon which that production depends. These are the ecological communities that are dialectically connected and related to each other, including through the transfer of energy, information, nutrients, and so on. Elsewhere, they have been defined through the inter-relationships known as ecological boundaries, and reshaped as planetary boundaries by the Stockholm Research Centre (2021), which connect environments (oceans, land, atmosphere, freshwater) to the ways in which they are consumed or used (made acid, changed, depleted).

This throws up a tension in the analysis of global crises, in relation to the systems upon which they are predicated. On a global scale and taking a socio-ecological approach to human history and spatial development, the ways in which life is organised increasingly depends upon a particular kind of human production, predicated upon capitalist social relations. This means that the reproduction of life is shaped by a systemic desire for the generation of surpluses, realised through the release of economic value and materialised as money. This leads Moore (2017) to focus upon the Capitalocene (the era dominated by capitalist social reproduction), rather than the Anthropocene (the era dominated by human-engineered climate disruption), and the ways in which those with power have divorced humans from their ecosystems. Whilst often reduced to a binary narrative of Humans/Nature, this highlights the ways in which some humans have been colonising and re-engineering the planet from before the Industrial Revolution and the invention of Watts’ steam engine in 1786. Elsewhere, Malm (2016) has focused upon that latter invention and the role

R. Hall (✉)
Education Division, De Montfort University, Leicester, UK
e-mail: rhall1@dmu.ac.uk

of Great Britain (or more appropriately England) in the development of a world system that catalyses anthropogenic impacts, like climate disruption.

The Capitalocene and the Anthropocene, acting as twin modes of analysis, matter for the generation of responses to ecological degradation, because they open questions around: the relationships between humans to their ecosystems; the place of power, coloniality and decoloniality in resisting capitalism; and, the primacy of technologies and innovation, as opposed to individuals and communities, in the development of social justice. This is not to say that those with an anthropogenic view do not focus upon issues of power, capital and nature, rather their periodisation pushes us towards intellectual work that is Promethean, and centred around the search for environmental fixes. In this way, they tend to be divorced rather than integrated with alternative worldviews that centre the reintegration of human and non-human nature. They also tend to be divorced from feminist, indigenous, queer, Black re-imaginings.

Crucially, in re-imagining the world, capitalism's systemic desire for the generation of surpluses limits new modes of pedagogical and intellectual work beyond the production of educational commodities. Capitalism has a secular impulse to cheapen the inputs of production, such as labour costs, food and natural resources. Through the internalisation of alienation, it also demands that the interconnected spheres of consumption are widened, in terms of access to the natural resources required for commodity-production and the places where those commodities will be consumed (Moore and Patel 2017). This necessitates a series of disconnections, which act as divorces, estrangements or alienations of humans from their biosphere and ecological communities. Instead, individuals and communities have to reorient themselves around commodity production, at the expense of their own bodies and ecosystems. This includes in educational contexts, predicated upon efficiencies, value-for-money, impact, a commodified student experience, and so on, and governed by metrics.

Thus, the time and space of educational lives are recalibrated around value-production, such that the resources of the Earth can be consumed, with planetary 'webs of life' paying the cost for this by having to live in an excess of waste. Here, we bear witness to educational activities that generate an excess of waste, such as the carbon embedded in institutional infrastructure projects, the energy use of higher education (HE) internationalisation strategies both online and on the ground, and the colonial intent of commercialisation and knowledge transfer projects. Institutional activities framed by competition on an international scale sit within a mode of production that is wasteful in its consumption of raw materials and its dumping of excess carbon dioxide and methane. Within HE the argument is for sustainable development or carbon literacy, or perhaps some form of offsetting for these activities. Yet this is entangled with the University's situation inside a competitive market, which compels it to undertake productive activities that are climate-disruptive, and that consume energy, concrete, aviation fuel, technologies and rare earth metals, and so on. There is a tension here, in that the dialectics of surplus and waste forces human, productive capacity, and the intellectual work that underpins it,

into previously uncharted territories. Is it possible to divorce our intellectual lives from its implication inside accelerating entropic tendencies?

It is important to note that whilst there has tended to be a focus upon the energy embedded and carbon emitted in these activities, they are predicated upon the knowledge economy of the global North being reproduced at the expense of alternative ways of knowing the world (Andreotti et al. 2018). The waste of these activities has to be internalised by individuals and communities, as the living death of ways of life deemed marginal (The Articulation of Indigenous Peoples of Brazil 2021). Yet, this living death signals the ways in which the whole of the web of life is subject to the toxicity of capitalist reproduction. It signals the settler-colonial and racial-patriarchal underpinnings of that toxicity. At issue is whether the ways of knowing the world ossified inside an abstract universe of value, predicated upon the generation of surpluses and processes of exploitation, expropriation and extraction, might be resisted through a fuller, human knowing of the world, as a renewed pedagogical imperative *for-life* rather than *for-value*.

How Shall We Live? A Pedagogical Imperative

The recent United Nations' Intergovernmental Panel on Climate Change sixth assessment report (2021) argues that '[i]t is unequivocal that human influence has warmed the global climate system since pre-industrial times' (5). Moreover, the report argues with high confidence that the evidence for such human influence has strengthened from previous assessment reports, given longer observational datasets, enhanced paleo-climate information, better modelling, and improved physical understanding and attribution techniques.

Even without the moment when evidence-based synthesis of the science delivered its consensus, it feels like forms of planetary inflammation are the established reality. Capitalist production appears to be burning everything, witnessed in record-breaking, surface temperatures in cities on the West Coast of North America, and the concomitant impact on energy grids in California and Texas. Elsewhere, there is a focus upon wildfires in California starting earlier and earlier (fire years rather than fire seasons), and State officials in the USA paying prisoners \$1.50 an hour to fight fires. The dominant responses to such inflammation are to address its symptoms (and to protect established flows of energy), or to cheapen the resources required to fight those symptoms (labour-power). This further demonstrates capitalism's web of anti-life (or living death) through cheapening the labour required to offset its toxic, waste production.

Yet other communities have felt these inflammations of ecosystems before they were realised in the centres of capitalist reproduction. Centring other communities, temperatures are recorded as soaring to 52° C in Pakistan and north India in the summer of 2021 (Javed 2021). Here, it is important to see how rising temperatures have other impacts, for instance, of drought impacting harvests in Brazil, and in

South Madagascar, which threatens 400,000 people with starvation (Harding 2021). The attempt by the biosphere to re-stabilise itself as it integrates the growing energy outputs of capitalist reproduction, also appears to demonstrate that humans are flooding everything, witnessed in life-threatening floods in northern Europe and in China in 2021 (Global Times 2021). Increasingly, the lived experience of our web of life, conditioned by capitalism, is a world that is burning, as it is flooding, as it is drowning, as it is consuming, as it is being made toxic.

In these circumstances, how is it possible to imagine living? What kind of life is possible for anyone in these flash-floods and in these temperatures, and in conditions of rising humidity, or even worse, where those intersect in the living death of the wet bulb? How is it possible to imagine living inside the systems of reproduction that deny our bio-systems of life? Moreover, as far right governments and ideologies reassert themselves around the link between climate denial, the protection of fossil fuels and racism (Malm and the Zetkin Collective 2021), Tuck's (2018) invocation becomes crucial, in questioning: 'How shall we live?' How shall we live in a technologically-enriched, interconnected set of environments, inside which individual behaviours and actions are increasingly, cybernetically tracked and controlled, and inside which legitimacy is judged in relation to systemic norms? How shall we live in a world of borders and boundaries, where the blame for environmental degradation is placed upon Black and of colour bodies and their alleged overpopulation, rather than the consumption demands of white privilege?

Crucially, this question of 'how shall we live' is deeply pedagogical, urgent and revolutionary. The interconnected processes of exploitation, expropriation and extraction that serve to structure and reproduce capitalism emerge socially, amplified by ideological state apparatuses, like educational institutions (Althusser 1971). These maintain deep separations between politics and economy, humans and their environments, as well as between humans themselves. They also maintain separations between disciplines, such that the institutional reproduction of knowledge, based upon hegemonic methodologies for understanding the world, deny the reintegration of life (Fraser 2016; Hall 2021). Instead, a more dialectical and dialogical renewal of ways of living might recognise how we live more carefully (or full of care) inside our webs of life.

This questions whether our educational institutions, framed through capital and the law of value, offer the space to develop new ecologically-infused pedagogies. Those institutions shape relationships with ecosystems of humans, non-human animals, objects, technologies, data, ancestries, histories, stories and the land, which are compelled to become commodities or commodifiable services. Thus, the plain-tiff response of HE institutions to capitalogenic apocalypse is to reiterate the immutable validity of Promethean and methodological, evidence-based science and technological reengineering, rather than social and ecological justice that might hospice this current instantiation of the world as it passes away.

The argument here refuses the legitimation of these methodological and pathological institutions and their pedagogical enclosures. Taking the metaphor of composting (French, Sanchez, and Ullom 2020), it seeks to question what we might recover from our lived experiences of HE, in terms of ways of knowing, doing and

being in the world, *both* to resist the rise of fascism and authoritarianism in the political management of crises *and* to shift the intellectual work that supports political refusal and re-imagination from exploitative institutions into society. This mode of composting the *world-as-is* and using that to liberate intellectuality for living beyond our webs of anti-life, or living death, is a crucial, pedagogical moment (Andreotti et al. 2018).

Capitalist Higher Education and Webs of Living Death

The institutions of capitalist HE, most notably the University, are shaped against the desire of some humans to re-engineer the world in the name of value, surplus, entrepreneurship, growth, reconstruction, progress, and manifest destiny. Inside universities this is hidden from workers through their everyday practices, which are felt to be a labour of love. The everyday belief that the focus is upon a calling as a teacher or researcher, aimed at the self-actualisation of others or the generation of living knowledge, reproduces the everyday alienation of intellectual workers. This alienation takes the form of ongoing self-exploitation, as intellectual work becomes governed by flows of data and intensified work, grounded in value (Hall 2018). The methodological norms of institutions and disciplines, which are shaped by normative responses to crises, seek to reconfigure the world for-value, and act as a mode of risk management (Connelly 2020). The risk being managed is environmental, in the human ability to maintain flows of value, in spite of intersecting crises of finance capital, climate, epidemiology, each of which are themselves merely the symptoms of structural capitalist crises.

The methodologies of risk management inflect and infect intellectual work situated inside ideological state apparatuses, like universities. These are governed on a transnational-level that is increasingly divorced from ecosystems and biospheres, or the webs of life that enable us to breathe, sweat, keep warm and dry, and so on. Transnational competition between individuals, disciplines, institutions and sectors is enforced by policy that sees education as a tradable service. The methodological instincts of the University are shaped by transnational activist networks of finance capital, philanthro-capitalists, consultancies, educational technology vendors, policymakers, and organisations like the World Bank and International Monetary Fund (Ball 2012). Thus, responses to crises shrouded in the common sense of progress, which reduce the world to a knowable, algorithmic certainty (Birch, Chiappetta, and Artyushina 2020). One result is that humans can deduce, finesse and tweak the elements of a system that they imagine can be optimised. However, these methodological instincts imagine the world as a closed mechanism, shaped against an unshakeable, intellectual positivism and scientific rationality, which rejects the material history of human agency beyond the market (Kornbluh 2020).

Unable to escape the logics of capitalism that are centred upon the reproduction of a transhistorical, closed system of living, much intellectual work (for social or ecological justice) is absorbed or used for the purposes of legitimisation. It is revealed

as predicated upon the Cartesian coordinates of settler-coloniality and racial-patriarchy. The institutional structures and cultures that house and validate such practices through funding, governance and regulation are pathological. They are replicated by separations of individuals in a prestige economy, producing knowledge that is validated by methodologically-closed disciplines, which themselves are regulated inside a system for value production. The need to generate impact, efficiency, entrepreneurial agency and excellence, reshapes individuals, disciplines and institutions around competition over resources (like knowledge, employees, students and money from the capitalist periphery). This generates a modality of intellectual work that represents living death for individuals and communities, precisely because it delegitimizes their existence beyond those hegemonic norms.

As Prescod-Weinstein (2021) argues, validated disciplinary practices instantiate hegemonic, ideological positions that deny legitimacy to those who do not fit the common sense norms of productivity and disciplinary certainty. Inside HE institutions, these individuals have their narratives denied, witnessed in awarding gaps, the denial of tenure or promotion for certain groups, the disproportionate impacts of surveillance, and so on. These negative impacts fall upon those who are not at the intersection of white, male, able, cisnormative identities and bodies (Hall 2021). As Mbembe (2013: 2) argues, this leads to modes of ‘codified madness’, including in relation to race, through which it is impossible to enable, let alone imagine, alternative stories and archives, unless they are curiosities. Instead, the world burns as it is zoned-off for capital, with structures, cultures and practices that enable modes of zoning ratified by the institutions of the North.

All the while, as stories of heatwaves, towns burning, deforestation, are made visible, intellectual disciplines and institutions do not have the grammar to understand that this is the generalisation of being Black and of Blackness. As Mbembe (2013: 6) states, this ‘new fungibility, this solubility, institutionalized as a new norm of existence and expanded to the entire planet, is what I call *the Becoming Black the world*’ (emphasis in the original). This becoming is not new to those places, bodies and communities that have historically been exploited, expropriated and extracted. Places, bodies and communities observed, measured and classified as Other, often self-identified as female, Indigenous, Black, of colour, queer, disabled, have borne the brunt of capital’s ongoing war against the present. This war is the way in which capital offsets the costs of its reproduction, such that processing its waste falls upon those made marginal and creates webs of living death.

Inside the University during the pandemic, it has been clear that certain places, bodies and communities have been positioned against white, male, ableist privilege, status and prestige, and on the margins of the system of global reproduction. These bodies have been compelled onto campuses for commodity and service labour that maintains the fabric and work of the institution, like estates and professional services, and which cannot be done from the safety of home. Equally, certain institutional bodies have felt the disproportionate requirement to undertake care work and affective labour, and have struggled to gain recognition, for instance through research funding (Adelaine et al. 2020).

Of course, these places, bodies and communities do not provide transhistorical answers or alternative pedagogical forms, and their survival certainly does not give permission for their stories to be appropriated as a new epistemological or ontological reality. However, it is crucial that in addressing the pedagogical imperatives of our crisis-ridden, web of life, that these voices are heard (Amsler 2021). As Whyte (2018: 226) argues, these places, bodies and communities, witnessed in the attempted evisceration of Indigenous peoples, have already endured ecosystem collapse, species loss, economic crash, relocation and cultural disintegration. Yet, these symptoms of crash, loss relocation and disintegration are increasingly witnessed at the heart of the global machine of surplus value production, and demonstrate the material and historical realities of epistemological, ontological and methodological failure. As capitalism struggles with the reproduction of its global contradictions, these voices and stories force us to reconsider how the University and its pedagogical norms contribute to capitalism's web of living death. If we are to reconsider 'how shall we live?', then we need to consider the University's contribution to capitalism's social metabolic control.

The University and Capitalism's Social Metabolic Control

Mbembe (2021: 13) notes the importance to capitalism of sites for the amplification and recognition of 'a common, ontological domain of human sociality'. In response, it is possible to look beyond this particular sociality as an anti-life, and instead to yearn for acts of decolonising institutions, cultures and practices, alongside the self, as 'an *active will to community*' or 'will to life' (Mbembe 2021: 2–3). This is a moment of reintegration rather than separation or estrangement – it moves against the solely cognitive or rational development of society, against the commodity, and refuses the biopolitical or neurobiological control of life. It reveals community as the Self reflected in and enriched by the Other, whether that Other is histories, ancestries, nonhuman animal, ecosystem, axiologies, as well as humans. It reveals community in opposition to the colonisation of everyday life by value, mediated by private property, the division of labour, commodity exchange and the market.

Yet, the institutions of capitalist HE have no such *active will to community*. In the homelands of the commodity, of consumption, marketisation, the rate of profit, and financialization, this lack of community has an interrelationship with the cognitive dissonance that enables humans both to live with (and accelerate) capitalism's social metabolic control, whilst ignoring how it makes life intolerably toxic and toxically intolerable. The focus upon metabolism draws attention to the reproduction of capitalism as a system that requires flows of energy to reproduce itself on an expanding terrain. In order to grow, capitalism needs to exploit and extract, to sustain the flows of energy and nutrients (use-values) it needs in order to reproduce *both* itself *and* its autonomy over the society off which it feeds. These flows of energy enable use-values to be exchanged and commodities to be circulated and consumed, enabling valorisation and a particular form of sociability, based upon prestige and power.

The idea of metabolism focuses upon the relationship between humans and non-human nature, and shows that the use of energy, land and the biosphere is defined socially and materially. The deliberate use of the organic metaphor of metabolism, centres how capitalist production demands flows of energy that enable work *for-value*. As an apparently autonomous system taking in energy (fossil fuels and human labour-power) and nutrients (use-values and free gifts, like nature), capitalism is able to separate out humans from nature, or humans from the ecosystem that is the foundation of their existence. Instead, capitalism's social metabolic control turns these ecosystems over to its own reproductive needs, and expels waste back into that environment. This social metabolic control regulates life on Earth around the processes of reproduction *for-value*, rather than *for-life* itself.

Thus, Marx (1891/1991: 949) argues that capitalism 'disturbs the metabolic interaction' that sustains life, as it extracts nutrients for itself. As a result, we witness the 'metabolic rift' (Foster 2017; Saito 2017), which Marx (1891/1991: 949) argued is the 'way [capitalism] produces conditions that provoke and irreparable rift in the interdependent process of the social metabolism, a metabolism prescribed by the natural laws of life itself'. In this argument, the web of life has become a toxic, alienating system of disconnection between humans and non-human nature that are mediated through the material flows of capitalist production and reproduction.

In searching for value, capital desires and demands human colonisation of the planet, such that hegemonic fractions of the global population refuse the agency *both* of those they expropriate and exploit *and* of nature, which is a site for extraction as a free gift for them to enjoy. It is important to recognise that the idea of social metabolic control illuminates the complex, interdependent mechanisms behind capital's material and historical exploitation and expropriation of humans and nature (Foster 2017), enacted by a fraction of global humanity and enabled by modes of militarised and colonial power. As a result, it brings us back to an enfolding terrain of capitalogenic rather than anthropogenic conditions for crisis. Here, the fixed the metabolism of the system, anchored in its intellectual apparatus, is regulated and governed by anti-democratic and autocratic finance capital (Tooze 2018).

For intellectual workers, cognitive dissonance enables them to continue to justify how their work enables the metabolic redistribution of resources from the global South, and from Indigenous, female, Black, queer, disabled others, to the global North and those who benefit from its whiteness. Here we might argue that the material, settler-colonial and racial-patriarchal practices, cultures, stories and institutions of the North have fixed whiteness as universal. Thus, internationalisation strategies, capital-intensive restructuring, infrastructure projects, commodity-dumping of knowledge, commercialisation, and so on, enable the University to enrich the particular metabolic relationship between capital and the planet. It helps to shape specific relations and forces of production that strengthen the subsumption of life under value production.

In maintaining its idealisation of value, the structures of the institution maintain their connection to violent, colonial-settler, anti-indigenous modes of knowledge

production, rather than of integration, acceptance and knowing the world (Stein and Andreotti 2016). Hence, it contributes to the symbolism of cybernetic, environmental control, rather than renewal, and it contributes to the inflammation of the world, and of individual bodies, as the world and those bodies are overworked. This inflammation is the overheating of the atmosphere and the oceans, just as it is the rise of angry, authoritarian populism with no democratic form or content. It is also reflected in the rash of autoimmune, emotional and psychological symptoms of individual distress. The energy flows that enable capitalism's social metabolic control come at an inflated cost to individuals, their communities and ecosystems, which are set against each other, creating friction rather than working communally for an alternative mode of living (Krader 1974).

This friction erupts where the content of a singular life, stripped from an active will to community, does not measure up to universal conceptions of what it is to be productive. The particular form of the capitalist University and its knowledge economies energises a universal, transhistorical conception of the world, rationalised as the constant compulsion to be productive. The University is reproduced against this rationality, precisely because 'individuals can attain their ends only in so far as they themselves determine their knowing, willing, and acting in a universal way and make themselves links in this chain of social connections' (Hegel 1942: 183–S187).

The University cannot escape value's gravitational pull. It must impose a particular form of productive freedom and morality as a 'universality of knowing and willing', through which an individual's 'particularity is educated up to subjectivity' (Hegel 1942: 183–S187). Subjectivity is framed through the hegemony of norms and values predicated upon the performance of particular bodies, which is disintegrated and estranged from the webs of life that enable living things to breathe. The norms and values predicated upon the performance of particular bodies demand the constant consumption of ecosystems as gifts, rather than seeking to remain in balance with those ecosystems. To survive in a competitive, anti-democratic intellectual community driven by a scarcity of prestige is to prioritise the valorisation of the Self.

Crucially, this also ties the University into capital's social metabolic control of the planet, as a mode of maintaining its autonomy against human *species-being* (Marx and Engels 1846/1998). This *species-being* reflects the plural ways of knowing, being and doing in the world, and it foregrounds conversations around decoloniality, indigeneity, queer ecology and the becoming Black of the world. Yet capitalism seeks to annihilate these identities, through a hegemonic mode of living, with a metabolism that is colonial and patriarchal in its asymmetries of power over humans and the biosphere. This reduces intellectual life to modes of alienating performativity under capitalism, which shape limited and limiting pedagogies. In the University, this has become a toxic morbidity.

Ecological Distress and The Toxic Morbidity of The University

For Malm and the Zetkin Collective (2021), the witnessing of ecological distress in the homelands of the commodity in the global North risks generating *fossil fascism*, at the intersection of petro-masculinity, fossil fuels and authoritarian desire (Daggett 2018). This is a terrain of social reproduction that centres a common sense grounded in the defence of national borders, the State, and flows of energy and capital, with no focus upon planetary, ecosystem boundaries. It is a common sense grounded in increasingly nationalistic, patriotic and right-wing politics and parties, which play off tendencies and sympathies that wish to control bodies, communities and resources to maintain particular conceptualisations of the State. Moreover, this common sense is accelerated during the intersection of epidemiological, environmental/ecosystem and political economic crises.

This common sense accelerates the desire to control rather than share ways of knowing about food, energy, water, vaccines, work, identity and obedience, and therefore was of acting and doing. The need to control bounded knowledge that can be leveraged accelerates culture wars, surveillance, militarisation, and securitisation, including in the governance and regulation of education. As a result, dominant modes of methodological knowledge production tend to accelerate the annihilation of planetary boundaries. For instance, institutionalised intellectual work delivers innovations in behavioural psychology, the planning of logistics, financial mechanisms, the development of surveillance infrastructures, securitised artificial intelligence and bio-engineering (Hoofd 2017; Murphy 2020).

Beyond this, in the social sciences and humanities, institutionalised intellectual work tends to reinforce historico-cultural norms, and conservative engagements with decolonising (Mbembe 2021; Yusoff 2018). Denying the potential for a meaningful engagement with ecological crises, these practices tend to underpin the authoritarian, social roll-out of militarised and securitised risk management, which contributes to the rendition and incarceration of particular, black and of colour bodies, and the monitoring of particular communities and States (Meyerhoff 2019; Malm and the Zetkin Collective 2021).

Yet, for many intellectual workers, such toxic practices, predicated upon a pathological culture of denial, are compartmentalised away, and estranged from other symptoms of political economic crises. Thus, there is a denial of the ways in which the intellectual work of the University acts as a wider, disciplinary force, working to reduce the potential for solutions to socio-environmental symptoms of structural, secular crises. Intellectual denial prioritises normative responses to symptoms, rather than triggering a revolutionary, pedagogical moment. It leads to the production and commodification of solutions measured against their impact in a closed system, such as the need for sustainable finance strategies or financial stability climate committees, for instance to resolve the relation between access to water and harvests for specific communities, or to enable the management of freshwater reserves.

Produced against the intellectual milieu in the laboratories and workshops of the North and validated by anti-democratic, finance capital, such strategies tend to be estranged from the ways of knowing embodied in the places, bodies and communities in the South that are differentially impacted by intersecting crises (United Nations High Commissioner for Refugees 2021). As a result, the differential experience of the symptoms of crises cannot be brought into relation with each other within extant social institutions, and instead ways of knowing the world are reduced to solutions-oriented practice in one domain alone.

Methodological validity ensures that whilst claims are made for co-produced or co-created practices with partners in the South, these are still conditioned inside the totality of capitalist social relations. They reinforce a particular archive of the human imagination; a limited, particular horizon of human becoming (Yusoff 2018). This enclosed archive forecloses upon a widening horizon, and denies freedom. As Mbembe (2013) argues, this denial works by degrees, predicated upon the extent to which places, bodies and communities are assimilated. The process of assimilation is a function of particular modes of education that ‘would be the condition under which they could be perceived and recognized as fellow human beings’ (Mbembe 2013: 87).

This education and its pedagogical practices reduce engagement with ecological distress to an enactment of sustainable development, whilst ignoring the differential impacts of mitigation and adaptation. The University is central to this entangled process, predicated upon assimilating and subjugating subjectivities to particular modes of knowing, being, doing and living in the world. It is increasingly clear that its practices, cultures and structures, operating methodologically, pathologically and fluidly, reproduce hopelessness through unfreedom and objectification (Hall 2021). This hopelessness is the University’s inability to imagine a world beyond the limited horizon of settler-colonial and racial-patriarchal capitalism. Its hopelessness is its inability to escape the event horizon of the law of value, which forecloses upon the idea that humans might make their own material history in ways that do not desecrate and destroy the web of life.

Knowing The World Otherwise

The capitalist University’s design works pedagogically and socially to recycle nutrients from places, bodies and communities, in order to enrich the particular metabolic relationship between capital and the planet. The University seeks to generate anti-human and anti-ecological relations and forces of production that strengthen the real subsumption of planetary life-as-is. In this its toxicity depends upon: folding-in a range of natural resources regarded as free gifts; reducing or annihilating the costs of human work, or labour-power; searching the globe for new places for investment, markets for commodities, or spaces from which resources can be extracted; and, an insatiable, competitive urge that attempts to revolutionise organisational development, the use of technologies, and innovation (Saito 2017).

All the while, we watch lives made impossible through environmental reconditioning and the biosphere's thermodynamic instabilities. Inside the web of life, we understand the ramifications of ecological and biospheric stress and reconfiguration. From this vantage point, we see the need for a relational, dialectical and dialogic reconnection of humanity with the web of life, including with itself. We see the need to move beyond the ways in which we have become alienated from the world we have created, because we have given birth to deep layers of estrangement. It is this deep contradiction predicated upon layers of estrangement and alienation that surface the question 'how shall we live?'

An intellectual turn to social ecology (Bookchin 1995; Wright and Hill 2020) or queer ecology (Jeppesen 2010; Sbicca 2012) offers cultural framings that work against binaries, and open-out deeper, entangled interconnections between individuals, communities, places, identities, data, infrastructures, histories, activities. Eco-queer analyses challenge the transhistorical unreality of the capitalist institution, as represented by high-performing, white men with access to flows of privilege, resources and networks of power. Courageously, this refuses to perpetuate binaries (between humans, Self and Other, Humans/Nature, natural/social sciences) as somehow natural, rather than emerging from material, human practices, cultures and ways of interpreting the world. They highlight the ability to interconnect the marginalisation of *both* identities *and* the natural world, to demonstrate how the institutions of the global North continue to exploit, expropriate and extract across a range of physical and mental terrains.

Multiple paths are made visible, as we develop our intellectual practices as a refusal of the enforced estrangement of identities, individuals, groups, and disciplines, and their reproduction of a toxic, competitive culture. An eco-queer, pedagogical reframing notes that our educational and intellectual practices are democratic and open, framed by a deep reflection of Self in the Other and of a deep relationality to the web of life. It is a process that challenges the idea that white, male, cis-gender, heteronormative positions are natural, and that they teach us the truth of the world. It challenges the teaching of performative particularity to which everyone must aspire (and internalise), even while the world burns. This enables fractures to be opened up around how bodies and identities are positioned culturally inside capitalist institutions in competitive relation to each other and to ecosystems and the web of life. They question the methodological imposition of particular epistemological and ontological relations, which themselves condition what is natural in terms of value production and social reproduction.

This opens us up, as intellectual workers, to the possibility that we might recognise the asymmetrical flows of power that reproduce capitalism's social metabolic control. Moreover, we are opened up to the ways in which our labour is complicit in this web of anti-life or living death. This recognition is teaching at the level of society, as an active will to community, which is deeply respectful of the validity of complex and messy identities, cultures and practices. Where the capitalist University shames those who cannot engage in purifying forms of production, measured against the most high-performing individuals, this level of intellectual work pushes against banality is like employability, upskilling, resilience training, mindfulness

and appraisal. These normalise self-harm through culturally-acceptable overwork and reproduction of systemic privilege, and they deny self-forgiveness and self-love (Shotwell 2016).

A beginning is a recognition that the negation of the toxic, pathological cultures and practices that underpin ecological distress requires a different mode of knowing the world, or knowing the world otherwise (Shotwell 2011). This is an intellectual process of dissolving boundaries, predicated upon ways of seeing the world that are many-sided, and that are impossible from within capitalist universities except in limited and limiting ways. Instead, intellectual work in society that enacts a deep questioning of the world-as-is, in order to hospice it as it passes away, might generate a solvent effect on the exclusive positionality of academic labour and its knowledge (Lugones 2003). As a result, they dissolve the hard boundaries between beings, which deny the Other, and disable the potential for becoming (Moten 2017, 2018).

Composting The Anti-Human University

Solvent effects, dissolution and dissolving lead us to question whether it is possible to re-purpose, convert, or compost the hopeless institutions of a dying system (French, Sanchez, and Ullom 2020). Is it possible to build the forms of a new, communist world through revolutionary pedagogies emerging in society, as a new social metabolism? Composting makes life workable. The ability to decompose an alienating University life by recycling and sharing the ecological richness of the humanistic side of its entanglements, acts to marginalise its financialised imaginary. Here, the University acts as a waste or a wasteland, which might be turned into fertiliser, through sensuous, material activity at the level of society (Franklin and Haraway 2017; Sinclair and Hayes 2019). Moreover, the development of the equivalent of a mycorrhizal network, through which fungal ecosystems might enable enriched transfer of nutrients and the creation of more favourable conditions for life, are predicated upon the dissolution of intellectual work into new communal networks of life. This enables the content of the University to be released into society, for mutuality and solidarity that builds communal goods.

As Sheldrake (2020) notes for fungi, this process has an evolutionary function, and enables an unfolding of new ecosystems. Can mycorrhizal networks work to decompose the capitalist University, and release the energy of its entangled humanity? Just as mycelium is the tissue that holds the world together (Sheldrake 2020), the path towards communism fruits from ecosystems that have a new, universal social metabolism. A starting point is a thick dialogue grounded in lived experiences of exploitation, expropriation and extraction, in this case emerging from 'stories of displacement, dispossession, dislocation, disclosure/enclosure, discomfort/comfort and binaries' (French et al. 2020). In engaging with the realities of settler colonialism, these authors identify hegemonic structures, pathologies and methodologies as 'invasive, ongoing and invisible', and which scrub existing human relations of any meaning. They act through a destructive, parasitic social metabolism. Here,

composting anger, grief and trauma shapes a process of unearthing and breaking down distortions, and thereby creating ‘a garden of truth-telling’ (French et al. 2020). This centres a communal understanding of the question, ‘how shall we live?’

The process of composting centres the churning of humanity and feelings, stories, histories, relationships, cultures and lands, opening out of intellectual work with the realities of its inflamed material conditions, grounded in humane values. These are the conditions of pedagogical struggle in the web of life – it is composting as a process of knowing the world otherwise by flooding a decaying system with moments of courage, faith, mutuality and solidarity. This needs to be done proactively and militantly, in community and in society, without fetishizing the State or non-governmental organisations that depend upon capitalist reproduction. This work is of revolutionary, pedagogical potential where it highlights intersectional, intergenerational and intercommunal injustices, and disrupts flows of value as societal struggles for liveable lives. This requires self-work, in order to divest individuals of their addiction to privilege and status, and to see themselves becoming in relation to the Other, and in relation to the web of life.

In considering intellectual work beyond the capitalist University, we consider the potential for communities to form elements of a mycorrhizal ecosystem, seeking to decompose the settler-colonial and racial-patriarchal underpinning of the Capitalocene. This begins from a deep knowing of the Self as a historical and material being, shaped against a particular, dehumanising and toxic social metabolism. This is a therapeutic process that enables the connections between Self and Other to make possible dialogue, and to see the world dialectically, where alternative ways of knowing have validity. This recognition of the validity of otherness also applies to non-human nature and our ecosystems, in order to build ways of knowing that can breathe inside a web of life, which itself enables humans to refuse the hegemony of knowledge production, intellectual disciplines, and enclosed epistemologies, ontologies and methodologies.

This surfaces discussions over the distribution of resources across and between ecosystems or communes (Ciccariello-Maher 2016; Marx (1875/1970)). Of course, there will be arguments around how to enact this whilst putting food on the table, paying the rent and surviving drought, flood and wildfire. There will be arguments that this is impossibly utopian. However, this intellectual work must push to connect struggles for equality in relation to *both* the necessities of life – healthcare, food and safe water provision, communal welfare, energy and shelter – *and* the necessities of the web of life. This demands a deep critique of the ways in which capitalist systems of production exploit, expropriate and extract from non-human animals, the land and oceans, the atmosphere, and which reveal authentic human responsibilities.

Against the powers that deny many-sided abundance and impose one-sided scarcity, how are people to live otherwise? Those who speak for our educational institutions, reproducing them as Ideological State Apparatuses, demand pathological cultures and methodological practices that are ‘the red dust of living death’ (Chuǎng 2019). This encircles our lives and catalyses futility, cynicism, anxiety, anger or fugitivity, whilst predicating meaning upon knowledge production and Promethean responses to crisis. As the conditions of life become more toxic for more people and

ecosystems, '[t]he only emancipatory politics is one that grows within and against the red dust of the material community of capital' (Chuǎng 2019). We must take the first step, and refuse calls for an *a priori* blueprint that claims to predict the world. Alternatives cannot be concretely conceptualised from inside a system of alienation, but they can be worked through in practice (Marcuse 1969). As Marcos (2002: 321) argued, '[a]ll final options are a trap'. This is a deeply relational practice (Yazzie Burkhart 2004), and its starting point cannot be reform of the University and its crisis-driven existence. Instead, in our intellectual work, we must speak and listen, question and make paths, guided by those 'who continue without hearing the voices of the powerful and the indifferent' (Marcos 2002: 32).

There are questions here for University workers in how they situate their work against actually-existing emergencies, and the reality that for many communities and environments, disaster has been ever present for some time (Whyte 2018). Their work is to refuse its reduction to knowledge-based solutions for mitigation emergencies in the global centres of accumulation, or commodity-dumping of knowledge in the periphery. This includes in relation to the utopian fragilities and tensions of sustainable development (Eskelinen 2021), or elitist fantasies of abundance, like fully-automated luxury communism, which cannot escape the universe of commodifiable knowledge exchange (Bastani 2019). Instead our ways of knowing the world must be recalibrated socially and communally, in order to deny the legitimacy of extant cycles of production framed by proof, evidence, truth inside a closed system of knowledge production. Instead, our intellectual work must frame authentic, community-based analyses of need in the web of life. In this, it must engage with *both* symptomatic adaptation emergencies, like access to food, soil erosion, mass migration and water availability, *and* how value is colonising and annihilating the web of life. Pre-empting such adaptation emergencies is a demand that connected ecosystems might breathe, inside a more open way of knowing the world. This is a yearning to enact cognitive and psychological, epistemological breaks that refuse closed ways of knowing that have brought us to the brink of climate lockdowns, the rise of techno- or eco-fascism, martial law and the collapse of the web of life. Refusal is the pedagogical imperative of asking 'how shall we live?'

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Insurrectional and Pandoran Democracy, Military Perversion and The Quest for Environmental Peace: The Last Frontiers of Ecopedagogy Before Us



Paul R. Carr 

Introduction

The global Covid-19 pandemic has further exposed and exacerbated the fragile underlying conditions of societies that claim to be democratic (Acheson 2020; Giroux and Filippakou 2021). In many cases, the patient is literally on life-support. Social inequalities are either on the rise or are now being more transparently laid bare to expose the illnesses that never vanished (Bambra et al. 2020; Canadian Human Rights Commission 2020; EuroHealthNet 2020). The problems were always there but the pandemic has made it painfully clear that excessive wealth concentration is a highly-controlled business, with a handful of enterprises/individuals ‘earning’, if that is the word for it, untold fortunes while the masses are literally scrambling to get ‘bail-outs’, ‘buy-outs’, ‘assistance-packages’, ‘rent-deferments’ and other forms of assistance to try and make it through the crisis (BBC News 2020; Edelberg and Sheiner 2021; Ernst 2020).

The Pandora Papers, like the Panama Papers, remind us that the ultra-rich play by a different set of rules, and they are not really interested in contributing to the societies they wish to control. The Pandora Papers, which were researched and reported on by the International Consortium of Investigative Journalists (ICIJ) in 2021, involves a range of articles, analysis, reports and ongoing exposés into how the wealthy and powerful use off-shore banking in order to avoid taxation and regulation within their home-countries (International Consortium of Investigative Journalists 2021a). In 2016, the International Consortium of Investigative Journalists (2021b) first reported on the same practice in a ground-breaking study, which was known as the Panama Papers because of the centrality of law offices in Panama that orchestrated the legal and illegal transactions that confirmed what many people

P. R. Carr (✉)
Université du Québec en Outaouais, Gatineau, Canada
e-mail: paulr.carr@uqo.ca

already knew. The two sets of Papers, together, explicitly reveal the hypocrisy of some political leaders, business elites and cultural figures as well as the economic avarice and criminal activity of many others, who sought to conceal funds and also ensure that appropriate and legal taxation is not effectuated.

Concurrently, the 6 January 2021 *insurrection* in Washington underscores the deeply divided, anti-democratic and hyper-racialized sense of normative democracy, notably in the United States but also elsewhere as well (Nevius 2021). I use the term ‘insurrection’ here knowing that there are many interpretations and perspectives on what took place that day in the US capital. Some may argue that the intention was not to seize state power but only to contest the election results, and others may lean more toward this being another move toward a fascist descent, among other possible constructions. Debate about the level of organization, the motivations, conspiratorial linkages, resources, communications and networking employed is ongoing. I believe that it is particularly germane for the following reasons: 1) that it took place in the first place; 2) in Washington, within the heart of a country that intensely admonished others for lesser actions; 3) the massive level of support during and after; 4) the militarized framing of the event; 5) the racialized fiber of the mobilization; 6) the more than symbolic meaning of attacking the supposed center of US democracy and hegemony.

Rockhill (2021) documents organized fascist maneuvers in the 1930s in the US in an attempt to seize power, which also alludes to the intersection between business, military, hegemony and nationalist interests. Rockhill cautions drawing a direct line between the 2021 event with the 1934 ‘Business Plot’ but it is important to underscore that there is a history here worth studying and understanding. This delusionary normative democracy involves acceptance of the unrelenting and unrepentant fomenting of militarized planning and activity, accompanied by the arms carnival, which sustains hegemonic visions despite the numerous contestations, foibles, weaknesses and injustices that flow from it (Stancil 2020; Stockholm International Peace Research Institute 2020). Within this context, dreaming of ‘returning to normal’ is more like a nightmare.

So what’s it all about? A significant part of the equation of maintaining and cultivating hegemonic compliance of the population centers around the fantasy of democracy (Carr 2020a, b; Carr and Thésée 2021). With so much bellicose, uncontested, partisan drudgery about how we have developed the highest form of social (and democratic) organization (Carr 2020a, b), it may be time to consider that we’re now in a phase of, what I would characterize as, *insurrectional* and *Pandoran* democracy. That’s a mouth-full but it does provide some cultural signposts to potentially guide us. I do not claim to have fully theorized the concepts but this iteration builds on a robust and engaging critic of normative democracy over the course of the past two decades. Critiquing (normative) democracy is not new but I am hopeful that the analysis herein that connects with the social media and postdigital context will add to the debate.

At the same time, and of central importance, not only to this chapter, to the meaning of democracy is the potential to continue human life in a dignified, meaningful way. This may sound trite and hyperbolic but I believe that there is no longer

any time to waste in considering what we—people around the world—must do to sustain life and, significantly, the environment. To say that we are in a crisis and that an environmental catastrophe is before us is stating what should be obvious to most people. How we function, considering the postdigital context (Jandrić et al. 2018) of new forms of knowing, sharing, communicating and engagement, all the while being submerged in twentieth century technologies, visions, norms and educational values, is a fundamental question, one that leads to the interest in ecopedagogy (Dean 2008; Jandrić and Ford 2020).

This chapter, thus, explores the intersection between (*insurrectional* and *Pandoran*) democracy, the postdigital context, (pervasive) militarization and ecopedagogy. Can we achieve meaningful ecopedagogy within dysfunctional forms of anti-democratic democracy (West 2005)? Jandrić and Ford (2020) elaborate a framework to enmesh the postdigital context with the potentiality of ecopedagogy, highlighting the potential for critical pedagogy to assist in building movements aimed at significant transformative change in education and in society. Is the appetite to build and use killing machines the consequence or the instigator of thin, docile, neutered democracy? What will it take to achieve broad-based engagement with/for the environment, which can counter and over-ride nebulous, supposedly democratic systems that are reluctant to act? While many people around the world are preoccupied with the environment, including in education, social movements, solidarity groups, animal rights groups and others, why are national and international institutions still seemingly lagging behind? These questions underpin a critical analysis of where ecopedagogy might be headed within the postdigital context.

The Fragile Democratic Foundation Holding Us Up/Down

This rapidly evolving *insurrectional* and *Pandoran* democracy builds on the normative, representative, hegemonic democracy that was infused into the latter part of the twentieth century as well as the first part of the twenty-first century. It also overlaps with the incomplete, binary conceptualizations of formal political organization that have kept the majority of citizens in limbo, vacillating between subsistence and unstable cohabitation with capitalist awnings on the fringes of attaining the ‘middle class’ (Carr and Thésée 2019). Elections have been an essential pillar to these normative versions of democracy, and while there have been changes—some big, some small—the institutions, laws, policies, processes and resources produced have not been adequately calibrated to achieve the real, meaningful and transformative changes that people have been mobilizing for, in the streets and elsewhere (Carr, Cuervo, and Daros 2019).

Elsewhere, I attempt to problematize this fragilized democratic model, one that often disconnects critically engaged democracy with critically engaged education:

Yet, these normative elections, which are often ordered to measure with the threat of massive (real and rhetorical) carpet-bombing and worse, if not realized, are replete with all kinds of paradoxical anti-democratic maneuvers, starting with who can be elected, how

much money plays into the process, how media can control and shape the message, manipulation, and diversion is a fundamental component, how seeking to win is more a priority than seeking to build a meaningful democracy, and how capitalism is the enormous, indelicate, meandering proverbial 800-pound gorilla in the room (Amico 2020; Carr and Thésée 2019). Added to this is the role, the purpose, and place of education in supporting, cultivating, and building a critically engaged democracy as well as critically engaged citizen participation. It is extremely difficult to have one without the other (democracy without education, for example, or, rather, meaningful, critically engaged democracy without meaningful, critically engaged education). (Carr 2020b)

When we consider democracy, it is difficult to not concurrently internalize the meaning of conflict and warfare, since nationhood has often been predicated on this platform of military conquest, patriotism and Empire. Has the Covid-19 pandemic forced us and our governments to augment militarization and the arms trade, militarization and violent conflict (Chandra et al. 2020; Diaz and Mountz 2020; Passos and Acacio 2021)?

Of course, someone from another planet might hammer the table if presented with such a proposition, rightly arguing that only a world hell-bent on destroying itself would consider the development, production, sale, consumption and usage of armaments at this time when, clearly, we need to get every person around the world vaccinated, and then we need to re-focus on letting people live with dignity. The short answer is that 2020 was a record-year for arms sales (Levine and McKnight 2020). Sales and profits are, sadly, going through the proverbial roof. Engaging in the killing business is unsightly, poorly reported, considered classified, and it leads to a lot of endless misery (Institute for Economics and Peace 2020). Who is doing it, how and why (Amnesty International 2019; Stancil 2020)? These questions are rarely injected into the campaign trail but they do have a lot of to do with geopolitical relations, and, importantly, how we consider the environment.

Similarly, the outer-space exploration business has also taken on new levels of investment, engagement, support and priority during the pandemic, especially with the attention placed on the exploration of Mars (Howell 2021). Militarizing space is not new, and significant civilian applications can be generated from the venture (Burress 2019; McFadden 2020). Celebrating missions to the Moon and Mars and other places can be interpreted differently at many levels, from the need to explore, to developing innovations for humans, to national pride, and, significantly, to seeking military advantage (Scoles 2020). The space projects of billionaires, with a view to extending the terrain to a multitude of high-end financial ventures, help frame *insurrectional* and *Pandoran* democracy.

Gittlitz (2021) characterizes the frolicking dance to outer-space for the ultra-rich as emblematic of the decay of human solidarity:

Yet even billionaires are forced to use the language of collectivity that space travel, both scientific and science-fictional, has always carried with it. Bezos's Blue Origin claims a larger vision of 'millions of people...living and working in space to benefit Earth.' Branson says Virgin Galactic, whose flights currently start at \$200,000 a ticket, will 'open space to everybody.' While SpaceX promotes Mars colonization as having the potential to make humanity a 'multiplanetary species,' Musk admitted in an interview with Joe Rogan that 'if this species is going to survive, we kind of have to escape.'

... Elite schemes of private islands and apocalypse bunkers no longer seem adequate to repel the inevitable billions of climate and war refugees, unemployed and precarious workers, and everyone else immiserated by the barbarity of the current order. There is only one way left to run: up. Ironically, there are few better examples of how human cooperation can overcome such seemingly impossible challenges than the original space race. (Gittlitz 2021)

This form of democracy necessitates (and thrives on creating) divisions, bogeymen, false flags, reactionary conspiracies, xenophobia, and a drum-beat in favour of the maintenance of normative (political and economic) systems, roles and societal configurations as well as perverse military spectacles that buttress this paradigm.

Contextualizing Democracy Within the Postdigital Context

Many people want an end to racism, sexism, classism, violence of all sorts, the militarized architecture underpinning visions of Empire, and the rampant social inequalities that are interlaced in and through everything we do and experience. Despite the multitude of policies, programs, practices and initiatives, and even the good will at many levels, vast swaths of the population almost everywhere are not beneficiaries of the normative democratic framework (Badger 2020; Wike, Silver and Castillo 2019). The 6 January 2021 *insurrection* against the US Congress (Harper 2021; Nevius 2021) is a metaphor of the chaos, fragility and lock-jaw, ping-pong interplay of elites exchanging positions of formal power. So many folks being so viscerally aligned with *insurrectional* democracy is an assault not only the operationalization of the supposed democratic system in place but, significantly, on the belief that this should, indeed, be the system (Carr and Thésée 2021).

The excavation of the Pandora Papers also provides a malleable economic dimension to our understanding of (normative) democracy. As the brilliant American comedian, George Carlin, put it, '[i]t's a big club, and you ain't in it'. Is it a precursor or antechamber to modern, hi-tech fascism or a wallpapered constitutional maneuver to be followed up with endless interrogation about how 'we are better than this' (Carr and Thésée 2021)? Placing *insurrection* and *Pandora* together provides a sharply contextualized version of how many people perceive, view, experience and know about the 'democracy' that so effortlessly and aimlessly frames how we live.

This overlapping postdigital context, fully marinated in neoliberalized but potentially transformative social media, convoluted social relations and rampant visible as well as invisible social acrimony, is not meant to (purposely) cultivate social solidarity (Jandrić et al. 2018; Knox 2019). Social movements have pushed the boundaries of neoliberal political economies. Significant efforts to contest and change inequalities—Black Lives Matter, #metoo, the Occupy movement, the Arab Spring, the Hong Kong Protest Movement, the environmental movement, the GLBTQ movement and Idle No More are some recent examples—have been organized and congealed around social media and diverse socio-political strategies that have helped change conversations, cultural mindsets and, to varying degrees, formal

political environments (Paul 2019; Piñon 2020). The cacophony and agitation around fake news, cancel culture and wokism¹ is, to a certain degree, a debilitating distraction that plays out through social media debates (Brooks 2020; Carr, Hoechsmann and Thésée 2018a; Romano 2020).

Dean (2008) theorizes ‘communicative capitalism’ in the early phases of social media, and offers insight into the unrelenting grasp of capitalist and hegemonic interests to neutralize progressive, radical and transformative efforts and movements in the (post-)digital era.

In the United States today, however, they don’t, or, less bluntly put, there is a significant disconnect between politics circulating as content and official politics. Today, the circulation of content in the dense, intensive networks of global communications relieves top-level actors (corporate, institutional, and governmental) from the obligation to respond. Rather than responding to messages sent by activists and critics, they counter with their own contributions to the circulating flow of communications, hoping that sufficient volume (whether in terms of number of contributions or the spectacular nature of a contribution) will give their contributions dominance or stickiness. Instead of engaged debates, instead of contestations employing common terms, points of reference, or demarcated frontiers, we confront a multiplication of resistances and assertions so extensive that it hinders the formation of strong counterhegemonies. The proliferation, distribution, acceleration, and intensification of communicative access and opportunity, far from enhancing democratic governance or resistance, results in precisely the opposite, the postpolitical formation of communicative capitalism. (Dean 2008: 102)

Connected to the postdigital context of *insurrectional* and *Pandoran* democracy and military perversion is the centrality of the environment, the physical and social, the ecological landscape and framework, the enveloping presence of humanity on Earth, and inclusive of all species, air, water, soil and everything in between that characterizes our life on this planet. The notion of (critically-engaged) ecopedagogy is a way of connecting these diverse, interrelated concepts, asking us to consider the effects, impacts, consequences, implications and meaning of democracy and

¹Contemporary times have introduced a host of evolving and contestatory concepts that relate to agency, the right and power to denounce injustice, and the meaning of power relations. *Cancel culture* concerns the notion that some people can be eliminated or silenced because of their discourse, and this often involves those articulating what they consider to be legitimate and difficult truths, for example against racialized minorities or the LGBTQ community. Cancel culture is often associated with celebrity figures, and can involve ‘cancelling’ their events. There are many debates and interpretations as to who may be ‘cancelled’, and those claiming to be ‘cancelled’ often reinforce their standing with broad, mobilized support that nullifies the intent to silence them.

Wokism was conceived to mean being ‘alert’ (awakened to) racial injustice, and, like cancel culture, has been hijacked, denigrated and subverted by many to almost have a contrary meaning in many circles. For instance, in Québec, at this time, being accused of being a *woke* essentially means that you are against open debate and people aiming to build a more socially just society, in addition to being erroneously tethered to the anti-racism movement, which is considered to be extremist and misguided (the Premier of Québec has articulated this vision in the legislative assembly). This backdrop can give the impression, for example, contrary to addressing racism, people may have *carte blanche* to stimulate and ingratiate the racist impulses in the population. Social media plays a significant role in building, disseminating and fostering dissent, and is intertwined within cancel culture and wokism.

militarization in relation to the environment within the postdigital context (Jandrić and Ford 2020). Destroying the environment is a catastrophic side-effect of *insurrectional* and *Pandoran* democracy, accelerating the decline, demise and destruction of human life, and eliminating species, ways of life, cultural practices and eco-systems that cannot be replaced (Carrington 2018). Similarly, it is inconceivable, if not impossible, to think of how militarization could help the environment. Sustainable development, while a reasonable compromise for many, has to be re-considered, at least within the framework that concentrates wealth and power in the hands of so few, all the while accelerating the end of human life on Earth (Le Page 2019; Bellamy Foster 2020).

Some of the Military Environmental Destruction

Militarization hammers peoples, societies and environments in a multiplicity of ways. However, the impact on diverse species, ecosystems, landscapes, habitations, water sources and other connected areas is, generally-speaking, underplayed, diminished, white-washed or eviscerated. The hi-tech, testosterone-injected, military-brass analysis drills down on body-counts, territories claimed, political overthrows, prisoners taken and other strategic indicators that are presented as the impact of such ventures but the environment is given short shrift, even if the environment represents life.

Weir (2020) succinctly lays out some of the impact on the environment by and because of militarization:

The environmental impact of wars begins long before they do. **Building and sustaining military forces** consumes vast quantities of resources. These might be common metals or rare earth elements, water or hydrocarbons. Maintaining military readiness means training, and training consumes resources. Military vehicles, aircraft, vessels, buildings and infrastructure all require **energy**, and more often than not that energy is oil, and energy efficiency is low. The **CO₂ emissions** of the largest militaries are **greater** than many of the world's countries combined.

Militaries also need large areas of land and sea, whether for bases and facilities, or for testing and training. **Military lands** are believed to cover **between** 1–6% of the global land surface. In many cases these are **ecologically important areas**. (Weir 2020) (emphases from the original)

In addition to the climate change, pollution and deforestation cultivated by military ventures, we can also point to the extractivism industry in Latin America (and elsewhere), which is buttressed by military support from complicit governments, and which affects disproportionately the environment, especially for Indigenous peoples (Carr et al. 2018b). The long, virulent history of U.S. intervention in Latin America has also disregarded, disrespected and destroyed the environment, even when it's not fully documented or understood (Schenoni and Mainwating 2019).

Cottrell (2021) directly addresses the ‘military’s contribution to climate change’, underscoring the lack of accountability and horrific devastation wrought on the world in support of Empire:

Contemporary warfare is [dominated](#) by aviation. This emits vast quantities of GHGs during production and operation – in 2017 alone the US Air Force purchased US \$4.9 billion of fuel. A single mission of two fuel thirsty B-2B bombers in January 2017, flying from the US to Libya, [emitted](#) about 1,000 tCO₂e. Military jets typically fly at higher altitudes than commercial airlines. As well as emitting greenhouse gases, aircraft flying at high altitude can also cause additional atmospheric heating effects due to the [contrails](#) left by aircraft, which can persist as large, thin sheets of cirrus clouds. Contrail cirrus, as well as other non-CO₂ effects like [NOx emissions](#) from aviation, are significant contributors to the climate warming impacts of aircraft emissions. This means that fuel consumption data alone is not reliable for assessing the full climate impact of military aviation. (Cottrell 2021) (emphases from the original)

There is also the lasting destruction to the environment caused by military conflict that plagues the world, and creates an endless flow of political, economic and environmental refugees. On a personal note, my visit to Vietnam in 2013 brought to light for me the insanity, the hypocrisy and the diabolical nature of warfare, understanding more clearly the multi-generational effect of chemical weapons used by the United States in what the Vietnamese called the ‘American War’ (Carr 2007).

Lallanilla (2020) further elaborates on this as well, and touches on the African context:

Perhaps the most famous example of habitat devastation occurred during the Vietnam War when U.S. forces sprayed herbicides like Agent Orange on the forests and mangrove swamps that provided cover to guerrilla soldiers. An estimated 20 million gallons of herbicide were used, decimating about 4.5 million acres in the countryside. Some regions are not expected to recover for several decades.

Additionally, when warfare causes the mass movement of people, the resulting impacts on the environment can be catastrophic. Widespread deforestation, unchecked hunting, soil erosion, and contamination of land and water by human waste occur when thousands of humans are forced to settle in a new area. During the Rwandan conflict in 1994, much of that country’s Akagera National Park was opened to refugees; as a result of this refugee influx, local populations of animals like the roan antelope and the eland became extinct. (Lallanilla 2020)

Within contemporary times, *Shwesin Aung* (2021) weaves together militarization and environmental destruction in Myanmar.

If they remain in control, the military will likely dismantle significant environmental and climate policies, and roll back rules governing forests, fisheries and other natural resources. Environmental regulatory standards for Foreign Direct Investment may be reversed, revoked or terminated under the new administration, creating opportunities for resuming controversial Chinese investments, such as the Myitsone Dam, despite local opposition. With US and Western government’s sanctions to punish the regime, China will likely regain its position as the most influential foreign player in Myanmar, both politically and economically. China has invested billions of dollars into Myanmar’s extractive sector, energy transport infrastructure and renewable energy development. (Shwesin Aung 2021)

I have attempted in the above sections to link the meaning of democracy with the deleterious nature of militarization, connecting it to the exponentially destructive

impact on the environment. The interest in cultivating, shaping and building ecopedagogy—the philosophy, the epistemology, and the policy, programmatic, legal and educational foundations, buttressed by social movements, civil society organizations and infinite creativity—flows from this context. What are our options, especially within a pandemic that continues to affect everyone, in divergent ways, and can we reimagine new forms of organizing and being (of democracy), in which the environment is not simply the recipient of politico-economic actions but which is placed in the center? I attempt to develop some of these proposals in the next two sections.

Cultivating the Eco in (the) Pedagogy, and Democratizing the Environment

While critical of normative democracy, it is difficult to simply boycott or ignore the system that is in place. Is there potential for change from within? Since progressive, meaningful change within the normative political arena in relation to the environment is slow to take place, how should the Green Party, which has a presence in most OECD counties, be contextualized, problematized and evaluated? From the early 1970s, the Green Party has pushed policies and politics in many European counties, and they have also had an important influence in several other countries through the election of their members to the positioning of policy debates and the allocation of resources to mobilizing the population. The Greens have formed part of the governing coalition in several European countries, and in others have had members elected to parliament (in a number of countries, including in Europe, Canada, South America and Rwanda). McBride (2021) summarizes the complexity and evolution of the Greens in formal politics:

Green parties—once seen as radical outsiders—have increasingly claimed a place in mainstream politics, especially in Europe. Greens around the world have evolved from single-issue environmentalists into broad-based political parties capable of winning elections and serving at the highest levels of government.

With climate change a pressing issue and traditional parties losing support to various alternatives, greens are positioned to play a greater role than ever. In Germany, the world's fourth largest economy, they could even lead the next government. Yet the movement remains divided over issues such as nuclear energy, military force, foreign policy, and cooperation with right-wing and populist parties. (McBride 2021)

Political parties must be cajoled and pushed by environmental social movements, which are often difficult to contain, coordinate, synthesize and sustain but are increasingly fundamental to shaping the global environmental agenda. In the United States, in particular, debate over climate change, for instance, in spite of unprecedented environmental catastrophes, is largely a partisan issue, in which science is not necessarily a primary consideration for many (Kamarch 2019).

There is, despite hegemonic and cultural challenges, significant potential for ecopedagogy, calibrated to dynamic, critical, engaged praxis interwoven into a

multitude of sectors, contexts, processes and systems. For example, Greta Thunberg, the young Swedish activist has been humble, focused, strident and, arguably, extremely successful in mobilizing forces, people and debate around the world (Hertsgarrd 2021). Importantly, Hertsgarrd underscores Thunberg's interest in not waiting for politicians to act.

Thunberg's core message has been consistent from the time she first emerged on the world stage with a fiery denunciation of global elites at the World Economic Forum in Davos in January 2019: listen to the science and do what it requires; the science says our planetary house is on fire, and world leaders and everyone else should act like it.

The fact that world leaders, by her own account, are not doing what she and millions of activists are demanding has not led her and other movement leaders to consider new strategies and tactics, at least not yet. 'Right now, we are just repeating the same message, like a broken record,' she said. 'And we are going out on the streets because you need to repeat the same message ... until people get it. I guess that's the only option that we have. If we find other ways of doing it in the future that work better, then maybe we will shift.' (Hertsgarrd 2021)

It is necessary to underscore here, especially when thinking of ecopedagogy, that Greta Thunberg, notwithstanding her serious and significant engagement, is not the only youth transforming spaces, issues and minds around the environmental Rubicon. Many others, who are less well-known, including the First Nations activist Autumn Peltier in Canada, who has been a forceful and skilled proponent against pipeline and in favour of water preservation (Asmelash 2019), have made an important contribution to environmental debates. Does the postdigital epoch seek to limit and ingratiate the his/stories from the margins, or does it open vistas for cross-cultural, -linguistic, -racial and -political engagement?

Environmental debates are deeply affected by social media and the endless multitude of messages, memes, videos, images, comments, shares, likes, fake/mis-information/dis-information and everything that flows from groups, movements and unknown entities from every which direction (Hoechsmann, Thésée, and Carr 2021). Political participation and engagement is affected, shaped and cajoled by social media as we all become consumers, producers, bystanders, voyeurs, instigators, and members of some things and not others, and our sense of democracy is, thus, being reinvented (Carr, Hoechsmann, and Thésée 2018a).

The annual Conference of the Parties (COP), organized by the United Nations, unites activists, civil society, governments, and a range of interested parties, provides a venue for the world to evaluate the impact of climate change (environmental catastrophe), and, importantly, what to do about it. COP26 took place in Glasgow in October 2021², and, as is the case, in previous COP events, there is an extreme urgency to have nations develop and implement tangible, meaningful plans to halt environmental, ecological and species decay. Hundreds of groups and organizations around the world have signed a petition demanding governments to 'Stop Excluding

² See <https://ukcop26.org/>. Accessed 18 October 2021.

Military Pollution from Climate Agreements³. It is clear that the United States must engage with global debates, including on removing its military presence and impact from around the world, and also in demonstrating leadership within its own borders and economy in relation to the environment, for major shifts to take place. This is not to say that the world cannot push ahead without the US, nor to say that all other nations are keenly tethered to progress, but, optimally, a global crisis requires global solutions.

Conclusion

This text started with Covid-19, and the meaning of a global health crisis is also a metaphor for the environmental catastrophe we are facing. There is no way out of this without global solutions and vast citizen participation, which also require a vast web of local solutions and engagement. Clearly, the *insurrectional* and *Pandoran democracy* that shields, disables and suffocates meaningful engagement and participation everywhere is degrading even further the environment at every level.

The futile, senseless destruction and victimization of people and the environment through militarization is entirely man-made insanity. How can we dislodge the belief in democracy from the need to dominate *Others* through military means? How can we re-orient the sense of patriotism away from military conquest? How can we re-imagine citizen participation and engagement from winner-take-all elections to something equating the equitable distribution of power, resources and policies that aim to break the back of poverty, racism, sexism and other illnesses that fester and acculturate with *insurrectional* and *Pandoran* democracy? In sum, how do we move from individualist, consumerist, classist, identity-hierarchical neoliberal societies to ones that aim for broader, more robust, critically-engaged citizenship? The answers to these questions have philosophical, economic, socio-cultural, legal, educational and other dimensions, and no one person will find, develop or present the answer. This is a process, one that involves a lot of different actions, and the organized as well as unorganized chaos that emanates through and from post-digital and social media cracks and crevices is a necessary component to this quagmire.

Striving to support and develop ecopedagogy must be considered from formal and informal perspectives, and from inside and outside of Davos-centric power-circles, on the one hand, and through community and civil society organizations, on the other. One thing is clear: we cannot continue on the same or a similar path. The option to destroy the planet is only viable for psychopaths and megalomaniacs. Destroying species, cultures, languages and the geographic spaces that derive so much meaning for the world and for humanity is no longer on the table.

³ See <https://actionnetwork.org/petitions/stop-excluding-military-pollution-from-climate-agreements-2>. Accessed 18 October 2021.

Debates, dialogues, decisions and actions need to be democratized, and top-down processes are no longer acceptable. The postdigital context forces us to understand communications that are unconstrained, cacophonous, as technical and far-reaching as they are disjointed and targeted, and the continual re-shaping and re-creating of identities and knowledge cannot be under-estimated. Yet, hegemony plays a role in this project, as does the educational realm, and social media, for example, is not, in and of itself, the solution. But, in colloquial language, it is what it is, but, as we can see and feel around the world, people are acting and reacting in a plethora of ways. However, we cannot accept in a pollyannish way that things will magically change without massive solidarity, creativity and movement. Do we need a revolution of sorts? An ecopedagogical revolution may be the only way forward but I am not arguing for violence as peace is, I believe, that only way to upend the blood-thirsty war-mongering we have witnessed over the past several decades.

Snyder (2020) provides an assessment that human agency and solidarity can become the basis of an environmental focus on world affairs.

To build sustainable peace and support communities there is a clear need to assess environmental risks, protect civilians from environmental harm, and assist victims after conflicts, remediate damage, and employ the environmentally sound tools at our disposal to regenerate ecosystems. ...

New tools and technologies like those monitoring agricultural stresses in Yemen or deforestation and pollution in Syria, enable monitoring and identification of issues for post-conflict attention. And in areas where the fighting has stopped, efforts to protect the environment from future harm while clearing the explosive legacy of conflict offer an opportunity to address the twin threats of unexploded ordnance and nonbiodegradable wastes. There is also hope, as communities come together to protect water and build a lasting and resilient peace. (Snyder 2020)

It is counter-productive to be hopeless, cynical and disaffected. Much can, should and will be done. The question of whether normative democracy will become an ally or impediment is still up for debate (Carr and Thésée 2021), as is the lethargic pace of critical change in formal education (Carr and Thésée 2019). Ecopedagogy is the antidote to militarization, and social solidarity, social movements, social engagement and grappling with the many complex/simple issues that have made the cloudy veneer upholding social inequalities during the pandemic similar to those menacing the environment is more necessary than ever.

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Part II
Postdigital Ecopedagogies in Global
Anti-Imperialist, Anti-Colonial, and
Decolonial Struggles

Biopolitics, Postdigital Temporality and the New Chronic: Pedagogical Praxis Within, Against, and Beyond the Meantime



Gregory N. Bourassa

Introduction: An Emerging Matrix of Power and New Logic of Temporality

Over the course of the Covid-19 pandemic, and under the broad umbrella of biopolitical studies, a number of theorists have expressed concern and caution about some of the tendencies emerging from a new matrix of power; or if not new, the maturation of an existing matrix of power. Giorgio Agamben has perhaps been the most notable figure, attempting to demonstrate the various ways in which his earlier elaborations on the state of exception are now manifest in particular instantiations of lockdowns and the implementation of various forms of vaccine passports. His concerns range from bellicose characterizations of the virus, the role of the media in stoking fear of the virus, the suspension of daily life, violations in the rituals of dying, the prolonged effect of isolation, the reconfiguration of the concept of citizenship to bare biological existence, the normalization of digitized relations, the consolidation of power and decision-making in a biomedical apparatus, the establishment of science as religion, and the looming threat of a permanent state of exception (Agamben 2021).¹ All of these transformations and accelerations are taking place in the name of health and biosecurity, and they necessitate new forms of resistance and a new politics to come.

The implications of Agamben's arguments are vast, and he has been the subject of sharp criticism, with some even questioning whether biopolitical concepts are apt

¹Byung-Chul Han (2021b) has raised similar concerns.

G. N. Bourassa (✉)
University of Northern Iowa, Cedar Falls, IA, USA
e-mail: gregory.bourassa@uni.edu

for analyses of the Covid-19 pandemic.² I want to suggest that biopolitical inquiries are crucial right now because they have brought to the fore constellations and complex lineages that can help us navigate and exit the postdigital meantime and meanspace. That is, they help us better understand bioscience, biotechnology, and biomedicine not as politically neutral endeavors but rather as projects entangled in political, economic, juridical, moral, cultural, and imperialistic paradigms. This is especially critical in our current moment when so many lament the politicization of the pandemic.

While we should be attentive to the medicalization of the political and the politicization of the medical, usually such grievances imply or assume a pure domain of science that is uncontaminated by political and economic frameworks, and geopolitical and corporate interests. Thus the liberal observation and accompanying injunction: If only people would jettison their politics and follow ‘the science’, we would be able to collectively ‘conquer’ the threat of Covid-19. Such assumptions, which rely on bellicose tropes of war and invasion, turn on what David Cayley (2020) refers to as a conception of *science as myth*. When this occurs, heterogeneous, unsettled, and often contradictory phenomena are flattened out, and science is rendered into a protagonist: ‘science suggests... science shows...’ and so on.

The colonial myth of science is founded on Western stances of exceptionalism and triumphalism that spill out of violent colonial projects. Western scientific exceptionalism ‘holds that there is one empirical world’, and the triumphalist stance ‘attributes all the successes of modern science to its rigorous method, its disenchanting ontology, the distinctive organization of scientific communities, the skeptical attitude of scientists, or some other such internal feature of scientific inquiry’ (Harding 2018: 40). This assertion of a unity of science—a settled science—is an imposition of coloniality that conceals the intertwinings of science and political economy, along with the epistemological, methodological, and ontological tributaries of scientific knowledge and production, and it erases other knowledge traditions while obscuring the possibilities for a world of multiple knowledge systems (Santos 2018).

While there are different strategies for decolonizing science, what is increasingly clear is that ‘many elements of the distinctively modern scientific ethic are unsuitable not only for economically and politically vulnerable peoples in the South and elsewhere but also for any future human or nonhuman cultures at all’ (Harding 2018: 52). Thus an *exit* from the postdigital meantime urgently demands trenchant critiques of bioscience, biomedicine, and biotechnology. For Paolo Virno (2004: 70), exit is not simply a form of passive withdrawal. Exit ‘modifies the conditions within which the struggle takes place, rather than presupposing those conditions to be an unalternable horizon’. Thus, here, exit refuses the capitalist, colonialist, and imperialist modes, temporalities, practices, and offerings of bioscience, biomedicine, and biotechnology, and instead wagers on a surplus of alternative knowledges

²While the saliency of Agamben’s biopolitical lexicon has been put into question, biopolitical inquiries that pursue questions of differential vulnerability to Covid-19, and differential access to treatments, have been quite prominent.

and ways of being to affirm and sustain life. This type of disobedience is a precondition for an insurgent praxis, struggle, and movement toward decolonial, anti-capitalist, and anti-imperialist futures.

What exactly is meant by the meantime? I borrow this concept from Eric Cazdyn's provocative book, *The Already Dead: The New Time of Politics, Culture, and Illness* (2012). Cazdyn considers the ways that recent reconfigurations of global capitalism have resulted in shifts to medicine, medical practices, and medical technologies. In particular, he seeks to explore an ideological formation unique to contemporary capitalism: *the new chronic mode*. 'The new chronic mode insists on maintaining the system and perpetually managing its constitutive crises, rather than confronting even a hint of the terminal, the system's (the body's, the planet's, capitalism's) own death.' (Cazdyn 2012: 5) The new chronic mode is evident in late capitalist medical procedures, targeted drug therapies, and biotechnologies that recalibrate the very meanings of terms and conditions like *life, death, acute, terminal, crisis, and meantime*.

Contemporary practices of bioscience engender new conceptions and definitions of life (and death) resulting in even more processes of commodification premised on managing, stabilizing, and preempting disease. While Cazdyn—who was diagnosed with terminal leukemia—acknowledges the benefits of management therapies, he retains a fierce critique of how the emphasis on management benefits global pharmaceutical companies, such as Pfizer, that secure immense profits from therapies that require long-term and continual use. For Cazdyn (2012), just as the new chronic mode of medicine abandons forms of cure in favor of managing the symptoms of disease, much of 'left' politics similarly gets reduced to the management of the disease of capital, abandoning, as unrealistic, the praxis of revolution or the thought of the terminal point of capitalism itself. In other words, the new chronic mode constrains our ability to think beyond capitalism. Instead, we are left in the meantime—an ideological and temporal formation of late capitalism that offers the future as nothing other than an extension of the present.

Cazdyn's analysis of the relation between reconfigurations of global capital and medical technologies and practices embodies the messiness and complexity of the postdigital condition (see Jandrić et al. 2018). Biodigital and technoscientific convergences increasingly render 'biology as digital information, and digital information as biology' (Peters et al. 2021: 377). With these developments, a proliferation of biopolitical questions arise concerning the definition of life, the ethics of its engineering and manipulation, and its relation to processes of regulation, control, and surveillance, among others.

In this chapter, I suggest that the concepts of the meantime and the new chronic are worthy additions to an emerging inventory of postdigital forms of temporality (see Ford 2019). They offer important criticisms of postdigital temporal regimes, and they reveal how the dominant mode of temporality constrains imagination and political praxis. Not only does the meantime foreclose the possibilities of a relationship to alternative futures by ensuring that the future is an extension of the present, but it also limits our ability to engage in genealogical analyses that assist us in understanding how it is that we arrived in the present. Such genealogical inquiries

suggest that the present could be different, which is important for negating homogeneous capitalist temporalities and their prescriptive itineraries of management.

More specifically, genealogies are antisciences, and they make possible the insurrection of subjugated knowledges.³ According to Michel Foucault (2003: 9), such insurrection is ‘not so much against the contents, methods, or concepts of a science’, but primarily ‘against the centralizing power-effects that are bound up with the institutionalization and workings of any scientific discourse organized in a society such as ours’. Thus genealogies take particular presuppositions, assemblages, worldviews, and practices that have been normalized and render them strange and subject to inquiry. The questions Foucault (2003: 10) asks are: What types of knowledge are disqualified when we speak of science, and what subjects and experiences are subjugated by ‘unitary, formal, and scientific theoretical discourses’ that regard competing frameworks as non- or pre-scientific?

These questions are crucial today because the ideological formation of the new chronic and the temporal logic of the meantime not only constrains political activity but it fundamentally stunts the imagination through epistemological enclosures. As Arturo Escobar (2020: 6) describes, such dismissals of alternatives are accompanied with the demand of ‘being realistic’, which means ‘believing that in the final analysis there is a single correct way to see and understand things (based on rationality and science)’, and that these ‘universal truths must prevail against all others’. New forms of resistance are thus necessary to open a space—a space against and beyond the meanspace—for thinking and praxis against and beyond the meantime.

In what follows, I offer a broad sketch of biopolitical studies, noting their significance for thinking with and against our present moment. I stay close to Agamben as a key figure, and suggest that his recent writings on Covid-19 should not be quickly separated from his earlier elaborations on the state of exception. In fact, I argue that the two are structurally linked in important ways, and I attempt to supplement his recent concerns by thinking with decolonial perspectives. I suggest that our current temporal formation of the meantime devastates the political imagination and aims to fashion a particular subjective figure that is both tethered to and severed from the present. In this way, the new chronic mode is not exclusively a medical concept. Thus I consider how it might prompt us to rethink categories of educational life and death, along with the educational meantime.

The chapter concludes with some ruminations on pedagogical praxis within, against, and beyond the meantime. I consider the role of exit in exopedagogies and exo-exopedagogies and ultimately suggest that exit is a transitory phase. As such, it is important to consider the rhythms of exopedagogy and exo-exopedagogy, their localities, and their relation to other forms of praxis and pedagogy. Biopolitical and decolonial perspectives, in particular, are both crucial insofar as they consider the terminal, and are oriented towards forging new paths of being otherwise.

³Or, rather than *knowledges*, we could say, following Boaventura de Sousa Santos, *ways of knowing*. For an important criticism of the limits of Foucault’s cultural assumptions of the ‘unsaid’, see Santos (2018).

The Biopolitical

The biopolitical is a rather amorphous field of study. For instance, Foucault suggests that ‘life’ emerged in the eighteenth century as an object of political knowledge, and thus appeared at the center of political strategies. It is a relatively contemporary phenomenon that can be traced to specific developments, and it also inaugurates new practices, concepts, and political techniques oriented around the ‘calculated management of life’ (Foucault 1990: 140). In contrast, Agamben (1998) insists that biopolitics is tethered to sovereign power, and thus has always been a part of the Western tradition from its beginning. In addition to these tensions, there have also been terminological and conceptual distinctions that are murky in biopolitical studies, and these confusing deployments can make it difficult to mobilize a theory and praxis that is apt for our contemporary challenges.

For example, the very terms *biopolitics* and *biopower* often fail to evoke affirmative and liberatory political praxis. While the latter term, ‘biopower’, is more readily understood as a *power over life*, the term ‘biopolitics’, too, is often used to denote similar political projects in which life is an object to be controlled, administered, and managed. Both terms seem asymmetrical, revealing arrangements of power that are tilted toward death, and thus scarcely able to admit affirmative political possibilities.

Part of this confused orientation can be attributed to the trajectory and methodological approach of Foucault’s inquiries. Though he is regarded as a theorist of biopolitics, it would be more accurate to describe Foucault as a theorist of biopower, that is, a theorist who sought to understand a new form of power that administers, controls, and fosters life. Michael Hardt and Antonio Negri (2009) have attended to this terminological problem, and have sought to delineate biopolitics from biopower, suggesting that while the latter describes operations of power over life, the former is an affirmative political praxis that is premised on the power of life. Though such a distinction is rarely adhered to, I follow their lead and use ‘biopolitics’ to describe affirmative political praxis, ‘biopower’ to describe political projects which seek to exert a power over life, and ‘biopolitical’ to signal broad inquiries that combine these dynamics.

Another caveat, specifically about biopower, is warranted here. When describing biopower as a power over life, one might be tempted to consider only repressive operations of power—forms of power that subtract, exclude, or kill. While these operations are evident in some manifestations of biopower, Foucault was more interested in the ways that biopower perniciously functions in the name of making life and protecting the health of the population. This is, in part, what distinguishes biopower from sovereign power. While sovereign power is typically understood as the right to take life and let live, Foucault (2003: 241) stresses that biopower is the ability ‘to make live and let die’. Thus biopower—a power over life—takes the guise of creating and making life. This is not to suggest that sovereign power disappears. It is never far from the scene. However, discerning the permutations of biopower in its affirmative guise is an urgent task, as is engaging in a praxis of

affirmative biopolitics that is akin to ‘a process of subjectivation independent and autonomous of capitalism’s hold on subjectivity, its modalities of production and forms of life’ (Lazzarato 2014:14).

The Question of Life

The amorphous nature of biopolitical studies is perhaps what has led to a proliferation of bio-concepts, and a general stance that everything has a biopolitical dimension. However, if everything is biopolitical, this invites the question: What, then, is unique about biopolitical studies and what gives them their contour? This is a difficult question, and it leads to other sets of queries, particularly those narrowing in on the prefix ‘bio-’ and the various ways that theorists conceptualize life. While there are important distinctions between Foucault and Agamben on this matter, both have offered descriptions of life where agency is confined to human actors. This perspective obscures forms of ecological relationality and prevents us from understanding other living beings and ‘organisms as inventive practitioners who experiment as they craft interspecies lives and worlds’ (Hustak and Myers 2012: 106). In general, postdigital theories should push biopolitical studies in the direction of ‘more-than-human’ biopolitical inquiries that aren’t filtered by an anthropocentric lens, and, more basically, they should push biopolitical studies to be clearer on what exactly the prefix ‘bio-’ denotes (see Peters et al. 2021; Pugliese 2020).

On this question of life, Catherine Mills points out that Agamben frequently insists that it is a philosophical and theological concept, not a scientific or medical one. Related to this observation, Mills (2018: 143) notes, ‘it is striking how little contemporary theorists of biopolitics engage with the phenomena of biomedicine, bioscience and biotechnology, as if these had little to do with governance or politics’. While Agamben’s writings during the Covid-19 pandemic do not sufficiently engage this constellation, the implications of his analysis do cohere in important ways with the analyses of theorists of biomedicine, bioscience, and biotechnology, even as their orientation toward the question of life differs.

For example, Melinda Cooper, Nikolas Rose, and Kaushik Sunder Rajan have explored the relation between the trajectory of neoliberal capitalism and the contemporaneous developments in biomedicine, biotechnology, and bioscience (Cooper 2008; Rose 2007; Sunder Rajan 2006, 2017). Just as the increased atomization of time has occurred in the age of neoliberal capitalism in order to colonize new frontiers of extraction, so too has the turn to biomedicine’s molecular gaze. The turn from the molar to the molecular enables possibilities ‘for the reverse engineering of life, its transformation into intelligible sequences of processes that can be modeled, reconstructed in vitro, tinkered with, and reoriented by molecular interventions to eliminate undesirable anomalies and enhance desirable outcomes’ (Rose 2007: 83).

These technologies render life—genes, molecules, and cells—into forms of capital, and they are central to the generative and speculative forms of biocapitalism that are pervasive today (see Peters 2012; Pierce, 2013). In fact, Sunder Rajan (2006)

illuminates how biomedical technologies are wedded to capital accumulation, and how since the 1980 Bayh-Dole Act, the ‘life sciences are overdetermined by the capitalist political economic structures within which they emerge’ (Sunder Rajan 2006: 6). Importantly, developments in the life sciences have both reconfigured the very meaning of life itself, and, in turn, reconfigured (bio)capitalism and its oversight of medical practices.

Agamben’s concern is with the corporeal, spiritual, social and cultural aspects of life, and how the *demos* as political body is being reduced to a biopolitical population to be managed through coercive measures enabled by the state. Just as new technologies of governance were tested in the name of warding off terrorism, today we are witnessing ‘the development of a technology of governance that, in the name of public health, renders acceptable a set of life conditions which eliminate all possible political activity, pure and simple’ (Agamben 2021: 41). Key here is Agamben’s concern about the conflation of law and medicine, and the way that health becomes the object of the state, or as Foucault (2003: 240) describes it, a tendency of ‘[s]tate control of the biological’. For Foucault (2003: 38), power is exercised through law and the norm (derived from scientific discourses and knowledge from disciplines), though he described the latter as ‘increasingly colonizing’ the former, giving rise to a normalizing society.⁴ This process of normation posits an optimal model, and those who conform to the model are rendered normal while those who are incapable of conforming are deemed abnormal (see Foucault 2007). Echoing Foucault’s concerns about health as the object of the state, Agamben (2021) cautions,

the flipside of protecting health is excluding and eliminating everything that can give rise to disease. We should reflect carefully on the fact that the first case of legislation by means of which a state programmatically assumed for itself the care of its citizens’ health was Nazi eugenics. Soon after his rise to power in July 1933, Hitler promulgated a law for the protection of the German people from hereditary diseases. This led to the creation of special hereditary health courts (*Erbgesundheitsgerichte*) that decreed the forced sterilisation of 400,000 people. (Agamben 2021: 80)

The brutality of Hitler and his Nazi doctors clearly demonstrates the very reason Foucault warns against state control of the biological, and why Agamben defines life in philosophical and theological terms: almost anything can be justified under a state of emergency—a state of exception.

State of Exception

Agamben’s *State of Exception* (2005) sets out to provide a genealogy of the practice of suspending the juridical order. Though it has a long history as a practice of exceptional measure, it is increasingly becoming a technique and paradigm of

⁴The solution, for Foucault (2003: 40), is not to return to or defend the old right of sovereignty but to establish ‘a new right that is both antidisiplinary and emancipated from the principle of sovereignty’.

government. Agamben (2005: 2) writes, '[t]he voluntary creation of a permanent state of emergency (though perhaps not declared in the technical sense) has become one of the essential practices of contemporary states, including so-called democratic ones'. The state of exception describes a condition in which the declaration of emergency suspends the juridical order, during which time the sovereign violates or bypasses basic laws and norms. During such a suspension, there emerges 'a zone of absolute indeterminacy between anomie and law, in which the sphere of creatures and the juridical order are caught up in a single catastrophe' (Agamben 2005: 57).

Agamben's reference to the U.S.A. Patriot Act, which was issued shortly after the events of 11 September 2001 is notable in that it demonstrates both his concern with the 'immediately biopolitical significance of the state of exception as the original structure in which law encompasses living beings by means of its own suspension', and also his attention to the indefinite temporal character of provisions meant to be temporary (Agamben 2005: 3). His analysis of the Covid-19 pandemic retains this focus. Agamben (2021: 30) writes: 'It is not only, and not really, the present but the future that concerns me. Just as wars have bequeathed us a series of nefarious technologies, it is very likely that, after the health emergency is over, governments will attempt to continue the experiments they couldn't previously complete.' As I will suggest later, biological security can be fashioned as a boundless and interminable pursuit, and Agamben's concerns merit serious consideration in light of David Morens' and Anthony Fauci's (2020: 1077) suggestion that 'we have entered a pandemic era'.

Other theorists have been attentive to similar operations. In the Introduction to their edited book, *Contemporary States of Emergency: The Politics of Military and Humanitarian Interventions*, Didier Fassin and Mariella Pandolfi (2013: 9) suggest that 'the rhythm of life in contemporary societies is punctuated by disaster'. They demonstrate how disasters and conflicts mark the occasion for a logic of intervention that has two key elements: 'a temporality of emergency, which is used to justify a state of exception, and the conflation of the political and moral registers manifested in the realization of operations which are at once military and humanitarian' (10). They describe a new paradigm of contemporary interventionism that is premised on saving lives and protecting populations, or in other words, health and biosecurity.

This makes it possible to engage in war in the name of humanitarianism, for instance, as was the justification for the invasion of Iraq in 2003, and a number of other subsequent military occupations. Because such interventions are extralegal, they require the appearance of legitimacy, which is sought through humanitarian and moral registers. The logic goes as follows: 'The urgency of the situation and the danger to victims—both of war and of disaster—justified the exception of the intervention, which then needed no further justification, least of all in law.' (Fassin and Pandolfi 2013: 13) Fassin and Pandolfi caution that we cannot be complacent with such humanitarian explanations, which often conceal economic and political agendas.

The task for the left, then, is to grasp new geographies of conflict, comprehend what states of emergency conceal, and what transformations they initiate. As Fassin

and Pandolfi (2013: 18) put it, '[t]he state of exception, announced as a temporary measure, becomes permanent. The suspension of sovereignty, promised to be of limited duration, lingers on. It is therefore crucial that analysts consider not only intervention, but also, and perhaps more importantly, the post-intervention context.' Like Agamben, Fassin and Pandolfi are attempting to ask (un)timely questions about the aftermath—questions that don't belong (they have no place) to, or in, the meantime, and appear unintelligible to the new chronic mode.

The Biological Turn in the War on Terror: The Case of Project BioShield

One case that is particularly relevant right now is the development of the biological war on terror and the passing of the Project BioShield Act of 2004 (Project Bioshield Act of 2004 2004). The Anthrax Vaccine Immunization Program (AVIP) was established by the U.S. Department of Defense (DoD) in 1998. It subjected members of the U.S. Armed Forces to mandatory administration of a vaccine known as Anthrax Vaccine Adsorbed (AVA). A shortage of the vaccine in July of 2000 led the DoD to temporarily suspend the AVIP. Just seven days after the events of 11 September 2001, anonymous letters containing anthrax were mailed to U.S. politicians and media offices, and, as a result of these events, the AVIP resumed shortly thereafter in 2002. At this time a group of service members filed a lawsuit against the DoD (Doe v. Rumsfeld 2003: 297). The plaintiffs maintained that AVA

is an experimental drug unlicensed for its present use and that the AVIP violates federal law (10 U.S.C. § 1107), a Presidential Executive Order (Executive Order 13139), and the DoD's own regulations (DoD Directive 6200.2), plaintiffs ask that in the absence of a presidential waiver the Court enjoin the DoD from inoculating them without their informed consent. (Doe v. Rumsfeld 2003: 297)

While AVA was approved for cutaneous anthrax, it was not licensed for inhalation anthrax, which is what the DoD mandate sought to use the vaccine against, qualifying it as an off-label use. This off-label use would require informed consent from service members on the receiving end of the medical procedure—an important detail given that the product insert for this particular vaccine reported 'an adverse reaction rate between 5.0 percent and 35.0 percent' (Doe v. Rumsfeld 2003: 297). On 22 December 2003 a federal court halted the AVIP for failing to adhere to these informed consent requirements. Just eight days later the Food and Drug Administration (FDA) claimed that AVA was safe and effective 'independent of the route of exposure', and therefore could be used not just for cutaneous anthrax but also inhalation anthrax (Doe v. Rumsfeld 2004: 341). This hasty determination, however, failed to follow the correct procedures, and was a violation of the FDA's own approval regulations. Thus another lawsuit was filed (Doe v. Rumsfeld 2004: 341).

In July of 2004 the Project BioShield Act was passed into law (Project BioShield Act of 2004 [2004](#)). The program committed \$5.6 billion to the development of vaccines to protect against bioterrorism. It also included provisions for emergency use authorizations of unlicensed medical products, allowed for the fast-tracking of clinical trials, and expedited FDA approval in emergency situations. In the face of the DoD's likely defeat (the court eventually ruled on *Doe v. Rumsfeld*, 341, in favor of the plaintiffs in October of 2004), Project BioShield's provisions for emergency use authorization of unlicensed medical products would provide a mechanism to circumvent legal limitations. In addition to the substantial transfer of public money to the biopharmaceutical industry, the program set in motion a series of protections for drug makers. Moreover, this was followed with Congress passing the Public Readiness and Emergency Preparedness Act in 2005, which provides immense liability protection for vaccine manufacturers, socializing risk and allowing the private sector to focus on making obscene profits (Public Readiness and Emergency Preparedness Act [2005](#)).

These, along with numerous other state projects to protect against bioterrorism at the time (e.g. BioWatch), are no doubt significant thresholds which codify the state of exception. They firmly establish public health discourse in militarized registers, steer infectious disease research to the ends of biodefense, transfer huge amounts of public resources to private corporations, crystalize and grant legitimacy to a new matrix of power, and allow the government and biopharmaceutical industry to bypass important measures in times of emergency. These acts, which were passed under the pretense of emergency are still, of course, operative today.

Cascading States of Exception, and their Nefarious Technologies

While somewhat cumbersome, the developments described above are important, especially at a time when many on the left are questioning Agamben's theses. Many of these same critics embraced his theory of the state of exception when it applied to U.S. foreign and domestic policies after the events of 11 September 2001 but they question its relevance for an analysis of the Covid-19 pandemic response. However, as I have demonstrated above, the very state of exception that Agamben writes about today is structurally linked to—and cascades from—the state of exception that informed his analysis of the U.S.A. Patriot Act. Project BioShield must be understood as one of the many 'nefarious technologies' that derived from the war on terror. Put differently, we are still dealing with the ramifications of the post-intervention context of 11 September 2001.

Just as crises today cannot be neatly delineated and separated from one another, and are perhaps better described as a series of cascading crises, the state of exception that Agamben describes in *Where are We Now?* ([2021](#)) cannot so easily be separated from the *context* that informed his analysis of *State of Exception* ([2005](#)). Thus

a variation on the thesis emerges, one which, in the confines of academic writing, could not be easily stated earlier, and can only emerge in unexpectant fashion, without warning: we are, in many ways, still living in the meantime (and meanspace) of 11 September 2001. This meantime, of course, is differentially experienced, and it is important for postdigital theorists to think through the vast implications of such a meantime, and how it constrains our ability to politically meet many of the biggest challenges of the day: war, severe climate change, pandemics, nuclear weapons, migration, and freedom of movement. It matters not that we call it ‘the meantime of 11 September 2001’ or any other such event. The event only serves to punctuate the temporal logic, which now permeates all disasters, catastrophes, and conflicts. It is simply *the meantime*.

What I hope to make clear here is that Agamben’s (2021: 30) claim about the state of exception bequeathing ‘us a series of nefarious technologies’ deserves serious consideration. Fassin and Pandolfi (2013: 16) express a similar concern, writing that ‘the state of exception mobilizes technologies in the legal, epidemiological, and logistical fields, and even a form of technicality, which neutralizes political choices by reducing them to simple operational measures’. We should refuse to render technologies politically neutral, and our debates about the technologies that are deployed in states of exception should not be strictly limited to technicality, operational measures, logistics, and distribution. Agamben refuses to submit to the terms of technicality that the state of exception demands and instead asks questions about the afterlives of nefarious technologies and the relations of domination that they set in motion. If we think about technologies broadly, as ‘an assemblage of social and human relations within which equipment and techniques are only one element’, then we begin to understand how they are inscribed with particular assumptions and presuppositions that are inseparable from the capitalist, imperial, and colonial contexts from which they emerge (Rose 2007: 16).

There is No Alternative: The Meantime and the Epistemological Closure of Alternatives

The logic of capitalist realism suggests that capitalism is the only viable system (Fisher 2009). *There is no alternative*. The cultivation of capitalist realism depends on violence, fear, insecurity, and epistemological enclosures. It is also necessarily buttressed by triumphalist and exceptional stances that are similar to those that Sandra Harding (2018) described in the context of Western science. Such stances presume capitalism is superior, which also requires annihilating alternative ways of being, knowing, sensing, dreaming, interacting, and living. Perhaps, as David Graeber (2011) intimated, ground zero of capitalism is the devastation of the imagination. While this may be the case, we should understand how the establishment of *no alternative logics* generates from, and is inscribed in, tangible practices, policies, and relational formations.

Returning to the example of the Project BioShield Act of 2004, it is important to note that one of the specified conditions for emergency use authorization is ‘that there is no adequate, approved, and available alternative to the product for diagnosing, preventing, or treating such disease or condition’ (Project BioShield Act of 2004 2004). Here, it is important to think about emergency use authorization in the terms described above, that is, as a technology that encompasses a broad assemblage of relations. In a context where biomedicine, bioscience, and biotechnology are appropriated by capital and enlisted in projects of capital accumulation, the assemblage of relations at play to ensure these conditions—that there is no alternative—is vast.

In the U.S. this assemblage is constituted by a broad range of actors, including biopharmaceutical companies and their corporate public relations departments, health agencies, investors and venture capitalists, Wall Street speculators, mainstream media, social media platforms, and the state (Sunder Rajan 2006). During the Covid-19 pandemic, and from a very early stage, this assemblage has insisted that there is no alternative to vaccination, and it has relentlessly maligned less lucrative and more readily available treatments, claiming that there is a lack of data showing their effectiveness. Such vaccine-centric explanations obscure the speculative-driven practice of biomedicine and the landscape of biocapitalism that sets the coordinates for what products are *worth* clinical trials. It also obscures how those clinical trials are funded. It is important to at least fathom how the stipulations for emergency use authorization, and the assemblage of forces at play, foster forms of epistemological enclosure.

Specifically, these conditions produce profoundly consequential epistemic deficiencies, accruing through *epistemic arrogance*, *epistemic laziness*, and *close-mindedness* (Medina 2013). José Medina’s *The Epistemology of Resistance* (2013) provides a sense of how asymmetrical power relations can result in situations where powerful assemblages are especially vulnerable to epistemic vices. Medina suggests that epistemic arrogance results when one’s assertions circulate without resistance. When this happens, it can lead to bad epistemic habits, namely the inability to acknowledge mistakes, limitations, and errors. Moreover, epistemic arrogance cultivates an insensitivity to contrary evidence and alternative viewpoints.

Powerful biopharmaceutical companies whose aim is to produce profitable drugs do not need to know about alternatives. In fact, this assemblage needs not to know. It censors subjugated knowledges and any critique that could potentially be perceived to threaten biopharmaceutical companies’ quest for profit.⁵ When U.S. mainstream media becomes complicit in this process and blurs medical reporting and

⁵At the time of this writing, Twitter’s ‘Covid-19 misleading information policy’ describes how users posting false or misleading information can experience ‘tweet removal’ and ‘permanent suspension’. As an example of misleading information, the policy seeks to label tweets containing ‘[f]alse or misleading claims that people who have received the vaccine can spread or shed the virus (or symptoms, or immunity) to unvaccinated people’. See Twitter (2021).

promotion of biopharmaceutical products, this enables epistemic arrogance.⁶ This epistemic arrogance both results from, and exponentially fosters, forms of epistemic laziness: a ‘socially produced and carefully orchestrated lack of curiosity’ about alternative treatments or approaches to Covid-19 (Medina 2013: 33). Finally, epistemic closed-mindedness ‘involves the lack of openness to a whole range (no matter how broad or narrow) of experiences and viewpoints that can destabilize (or create trouble for) one’s own perspective’ (Medina 2013: 35). Once this assemblage concludes that there is no alternative, it must deny consideration of certain social and empirical realities. These assemblages and the epistemic habits that they encourage in times of emergency should be put into question. We should also think about what it would mean to decolonize and disentangle this assemblage.

Decolonizing Dominant and Imperialist Narratives: Breaking the Binds of the Meantime

Decolonial theorists are indispensable for such a project of disentanglement. As Boaventura de Sousa Santos writes, decolonizing ‘modern’ science requires

[t]aking into account the partiality of scientific knowledge, that is to say, recognizing that, like any other way of knowing, science is a system of both knowledge and ignorance. Scientific knowledge is partial because it does not know everything deemed important and it cannot possibly know everything deemed important. Moreover, it conceives of its progress as a process of actively destroying other, rival knowledges while refusing to consider if such destruction is an unconditional human good or rather a human good or a human bad depending on criteria that are external to science. Within the scope of the ecologies of knowledges, science must be confronted with the need to separate its methodological autonomy from its claim to exclusive validity (the only valid or rigorous knowledge). (Santos 2018: 134)

If ‘modern’ science claims a ‘radical monopoly’ as the only rigorous form of knowledge, then part of such a delinking project requires understanding how we have arrived at this particular moment (Illich 1973). This is an expansive project beyond the scope of this chapter but it could involve an exploration of the links of modern medicine, capitalism, and imperialism. This could include an interrogation of the triumphalist and exceptional stances of Western medicine, and the continuity between historic colonial projects of forced vaccination and the no alternatives to vaccination logic of today.

For instance, Edward Jenner’s introduction of the smallpox vaccine in 1796 was inspired by the practice of variolation, which involved deliberate infection through a variety of techniques so that individuals would contract a milder form of the disease. In spite of the triumphalist narratives about the smallpox vaccine, it is widely

⁶ Importantly, a select few parent companies own and control the vast majority of U.S. mainstream news outlets, and they are heavily funded by Big Pharma.

noted that variolation was incredibly effective in reducing smallpox deaths.⁷ Long practiced outside of Europe and the United States, Cotton Mather appropriated the practice of variolation after learning of its effectiveness against smallpox from enslaved Africans, and with the help of Zabdiel Boylston he inoculated hundreds of people in Boston as smallpox ran rampant over an eight month period between 1721 and 1722 (Minardi 2004). This was some 70 years prior to the introduction of a smallpox vaccine.

As historian Margot Minardi (2004) points out, the practice of variolation in Boston at this time spurred controversy for two primary reasons. One, physicians objected to the practice of variolation being administered by untrained ‘midwives’ and ‘laymen’ because this would jeopardize their ‘concentration of medical authority’ (53). And two, as Minardi (2004: 76) details, there was the epistemological problem of what white Bostonians were to make of the testimony of enslaved Africans: ‘what should they make of the medical knowledge of black African slaves?’

The practice of variolation triumphed and was practiced throughout Europe. It was regarded as especially important for the inoculation of troops, and it was promoted in British-controlled territories. It was promoted, that is, until the introduction of the smallpox vaccine. When the vaccine was introduced, a full-spectrum force campaign against variolation was launched, and vaccination became part of a colonial project. As Nadja Durbach notes,

When the British Raj attempted to impose vaccination on the Indian population, it was met with marked resistance. The imperial state replaced the indigenous practice of variolation, which had an important ritual component, with vaccination, which was practiced not by familiar members of the community but by those rightly seen as agents of the colonial state. In addition, vaccination entailed incorporating the cow, an animal sacred to Hindus, into the body. Compulsory vaccination thus disrupted local religious and healing practices. (Durbach 2004: 4)

What is crucial to highlight here is how this colonial practice of imposing vaccinations required ‘a process of actively destroying other, rival knowledges’ and practices in order to establish particular conceptions of medical authority (Santos 2018: 134). This involved profound forms of violence, policing, and coercion (Cohen 2009). To be clear, the general argument here is not to dispute specific vaccines or exalt the practice of variolation or other treatments. Rather my aim is to reveal the colonial assumptions and practices that inaugurate the no alternatives logic of vaccination today, and to demonstrate how such logic is entangled in capitalist and imperialist projects. Moreover, these practices are acts of enclosure that sever health from communal praxis, and dismiss alternative ways of knowing and being in the world.

This understanding is necessary to break the binds of the meantime, that is, to think and practice otherwise. This is where biopolitical genealogies are particularly

⁷According to the National Institute of Health, U.S. National Library of Medicine, ‘[b]etween 1% to 2% of those variolated died as compared to 30% who died when they contracted the disease naturally’ (U.S. National Library of Medicine 2013).

valuable. They help us problematize the present by ‘revealing the historical contingency of our own historically situated point of view ... showing how that point of view has been contingently made up and as such is bound up with particular relations of power’ (Allen 2016: 190). For Foucault, genealogy was a way to problematize the present by making it strange, revealing its epistemic violence, and opening a space beyond it.

Genealogical Analysis Beyond the Meantime

One such genealogy for a world beyond the meantime is Ed Cohen’s book, *A Body Worth Defending: Immunity, Biopolitics, and the Apotheosis of the Modern Body* (2009). Cohen painstakingly details how these biomedical technologies are also invested with particular assumptions about immunity. He traces how the concept of immunity first appears as a juridical and political construct, only to appear significantly later in the late nineteenth century as a concept of biomedicine. Importantly, in this migration, immunity retains the defensive posture that it acquired from politics and law, and thus biomedicine creates ‘immunity-as-defense’ (Cohen 2009: 3). The final sentence of Cohen’s (2009: 281) book reads, ‘there may be more to immunity than we currently know, or are indeed even capable of knowing, so long as we remain infected by the biopolitical perspectives that it defensively defines as the apotheosis of the modern body’. At their best, genealogies should retain this type of epistemic humility. They should also pose problems for politics.

On this account, another relevant text is Cooper’s *Life as Surplus: Biotechnology and Capitalism in the Neoliberal Era* (2008). Cooper expands on Foucault’s line of argumentation in *The Order of Things* (1994), where he suggests that the development of modern life sciences and political economy are mutually constitutive. Thus Cooper’s project involves an exploration of how neoliberalism is invested in the promissory logics and possibilities of the life sciences, and how these developments should be understood as parallel. In this way, the life sciences are being employed for the creation of capital accumulation and imperial projects, and, in the process, the life sciences are fundamentally being shaped by militarization and the promissory logics of biocapitalism. As demonstrated in the case of Project BioShield, the boundaries between biomedicine and war are blurred in official government formulations that treat infectious disease and bioterrorism as identical (see Project BioShield Act of 2004 2004).

This consolidation of infectious disease and bioterrorism establishes a new security discourse and fuses biomedicine, imperialism, and capital. As Foucault (1990: 137) claims, wars are increasingly being ‘waged on behalf of the existence of everyone ... in the name of life’. Thus it seems that with the legitimacy of the imperialist state waning in some respects, and with neoliberalism running out of ways to extract from the public, both can maintain their standing through the identification of a

biological threat. This poses a problem for politics, and particularly for anti-imperialist politics. As U.S. liberals have uncritically exalted the national security apparatus and war machine by obsessing over Russiagate, they may now be doing the same in the name of promoting ‘science’ and calling for its depoliticization in the cultural sphere. Should we be surprised that at the precise moment of formation of a new alliance of bioscience, biomedicine, health, defense, and national security institutions that liberals are calling to depoliticize science in such a way as to obscure these relations?

The alliance of bioscience, biotechnology, biomedicine, defense, and national security institutions—a new matrix of power—requires rethinking anti-imperialism. It also requires praxis that reveals the historical and ongoing colonial, economic, political, and imperialist attributes of biomedicine, biotechnology, and bioscience. This is imperative because, as mentioned earlier, complete biological security can never be obtained, and it is this seemingly vulnerable condition that will always be available to pronounce a state of emergency.

U.S. national security discourses have long relied on affective tonality in order to justify operations of domination. The security state must either create or embellish threats in order to mobilize fear and extend the meantime. For example, it is important to understand how a context of affective tonality enabled the passing of Project BioShield (see Project BioShield Act of 2004 [2004](#)). In 2004 the American people were still gripped with *derivative fear*, stoked by a media that used technologies such as the color-coded terrorism threat advisory scale. The color-coded scale instilled a perpetual sense of insecurity, and it is worth noting that it was operational until 2011. Derivative fear is a concept that Zygmunt Bauman ([2006](#): 3) has borrowed from the sociologist Hugues Lagrange to describe a type of secondary fear that forms and lingers in situations ‘whether or not a menace is immediately present ... even if there is no longer a direct threat to life’. It is a fear that outlives any actual threat, and because it resembles a sentiment of being susceptible, insecure, and vulnerable, it shapes our perceptual frames and behaviors.

It is crucial to note that the state of exception both relies on and manufactures derivative fear (more so than say, manufacturing consent) in order to legitimize operations of suspension. Suggesting that ‘the terrorist threat continues’, President of the United States, Joseph Biden ([2021](#)), for example, just reissued the National Emergencies Act, 50 U.S.C. 1622(d). This reauthorization continues ‘for 1 year the national emergency previously declared on September 14, 2001, in Proclamation 7463, with respect to the terrorist attacks of September 11, 2001, and the continuing and immediate threat of further attacks on the United States’ (Biden [2021](#)). Ensuring the constant circulation of derivative fear in the infosphere is a key technique to not only justify exceptional measures but keep them in place. Thus we could say that the production of derivative fear is also a technology, and it is one that fastens us to the temporal logic of the meantime.

The Subjective Figures of the New Chronic Mode and the Temporal Formation of the Meantime

The new chronic mode is an ideological formation that is unique to our present moment of contemporary capitalism, and it operates by extending the present into the future and denying any consideration of the terminal. It is ideological to the extent that it structures a particular reality, and we could say that it is postdigital insofar as it is uniquely a product of late capitalism's continuous folding of life, science, and technology. For Cazdyn (2012), the new chronic mode is evident in the ways that reconfigurations of global capitalism have propelled new biomedical technologies and practices that privilege management and displace cure. This focus on health management can be traced to a 'prescriptive moment' emerging in the 1980s. What is unique about this prescriptive moment is how new technologies are able to act at the molecular level to manipulate cell growth and interaction.

However, Cazdyn (2012: 22) cautions that 'the prescriptive meantime becomes the permanent destination rather than a temporary moment of development'. As a result, not only does this alter our relation with traditional medicine practices focused on 'causes instead of effects', and 'wholes instead of parts', it alters our relation to life and death. It is worth reiterating here, however, that the new chronic mode is not simply a medical category. Rather Cazdyn is interested in the shared formal logics that manifest across cultural and political terrains. Thus it is important to consider the political implications of Cazdyn's discussion of the terminal and the permanent deferral of death—and, in particular, the death of capitalism:

If the possibility of death is removed, if the terminal cannot be even considered or risked, we effectively rule out certain courses of action in the present whose ends cannot be known in advance (precisely because we cannot know if they will end in death or the death of the present system). To remove the possibility of death and settle for the new chronic is to choose the known limits of the present over the unknown freedom of the future. (Cazdyn 2012: 6)

Thus the new chronic mode and its temporal formation of the meantime crush our ability to imagine a future without capitalism and, according to Cazdyn, the technologies of the meantime also radically separate death from everyday life.⁸ When death is taken away from us and substituted for the new chronic, our ability to imagine radical and revolutionary alternatives is diminished, and we completely retreat from the project of organizing for revolution. Instead, we are vulnerable to a postrevolutionary politics that settles for targeting single issues to manage, and invariably extends the indefinite life of capital. Of course, this is not to say that all projects of political reform are dispensable. Rather, it is to say that we should not jettison revolution as possibility.

⁸On this point, Cazdyn's claim is far too general and requires qualification. Without such qualification, it is problematic in its failure to attend to the necropolitical realities of many around the globe for whom death is not radically separated from life (see Mbembe 2019).

What is crucial to emphasize here, and to add to Cazdyn's reading, is that the temporal arrangement of the meantime is also a *malicious* and *intentional* construct of capitalism. These supplementary notions of the *meantime*—the suggestion that it is emotionally *mean* and intentionally mean (it *means* to oppress)—can help us better grasp the relation between the meantime and forms of subjection.⁹ It can also help us understand how these forms of subjection are related to the ongoing reconfigurations of capital that keep us both tethered to and severed from the meantime. In this way, the meantime is a *cruel* and *intentional* arrangement, meant to engender particular (self-exploiting and adaptationist) forms of subjectivity, particular (fleeting) experiences of the world, and particular (isolated) ways of navigating those experiences. As an intentionally malicious and emotionally cruel formation, the meantime produces conditions of economic misery and despair, only to then mobilize emotion to produce more needs, estranging our relation to alternative futures (see Han 2021a). While it is urgent to theorize these various modalities of the meantime and the subjective figures that it aims to engender, the task that I will turn to now relates to the cultivation of forms of pedagogical praxis within, against, and beyond the meantime.

Pedagogical Praxis Within, Against, and Beyond the Meantime

In relation to Cazdyn's discussion of the terminal, and the permanent deferral of death, Foucault's (2003) distinction between biopower and sovereign power is worth considering once again. Whereas sovereign power is the right to take life and let live, biopower involves making live and letting die. Foucault (2003: 247) states that, with the ascendancy of biopower, death becomes 'something to be hidden away. It has become the most private and shameful thing of all.' As biopower invests in life, death is divested of its spectacular capacity for transformation. The signature moment of power today is making life, and it is increasingly exercised through a series of injunctions: optimize, fulfill, be productive, improve oneself, live better, live longer. This inflection on *making life* is certainly evident in educational institutions and broader educational logics of learning (Bourassa 2017; Ford 2016; Lewis 2013; Simons 2006).

It is also evident that the demands to be a performance subject, or achievement subject, give rise to insecurity and anxiety as increasingly common and shared conditions (see De Lissovoy 2018; Han 2015). In this way, the *meantime* is also arithmetically *mean* in the sense that it has a tendency to even out, or disperse, the logics

⁹I would like to thank Derek Ford for suggesting these alternative readings and framings of the meantime.

that inform the crises and permutations of capital.¹⁰ Despite this aggregating process, the meantime isolates, preventing our shared condition from being a catalyst for revolution. For example, we all feel tired but nonetheless tend to depoliticize tiredness in the form of a ‘tiredness-of-the-I’ rather than speaking of a collective tiredness (Han 2021b: 12). In fact, in perverse fashion, we might even say that the achievement subject is supposed to take delight in being more tired than others—a badge of their entrepreneurial ethos.

Biopower functions in education through this combination of injunctions and promissory logics: If one is productive, improves oneself, cultivates their human capital, and realizes their potential, then life will be enhanced. If one refuses the demands to be a productive lifelong learner, resists the optimization of their potential, and fails to be responsible for their own learning, then one is left to die. They are not killed by a sovereign but rather exposed and vulnerable to a death from malnourishment, disinvestment, neglect or abandonment (Bourassa 2017). Such death is typically out of view; power no longer requires death as a pedagogical spectacle. Nor does the sovereign figure preside over us with the sword as a mechanism of coercion. Rather, to evade death from malnourishment, we are to become self-investing entrepreneurial beings who govern ourselves and each other.

Put differently, power is interiorized, and we find ourselves folded into a ‘neoliberal regime of auto-exploitation’ (Han 2017: 6). In terms of political organization, this has drastic consequences. As Byung-Chul Han (2017) asserts, people are increasingly ‘turning their aggression against themselves. This auto-aggressivity means that the exploited are not inclined to revolution so much as depression.’ (Han 2017: 6–7) While trapped in the meantime, the new chronic mode prevails and, never to waste an opportunity in the meantime, it cruelly cashes in on our depression and anxiety. In this process, resilience becomes a broader cultural logic—a way to cope in the meantime—and grit is touted to us as a device to help us navigate through seemingly immutable social conditions (Slater 2022). We could say, following Graham B. Slater (2022), that the meantime not only produces subjective figures but an ‘adaptationist imaginary’ that stabilizes capitalist realism and forecloses radical and collective politics.

The *educational meantime*—the interminable time of education in the learning society—forfeits the present as a time for revolution and concedes the future to a series of subsequent nows that are structurally indifferent from the now of the present. As Jason Wozniak (2017) makes clear, debt is one of the more insidious technologies that capital employs to extend this control to the future and short-circuit the present. In this process, debt shapes, constrains, and individualizes subjectivity. We could also say that the logic of learning, more generally, is tethered to a ‘pedagogy of time’ that transforms us into economic subjects compelled to manage and curate ourselves in the meantime (Ford 2019). The logic of learning retreats from

¹⁰Despite differential vulnerabilities to the logics of capital, there is a tendency for capitalism, and particularly the temporal formation of the meantime, to create generalized conditions and generalized subjective modes of being.

relational conceptions of pedagogy and posits the student as a ‘learner’ who is responsible for their ‘learning’ (Biesta 2006).

Pedagogical praxis within, against, and beyond the meantime requires collective forms of relating, sensing, feeling, thinking, knowing, doing, and living that refuse full inscription into the new chronic mode and logics of the meantime. Here, collective action and a reappropriation of time are key components for forms of life that inhabit both the present-as-different and, at the same time, a future that is unknown and as of yet unwritten. A pedagogical praxis within, against, and beyond the meantime must also necessarily engage with various forms of life and death, experimenting with the ways that these terms and conditions both limit and enable relations to the terminal, and thus foreclose or permit practices of exit, affirmation, or negation. For example, we can discern from Foucault’s writing on the operations of biopower that the production of various forms of death—including exposure to death, betrayal, and expulsion—can both precede and yield relational conditions for the production of life (Bourassa 2018). Could we not also say that our ability to think and relate to various terminals—the terminal points of capital, the learning apparatus, the achievement subject, or the adaptationist imaginary—enables conditions for new forms of life and new ways of being otherwise?

The concept of exit—and the pedagogical praxis of *exopedagogy*—is instructive here. In one variant, *exopedagogy* ‘emphasizes pedagogy as an *action* of exodus that organizes study for the extension and intensification of the common’ (Lewis 2012: 859). Here, Tyson Lewis stresses *exopedagogy* as a praxis that breaks with the dialectic of the public versus the private and posits a location out of bounds. In another closely related variant, Lewis and Richard Kahn (2010: 12) offer the following distinction: while pedagogy is the ‘re-presentation of the example’, *exopedagogy* is the ‘re-presentation of the exceptional’. The affirmation of genealogies as antisciences that make possible the insurrection of subjugated knowledges embodies just one form of study with the exceptional that potentially alters the meantime by revealing its historical contingency.

Extending the concept of *exopedagogy*, Derek Ford offers the praxis of *exo-exopedagogy*. In this reading, Ford posits negation (or suspension) as the temporal axis of *exo-exopedagogy*. *Exo-exopedagogy* as a praxis of negation and suspension enables an exit from the present that allows us to relate differently to the present. Practices of negation, as Ford (2019) points out, are not merely premised on an assertion of opposition. Negation also involves forms of preservation, suspension, and innovation. To submit capitalist biomedicine, capitalist biotechnology, and capitalist bioscience to the praxis of negation involves a complex operation. ‘Rather than suppressing, disavowing, or annihilating the stated content, negation retains even that which is negated.’ (Ford 2019)

Such a process permits us to pinpoint an opposition to *capitalist* biomedicine, *capitalist* biotechnology, and *capitalist* bioscience, without jettisoning completely biomedicine, biotechnology, and bioscience. Negation disentangles biomedicine, biotechnology, and bioscience from capitalism, and thus opens these practices to new possibilities—a form of profanation that makes them available for a new use (Agamben 2007). Negation, as such, acknowledges the terminal—the terminal of

capitalism itself and the promissory forms of life that it has on offer. It rejects and refuses capitalism's power over life. More than this, negation 'sustains *all other potentialities*' (Ford 2019). We could say, then, that if *pedagogy* is the re-presentation of the example, and *exopedagogy* is the re-presentation of the exceptional, then *exo-exopedagogy* could be conceived as the re-presentation, or better yet the praxis, of the suspension of both the example and the exceptional.

Though much remains to be explored in regards to exopedagogy and exo-exopedagogy, the turn to questions of *organization* in these writings is promising. Along these lines, while it is beyond the scope of this chapter, the question of whether exit (or exodus) is a transitory phase (or movement) deserves more attention. Following Virno (2004), I would suggest that it is. This is important for a few reasons. First, it should serve as a caution against romanticized conceptions of exit that easily morph into escapism and passive withdrawal (Fleming 2017). Second, if exit is a transitory phase, that should attune us to the *rhythms of exit*, as well as the specific localities—locations and dislocations—of exit. Asking about the *rhythms of exopedagogy* and the *rhythms of exo-exopedagogy* is another way of asking about their movements and localities, and how these pedagogical forms of praxis can enter into relationality with other forms of praxis and pedagogy. Only in this way can we appreciate the full repertoire of pedagogical praxes that can be organized within, against, and beyond the meantime.

In closing, I want to reiterate the centrality of biopolitical and decolonial perspectives to the pedagogical praxis within, against, and beyond the meantime. Biopolitical and decolonial perspectives offer unique ground for exit, exopedagogical, and exo-exopedagogical praxis insofar as both confront the terminal, and both are concerned with forging new ways of being otherwise. Biopolitics as an affirmative project involves movement and subjective mutation from capitalist subjection to political subjectivation. For Maurizio Lazzarato (2014) this involves collective actions (strikes, struggles, revolts) that suspend the dominant significations and temporal regimes of capital. These actions enable a neutralization of capitalist subjection and initiate a process which is only the beginning of a 'new relation between "production" and "subjectivation"' (Lazzarato 2014: 19). This process permits new discourse, knowledge, and politics, but it requires a rupture from the new chronic mode, an acknowledgement of the terminal, and a receptiveness to the possibilities that the meantime forecloses.

Following Noah De Lissovoy (2018), one example of such an affirmative project of political subjectivation could start with a minor gesture: inviting students to betray their anxiety. As discussed above, anxiety is an increasingly generalized condition, though it is mostly experienced individually. A life in the meantime is an anxious life, and the collective betrayal of our anxiety is a betrayal of our isolation. As De Lissovoy (2018: 199) points out, such an invitation fosters a 'collective imagination against the given'. While such an imagination is necessary to exit the meantime, part of our pedagogical praxis must also involve attending to the ways that capitalism reappropriates our forms of struggle and reroutes our movements of exit. This is another reason why we should think of exit and exopedagogy in terms of rhythms and concrete movements.

Decoloniality may offer the most promising paths out of the meantime.¹¹ As a way of thinking, knowing, being, and doing that is informed by centuries of struggle against settler colonialism and the coloniality of power, decoloniality starts with a nuanced conception of the terminal. The projects of global capitalism and Western modernity, along with their temporal ordering and episteme, their hierarchical structures of race, gender, and heteropatriarchy, must be undone. Decoloniality acknowledges the terminal, and it also acknowledges how colonialism and coloniality reconfigure forms of life and death. Coloniality wounds, injures, and violates, closing off collective forms of life (human and more-than-human), ways of being, knowing, and doing, and it offers in place of these, impoverished forms of living better. As many decolonial theorists point out, living better is not living well (*buen vivir*) (Escobar 2020). This legacy, formed in struggle and praxis, offers paths for rethinking forms of educational life and death, and it recalibrates the very meanings of these terms and conditions as produced by capitalism and coloniality.

Capitalism and coloniality cannot offer us sustainable forms of life, and therefore the life that they bequeath should be negated and put in suspension, as should the forms of death that it makes us fear. In this way, decoloniality recognizes that an engagement with the terminal is necessarily a refusal of capitalism and coloniality's forms of educational life, and this puts us in proximity to certain forms of educational death. Thus decolonial pedagogies might involve a praxis of thinking-doing that delinks the efforts of capital and coloniality to unite educational life and living better. This collective project, which involves epistemic disobedience, and acts of betrayal of the colonial matrix of power, fosters new forms of political subjectivation that are more likely to offer paths out of meantime. Robust formulations of living well (*buen vivir*) founded in praxis and struggle disrupt the new chronic mode, suspend the meantime, and advance other ways of being, thinking, and doing that, in turn, reconfigure educational life itself. This form of relinking allows for educational life to be put to another use. This praxis both emerges from, and proceeds toward, a decolonial otherwise that is already here in the gaps of the meantime, and, at the same time, yet to come through the making of decolonial paths.

Exopedagogies and exo-exopedagogies are rhythmical forms of praxis and movement, and they are always already in relation with other pedagogical forms, struggles, and movements. As we attempt to engage in the difficult pedagogical work within, against, and beyond the meantime, it is not enough to simply call on a broad repertoire of pedagogical modes. We must also be attentive to questions of

¹¹ Following Catherine Walsh and Walter D. Mignolo (2018), I use of the term decoloniality here to refer to perspectives, expressions, thought, struggles, processes, practices, and above all, praxis. While some, like Linda Alcoff (2018: 30), might argue that decoloniality, and particularly decolonial pedagogy, 'is aiming for decolonizing effects', the relation between decoloniality and decolonization is fraught with complexities. While Mignolo (in Walsh and Mignolo 2018: 121) concludes that the meanings of decolonization are today altered, he suggests that the 'task of decoloniality after decolonization is redefined and focused on epistemology and knowledge rather than the state; or, in Western political theory that sustains the idea of the state. It still means to undo, but the undoing starts from "epistemological decolonization as decoloniality." And it means to build a praxis of living and communal organization delinking from the modern state and capitalist economy'.

their organization, relationality, rhythms, localities, and susceptibilities to capture. There is much to do in the meantime.

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Ecopedagogy Disrupting Postdigital Divides of (Neo)Coloniality, (Eco)Racism, and Anthropocentrism: A Case Study



Greg William Misiaszek , David Yisrael Epstein-HaLevi, Stefan Reindl , and Tamara Leann Jolly 

Introduction

To begin discussions on postdigitalism and ecopedagogy we begin with the following words from Paulo Freire on technologies and sciences, which is fitting seeing that ecopedagogy is grounded in Freire's work (Gadotti 2000; Gutiérrez and Prado 1989; Kahn 2010; Misiaszek 2012, 2020a; Misiaszek and Torres 2019).

[T]he day that the forces of power and domination which govern science and technology are able to discover a way to kill intentionality and the active character of consciousness which makes consciousness perceptible to itself, we will no longer be able to speak of liberation. But precisely because it is *not possible* to kill or blot out the creative, re-creative and receptive force of consciousness, what do those in command do? They mystify reality because, as there is no reality other than the reality of consciousness, when the reality of consciousness is mystified the consciousness of reality is mystified as well. And by mystifying the consciousness of reality, the process of the transformation of reality is obstructed. (Freire in Torres 2009a: 4) (emphasis added)

G. W. Misiaszek (✉)

Beijing Normal University, Beijing, China

Paulo Freire Institute, UCLA, Los Angeles, CA, USA

D. Y. Epstein-HaLevi

Adirondack Diversity Initiative, Saranac Lake, NY, USA

State University of New York (SUNY), Albany, NY, USA

S. Reindl

Beijing Normal University, Beijing, China

e-mail: stefan@mail.bnu.edu.cn

T. L. Jolly

SUNY School of Environmental Science and Forestry's Ranger School, Albany, NY, USA

This quote should be read alongside arguments in *Pedagogy of the Heart* (1997), in which Freire stressed that he is not against science but not everything comes down to sciences, or specifically *scientific* rationality. Although Freire did not write extensively on technologies, holistically reading his lifetime's work illuminates this stance of emphasizing the politics (or governing controls) of technologies. We later deconstruct differing lower/upper letter-casings of *s/Sciences* and *t/Technologies*. To begin, we emphasize that teaching to read the contextual politics of, for example, inventing, (de)legitimizing, funding, and (not) having access to digital technologies (i.e., forming digital-divides), allows for better understanding their usage leading towards or away from socio-environmental justice and planetary sustainability. Freire (in Torres 2009a: 4) emphasizes the need to counter oppressive technologies, or more specifically the *uses of* technologies that mystify realities with (un)intentional unjust outcomes.

The phrase *uses of* indicates that most technologies are not inherently unjust, but specific usages of technologies form contested terrains of socio-environmental (in)justices and planetary (un)sustainability through planetary and/or anthropocentric lenses. To give an extreme example, using a nuclear warhead will, without question, lead to mass destruction of Nature, including humans as part of Nature, so socio-environmental injustices will emerge by its usage in any circumstance. Oppositely, Internet technologies are contested terrains which provide communications that can either deepen and widen socio-environmental understandings or spread post-truths that entrench widespread climate change denial. Discussing such contested terrains, McLaren and Jandrić give the following quote by Fawns (2019) to discuss the 'post-digital condition [as] the elephant in the room':

While most people will agree that '[a]ll teaching should take account of digital and non-digital, material and social', it is much more difficult to critique own philosophical positions and accept that 'ideas like "digital education" are useful insofar as they encourage people to look closer at what is happening, but become problematic when used to close down ideas or attribute instrumental or essential properties to technology'. (McLaren and Jandrić 2020: 292)

Looking at the growth of social media and the share of our time absorbed by it, as well as the degree to which digital monopolies (e.g., Amazon and Netflix in entertainment; Facebook, TikTok, and Instagram in social media) have become engrained into our lives, it becomes apparent that the use and understanding of critical media culture literacies, the importance we ascribe to them, and the attention we ought to dedicate to teaching them to students, need to evolve along with technological *developments*, as argued by Kellner and Share (2007). This includes countering oppressive, anti-environmental (uses of) technologies that are often falsely touted as *development* for all with their planetary (un)sustainability ignored.

To limit this chapter's scope, we discuss sciences specifically as leading to develop and innovate technologies, with both *development* and *innovation* not necessarily beneficial nor environmental. Education has inherent goals for development, but teaching for critical literacy on how *development* is framed is essential, including in ecopedagogies, to continuously problematize *development for who?* Within ecopedagogical literacies, the *who* includes Nature holistically, especially

when touting *sustainable development* (Misiaszek 2018, 2020b). Ecopedagogical literacies are plural, aligning with the below quote:

The idea behind multiple critical literacies is that diverse and multimodal forms of culture blend in lived experience to form new subjectivities, and the challenge for radical pedagogy is to cultivate subjectivities that seek justice, more harmonious social relations, and transformed relations with the natural world. (Kellner and Gennaro 2021)

Within our postdigital world the question is how we can teach *ecopedagogical literacies* of technologies reinvented from critical, Freirean literacy pedagogies and through lenses of media culture theories, globalizations, coloniality, racism/whiteness, feminism, queer theories, and Southern/Indigenous epistemologies, among others.

In this chapter, we weave these various aspects to first discuss key digital divides that need *bridging*, or - possibly better termed - *disrupting* the divides themselves, for successful ecopedagogy. We then analyze a project-based course attempting to do this utilizing, in part, Internet tools. When discussing divides, we widen traditional, technocratic digital divides' framings of access and knowledges of technologies with recognition of needing their disruption/bridging. *Divides* and *bridges* metaphors include (un)taught crucial literacy education to read for pointing out how technologies sustain or counter socio-environmental injustice (i.e., *divides*) and the politics of why, as well as praxis to end/reverse such uses of technologies (i.e., *bridges*). *Reverse* indicates Kahn's (2010) arguments that ecopedagogical teaching includes reinventing technologies' usage towards socio-environmental justice. Kahn (2010: 66) proposes that 'literacies are themselves technologies of a sort — meta-inquiry processes that serve to facilitate and regulate technological systems', serving as, in many ways, both the medium and subject to be critically deconstructed. Critical *literacies of technologies* and *technologies of literacies* are an essential part of ecopedagogy in order

to comprehend and make oppositional use of proliferating high-technologies, and the political economy that drives them, toward furthering radically democratic understandings of and sustainable transformations of our lifeworlds ... allow[ing] for popular interventions into the ongoing (often antidemocratic) economic and technological revolutions taking place, thereby potentially deflecting these forces for progressive ends like social justice and ecological well-being. (Kahn 2010: 66)

We utilize and construct technologies' divides as fluid, collapsible/solidified, and contextually defined and conceptualized dependent on positionalities of often opposing beneficial/oppressive effects — frequently coinciding with socio-historical oppressions. Taught critical/ecopedagogical literacy helps environmental praxis to emerge in narrow gaps between divides (or *bridging*), as too many pedagogies widen gaps (e.g., banking, colonizing, and Northern epistemological pedagogical models).

We argue that ecopedagogues must teach by utilizing diverse and often conflicting epistemologies for authentic, transformative reflexivity in ways similar to Santos' (2018) *ecologies of knowledges*, Warren's (2000) use of (eco)feminism's *quilting*, and de Oliveira Andreotti's (2011) *weaving* threads for decolonial

tapestries. In a similar fashion, we argue for disrupting Northern epistemological groundings of justifying technologies and their usage, and weave/quilt various critical theories to deconstruct postdigitalism upon (anti-)environmental pedagogies.

This chapter focuses on needed ecopedagogical work on teaching to read for deconstructing complex, structurally hidden, and intersectional *commonsense* of ecoracism, coloniality, Northern epistemological dominance, and anthropocentrism. We first discuss some of the key needs, challenges and ecopedagogical possibilities for such disruption to occur by *bridging* socio-environmental divides emergent from in/non/formal education that instills such false commonsense. This chapter's second part analyzes the ecopedagogical goals, successes, and failures of a Higher Education (HE) course rooted in reaching these goals from the perspectives of the professor (a chapter author) and students. The course's additional goal not already mentioned is disrupting gendering and heteronormativity.

Ecopedagogical Postdigitalism: Grounding *d*evelopment and Planetary Sustainability

Kellner and Gennaro (2021) argue that the incorporation of technologies within pedagogies should have goals of 'respond[ing] to, mediat[ing], and develop[ing] in pedagogically progressive ways the technologies and global conditions that help make possible democratized transformative modes of education and culture'. Within ecopedagogical concerns we ask: What consideration, if any, does the rest of Nature have towards this end? We argue the need of Nature's wellbeing and planetary sustainability must not be a tangent postdigital education but grounding *with* such anthropocentric liberation.

Jandrić and Hayes (2021) argue that '[w]e now live in a postdigital age, where human destinies cannot be thought of without technologies' and that our postdigital world is 'hard to define; messy; unpredictable; digital and analog; technological and non-technological; biological and informational' (Jandrić et al. 2018: 895). Humans' ability to *development* by using and transforming their environment can be witnessed by us, as Jandrić and Hayes (2021) express, 'because of technologies such as fire, clothing, and agriculture'. The contested terrains of our technologies for (de-)development and (un)sustainability is *within* our world rather than the rest of Nature *outside* of us humans (see Misiaszek 2020a, b). However, technologies including those responsible for creating our postdigital world affect all of Nature, as our world is part of Earth.

Freire (2000, 2004) argued that humans have the unique ability to *transform* (or *make*) the world due to our reflexivity upon our histories and dreams, as opposed to the rest of Nature that adapts (and slowly) evolves without reflexivity (Gadotti and Torres 2009). Critically reading our postdigital path includes us problematizing if technologies and our usages of them are true tools for development within globally inclusive socio-environmental justice models, planetarily sustainability, and not

dominating the non-anthroposphere to distance us humans from the rest of Nature (i.e., *world-Earth distancing*). We see this problematizing of world-Earth (de-)distancing as Jandrić and Hayes' (2021) ecopedagogical call for postdigitalism's need for 'a new transdisciplinary "nano-bio-info-cogno" paradigm which encompasses traditional disciplines in the natural sciences such as biology, chemistry, and physics'.

Rather than teaching environmentalism as opposing new technologies because they are deemed as outside of Nature, Kellner and Gennaro argue that

[i]f young people are to write themselves into existence, they must be literate in the language of the digital culture, which presides over modern subjectivity in current moment ... digital literacies are necessary, but they need to be articulated with print literacy, in which multiple literacies enable students and citizens to negotiate word, image, graphics, video, and multimedia digitized culture. (Kellner and Gennaro 2021)

Gennaro (2010) argues that the *writing into existence* of students is largely made possible through technologies, although the opposite also occurs. An ecopedagogical question is: What do we teach in writing in *our* exitance as part of Nature, or as opposing separate from the rest of Nature? Are we teaching digital literacies for technologies to be tools for globally inclusive, planetarily sustainable development or Development for a few leading to de-development for everyone else?¹ Teaching for the former in conjunction with countering the latter is essential.

We end this section on the postdigital arguments on the borderless nature of analog and digital literacy and dialogue, as argued in the quote below:

New platforms and formats appear by the day and irreversibly change the way we 'read' and 'write' information in digital environments (Peters and Jandrić 2018). Furthermore, 'we are increasingly no longer in a world where digital technology and media is separate, virtual, "other" to a "natural" human and social life' (Jandrić et al. 2018: 893). There is no such thing as 'purely digital' dialogue or 'purely analogue' dialogue; the first has clear biological aspects and the second is always informed by the first. Situated within the powerful dialectic 'between physics and biology, old and new media, humanism and post-humanism, knowledge capitalism and bio-informational capitalism' (Jandrić et al. 2018: 893), today's dialogue is inherently postdigital. (Jandrić et al. 2019: 164)

Reinventing Freirean pedagogy contextually rather than simply reproducing or duplicating his work is a tenet of Freire (see Morrow 2019), including dialectical teaching for critical, ecopedagogical literacies within new (digital) platforms. In this chapter's case-study reading and dialogue within the learning spaces are, in part, through the development, watching, and dialogue from TikTok videos. This chapter is too short to elaborate on what we would gather as Freire's exact thoughts

¹We 'utilize the lower-cased development and upper-cased Development to indicate, respectively, empowering versus oppressive, holistic versus hegemonic, just versus unjust, sustainable versus unsustainable, and many other opposing framings of who is included within "development" and framings of d/Development goals. There are no absolute origins or framings differentiating between d/Development, but rather the essence and outcomes of their framings ... Constructs of development that counters growth towards and emergent from Development.' (Misiaszek 2020a) Development (or development) without being italicized and underlined indicates development in general (i.e., either or both forms of development).

would be on postdigital literacy and dialogue as inseparable with analogue modes, but we do argue that he would agree that reinvention is essential. In various aspects, this chapter is some of this reinvention.

Ecopedagogy, Freire, and Technologies

Coinciding with Freire's quote on technologies (in Torres 2009a: 4), we argue the need to teach literacy that problematizes technologies as tools assisting in bettering the world or not – with *bettering* grounded in socio-environmental justice and planetary sustainability. In turn, (uses of) technologies which defy this framing must be disrupted. Although Freire did not discuss technologies to a great extent and often took a more negative tone to them when he did, his critiques were focused on (de)humanizing aspects of technologies. Freire (2004) argued that: '[t]o the extent that we accept that the economy, or technology, or science, it doesn't matter what, exerts inescapable power over us, there is nothing left for us to do other than renounce our ability to, to conjecture, to compare, to choose, to decide, to envision, to dream' (Freire 2004: 33).

Similarly, Illich (1983) argued that when technologies determine our world and how we see Nature, we become the *playthings* for scientists, engineers, and planners. The question for ecopedagogues is: How do we teach for praxis to reconstruct/reinvent technologies to be tools to counter these warnings of dehumanization and world-Earth distancing from Illich and Freire (especially his later works for the latter (see Misiaszek and Torres 2019)?

Freire's quote below further illustrates his calls for education to disrupt dehumanizing technological rationality (or *technocratic rationality*).

Precisely because the advancement of innocence toward criticalness does not take place automatically, one of the primordial tasks of progressive educational practice is exactly the development of critical curiosity never satisfied or docile. That is the curiosity with which we can defend ourselves from the 'irrationality' resulting — from certain excesses of our highly technological time's 'rationality.' This analysis, however, carries no falsely humanistic impetus against technology or science. On the contrary, it seeks to imbue technology with neither divine nor diabolic significance, but to look at it, or even observe it, in a critically curious manner. (Freire 2004: 91)

Such critical literacy must also be ecopedagogical literacy with planetarization *with* and *beyond* humanism (i.e., beyond our anthroposphere) (Misiaszek 2018, 2020b), which Freire argued without using this specific terminology in his later works including *Pedagogy of Indignation* (2004). Freire argued against teaching a commonsense that technologies are unquestionably beneficial, but rather advocated for teaching to problematize how technologies are frequently dehumanizing and, as various scholars (Gadotti and Torres 2009; Kahn 2010; Misiaszek and Torres 2019) have argued through Freire's latter work, *deplanetarizing*. Curiosity, which Freire (1997) argued is the initial catalyst of research and problem-posing within critical

pedagogies, is systematically killed-off in banking education spaces and too frequently rationalized as abnormal.

Critical Issues and Theories to Weave: A Non-Exhaustive List

The following subsections are selected key ecopedagogical issues needed to thread through discussions of postdigitalism's inseparability from ecopedagogy for socio-environmental justice and planetary sustainability. Specific issues were selected, in part, to coincide with the case study discussed in the next section. These subsections serve as the issues' very brief introductions to initiate discussions of the case study.

Globalization as Neocoloniality Divides

The plural form of globalizations indicates the contested terrain of the processes of globalization *from below* and *from above* (Torres 2009b), with which we are concerned here with processes utilizing technologies that parallel (neo)coloniality for epistemicide of Southern ways of knowing, including Indigenous epistemologies. Kellner and Gennaro's (2021) description of globalizations' influences upon (or politics of) technologies helps illuminate the vastness of its tentacles.

[Globalizations include] 'the movement, interaction, sharing, co-option, and even imposition of economic goods and services, cultures, ideas, ideologies, people's lives and lived experiences, food, plants, animals, labour, medicine, disease, learning, play, practices, and knowledge(s) across time and space(s) previously thought to be impossible or at the very least improbable' (Gennaro 2010) to reinvent critical theories of education for literacies to read technologies positive and negative effect locally. (Kellner and Gennaro 2021)

Problematizing and extinguishing divides emergent from globalization entrenched within and sustaining/intensifying neocoloniality is essential with possibilities of technologies for globalizations from below to empower the local and the global South, including Indigenous populations. Towards this goal, Jandrić and Ford (2020) provide some key aspects of global hegemony in an increasingly borderless postdigital world.

In a globally networked postdigital age, which has transformed global structures of imperialism, settler-colonialism, and colonialism without changing their core features, issues of digital sovereignty come into play. These issues concern 'the relation between sited territories of local communities and the network systems that link us to global communications' as 'deeply shaped by geopolitical projects, corporate mechanisms, and governmental agencies' (LaBelle 2018: 82). (Jandrić and Ford 2020)

Jandrić and Ford (2020) argue through Grande's work on *Red Pedagogy* (2004) that critical postdigital scholarship must not ignore Indigenous/Southern epistemologies and pedagogies, and needs to 'acknowledge the uneven aspects of digital technologies, including their production, distribution, use, and impacts'.

It is important to note that local and/or Southern (including Indigenous) epistemologies do not indicate directly as being socio-environmentally just beyond the local context and/or planetarily sustainable (i.e., anti-environmental results within macro spheres beyond the local to the global and planetary spheres). However, epistemologies of the North grounded in coloniality, patriarchy, and capitalism will unquestionably not lead to these goals (Santos 2018). Technologies can offer possibilities to help bridge local populations' contextuality with the larger world and Earth holistically; however, this requires ecopedagogical reading and dialogue towards achieving this goal. Woefully, technologies are also utilized, sometimes overwhelmingly, for sustaining neocoloniality through globalizations to counter such efforts.

Neoliberal Divides

McLaren and Jandrić argue that pedagogical instilling of:

‘[t]he generalized commodity dependency’ that exists between the natural and the social world or ‘the interchange of matter and energy between humanity and nature through life-sustaining social structures’—it makes little sense to avoid discussing the creation of an alternative world system outside the social universe of value production (Reitz 2019: 41). (McLaren and Jandrić 2020: 231)

Grimshaw (2018: 1–2), in his *deliberate act of provocation as a manifesto call for change*, starts off his discussion of capitalism in digital society by proposing that ‘digital society is digital capitalism’ and that ‘[i]t does not matter in the end how we use the digital as much as how the digital uses us in various forms of extractive capitalism’. In *The Internet Is Not The Answer*, Keen (2015) argues that our digital society is a central reason for increasing disparities between the economically rich and poor due to a number of issues including the rise of digital monopolies (e.g., Apple, Google, Facebook), surveillance, and a lack of transparency in big data, to name just a few, to result in an online culture which enriches mostly young white men.

In this context, Grimshaw (2018) terms the concept of inherently oppressive *immaterial capitalism 3.0*, describing how such digital monopolies profit solely this population. This model is based on and feed by the data we, as users, unconsciously give and create with every use for *their* profit. Grimshaw (2018) argues this data collection has us ‘all work[ing] in a data factory whereby we labour to provide data that is sold without our consent to advertisers who use this to target us to consume more’ (4). This emergence and expansion of postdigital ‘exploitative, immaterial capitalism’ (6) highlights the need for ecopedagogical literacies to deconstruct such capitalistic, neoliberal postdigitalism. The inherent acceleration of capitalism, as well as technologies to support *and* emerge from capitalism’s acceleration, most often counters environmental sustainability (Rosa, Dörre, and Lessenich 2017), which

creates divides between socio-historically constructed forms of economics with adaptability and evolution of the rest of Nature (see Misiaszek 2020c).

Development guided by neoliberalism, untethered by Nature's limits (i.e., ignoring Laws of Nature) reaches us towards neoliberal modernity which, in turn, is living out Illich's (1983) predicted nightmares of modernization by contemporary m[e]n that will lead to humanistic and environmental doom. There are multiple modernities but Northern, neoliberal models are increasingly narrowing *being modernized* within this oppressive framework. Ecopedagogical work must include disrupting ideologies and goals of neoliberal modernity with fluid and plural modernities grounded in socio-environmental justice and sustainability (Misiaszek 2020c). Non-critical banking-style environmental pedagogies entrench neoliberalism as *natural* without alternatives and view the use and development of technologies as without limits especially when concerning singular goals of sustaining/intensifying hegemony.

Critical reading and re-reading technologies to unveil neoliberalism's inherent human suffering and, inseparable, environmental violence is foundational in ecopedagogy. When stating critical, ecopedagogical literacy we imply not only recognizing and understanding socio-environmental injustices and domination but also reading for praxis. This coincides with the inherent praxis aspect of critical theories within education (Gadotti 1996, 2019) and Freirean-based reinventions of critical pedagogies (Morrow 2019), on determining actions by ecopedagogically problematizing what is needed to bridge gaps between what is currently occurring socio-environmentally and utopic possibilities to cease all forms of oppressions and local-to-planetary unsustainability (Misiaszek and González 2022). Towards ending oppressive and unsustainable neoliberalism, McLaren and Jandrić (2020: 57) argue that 'ecopedagogic practices can be organized into a sort of "ecological discipline" (Fassbinder 2008), which would bind people to the defense of diversities both ecosystemic and social as against capital's manipulation of them'. Within our postdigital world, ecopedagogical literacy to deconstruct technologies *for* praxis towards this goal is increasingly essential.

Imagaries, Anthropocentrism, and Othering Divides

Freire has been criticized for being anti-environmental with what, we argue, are weak claims that he devalued all that is not human. These claims are weak for several reasons including shallowly reading only his most famous book *Pedagogy of the Oppressed* (2000) and/or view his arguments of humans' having unique socio-historical reflexivity abilities as falsely equating to devaluing all the rest of Nature (Au and Apple 2007; McLaren 2007; Misiaszek 2012; Misiaszek and Torres 2019). Similar arguments could be paralleled to his writings on technologies and sciences, as we argued previously.

We view Freire, especially through his later works, as a transhumanist in ‘accept[ing] many features of posthumanism yet retain[ing] human exceptionalism: “transhumanism is an extension of the humanist project, whereas posthumanism is critical of humanism” (Bayne in Jandrić 2017: 197)’ (Jandrić and Ford 2020). Freirean ecopedagogy places humans as agents of (un)sustainability as they can act through deepened and widened historical reflectivity and utopic possibilities of plural futures from being able to act towards their dreams becoming realities (Misiaszek 2020a; Misiaszek and González 2022). As such, we *d/Develop* as all other beings evolve/adapt according to the laws of Nature. Ecopedagogical problematizing of our postdigital world is how digital technologies are helping or hindering models of utopia and education. In other terminologies, this can be discussed as *futures education* or, as will be discussed as in the case study later, students’ abilities to have and act upon imaginaries for socio-environmental justice and planetary sustainability.

Development of tools/technologies through reflexivity is unique to human agency. However, our ability of rationality, as discussed previously, with our sense of human superiority too frequently leads to anti-environmental actions. This *superiority* aligns with Illich’s (1983) ecopedagogical foundations of disrupting *contemporary [wo]man’s*/their ideological fallacy that technologies will fix everything without environmental limits or need for concern, recognizing the limitations of technologies within Nature’s laws and limits is essential. Humans’ differences that Freire discussed are not divides within ecopedagogical work but rather recognizing the need to coexist together peacefully and sustainably, and our interdependence in such coexisting. Ecopedagogical teaching towards this goal in *our* use, invention, production, and distribution of technologies is essential, along with recognizing *our* responsibilities in these activities. These arguments are seen as echoed by Jandrić and Ford (2020) stating that postdigital ecopedagogical teaching, ‘can help attune education, politics, and research to the vast and complex ecologies that act on, inform, and transform our senses and perceptions ... true not only for other-than-human voices, but for those human voices deprived of recognition and those forms of discourse and matter that appear beyond the sensible (see Ford 2020)’.

This is much needed work on these fronts. Plotkin (2013) stresses that even when most speak of consciousness raising, they are only arriving at an adolescent stage of human development still rooted in an anthropocentric worldview. Similarly, Loy (2019: 93) links the increasing growth of freedom in history and liberation movements to ‘the struggles to overcome hierarchical exploitation’, as a part of the newest intersection of this growth in consciousness. Thus, understanding that ‘the planet and its magnificent web of life are much more than just a resource of the benefit of one species’ (Loy 2019: 93), or perhaps better stated, for the benefit of *some* members of the species, to the detriment of others.

Aspects of postdigital (anti-)ecoracism will be discussed as an important but not only form of othering, along with possibilities of ecospirituality later while discussing the case study. Disrupting ecoracism is ecopedagogically reading the socio-historically constructed connections between racism and socio-environmental injustices perpetuated, including within our postdigital world. Matias and Aldern (2020) argue the need to radically disrupt the commonsense of Whiteness portrayed

within media through postdigital dialogue, as well as critical deconstruction of the dialogue itself – providing both opportunities and challenges in counting whiteness. They state the following on this within the context of HE:

...whiteness is mediated through postdigital media qua content, images, and information, but it is also reified because postdigital media becomes a tool to further surveil, control, and manipulate the labour, intellectual property, and bodies of people of colour beyond the physical world. Suffice it to say, postdigital media can be used to enslave people of colour in another dimension. Therefore, there are huge implications for the field of education and for the hope of racial justice. (Matias and Aldern 2020: 343)

Matias and Aldern (2020) discuss the important nuances of selective stories rather than more meaningful diverse counterstories, as the point is too often in attempts to market their academic institution to more potential students than countering whiteness. The increasingly postdigitalized world also increases the need to better understand how to counter the complexities and intersectionalities of nuances perpetuating (hidden) whiteness – ‘they are meaningful to understand because continuing to sweep this under the rug or minimizing it allows for it to be bolder in its perpetuation’ (Matias and Aldern 2020: 345). The following section on the case study discusses how counterstories were utilized at varying degrees of success in a project-based HE course setting.

Case Study: Postdigital, Ecopedagogical Project-Based Course

This case study is rooted in a mass literacy campaign attempted by undergraduates at two North Country undergraduate institutions in New York State. The goal was to determine ways to raise critical consciousness through their own explorations of consciousness and vulnerability by utilizing the popular, short-video streaming platform TikTok. A living syllabus was used to explore previous campaigns, cultural consciousness, and collective action/systems thinking among other key critical topics.²

Course and Design Setup

Two upstate New York universities participated in a project-based learning grounded upon the ideas we discussed thus far and the following non-binary tensions recognize the possibility of technology, and particularly social media, to be autocratic reducing, among other dehumanizing characteristics. Understand the creative

² Given that all of the student data from this campaign on TikTok was student-selected as ‘public’, sharing the links in this chapters was deemed as ethical.

capacity of social media platforms, especially those being used more by Generation Z (e.g., TikTok) to be expressions of both:

- a. pain/grief being experienced for social-justice and ecojustice/racism, and
- b. hope and imaginaries of new paradigms for ways of being, thinking, and connecting globally and planetarily - to one another, to Nature, and to spirit.

Using a *living curriculum*, there was no static syllabus dictated by Dave, their professor having all the legitimate and value knowledge within the learning space to be deposited. Such banking education is offensive, violent, non-transformative, and squanders the wisdom of youth. This chapter's author David (Dave) was the course's instructor. Instead, this course followed an approach of interaction and dialogue.

The course began by sharing with students the examples of previous national mass literacy campaigns in Cuba and China which, surprised the students: 'Cuba did what?!', and already provided an interesting example of what we choose to teach or in this case, not to teach, about *bad* countries in the mythologies of American exceptionalism. From there we discussed what literacy and nonformal (adult) education mean from historical examples (Epstein-HaLevi and Fragnoli 2011; Epstein-HaLevi, Silveira, and Hoffmann 2021). For example, Cuba's literacy project was targeted for teaching ways to read/write, being intergenerational (e.g., literate ten-year-old children teaching adults), without credentialing, and inclusion of co-habitation in which people learned and participated in rural life such as farming for literacy teaching rooted in their context.

Students were asked the following problem-posing questions: How this might apply to their own life and their self-defined *neighbors*? What kinds of literacy are there today in light of digital lives, especially in light of current social problems? Some trends of answers that emerged included frameworks of LGBTQ+ and sexuality, gender, racial, class, global, eco-, and rural-urban literacies. When I asked this self-identified group of left-wing, mostly BIPOC (Black and Indigenous People of Color) or Queer students if they considered themselves *woke* by being literate in these frameworks they overwhelmingly answered 'yes'. But when discussing the extent of Indigenous cultures and peoples remaining alive and flourishing today in North America, there was a pregnant silence.

Below, Tamara (an author of this chapter and student in the course) pointed out as a student that this is, in part, due to the colonial nature of ecoracism because the reason that Black People do not know about Indigenous people is that no one told them, and they are often grief stricken when finding out.³

...the genocide of Native Americans and how none of us had an answer to how severe it actually was, after claiming we were woke is extremely important. The fact of the matter is that the system lied to us and is still constantly trying to hide the genocides, and all the wrongdoings that have been done to people of color. I feel it's completely important to point out the massive amount of ignorance that has fallen on our generation.

³Working as a high school science teacher in inner city Baltimore for 13 years Tamara, one of the study's coauthors, has witnessed the power of educating young people about the beauty of the natural world. As a woman of color, she has experienced first-hand the racist and exclusionary culture of natural spaces.

Expressed feelings of helplessness emerge from this lack of knowing; however, once critically taught, many Black students discussed the intersectionalities between Black and Indigenous histories.

As various decolonizing scholars have argued (e.g., Vanessa de Oliveira Andreotti, Raewyn Connell, Four Arrows (Wahinkpe Topa), Sandy Grande, Aaron Huey, bell hooks, Graham Hingangaroa Smith, Linda Tuhiwai Smith), taught ideologies through colonial histories have this genocide as complete without mentioning the genocide itself to instill that there are no more Indigenous people, cultures, lands, and colonial oppressions. One of the many examples of this was an undergraduate student giving locally contextualized examples of stolen Indigenous lands that prompted their TikTok video on bearing witness to African Americans who were wrongfully killed.⁴ This led students to ask: Why weren't we taught this?

Students began deconstructing schooling on their own by watching a video that included examining reflexively on colonized curricula of what they were taught, not taught, and the politics of why.⁵ This weaves directly with the previous arguments given through Kellner and Gennaro's (2021) work, that teaching literacies to critically reach technologies *for* praxis of countering neoliberalism must be our focus in our postdigital world. For example, disrupting algorithmic forms of oppression-rooted feedback data rampantly given in our social media feeds. Students were taught how to deliberately disrupt their own colonized educations causing feelings of being upset which, in turn, motivated them to critically read more.

Philosophical Frameworks Used in Our Learning

The students were introduced to several important frames for students and teacher(s) to metabolize together: *systems thinking* and *vulnerability* as a container for creating a space in which meaningful learning and risks can occur, and *positive deviance* as the methodological approach. Each student group took one section to learn more deeply about and to then teach it to everyone.

Systems Thinking

Seeking systemic/societal transformation includes finding leverage points which are often counterintuitive due to taught normalized oppressive-ridden ideologies. Some aspects discussed were the following:

⁴The students pointed out the *Prisonland* (in Adirondacks, New York, USA) where literally many of the hiking trails built with prison or arguably slave labor (Hall 2020), and the connection between race, economics, and local prison industries. See <https://www.tiktok.com/@projectintern/video/6959061244200455430>. Accessed 13 October 2021.

⁵See https://www.tiktok.com/@forest_gump1/video/6956300137828273413. Accessed 13 October 2021.

1. Because systems have inertia and, as Bettina Love (2020) says, ‘reform is the glue that holds institutions together’- oftentimes ‘the only way to fix a system that is laid out poorly is to rebuild it’ (Meadows and Wright 2008: 150).
2. Balancing feedback loops (sustainability) (see Meadows and Wright 2008) - a form of biomimicry which has implications for:
 - a. Healthcare (e.g., preventative medicine, diet, and proactive attitudes to bolstering health instead of just fighting disease for a system that tackles systemic poverty).
 - b. Agriculture (e.g., permaculture designs without pesticides which result in buildup of poisons and kill soils to instead focus on natural biomimicry and other sustainable and regenerative practices, create buffers, and create resilient systems which create ecojustice, and to disrupt Northern dominance, including neocoloniality (see Epstein-HaLevi et al. 2018).
 - c. Who controls information (asymmetry of flow, e.g., coloniality and curriculum), power (e.g., problematizing why do systems exist that perpetuate suffering, including forms of capitalism leading to a sixth mass extinction and human suffering for the majority of human labor), and crucially valuing paradigm shifts via new imaginaries as, perhaps, has the greatest leverage point of systems transformation, costing nothing other than a shift in consciousness (Epstein-HaLevi et al. 2021; Misiaszek 2020a).

Vulnerability

Cultivating a space of a learning classroom full of curiosity where vulnerability and risk taking is encouraged is a crucial and defining critical pedagogical grounding (Freire 1997; Gadotti 1996). The class students aged 18–23 were taught, as hooks (2010) argued, that risk taking is dangerous, having the wrong answer means to be punished, and for this reason, are often in the position of what Kohl (1994) termed as ‘I won’t Learn from You’. Purposely not learning from someone is an action. It takes deliberation, and is a form of rebellion, often the last one left to children in a violent school system full of a colonized curriculum that seeks to dehumanize them. Kohl (1994: 4) describes these actions as ‘[d]eciding to actively not-learn something involves closing off part of oneself and limiting one’s experience ... actively refusing to pay attention, acting dumb, scrambling one’s thoughts, and overriding curiosity’. Once the learning space did open up after nearly a month of trust building, one student bravely reflected on the lack of safe learning spaces and types of systemic violence many students face on their campus.⁶ This is especially true when what students see is a white-faced, cis-gendered male teacher, without knowing their biography, in this case the author Dave.

⁶See https://www.tiktok.com/@potsdamslintern_/video/6955642551793732870. Accessed 13 October 2021.

Dave sharing more about his positionality is essential for this reason, something the students were not accustomed to. Unpacking his positionality included his dual citizenship (Israel and USA), survival of various violent traumas and wars, Jewishness and descent from intergenerational violence and genocide, including having grandparents who are Holocaust survivors which led to families' general inclination and dedication to human services. Some students openly cried when sharing their perspectives on readings and podcasts⁷ that unpacked the last aspect, helping to provide an explanatory frame for associated feelings they have had for years. Students won't learn from Dave without trusting him, and without trusting each other, they will not take the kinds of risks required for the course. As one student put it:

when I first heard that we were having a living curriculum, I found myself struggling to grasp to the concept of it. It was mentioned that we were steered away from risks, and if that risk didn't pan out well then there was a negative consequence ... In short, having an equal amount of power with your teacher is a definite adjustment.

Important to note is that the course occurred during Covid-19 which meant being online, in bitter Winter, during the George Floyd murder and uprisings, and general labor and economic meltdown. In that context, generating a loving kindness and warmth with one another was absolutely vital. This aspect of the class took a month, which was purposely discussed to be not seen as lost time or content. Aligning with Brown's work (2012), teaching was via storytelling, patience, and content, such as embracing vulnerability, the positive deviance approach (see next frame), and embracing failure and iterative learning. Firestein (2016) argues that correct failures

leave a wake of interesting stuff behind: ideas, questions, paradoxes, enigmas, contradictions ... [as well as] a willingness to fail, the expectation of failure, the acceptance of failure, the desirability of failure. Can you imagine making failure desirable? Can you imagine aiming at failure? Can you appreciate making failure your goal? (Firestein 2016: 11)

Some students began the entire mass literacy campaign, explained in the next section, by digging into explaining vulnerability as a consequence of this.⁸

Positive Deviance: Utilizing TikTok for a Mass Literacy Campaign

Teaching the basics of critical theories included lessons on the frameworks of *naming*, *reflecting*, and *acting*. This included some tensions within this system around the intersectional ideas as discussed by Chenshaw,⁹ and exploring around naming that Bennett (2020) terms *call out vs. call in* culture, as well as the contested spaces emergent from such actions. Naming required students to identify the audience(s) to

⁷ See <https://open.spotify.com/episode/7MRQrpwrDdit7qAHvr3J0P>. Accessed 13 October 2021.

⁸ See <https://www.tiktok.com/@bonnetbarb/video/6953614120801373446>. Accessed 13 October 2021.

⁹ See TED talk, https://www.ted.com/talks/kimberle_crenshaw_the_urgency_of_intersectionality. Accessed 13 October 2021.

problematize how to effectively reach people with opposing ideologies and differing positionalities/contexts through this set of frameworks, and encompassing storytelling for true, nonviolent engagement via TikTok as a literacy tool for a mass literacy campaign. The students decided to model the behavior themselves by expressing their own difficulties¹⁰ and vulnerabilities¹¹ in checking their own egos when struggling with such topics at hand. Their hope was that such *invitations* to their neighbors and/or strangers would help them to (re)-consider their own positionalities, and (re)think ways how they name, reflect, and act in regards to coloniality, race, and anthropocentricism attitudes. The following is what emerged.

Student named Forest_Grump1 revisited an earlier video to explain Majora Carter's TED talk 'Greening the Ghetto' on ecojustice and ecoracism with the South Bronx and what restorative justice actually looks like.¹² His work used deficit-based modeling. His meta-reflections in the class' dialogue indicated consciousness of this modeling. Instead of feeling shame he wanted to reinvent his work without deficit modeling and, in turn, learn from the process of such a reinvention. His third video, rooted in the work of Tuck's (2009) *desire framework* and including ecoracism, took him almost 100 attempts before he got the language correct to his own satisfaction. Still recognizing himself as stumbling, he felt degrees of shame and defeat. Dave problem-posed if he thought this way when born and then widened the conversation more for all the students to participate in the dialogue. If not, then how did such ways of knowing (i.e., epistemologies) become *commonsense*, difficult to question and, as Santos (2018) argues as frequently essential, *unlearn*? His deeply vulnerable, authentic, and honest reflexivity singularly demonstrates how systemically violent (colonized) curricula have poisoned minds and the essentialness of deliberate and difficult work to up-root Northern epistemologies for needed paradigm shifts towards socio-environmental justice and planetary sustainability (i.e., towards ecopedagogical goals). Such paradigm-shift work is rooted in new imaginaries, hope, and love via collective action.

Within such truly safe learning spaces, the youngest classmate who openly identified in their *first video* as a lesbian and activist seemed most at ease with the critical frameworks.¹³ Her single-themed story exposed the importance of pronouns (naming someone)¹⁴, reflected on why it matters,¹⁵ and called for us to act

¹⁰ See https://www.tiktok.com/@forest_grump1/video/6948562267336101125. Accessed 13 October 2021.

¹¹ See <https://www.tiktok.com/@bonnetbarb/video/6956271795334876422>. Accessed 13 October 2021.

¹² TED talk: https://www.ted.com/talks/majora_carter_greening_the_ghetto. Student video: https://www.tiktok.com/@forest_grump1/video/6948185982525082886. Accessed 13 October 2021.

¹³ See <https://www.tiktok.com/@adironack.diversity.in1/video/6942366484576423174>. Accessed 13 October 2021.

¹⁴ See <https://www.tiktok.com/@adironack.diversity.in1/video/6953708351582784774>. Accessed 13 October 2021.

¹⁵ See <https://www.tiktok.com/@adironack.diversity.in1/video/6956459847063751941>. Accessed 13 October 2021.

differently.¹⁶ This harkens back to the ‘messy; unpredictable; digital and analog’ (Jandrić et al. 2018: 895) aspects of postdigitalism definitions introduced earlier. Coupled with non-critical narrowing of dialogue to intersectionalities of socio-historical othering in which students specifically deconstructed taught racism through epistemicide and oppressions from heteronormativity through gendering, patriarchy, and the linguistics of pronouns. They learn, teach, and call out injustices in a brave and public manner, despite risking cyber/digital backlash in comments and being meta-aware of risks for their actions.

Freire’s (2004: 33) previous quote given on needing to critically read and re-read technologies describes precisely the students’ engagement. Despite the resistances they endured to their own senses of self and ego, and perverted reactions from others (e.g., racist or gendered name-calling), they responded with curiosity, compassion, and a desire to dig deeper and understand. They also responded with love. They modeled *ego-checking*,¹⁷ meta reflections on experiences of making mistakes and offering apologies, and the often surprising consequences that emerged as tangible examples of consciousness.

Failure to Get to Eco-Racism and Indigenous/Southern Wisdom

Students showed clear abilities to model vulnerability, indicate systems’ leverage points for change, and determine possibilities for effective collective action. Some demonstrated manners which indicated challenges associated with their ego *and* consciousness when their work is riskily placed within the digital public sphere. Where the course seemed to come up short the most was in all students to effectively tackle the dearth of the course’s alternative imaginaries and epistemologies. Lacking this imagination and continuing Northern epistemological domination will, unfortunately, sustain anthropocentric world-Earth distancing, continue epistemicide of Indigenous/Southern wisdoms that will sustain coloniality-grounded curricula and environmental devastation, and not allow for weaving [or ecofeminist quilting as Warren (2000) advocates] to disrupt ecoracism and its oppressive and dominant intersectionalities.

These are failures around ecoliteracy (or ecopedagogical literacies) but, once again as previously noted, this course was during a particularly horrific time in history. For example, Covid-19 has exponentially worsened the concern of Louv (2008) in questioning how can students stare at stars when staring at screens instead, or locked in their dorm rooms, or sent ‘home’ to apartments in cities full of light pollution. Bill Plotkin (2013) has detailed a phenomenology of civilizational human psychology rooted around these ideas of levels of consciousness in his book *Wild*

¹⁶ See <https://www.tiktok.com/@adironack.diversity.in1/video/6959080768937233670>. Accessed 13 October 2021.

¹⁷ See <https://www.tiktok.com/@bonnetbarb/video/6956271795334876422>. Accessed 13 October 2021.

Mind: A Field Guide to the Human Psyche (Bailey et al. 2021; Hwang et al. 2020; Weltzien 2020).¹⁸ The more formal term of needing *experiential* environmental learning must also include what Santos (2018) calls *ecologies of knowledges* – an essential grounding of ecopedagogies (Misiaszek 2012, 2020a).

Crucial imaginaries from Indigenous/Southern epistemologies include romantic imaginaries, sacredness of Nature and *s*ciences rather than *S*ciences. For example, the importance of ‘romantic imagination which favors phenomena that are very large or very small’ (Tuan 2013: 29), noting the importance that mountains, oceans, forests, and deserts have played in helping humans to be more human via our encounter with parts of Earth.¹⁹ Education, and particularly HE, remains too disciplinarily and epistemologically siloed for achieving ecopedagogical goals given throughout this chapter (Figueroa and Harding 2003). For example, how can students interweave the sacredness of biology and interbeing, when taught in siloed spaces by subject, where words like spirituality have often become taboo in HE and science disciplines? (Kahn 2010; Margulis 1998; Plotkin 2013; Vaughan-Lee 2016)

Teaching upon epistemologies of the North, as Santos (2018) argues, are grounded upon coloniality, patriarchy, and capitalism, without possibilities of other ways of knowing should not have us surprised that we couldn’t reach all ecopedagogical goals discussed throughout this chapter. Yet many students were able to step towards these goals at varying degrees, including some of our students able to arrive at notions of critical global citizenship models rooted in notions of globally shared humanity.²⁰ One student arriving at this point also produced a video tribute to some of the Black lives lost by police violence, which displays the student’s dynamic interplay between local-to-global spheres, as well as socio-environmental justice within the planetary sphere.

Previous examples of students ignorant of the colonized curricula they have been subjected to (e.g., curricula without Indigenous genocide or their existence) exemplifies the great amount of deep-rooted systematic power of education and ideologies that Apple (2004), among others, discusses. However, there is all great power in systems change via the leverage points of paradigm shifts that requires new imaginaries and deciding to *be* different. Ecopedagogical imaginaries coincide with Nhát Hanh’s (1991) calls as follows:

¹⁸Please note the Green Theory and Praxis citation references one specific poem, however the entire issue is dedicated to poetry and articles related to this topic. See also extensive list of articles related to specific manners in which Covid-19 has further complicated and aggravated this capacity for ecological consciousness in *Postdigital Science and Education*, 3(2), <https://link.springer.com/journal/42438/volumes-and-issues/2-3>. Accessed 13 October 2021.

¹⁹Another example is the activity of star-gazing, often imbued with content-knowledge from astronomy and physics, the wonderment and curiosity about how we came to be and our scientific mythological origin story, that can counter the rising nihilism of our society with mystery of ‘why there is anything at all, rather than nothing ... [o]r the Mystery of where the laws of physics came from’ (Goodenough 1998: 11). Another such imaginary from Indigenous/Southern epistemologies is the As Margulis (1998: 2) put it in trying to make the spiritual concept of Gaia more digestible for a Western/scientific audience, ‘Gaia is just symbiosis as seen from space’.

²⁰See <https://www.tiktok.com/@projectintern/video/6956462520827645190> and <https://www.tiktok.com/@projectintern/video/6959061244200455430>. Accessed 13 October 2021.

We need harmony, we need peace. Peace is based on respect for life, the spirit of reverence for life. Not only do we have to respect the lives of human beings, but we have to respect the lives of animals, vegetables, and minerals. Rocks can be alive. A rock can be destroyed. The Earth also ... Ecology should be a deep ecology. (Hanh 1991: 113)

We argue that the course most failed by students not adopting non-anthropocentric worldviews; however, students were given limited exposure to alternative Nature-centered epistemologies and imaginaries, interweaved with feminist, decolonial, and anti-racist paradigms. Four Arrows writes about an elder from Red Lake, Ahnishinahbaeotjibway, whose term for *We the People* translates into a ‘nonhierarchical, non-dualistic reality’ (Jacobs 2006: 4). The elder notes that while in English we say *all life is sacred*, in their language the phrase means ‘all life transcends Western Civilization’s dichotomy between sacred and profane’ (Jacobs 2006: 4). Non-anthropocentric worldviews are deeply ingrained in almost all Indigenous epistemologies, but anthropocentrism grounds Northern languages as common-sense with systematic epistemicide as reinforcing it as such to largely justify socio-environmental violence, crush alternative/new imaginaries, and systematically hide leverages of change, although far from being impossible to unveil. We ask, what more perverse an *education* system can we be battling against that is leading us to a sixth extinction? These deeply entrenched factors lead to failures of the students’ mass literacy campaign, especially due to only having a single semester.

Critical Race Theory and Counter-Storytelling of Nature

Tamara noted that surveys which she gives to her high school students every year reflect the shift in their consciousness towards their potential futures. While in the past it reflected what many of us would stereotype as students’ future imaginaries (e.g., doctors, nurses, athletic stars), this year it has shifted to postdigital imaginaries - Twitch stars, YouTubers, and so forth. Through recognizing the need to foster students’ aspirations within their own realities, Tamara pointed out that fame is most-often expressed as the goal rather than utilizing the digital outlets for socio-environmental justice and sustainability. Although reasons of digital presence of those among generation Z, this case’s secondary students viewed these outlets as a way *to get out* - desires to be seen, for fame, and for money.

Putting aside opinions of these desires as being good/bad or un/reasonable, disruptive teaching such as Tamara engages in is essential for taking on the intersectional systemic connections that perpetuate postdigital activities without humanizing and planetarizing goals. Such aspirations are not binary, either/or but postdigital careers can *both* feed the ego and a sense of grandeur, and do so in ways that center justice and service. However, teaching for the latter aspect depends on radically transforming education, included curricula rooted in reproducing socio-historical oppressions.

Focusing on the case study’s failures of getting students to see ecoracism is extremely important because ecoracism is difficult to see because, as Tamara stated as a student in the class, ‘they don’t see themselves *in* the problem, and *other* people

are dealing with it'. Tamara expressed specifically, as a chapter author, that new imaginaries are taking root but intersectional imaginaries are not - a failure, and an inevitable outcome, of colonized curricula. However, after Tamara had time to work with her high school students, and therefore help them see the proximity of the problem transformation can take hold, as Tamara expresses below.

Until you are made conscious of it, it is not part of your consciousness. Made aware of the injustices they are facing. They know the system, but they are unaware of the system. They don't understand the system that they are in, because of the colonized curriculum that they are in. You have to teach the system you are in, or you can't step outside it to imagine something else.

Decolonizing curricula by exemplifying the power of youth and demonstrating intersectional learning is essential. For example, the Baltimore Beyond Plastic movement to ban Styrofoam and plastics in the city was based on youth-driven policy initiatives.²¹ Learning about such movements has meaningful impacts on students. Embedding such postdigital counterstories is essential and overtly simple; however, the choice not to is political and systematic. Freire (1992, 2000) despised fatalism that is sustained/intensified by such absences purposely done, in which reaching towards one's utopias and dreams is impossible because tangible examples are absent.

Concluding: Outside Digital Spaces Essential

In this chapter we have attempted to weave what we have argued as key aspects of ecopedagogy within our postdigital world into the successes and failures of the case study. This conclusion argues, through Tamara's ecopedagogical teaching experience, for needing to be also outside of digital spaces (e.g., *offline*, *off-the-grid*) for understanding and fighting for socio-environmental justice and planetary sustainability (within and beyond the anthroposphere). The following describes teaching which exemplifies ecopedagogical goals and challenges (and need) of teaching outside of our digital world.

Tamara was sincerely thanked by her 18-year-old male students around a campfire as they expressed that the stars they were viewing for the first time were kept from them by stating 'I thought it was not for me'. Others made statements such as 'I feel so big and small at the same time', as they discussed how they fit into this interconnected space of Nature - tapping into, we argue, Gaia. They insisted all students must have a single night of their experience, a goal with a very low bar. When meeting a woman the next day hiking the Appalachian trail by herself, they

²¹ See <http://www.bmorebeyondplastic.org>. Accessed 13October 2021.

were stunned,²² especially the female students, and some expressed this hike as a future goal of theirs.

The challenges of making such connections are disturbing systems of segregation, including within our digital spaces. Tamara's trips with students include frequently walking Trump signs with students asking: 'Are we allowed to be here Ms. Jolly? — I don't think we should go on this hike.' She reassures safety and bravery by stating 'we are here' but with worry of 'what if someone doesn't want to see 15 black and brown students walking through their neighborhood to get to the trail?' She and her students understand this fear with *every car that passed* as part of the perceived *othered* within these neighborhoods, with some/many seeing them as *not wanted* in *their* space. Among many perverted aspects of this story, is *who* has the *right* to access Nature and *who* is falsely *justified* to suffer from pollution and exploitation. Who determines who has the right to experiences within Nature, such as within a forest as described previously, to reconnect the Self to a state of *I belong to the world?*

As we view the systematic suppression of teaching through critical races theories and environmental issues such as climate change in the US for these students, we eliminate the histories and storytelling of current and future reasons for socio-environmental oppressions upon them and others, including domination of Nature. This suppression counters the ecopedagogical tenet, removing possibilities of conscientization and sustains/intensifies colonized curricula to reproduce social hegemony and environmental devastation.

The students remained mostly being anthropocentric and did not recognize ecoracism to the extent of the course's goals because they reviewed it as *too theoretical*. We argue that until it is made conscious (i.e., proximal and experiential) it is unlikely to happen, especially during a Covid-19 Winter. Part of ecopedagogical literacy is listening and seeing the world and all of Nature differently. This includes, for example, asking student to shutoff technologies (e.g., removing headphones) to hear Nature, such as birds. This often needs some time, such as 10 months, to listen to Nature differently.

Reading the connections to counter racism can happen in infinitely diverse ways. Being able to form new imaginaries, as explained throughout this chapter, is essential. Tamara expressed that Black people envisioning themselves on Earth to imagine places they can be safe and creative is crucial – countering that such Natural spaces as *not theirs*. Tamara's many examples of sources for new imaginaries include a story about pregnant women who jumped off slave ships to create a new world - a space of new hope amidst something so tragic. Although this story is not directly connected to Earth/land imaginaries because they hold on to what they have, the women are able to create largely based on their, and their baby's(ies') survival (i.e., trying to *stay afloat*). Such imaginaries are rooted in a home, music, or on paper, among other *places*. This illustrates the major difference between

²²The trail is 2180+ miles (3500+ km) long across the Appalachian Mountain ridgelines from the US state of Maine to Georgia.

how whites and non-whites in the US are experiencing land, Nature, and Earth currently as (eco)racist places. Attending to these and other human wounds within *and* outside digital spaces is essential in achieving the ecopedagogical goals outlined in this chapter.

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Pan-African Socialism and Postdigital Considerations



Curry Malott

A Postdigital Ecopedagogy

Jandrić and Ford (2020) define ‘the term ecopedagogies’ as ‘educational praxes that are not strictly about or for the physical environment’. Rather, ‘it names a set of pedagogies that emerge from, negotiate, debate, and produce the shifting and expansive postdigital ecologies within which we write, think, and act’. In their formulation Jandrić and Ford welcome and encourage the development of ‘new’ and ‘liberatory’ postdigital ecopedagogies. If the postdigital is ‘hard to define; messy; unpredictable’ and ‘a rupture in our existing theories and their continuation’, (Jandrić et al. 2018: 895) how could it be otherwise? To this point, Jandrić and Ford (2020) note that conceptualizing the postdigital as an ecosystem suggests that it is ‘not stagnant or fixed, but living, breathing, expanding, and fluid’. In this chapter, decolonial Pan-African socialist revolutionary movements are explored as postdigital ecopedagogies.

Ford and Sasaki (2021), in their political exploration of postdigital sound and listening, build on literal definitions of digital and analog. Analog refers to that which is flowing and continual such as waves of light and sound. Digitalization is the process of quantifying/breaking up into units that which is analog. Adding to the postdigital conception that blur the boundaries between the human and the machine, Ford and Sasaki (2021) are not laying out an either/or framework between analog and digital but argue it dialectically encompasses both. The postdigital, in other words, invokes the blurring of lines between biology/technology human/machine, physical/analog, and virtual/digital (Jandrić 2021; Peters, Jandrić, and Hayes 2021). In this chapter I take up the blurring of lines between the particular and the general in the context of pan-African socialist, postdigital ecopedagogies.

C. Malott (✉)

West Chester University of Pennsylvania, West Chester, PA, USA

e-mail: cmalott@wcupa.edu

Laying out their argument Ford and Sasaki (2021) build on the way in which labor-saving technologies have been developed in capitalism where more and more of the knowledge of production is absorbed into the machines of production and away from workers. Through this integrative process the division between the human and the machine become increasingly muddled. From the perspective of the capitalist this process casts the working-class as the class without intelligence, and in turn, justifies economic exploitation, oppression, and colonialism.

Bringing these discussions into the political context of postdigital listening Ford and Sasaki (2021) offer an important engagement with timbre. At stake here is the issue of who or what defines the voice or sound of something. Just as the subject is not given or fixed, but produced and reproduced historically, timbre is fluid and contested. Essentializing the timbre of the colonized, for example, has been part of the process of defining intelligence as existing outside of the colonized subjectivity.

Conceptualizing pan-African socialism as postdigital ecopedagogies allows for new ways to view the global balance of opposing class forces in the struggle over the production of subjectivities and physical space itself. That is, if valuable/profitable knowledge within the social universe of capital is that which can be enclosed and captured (Ford 2021), and if the postdigital is that which is constantly shifting and thus elusive, then the emergence of pan-African socialism can be understood as part of a larger global constellation of postdigital ecopedagogies.

Pushing back against colonial forms of essentialism Ford and Sasaki (2021: 121) note that timbre cannot really be defined or ‘pinned down’ since it is ‘not a knowable thing but a process’. Challenging ‘how we come to voice and listen’, therefore, has figured prominently in movements against colonialism.

Ford and Sasaki (2021), looking at the impact of the phonograph throughout the world’s colonies in the 1920s, explore how colonized peoples appropriated this technology in the development of their own timbres contributing to the postdigital blurring of human and machine. For example, through the development and use of postformal ecopedagogies, not only has the machine become African, but the human becomes more integrated with the machine. These themes will be explored in this chapter in the context of pan-African socialism.

Pan-Africanism

Due to the repression in the colonies, the production of pan-African revolutionary socialist knowledge, as postdigital ecopedagogy, tended to be produced in the imperialist centers by African nationals and colonial subjects from the Caribbean, for example, studying abroad (Fanon 1963, 1964, 1965). Movements built around the circulation and enactment of this pedagogy were and are therefore always transcontinental phenomena (i.e. continuous), which include the diaspora (i.e. the Caribbean, the US, Latin America, Europe) and Africa (and solidarity with struggles in Asia). In his overview of the broad history of postcolonialism Robert Young (2001: 218)

notes that ‘African nationalism, perhaps more than any other anti-imperialist movement, was always distinguished by its internationalism and the degree to which it was developed co-operatively by Africans in Africa, America, the Caribbean, and Europe’.

Hakim Adi (2018) reports that it was events surrounding the First World War that led to nearly one million more African and Caribbean people temporarily living in France as low-wage laborers. The experience of oppressive colonial rule at home, poverty in France, and the contradiction between the discourse of European superiority and the nearly apocalyptic imperialist war, had a radicalizing effect on the African diaspora. In addition to organizing against the wretched treatment they faced in France, closely connected to the French Communist Party, they also challenged the very legitimacy of colonial rule.

An early organization of this radical ecology was the Intercolonial Union (i.e. Union Intercoloniale or U.I.) whose members were primarily communist and spread throughout France and its colonial holdings from the Caribbean, Southeast Asia, and Africa. It is important to note while the U.I. was primarily communist in its orientation some scholars refuse to offer a singular definition of Pan-Africanism because it ‘has taken different forms at different historical moments and geographical locations’ (Adi 2018: 2). Just as elusive and uniquely subjective as timbre, so too are the multiple manifestations of Pan-Africanism, understood as part of the process of coming to voice. However, despite important nuances Adi (2018: 2) argues that ‘most writers would agree that the phenomenon has emerged in the modern period and is concerned with the social, economic, cultural and political emancipation of African peoples, including those of the African diaspora’. We might conceptualize these foci as the broad contours of this postdigital ecopedagogy.

In addition to the First World War, the phonograph, as a new mode of listening, also contributed to the Pan-African movement as it quickly spread throughout all the colonial ports and transportation routes. The pedagogical practices of colonial subjects here materialized as seizing hold of the device subverting listening practices conducive to reproducing things as they are, thereby working to ‘facilitate ... listening practices that upset the colonial harmonics of the era’ (Ford and Sasaki 2021: 117).

Ford and Sasaki (2021) describe a process that is not top-down, but multidirectional where the oppressed appropriate Western instruments, combine them with Indigenous instruments, and produce something ‘anti-colonial’ rendering the guitar, for example, no longer ‘non-African’. As we will see below the Pan-African socialist movement, the anti-colonial movement understood, as the colonizers also always understood, that as long as the people can maintain an independent cultural life of their own, the possibility for defeating colonialism and capitalism exists. These struggles over the production of society itself are closely intertwined with the production of knowledge.

In academia, Pan-African scholarship has been closely connected with postcolonial approaches to decolonizing knowledge production. One of the implications of this focus is that the concrete decolonial history of African socialism has not been fully explored within the important work of contemporary decoloniality (Mbembe

2001; McEwan 2019; Mignolo 2011). Nevertheless, we live in a troubled yet exciting time where progressive calls for *decoloniality* have gained currency in both academic and activist circles in the West and far beyond.

Because Europe's former African colonies at the forefront of decoloniality during the era of decolonization (i.e., the mid-twentieth century) have not been fully explored within this powerful body of work, the imperialist racist tropes of totalitarianism or authoritarianism aimed at African revolutionaries have also not been fully undermined. Figures such as Guinea-Bissau's Amilcar Cabral (1979) stand out in terms of their postdigital ecopedagogical and theoretical contributions. Cabral in particular inspired and influenced the work of Paulo Freire, who remains a leading figure in decolonial pedagogy (Malott 2021). However, the influence of Cabral on Freire's pedagogy and internationalism remain only partially explored.

In the process I revisit the legacy, contributions, and ongoing influence of Amilcar Cabral (1979). First, however, I briefly turn to Kwame Nkrumah, who was the president of Ghana at the time of his assassination in 1972. Cabral (1979) credited Nkrumah with being the primary 'strategist' and 'genius' of the 'struggle against classic colonialism' through Pan-African revolutionary socialism. Nkrumah's work, in other words, played a significant role in the political development of Cabral and other leading figures of anticolonialism and decoloniality playing indispensable roles in this early postdigital ecopedagogy.

Kwame Nkrumah

Kwame Nkrumah (1909–1972) was a Ghanaian revolutionary and theoretician who contributed a great deal of knowledge to the postdigital ecology, and who also played a central role in winning independence from British imperialism in 1957. Nkrumah was one of those African Nationals who, due to the severe political repression in Ghana, helped to conceptualize and build the movement against colonialism studying abroad in the US. Nkrumah studied at Lincoln University, an Historically Black Colleges and University (HBCU) in southeastern Pennsylvania where he met and is said to have been heavily influenced by George Padmore, Trinidadian socialist and childhood friend of C. L. R. James. After meeting Nkrumah during this time, James gained a great deal of confidence in his ability to lead the struggle for independence in Ghana (Kelley 1994/2012). It was through Nkrumah that pan-Africanism would return to Africa as a unified totality (Adi 2018) composed of that which is continuous and that which is distinct. Considered to be ahead of his time Nkrumah's approach had key similarities with a postdigital orientation as it focused on achieving both socialism in his home country of Ghana and African unity in general.

After spending twelve years studying abroad developing his political philosophy, Nkrumah returned to Ghana in 1947 as the General Secretary of the United Gold Coast Convention (UGCC). In 1949 Nkrumah broke from the UGCC forming the Convention People's Party (CPP). Through the CPP Nkrumah compromised with

the existing system coming to power in 1951 as a junior partner with the colonial government. While this certainly represents a political compromise with his (and their) anti-colonialist socialist vision, Nkrumah biographer Basil Davidson (1973/2007) argues that given the balance of forces at the time, it was their only option. The colonial government in 1951 was still strong and the CPP was not a revolutionary organization that could take state power. Consequently, their compromise did not seem to ring of opportunism but was born of necessity, of what was achievable at the time.

However, the compromise did allow Nkrumah and his comrades to make important progress in advancing their vision—a vision endowed with significant postdigital undertones. For example, they were able to transform Ghana into a sort-of analogue-oriented center of Pan-Africanism on the continent. Such a space would foster the development of a pan-African timbre working to erode the legacy of racist colonial essentialism. As such, Ghana would host conferences for African countries that had achieved independence and support distinct and separate independence struggles throughout the continent.

Always strategizing toward the vision of pan-African socialism, after 1960 Nkrumah began pushing back against the neocolonial policies that had Ghana locked into being an impoverished producer of raw materials for Western imperialist countries. However, the existing indigenous elites within Ghana were not pleased with Nkrumah's progressively socialist leanings feeling that their expected rise to national prominence after independence was being subverted (Akyeampong 2007). Pursuing a foreign policy of non-alignment, establishing relations with both capitalist and socialist countries, frowned upon by the imperialist West, led to troubles on the international stage. At the other end, Nkrumah and the CPP would lose support amongst Ghana's working masses following corruption scandals and becoming more petite-bourgeois in its orientation.

In 1966, while Nkrumah was away in Hanoi, the Ghanaian military launched a popularly supported coup. Nkrumah would find refuge in Guinea where he spent a number of years writing books on decolonization and reflecting on the lessons he learned from his experience and mistakes in Ghana. His insights offered invaluable ecopedagogical lessons for those on the Continent who would come after him, including Cabral and others. Most important to the ecology of insights was that the failure in Ghana made it clear that the creation of revolutionary socialism is not possible without completely smashing the colonial state (James 1969/2012).

One of Nkrumah's most valuable contributions, written before he was removed from power, *Neocolonialism: The Last Stage of Imperialism* (1965/2004), so fundamentally threatened the U.S. State Department that immediately after its publication in 1965, twenty-five million dollars of *aid* to Ghana was cancelled. Summarizing the text Cabral (1972/1979: 115) described it as a 'profound, materialist analysis of reality, the terrible reality which neocolonialism is in Africa'. In the text Nkrumah added to Lenin's theory of imperialism by outlining neocolonialism, an era of capitalism that developed after Lenin's death.

Neocolonialism

The inter-imperialist First and Second World War over the re-division of colonial holdings threatened the stability and viability of capitalism by killing millions and destroying much of the world's means of production. Second World War alone claimed more than 60 million lives. Consequently, the global system suffered a crisis of legitimacy thereby loosening its control over the world's colonies.

The communist movement emerged from the Second World War strengthened and popularized from its successful United Front efforts against fascism. Around the world, surging Communist parties were in positions to make serious bids for power. In an earth-shattering turn of events, the Chinese Communist Party took state power in 1949. The Soviet Union was no longer the sole socialist power on the global stage.

Insulated from the destruction of the Second World War, the U.S. emerged as the center of the global capitalist system. Helping their former adversaries Germany and Japan rebuild and rejoin the imperialist camp as junior partners, the U.S. would take the lead in countering a new proletarian global force centered in the Soviet Union and China.

One of their first tasks, Nkrumah (1965/2004) pointed out, was to replace colonialism with neo-colonialism. That is, replacing the outright ownership of colonies with a system of nominal independence where markets are opened up to foreign investment and the political apparatus remained under imperialist control. In this brutal form of postdigital continuity, former colonial powers were able to continue to exploit and drain their former colonies of wealth and resources leaving the people immiserated.

However, the least powerful colonial states like Portugal maintained an increasingly fascistic grip on their colonial holdings during the era of neocolonialism marking a particularly grotesque form of postdigital separateness that continued to rely on an essentialist timbre where the so-called fragility of the peoples' voice depended upon colonial paternalism. The anti-colonial movement, as postdigital ecopedagogy, subsequently raged in Portugal's colonies. Amilcar Cabral emerged as a leading figure in this revolutionary movement within Guinea-Bissau.

Amilcar Cabral

As a result of his role as a national liberation movement leader for roughly fifteen years, Cabral had become a widely influential theorist of decolonization and non-deterministic, creatively applied re-Africanization. A leader in the people's reassertion of establishing their collective voice for self-determination through pan-African socialism. Freire (2020: 179) offers valuable insight here noting that Cabral 'fully lived the subjectivity of the struggle. For that reason, he theorized' as he led.

Cabral's example and theory has therefore continued to influence and inform the ecology of revolutionary knowledges.

Although not fully acknowledged in the field of education, Cabral's decolonial theory and practice also sharpened and influenced the trajectory of world-renowned critical educator Paulo Freire's (1921–1997) thought. During the revolutionary process Guinea-Bissau, through the leadership of Cabral, out of necessity, became a world-leader in decolonial forms of education, which moved Freire deeply (Malott 2021).

Freire (2020), in a 1985 presentation about his experiences in liberated Guinea-Bissau as a sort of *militant consultant*, concludes that Amílcar Cabral, along with Ché Guevara, represent 'two of the greatest expressions of the twentieth century' (171). Freire describes Cabral as 'a very good Marxist, who undertook an *African reading of Marx*' (178) (emphasis added). Just as Ford and Sasaki (2021) observe that after the appropriation of the phonograph and Western instruments disrupting 'colonial harmonics', it 'no longer made sense to speak of the guitar as a non-African instrument', pan-African socialism rendered the idea of Marxism as non-African inaccurate. Freire (2020: 180) argues that 'it would have enormous importance' if educators undertook a rigorous and careful study of Cabral.

This particular armed struggle was unique in that it was waged for the liberation of not just one country, Guinea-Bissau, where the fighting took place, but for another geographically-separate region, the archipelago Cape Verde. Cabral and the other leaders of the movement understood that they were fighting in a larger, continuous global class war and that their immediate enemy was not the colonial government of any one country, but colonialism in general.

Despite the global focus on the struggle in Vietnam at the time, the inspiring uniqueness of the campaign being waged in Guinea-Bissau and the captivating figure of Cabral captured international attention. In the Introduction to an early collection of Cabral's writings and speeches, Basil Davidson (1979: x) describes Cabral and his voice as someone who expressed a genuine 'enduring interest in everyone and everything that came his way'.

Like so many revolutionary leaders, Cabral was 'loved as well as followed' because 'he was big hearted' and 'devoted to his peoples' progress' (Davidson 1979: xi). Due to his leadership and brilliance 'governments asked his advice' and 'the United Nations gave him its platform' (Davidson 1979: xi). However, Cabral is reported to have taken 'no indulgence' (Davidson 1979: xi) in entertaining praise, however deserved, never wavering in his commitment to the liberation and self-determination of the world's working-class and oppressed. It is the diverse expression of this revolutionary timbre that makes the postdigital ecopedagogy such a powerful force.

Backed by Spain, South Africa, the United States, and NATO, the defeat of Portuguese colonial power by the tiny population of Guinea-Bissau in 1974 remains a beacon of inspiration. Summarizing the pooled imperialist power wielded by Portugal in a report on the status of their struggle Cabral elaborates:

Anyone familiar with the relations between Portugal and its allies, namely the USA, Federal Germany and other Western powers, can see that ... assistance (economic, financial and in war material) is ... increasing ... By skillfully playing on the contingencies of the cold war ... by flying high the false banner of the defense of Western and Christian civilization in Africa, and by further subjecting the natural resources of the colonies and the Portuguese economy itself to the big financial monopolies, the Portuguese government has managed to guarantee for as long as necessary the assistance which it receives from the Western powers and from its racist allies in Southern Africa. (Cabral 1968a)

Because of the villainous process of Portuguese colonialism, which included centuries of de-Africanization, re-Africanization, thorough decolonial forms of education were a central feature of the anti-colonial struggle for self-determination. It is from within this context that Cabral and others would force postdigital ecopedagogies.

Cabral's Dialectics

As a revolutionary, Cabral engaged the world dialectically. As a theory of change, dialectics has been at the center of revolutionary thought since Marx and Engels. Dialectically grasping how competing social forces driving historical development are often hidden or mystified, Cabral excelled at uncovering them, and in the process, successfully mobilized the masses serving as a lever of change. The postdigital formulation borrowed from Ford and Sasaki (2021), focused on the simultaneous sameness and distinctness of the parts and the whole, bears a striking similarity to the dialectic here.

Cabral knew that the people must not only abstractly understand the interaction of forces behind the development of society, but they must forge an anti-colonial practice that concretely, collectively, and creatively see themselves as one of those forces. Ford and Sasaki (2021) might identify this as the process of timbre development situated within a larger ecology of forces.

Of course, revolutionary crises do not emerge from the correctness of ideas alone, but are driven by deteriorating economic conditions, and a crisis in the legitimacy of the state and its ability to meet the peoples' needs. In the 1940s there were several droughts that left tens of thousands of Cape Verdeans dead. Portugal's barbarism and indifferent response, situated in the context of the mounting poverty and suffering within its African colonies, began to lose the support of even the most privileged strata of the colonial state.

What made Cabral one of history's great communist leaders, outside of the larger historical moment that provided an outlet for his talents, was his theoretically-informed tactical flexibility essential for a constantly shifting balance of forces. *In-the-midst-of-struggle* decision-making, in other words, is enhanced by theory. The ability to quickly grasp the immediate and long-term implications of the shifting calculus of power within a global network of competing and antagonistic class interests is key for defeating ones enemies.

For example, in ‘The Weapon of Theory’, a 1966 address in Havana, Cabral (1968b) theorized the dialectical nature of movement and change focusing specifically on national liberation struggles. In his address Cabral placed special emphasis on the importance of local contextual knowledge in the construction and revolutionary enactment of ecopedagogies. While this postdigital process is contextually distinct, it is also continuous enough to benefit from lessons learned from the broader ecology.

Cabral’s assessment was also informed by the dialectical or postdigital insight that the conditions in any one country do not develop in a vacuum unaffected by external forces. Not only were deteriorating conditions in Portugal, the imperial mother country, shifting the balance of forces in favor of national liberation movements in its African colonies, but the emergence of these struggles coincided with the successful revolution in China in 1949.

Conscious of this larger dialectical *totality*, which points to the interconnection between seemingly separate, unrelated parts, Cabral consciously fostered solidarity with Portugal’s working-class. Representing the colonized Indigenous peoples of Guinea-Bissau, Cabral successfully reached out to the oppressed of Portugal in solidarity against their common class enemy, the fascistic Portuguese capitalist/colonialist class.

With dialectical theory and the spirit of anti-colonialist and anti-capitalist unity, the revolutionary forces in Guinea-Bissau routinely freed Portuguese prisoners of war. Cabral (1968c) used such occasions to make public statements designed to educate and win over Portugal’s persecuted working-class thereby shifting the balance of power away from Portugal’s fascist state. Cabral offers a powerful postdigital example of simultaneous sameness and difference:

We are not fighting against the Portuguese people, against Portuguese individuals or families. Without ever confusing the Portuguese people with colonialism, we have had to take up arms to wipe out from our homeland the shameful domination of Portuguese colonialism. (Cabral 1968c)

It proved to be true that the liberation of the Portuguese working-class was connected to the liberation of Portugal’s African colonies. If the Portuguese ruling-class began to lose control in Africa, it could also fall in Portugal, and if it fell in Portugal, it would fall in Africa. Hence, the interconnectedness of the totality expressed in both postdigital and dialectical discourse.

Learning from Cabral’s postdigital dialectics we can observe that the capitalist-class political establishment in the US, both the Republican and Democratic Parties, must be exposed and weakened at the local county and national levels. Losing power locally will weaken the capitalist-class nationally.

If the US capitalist class loses power nationally, it will no longer be able to carry out its imperialistic militarism internationally. Liberation from the oppression and exploitation of US capitalist power, within and outside of the borders of the United States, is part of a larger, global totality.

De-Africanization and Anti-colonial Resistance

The small region in West Africa that the Portuguese would claim as Guinea-Bissau was occupied by more than a dozen distinct ethnic groups slavers worked tirelessly to sew divisions between. Divisiveness enabled slavers to enlist one group to facilitate in the enslavement of another. This anti-African divisiveness would lay the foundation for centuries of de-Africanization.

Describing the role of colonial education in this epistemic violence Walter Rodney, in his classic text, *How Europe Underdeveloped Africa*, explains that ‘the Portuguese ... had always shown contempt for African language and religion’ (1972/2018: 304) working to instill a timbre of inferiority and dependence in the people. Whereas secondary schools were established for colonists, education beyond two or three years of elementary school for Africans was rare. Consequently, ‘[s]chools of kindergarten and primary level for Africans in Portuguese colonies were nothing but agencies for the spread of the Portuguese language ... [T]he small amount of education given to Africans was based on eliminating the use of local languages.’ (Rodney 1972/2018: 304)

The devastation of such practices reflects reports that European colonists with smaller African colonial holdings like Portugal were amongst the most desperate and thus cruelest in their efforts at maintaining their occupations. Consequently, Indigenous resistance to Portuguese colonialism was so widespread for so many centuries that colonial rule was always limited to specific regions. In other words, colonial forces were never able to completely conquer what amounts to the state power of indigeneity.

It is therefore not surprising that the Portuguese were not able to rely merely on state violence for social control, but required intensive ideological manipulation as well. We might equate this to a ruthless, yet never completely successful, attack on indigenous timbre. The attempt to eradicate Indigenous languages and cultures that emerged was therefore an assimilationist model. Toward these ends, the colonial authorities propagated a hypocritical discourse that claimed *their* colonies were integral to the metropolis or mainland while simultaneously brutally exploiting them.

It is within this brutal context of colonialism as virus that we saw the spread of anti-colonial resistance as a form of ‘viral behavior’ that was ‘crucial for the development of new ecopedagogies’ (Jandrić and Ford 2020: 8). Just as Black feminist organizers in the 1970s US conceived and built an identity politics designed to foster and build ‘alliances and solidarity—ecologies of resistance’ (Jandrić and Ford 2020) so too has the movement for Pan-African socialism been grounded in a commitment to the self-determination of indigenous timbre formation, development, and revitalization.

Anti-colonialism and Decoloniality

Cabral's (1979) Marxist formulations on culture were important in the development of *ecologies* capable resisting and negating colonial education. The insight that imperialist oppressors were well aware 'of the value of culture as a factor of resistance to foreign domination' provided a framework to understand that subjugation can only be maintained 'by the permanent and organized repression of the cultural life of the people' (139). Refusing to deny the people hope, referred to by Freire as an ontological need, Cabral (1979: 140) affirms that only through physical genocide can 'domination be ensured definitively'. As long as there is a people, in other words, there is hope for liberation.

Cultural expression as a de-colonial mode of listening and creating voice (Ford and Sasaki 2021), especially in a highly restrictive colonial context, for Cabral (1979), is a form of resistance affirming the independent cultural life of the colonized nation. What this means is that 'as long as part of the people can have a cultural life, foreign domination cannot be sure of its perpetuation'. In this situation then, 'at a given moment, depending on internal and external factors ... cultural resistance ... may take on new (political, economic, and armed) forms, in order ... to contest foreign domination' (Cabral 1979: 140). In practice the still living Indigenous cultures that had led centuries of anti-colonial resistance would organically merge with, and emerge from within, the political and materially-focused liberation movement.

In practice, Cabral promoted the development of the cultural life of the people. Written as a party directive in 1965 Cabral encourages not only a more intensified military effort against the Portuguese, but a more intensified educational effort in liberated areas of Guinea-Bissau. Again, while the national liberation/anti-colonial movement and the educational process of decolonizing knowledge can be conceptualized as distinct, Cabral conceptualized the interaction between them dialectically:

Create schools and spread education in all liberated areas. Select young people between 14 and 20, those who have at least completed their fourth year, for further training. Oppose without violence all prejudicial customs, the negative aspects of the beliefs and traditions of our people. Oblige every responsible and educated member of our Party to work daily for the improvement of their cultural formation. (Cabral 1979: 140)

A central part of developing this revolutionary consciousness was the process of re-Africanization. This was not meant as a call to return to the past, but a way to reclaim self-determination and build an unknowable future. Cabral continues providing further guidance for the enactment of a postdigital ecopedagogy:

Oppose among the young, especially those over 20, the mania for leaving the country so as to study elsewhere, the blind ambition to acquire a degree, the complex of inferiority and the mistaken idea which leads to the belief that those who study or take courses will thereby become privileged in our country tomorrow. (Cabral 1965)

At the same time Cabral opposed fostering ill will toward those who had studied or who desired to study abroad. Rather, Cabral encouraged an ecopedagogy of patience

and understanding as a more effective approach to winning people over and strengthening the movement.

As such, Freire (1978: 18) describes Cabral as one of those ‘leaders always with the people, teaching and learning mutually in the liberation struggle’. As a pedagogue *of* the revolution, for Freire, Cabral’s ‘constant concern’ was the ‘patience impatience with which he invariably gave himself to the political and ideological formation of militants’ (19).

This commitment to the people’s decolonial development as part of the wider struggle for liberation informed his educational work in the liberated zones. Freire (1978: 19) notes that it also informed ‘the tenderness he showed when, before going into battle, he visited the children in the little schools, sharing in their games and always having just the right word to say to them. He called them the “flowers of our revolution”.’

Freire and Decolonial Education in a Liberated Guinea-Bissau

The importance of education was elevated to new heights by Cabral and the revolutionary leadership at every opportunity. It therefore made sense for the Commission on Education of the recently liberated Guinea-Bissau to invite the world’s leading expert on decolonial approaches to education, Paulo Freire, to participate in further developing their system of education.

Freire was part of a team from the Institute for Cultural Action of the Department of Education within the World Council of Churches. Their task was to help uproot the colonial residue that remained as a result of generations of colonial education designed to de-Africanize the people. Just as the capitalist model of education will have to be replaced or severely remade, the colonial model of education had to be dismantled and rebuilt anew.

‘The inherited colonial education had as one if it principal objectives the de-Africanization of nationals. It was discriminatory, mediocre, and based on verbalism. It could not contribute anything to national reconstruction because it was not constituted for this purpose.’ (Freire 1978: 13) The process of decolonial listening, creating voice, and building the social formation conducive to this ongoing development remained a deeply collective undertaking after the seizure of state power. We might characterize this decolonial ecopedagogy as the development of timbre.

The colonial model of education was designed to foster a sense of inferiority in the youth. Colonial education with predetermined outcomes seeks to dominate learners by treating them as if they were passive objects without an assertive, independent voice. Part of this process was negating the history, culture, and languages of the people. In the most cynical and wicked way then colonial schooling sent the message that the history and voice of the colonized really only began ‘with the civilizing presence of the colonizers’ (Freire 1978: 14).

In preparation for their visit Freire and his team studied Cabral’s works and learned as much as possible about the context. Reflecting on some of what he had

learned from Cabral, despite never having met him, Freire (2020) offers the following:

In Cabral, I learned a great many things ... [B]ut I learned one thing that is a necessity for the progressive educator and for the revolutionary educator. I make a distinction between the two: For me, a progressive educator is one who works within the bourgeois classed society such as ours, and whose dream goes beyond just making schools better, which needs to be done. And goes beyond because what [they] dream of is the radical transformation of a bourgeois classed society into a socialist society. For me this is a progressive educator. Whereas a revolutionary educator, in my view, is one who already finds [themselves] situated at a much more advanced level both socially and historically within a society in process. (Freire 2020: 170)

For Freire, Cabral was certainly an advanced revolutionary educator. Rejecting pre-determination and dogmatism as ineffective ways to build ecologies of resistance, Freire's team did not construct lesson plans or programs before coming to Guinea-Bissau to be imposed upon the people.

Upon arrival Freire and his colleagues continued to listen and discuss learning from the people. Only by learning about the revolutionary government's education work could they assess it and make recommendations. Decolonial guidance, that is, cannot be offered outside of the concrete reality of the people and their struggle. Such knowledge cannot be known or constructed without the active participation of the learners as a collective. From this the contours of what an ecopedagogy might look like begins to come into focus.

Freire (1978: 14) was aware that the education that was being created could not be done 'mechanically' but must be informed by 'the plan for the society to be created'. Cabral's writings and leadership had helped in the creation of a force with the political clarity needed to counter the resistance emerging from those who still carried the old ideology designed to destroy the peoples' timbre.

Through their process revolutionary leaders would encounter teachers 'captured' or enclosed by the old ideology who consciously worked to undermine the new decolonial practice. Others, however, also conscious that they are captured by the old ideology, nevertheless strive to free themselves of it. Cabral's work on the need for the middle-class, including teachers, to commit class suicide, was instructive. The middle-class had two choices: betray the revolution or commit class suicide. This choice remains true today within the postdigital, global balance of class forces.

The work for a reconstituted system of education had already been underway during the war in liberated zones. The post-independence challenge was to improve upon all that had been accomplished in areas that had been liberated before the wars end. In these liberated areas, Freire (1978: 17) concluded, workers, organized through the Party, 'had taken the matter of education into their own hands' and created 'a work school, closely linked to production and dedicated to the political education of the learners'. Describing the education in the liberated zones Freire (1978: 17) says it 'not only expressed the climate of solidarity induced by the struggle itself, but also deepened it. Incarnating the dramatic presence of the war, it both searched for the authentic past of the people and offered itself for their present'.

After the war the revolutionary government chose not to simply shutdown the remaining colonial schools while a new system was being created. Rather, they ‘introduced ... some fundamental reforms capable of accelerating ... radical transformation’ (Freire 1978: 20). For example, the curricula that was saturated in colonialist ideology was replaced. Students would therefore no longer learn history from the perspective of the colonizers. The history of the liberation struggle as told by the formerly colonized was a fundamental addition.

However, a revolutionary education, a postdigital ecopedagogy, is not content with simply replacing the content to be passively consumed. Rather, learners must have an opportunity to critically reflect on their own thought process in relation to the new ideas. For Freire, this is the path through which the passive objects of colonial indoctrination begin to become active subjects of decoloniality.

Assessment here could not have been more significant. What was potentially at stake was the success of the revolution and the lives of millions. This is a lesson relevant to all revolutionaries who must continually assess their work always striving for improvement. In this way it was clear to Freire (1978: 27) that they must not express ‘uncontained euphoria in the face of good work nor negativity regarding ... mistakes’. From their assessment then Freire and his team sought ‘to see what was really happening under the limited material conditions we knew existed’. The clear objective was therefore ‘to discover what could be done better under these conditions and, if this were not possible, to consider ways to improve the conditions themselves’ (Freire 1978: 27).

What Freire and his team concluded was that ‘the learners and workers were engaged in an effort that was preponderantly creative’ (Freire 1978: 28) despite the many challenges and limited material resources. At the same time, they characterized ‘the most obvious errors’ they observed as the result of ‘the impatience of some of the workers that led them to create the words instead of challenging the learners to do so for themselves’.

From the foundation Cabral played such a central role in building, and through this process of assessment, what was good in the schools was made better, and what was in error was corrected. As a pedagogue *of* the revolution Cabral ‘learned’ with the people and ‘taught them in the revolutionary praxis’ (Freire 1978: 33).

Cabral’s Ongoing Relevance

Because Freire’s work and practice have inspired what has become a worldwide *critical pedagogy* movement, Cabral is a centrally-important, yet mostly indirect, influence of this movement. The attention to decoloniality and voice as process occupies one of critical education’s most exciting and relatively recent cutting edges, which demands a more complete turn to Cabral.

Reflecting on Cabral’s contributions to decolonial theory and practice a decade after his time in Guinea-Bissau, Freire (1985: 187), like Cabral before his death, continued to insist that ‘we need to decolonize the mind because if we do not, our

thinking will be in conflict with the new context evolving from the struggle for freedom’.

In the last prepared book before his death, subtitled *Letters to those who dare teach*, Cabral’s influence on Freire (1997) seems to have remained central. For example, approaching the struggle for justice Freire insisted that, ‘it is important to fight against the colonial traditions we bring with us’ (Freire 1997: 64).

Reminding his audience that even in the task of defending the relevance of their profession Freire’s advice, in part at least, seems to come directly from his experience in Guinea-Bissau. That is, Freire argues that what is necessary is ‘patience impatience on the part of educators and political wisdom from their leadership’ (Freire 1997: 64).

Conclusion

Jandrić and Ford’s (2020) framework that ‘names a set of pedagogies that emerge from, negotiate, debate, and produce the shifting and expansive postdigital ecologies within which we write, think, and act’, sharing many similarities with the dialectic, seems poised to only grow in relevance. For example, as the global balance of class forces intensify and shift, the postdigital lessons from the era of anti-colonial national liberation struggles will also grow in relevance likely informing the development of new ecologies of resistance.

Tuned into the need for creativity here Jandrić and Ford (2020) invite ‘new’ and ‘liberatory’ postdigital ecopedagogies. The way in which the postdigital represents both the ‘rupture in our existing theories and their continuation’ (Jandrić et al. 2018: 895) offers an exciting vision for engaging decolonial lessons in contemporary contexts. Again, conceptualizing the postdigital as an ecosystem that it is ‘not stagnant or fixed, but living, breathing, expanding, and fluid’ (Jandrić and Ford 2020: 3) offers a window into a future that cannot be known before its always temporary arrival.

Ford and Sasaki’s (2021) political exploration of postdigital sound and listening, build on literal definitions of digital and analog, allowed us a unique view into the colonial project and a practical form decolonization focused on timbre. Analog refers to that which is flowing and continual such as waves of light and sound. Digitalization is the process of quantifying/breaking up into units that which is analog. Adding to our postdigital conception of decolonization that disrupts and blurs the lines between either/or frameworks opens up an indeterminate creativity fundamental in confronting and defeating today’s global forces of imperialist oppression.

It is within the brutal context of colonialism that we saw the spread of anti-colonial resistance as a form of ‘viral behavior’ that was ‘crucial for the development of new ecopedagogies’ (Jandrić and Ford 2020). Just as Black feminist organizers in the 1970s US conceived and built an identity politics designed to foster and build ‘alliances and solidarity—ecologies of resistance’ (Jandrić and Ford 2020) so too has the movement for Pan-African socialism been grounded in a

commitment to the self-determination of indigenous timbre formation, development and revitalization. At stake in the independent cultural life of the people, building on Cabral, is the self-creation of voice and the building of a society premised on its self-determination.

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The Postdigital Settler Spectacle: An Educators' Dérive to Unveil a 'New Colonizer' During Covid-19



Hugh O. Burnam and Maureen S. Brett

It was the winter of 2021. Covid-19 made us devoid of most in-person human interaction and dependent upon various technologies as we faced unprecedented levels of inequity. Some of us chose to walk, wander, and *drift* onto the streets and into the woods, to fill our hearts.

Introduction

After Jeff Bezos landed his rocket back on Earth during the Covid-19 pandemic, our digital world was flooded with his 'gratitude' to his Amazon workers. He could be *seen* on phones, tables, computer screens and televisions all over the world as he said the following: 'I also want to thank every Amazon employee and every Amazon customer because you guys paid for all of this.' (Vigdor 2021) This spectacular moment offers us a brief glimpse of the Postdigital Settler Spectacle.

We problematize the ethic of most tech billionaires that positions digital tech first and human safety and life second (Reader et al. 2020). While the unfathomably wealthy grow wealthier on the backs of the working class, we gaze upon our screens fixated on their triumphs— we identify with the billionaires, we root for them, and we love (or love to hate) their image. We simply cannot get enough. They force us to see *ourselves*, in them.

H. O. Burnam (✉)
Medaille College, Buffalo, NY, USA
e-mail: hugh.o.burnam@medaille.edu

M. S. Brett
Buffalo Public School District, Buffalo, NY, USA
e-mail: mbrett@buffaloschools.org

Through a ‘decolonized’ framework, or ‘lens’, we attempt to address the central problem of a capitalist settler ethic that exist in our postdigital age (Grande 2018; Reader et al. 2020). To re-position the postdigital age through a ‘decolonized framework’ (Grande 2018) we use ‘ecopedagogies’ which centers people as ‘global environmental citizens’ (Misiaszek 2018) through Indigenous and allied lenses. We hope to contribute to an already vigorous effort, yet more in-need, ‘decolonization’ framework of (post)pandemic realities in the postdigital age (Costello et al. 2020; Ford 2019; McLaren and Jandrić 2020; Zocher and Hougham 2020). To address such a problem of a settler capitalist ethic we re-center the problem of settler dominance, brought through oppression of Indigenous, Black, Brown, and economically disparaged communities (Beaton and Campbell 2014; Erickson 2020) and we intentionally position and re-positioning our *own* ethics and experiences, drawing upon that which we observe, and ‘see’ on a regular basis: the settler spectacle of our postdigital existence.

In this chapter we intersect postdigital ecopedagogies, as couched within Indigenous and allied experiences to work towards transcending aspects of current transhumanist capitalist ethic (Reader et al. 2020) in the tech industry, which we argue is the root cause of inequity within this postdigital age. We center this chapter on the following exploratory research questions:

1. How might settler capitalist ethical underpinnings of our postdigital age perpetuate social inequity during Covid-19?
2. How can a diverse body of educators understand their own experiences to identify, disrupt, and resist social inequity during Covid-19?

Using our autoethnographic voices we bring to the forefront our lived realities through the theory of the *dérive* (Debord 1958), meaning ‘drift’ (in French), through urban spaces and nonurban spaces. In our movement throughout our lived space, the authors describe the importance of walking, reflecting, moving, or *wandering* during the Covid-19 pandemic. In our performative acts of walking, between, among, beyond varied environments, over fences, and beyond concrete rubble, we create a ‘storied’ process (Radley et al. 2010). We provide autoethnographic voices and deliberately position anti-colonial, anti-racist and asset-based understanding as integral once more to our own postdigital (post)pandemic experiences. We hope to uncover and investigate truths about our human condition. In this space we intentionally position our relationships on and with the Earth, our family, and friends *first*—and technology second (Wincent 2018), a positioning that we argue should be paramount within this postdigital age.

We practically breathe a postdigital existence. We take a technologically deterministic approach (Dafoe 2015) to explain that our use of geomapping, augmented reality, or social media for example, as a power construct, is so normalized, like race, gender or settler colonialism within our lives, that the authors offer one central perspective on the ‘postdigital’. In this chapter, we examine and deconstruct our rich relationship with technology during our Covid-19 experiences in order to understand the level of inequity that it might bring—especially as it is attached a capitalist settler ethic.

We present this chapter through fluid and often nonlinear reconstruction of time and space to return to the land, to understand our interdependence of and with the land (Lyons 2011). In this chapter, we both use *and* simultaneously *refuse* the digital

technologies of which we had constant access to during the pandemic, a privilege that many do not have. We question our use of these digital technologies as we struggle with our fears, anxieties, and conflicting feelings while in and out of self-isolation, often isolated solely with our technologies. We question our realities. Using aspects of our human condition like 'drifting', hiking, walking, reflecting, oral traditions and dreaming to reimagine a way back to the land, back home, towards a journey of healing. This, to us, is a hopeful place.

Definition of Terms

- 'Indigenous' or 'Native' refers to 'Native Americans' and 'American Indians (AI)' or Native peoples who live within places which some might call the 'United States' or 'Canada' or 'North America'.
- 'Settler' means everyone except Indigenous Peoples to a specific land.
- 'Ally' or 'allied' refers to united people, working towards a common goal of racial, gender, economic equity in today's political climate of social unrest throughout the world.
- *Haudenosaunee* means 'They build long houses'. We use this term to refer to the 'Six Nations', 'Iroquois Confederacy' or the Mohawk, Oneida, Onondaga, Cayuga, Seneca, and Tuscarora.
- *Onöndowa'ga:* literally means 'The people of the great hill' or the 'Seneca Nation', traditionally the western most *Haudenosaunee* Nation also known as the 'Keepers of the Western Door' situated prior to what is also known as Western New York State.
- *Onondaga* literally means 'The people of the hills; or the Onondaga Nation', traditionally the central most *Haudenosaunee* Nation also known as the 'Keepers of the Central Fire' situated prior to what is also known as Central New York State.

Use of Accessible Language

We felt drawn to write 'from the heart' (Archibald 2008) using an Indigenous research paradigm (Wilson 2008) in order to provide accessible language in storytelling, which would be most beneficial for diverse communities. In this manner, we can examine concepts like: 'postdigital', 'ecopedagogies', 'posthumanism', etc., through descriptions and modes of storytelling often used in Indigenous, Black, Brown, and working class communities. Therefore, we decided to describe our chapter in a storytelling autoethnographic manner, this way our families, friends, colleagues, and communities could understand much of the concepts being articulated in this piece. We intentionally aim to render this chapter accessible to diverse audiences who experience overwhelming inequity, disparity, and loss during Covid-19. This note about use of language use is brought to attention, from the authors— in love, family, and community.

Defining For Ourselves The ‘Postdigital’

We offer our definition, our understanding (for now), of the concept of the ‘postdigital’ to our readers. Our relationship with the ‘postdigital age’ means (for us) that advanced digital technology is so inherent to our lives, so *normalized*, that we often do not even realize we are using advanced tech on a regular basis. Jandrić et al. (2018: 893) write: ‘We are increasingly no longer in a world where digital technology and media is separate, virtual, ‘other’ to a ‘natural’ human and social life.’ This is a far cry from the ‘digital age’ when advanced technology felt ‘new’, and it was perceived that humans and tech were separate in our everyday lived existence. Today most of us are so privileged with advanced tech, that we take for granted this amount innovation at our fingertips. As mentioned earlier, we examine the power construct that comes with our postdigital age through a technologically deterministic approach (Dafoe 2015).

Desiring the Colonizer’s ‘Deeper Vision’

One early morning at 3am, Hugh, a coauthor of this chapter, laid alone on his couch scrolling through his Facebook newsfeed. He came across a 2017 TEDx by author Justine Wilson (formerly Justine Musk), ex-wife of tech visionary, billionaire, and Tesla CEO, Elon Musk. In this TEDx Wilson discussed the creativity and (white) feminism in her writing, humorous interactions with her children, and marriage with her quirky ex-husband. She drew connections from stories that, she said, ‘resurface from the dark’, of women marginalized from history, many who ‘interrogate darkness instead of being crushed by it’ with whom she related this theme with her ex-husband, a kid who was bullied throughout his childhood, who eventually honed-in on his ability to be a ‘visionary’. We provide the following quote from her talk:

As creatives our job is to uncover what lies in the darkness and give it new life, new identity. There are people who learn how to interrogate that darkness, instead of being crushed by it. And they use their art and their magic and their tech and their intellect to not only show us who we are, in a way that we can understand and accept, but also who we *can* be. They create new tribes and new worlds that call their people home. The best stories are the ones that resurface from the dark. (Wilson 2017)

As an Indigenous person, the phrase ‘new tribes, new worlds’ *irked* Hugh, especially within the context of billionaires like Musk. What about the ‘tribes’ and ‘worlds’ that we have *now*? But Hugh couldn’t stop watching, his eyes fixated on his iPhone. He watched Wilson’s seemingly genuine plea and he related to her story about her ex-husband.

During her years married to Musk, Wilson explained that her ex-husband had brought together two distinctly different worlds of engineering and business and later boldly said that he would ‘sacrifice his entire fortune to launch a rocket into

space'. Through a relatively uncomfortable comparison, Wilson attempted to connect the achievements of her husband with several famous women in history, all famous literary authors, marginalized by their gender. She referenced her husband as someone who was scapegoated and bullied as a child for being different, quirky but someone who can 'see in the dark' and envision a world not yet explored to what she calls 'another deeper reality in which transformation is possible' (Wilson 2017).

As Wilson told Musk's story of a 'deeper vision' that he has, Hugh laid there simultaneously *captivated yet troubled* by her talk. Hugh thought more and more about Musk's 'deeper vision', yet something seemed bothersome. This was a captivating talk, one that Hugh could relate to, but something was wrong. Then it clicked: *We are trying to colonize space. It's the 'new' frontier. We are supporting colonizers— but these colonizers colonize other colonizers.* Hugh laughed aloud at the ridiculous thought, at the ridiculous level of wealth, power, and privilege of elite billionaire white men, indeed they are this world's settler capitalists. But Hugh could not stop thinking about was the world around us, crumbling, as tech billionaires became richer, and Indigenous lands threatened stolen expropriated under a settler capitalist system.

Whose Ethic? Transhumanism, Humanity, and Prioritized Relationships

Wilson's TEDx talk (2017) disturbed Hugh because he saw an ethical concern. As 'leaders' within the booming tech world of innovation with so much public clout, they may attempt to tackle issues of climate change, space travel and artificial intelligence (AI), augmented reality (AR), etc., all while seemingly placing risky scientific exploration before human and environmental livelihood. This raised questions for Hugh that he sought to situate within this chapter, namely: In this postdigital age, by 'whose ethic' are we being led?

The authors of this piece thought considerably about the issue of settler capitalism, education, and land expropriation as it relates to the Indigenous, Black, Brown, and working-class people during Covid-19 (Brosemer et al. 2020; Fortuna et al. 2020; Gray et al. 2020). We wanted to open this chapter about ethical concerns specific to economic disparities, climate issues, and manipulation of reality.

In Reader et al. (2020), co-author Lipińska wrote a section titled 'On Philosophical Foundations of Modern Technology' where they describe the urgent need to examine the separation between contemporary science and philosophy from religion. Here, they describe ethics based solely in private investors' beliefs and blind trust in 'Silicon Valley entrepreneurs'. Many of these tech leaders' morals and cultural beliefs, Lipińska argues, are grounded in transhumanism, which elevates 'taking risk' over Hippocratic ethic of 'above all, do no harm'. Lipińska offers the following:

Whilst the giants of technology such as Elon Musk publicly claim philosophical alliances with the likes of avowed atheist Sam Harris, transhumanism aims to provide a much clearer

moral and philosophical impetus to the current techno-scientific enquiry. Avoiding nihilistic posturing, transhumanism, a socio-philosophical movement aimed at elevating the human condition through technology, urges the importance of moral imperatives in the technologized world. (Reader et al. 2020: 6)

Lipińska calls for the need to come to terms with our tech-dependent society as we navigate our relationships (during Covid-19) between humans, tech, morals, and religion, stating that we may always be blindsided by nature as we ‘play catch up with our basic biology’ (Reader et al. 2020: 6). We read this work as the need to address the lack of a ‘religious’ or ‘moral code’, which leads to the ‘disenchanted’ agnostic positioning of scientists and entrepreneurs.

Struggling with ethical uncertainties especially during Covid-19, another voice of concern regarding ethics and ignorance of tech entrepreneurs in a capitalist system, Ralston (2021: 97), wrote that many tech professionals in the ‘microcredentialing craze’ are not offered the opportunity to further develop identity formation under a more ‘wide ranging liberal arts’ holistic-based education. Ralston (2021) centers the pandemic, especially the role of universities that have shifted focus from in-person learning to offering microcredentialing, a form of education that typically benefits tech students with little or no focus on a liberal education (read: *ethical*) consideration. Ralston (2021) wrote:

Technicians often lack a sufficiently wide-ranging or general (Liberal Arts) education to appreciate the limits of their own knowledge—or stated differently, the extent of their own ignorance. Thus, tech entrepreneurs such as Mark Zuckerberg, Elon Musk, and Bill Gates are often too willing to position themselves as authorities in fields where they lack expertise (e.g. concerning world poverty, global climate change and, most recently, epidemiology). (Ralston 2021: 97)

Ralston (2021) goes on to explain the need for students to develop ‘soft skills’ during the postdigital age, to shift from offering microcredentials online which are more traditionally offered towards technical skills, towards development of ‘soft skills’ or a more holistic learning, and human competencies. It is clear that during the pandemic, often capitalist-based, technical fields are disproportionately prioritizing a free market ethic over considerations of the lands and people on those lands.

Shifting our Gaze: Welcome to the Postdigital Settler Spectacle

According to Business Insider (Peterson 2019) just before the pandemic in 2019, Jeff Bezos reportedly cut health benefits for about 2,000 part-time employees at Whole Foods to save a few million dollars after he bragged about being so rich, that he would travel to space. We question our individual and collective understandings of realities during this pandemic as we gaze upon images of a phallic-shaped rocket live-streaming all over social media as it launches into space (Onibada 2021). Our gaze fixates on this image, this moment, a moment that we cannot unsee, a moment that we *need* to see... Welcome to the Postdigital Settler Spectacle.

We use the term Postdigital Settler Spectacle to refer to the performative images that we see online of billionaire settler capitalists who continuously exploit the land, resources, and workers, a term that we have altered somewhat and borrowed from Grande (2018: 9) in which she 'theorizes a space between spectacle, cultural politics, and neoliberalism' bringing visibility and refusal to the 'theatre of cruelty' during our digital age in what she calls the *Settler Society of the Spectacle*. Grande (2018) examines the connection between Guy Debord's (2012) idea of the 'spectacle of the society' to the relationship with settler society from an Indigenous perspective, an aspects of settler society that continually works to erase Indigenous peoples through the notion of 'Indigenous spectacle'. In this chapter, we hope to shift the gaze from the settler gazing upon (and making invisible) Indigenous Peoples, to Indigenous Peoples, Black, Brown and Economically disparaged, gazing upon the performances of the uber-wealthy billionaire settler capitalists.

Through digital media, the images of billionaire settler capitalists are reconfigured as subjects in which we almost have no choice but to view our realities through their lens. In other words, it is almost intrinsic to us to 'gaze' through a settler capitalist lens, a lens chosen for us, by a capitalist colonizer, where our realities become obscured, to which we are systemically forced to identify with those impossibly different from us— the unfathomably wealthy, white male, settler capitalist billionaires. In fact, we are so entrenched, manipulated, and obsessed within our own dominance, that we will go out of our way to *pay* thousands of dollars to our colonizers to give us their deceptive lens.

While the wealthy are joyriding to space (Stošić-Mihajlović and Trajković 2021) during Covid-19, attempting to colonize the 'new frontier' (Davenport 2018), working class families are struggling to *stay alive*, to keep jobs, attend school, feed themselves and their families (Nassif-Pires et al. 2020). Indigenous communities are being disproportionately impacted, directly by wealthy through needless travel – mostly due to tourism/holiday – during the pandemic (Walters et al. 2021). Meanwhile, tech entrepreneurs like Elon Musk who apparently 'emerged from the dark' have profited \$150 billion since the start of the pandemic while also '650 billionaires in America saw their net worth increase by more than \$1 trillion' during the pandemic (Peterson-Withorn 2021). Even those who Indigenous Peoples call the 'colonizer' are being manipulated under this system: *Even the colonizers are being colonized*.

It is without a doubt that this society faces challenges, especially considering class, gender, and racial inequity brought to us by settler free-market capitalism in an overly tech-dependent world. We call attention to this disparity to center the experiences of the working class, Indigenous, Black, and Brown communities during this pandemic.

Autoethnography and the Theory of the *Dérive*

If through a ‘decolonized’ lens, we use the ‘spectacle’ from the theory of the *dérive* (Debord 1958) to understand the experiences as educators, we might arrive at a point to suggest that our ethical and *human* postdigital world may be just beyond a settler capitalist lens, on the streets and in the woods. As we consider the role of the ‘settler’ and the role of the researchers, we are Indigenous and allied non-Indigenous (white) ethnographers or more appropriately, autoethnographers as intentionally situated to draw attention to the power differences between ‘benevolent colonizer’ (‘white allies’) and the billionaire settler capitalists.

Grande identifies the meaning of power through implications drawn from and between various actors in the settler project. Grande (2018: 2) writes: ‘the non-Indigenous settler subject’ or the ‘benevolent colonizer’ (Memmi 1991) is ‘self-effacing colonizer who refuses the ideology of colonialism but still lives within its confines’ who might also be known as a ‘white ally’. But there is a vast difference between what might be called a ‘benevolent colonizer’ (white ally) and a billionaire settler capitalist. That difference, we hope, will become apparent.

Use of Indigenous and Allied Autoethnographies

Autoethnography combines ethnography and biography and allows the authors to retroactively reflect on their past experiences in order to make meaning of their personal experiences. According to Ellis, Adams, and Bochner (2011), this method allows marginalized peoples to voice their different experiences in education regarding intersecting identities and contexts which may include race, colonization, gender, sexuality, class, religion, or environmental issues. Autoethnography allows us to examine the experiences of a diverse group of educators during Covid-19. In this piece, two authors, Mo and Hugh, will have autoethnographic voices in this chapter, both of whom are educators in Buffalo, NY – *Onöndowa’ga:*’ lands.

Our positionality as researchers was a crucial aspect that we had taken into great consideration. We are what Patricia Hill Collins (1991) describes as ‘the outsider within’. Traditionally, researchers belong to outsider groups but we identify as both insiders and outsiders. Insider/outsider researchers are researchers who belong to one particular set of communities who are conducting research as ‘insiders’ and also belong to an outsider groups. We have become the outsiders within, as we conduct research about our own communities and about ourselves. Further, Ladson-Billings and Donner (2005) state that scholars of color, including Indigenous scholars, are positioned in a way that pits them against themselves. They become part of the dominant Western model of knowing but are also still a part of their own communities. As researchers, educators, and members of the working-class communities that we explored in this piece, we had to be constantly aware of our positionalities, power, and insider/outsider status.

To address positionalities in this chapter, Mo and Hugh, have a longtime connection. Through our undergraduate years as students, grad students, and eventually professionals – we would often walk the streets of Buffalo, NY (*Onöndowa'ga:* 'lands'). The last year during pandemic (Winter 2021- Summer 2021) that our socially distanced 'aimless wandering' seemed to bring some relief from Covid-19. As we talked together, Mo explained many of the feeling she had through the initial stages of Covid-19 isolation as an educator. Hugh's eyes darted to Mo and he asked what she thought about being in lockdown, in isolation. Mo then gave several examples of overcoming tribulations associated with being an educator, family member, friend, and colleague during Covid-19. Eventually when some restrictions were lifted and rules of outside recreation less stringent, we walked the city and rural and urban spaces both separately and together to gain some sort of relief from our Zoom-fatigue. This marked a crucial moment, the moment when we knew that we were much less alone than we thought.

It dawned on us as the authors of this piece, that our seemingly 'aimless' walking and wandering through the years, even pre-covid – morning, day and night – led us to reflect on their emotional experiences. While Hugh at times leaned on Mo for guidance, often through big life-decisions, professional and personal events, and discussions about racial and gender equity— we also reflect on our own well-being through Covid-19 in the winter of 2021. We talked about in and out of work, online, offline, and attached to our phone and computer screens. We talked about the climate of the city, while being participant-witnesses to the 'spectacle' around us.

Use of the Theory of the Dérive

We choose to share our experiences through the 'theory of *dérive*' (Debord 1958). This Situationist practice, stemming from the field of psychogeography, the *dérive* [literally: 'drifting'] used as what Debord (1958: 65) calls a 'rapid passage through various ambiances', often elicits an emotional response to one's geographical, social, and environment, usually within an urban setting. Through 'mythographical walking', strolling, and wandering (at times aimlessly) we may bring our experiences to the forefront, as we bear witness to social and cultural inequities all around us. Below we provide background to the theory of the *dérive*.

In a *dérive*, within any given constructed situation, or moment in life, the participant is freely strolling, walking and reflecting on any given physical and social context that renders itself open to interpretation and the free play of events, or randomness. A *dérive* may be specifically delineated or random, it may be mapped by the participant, or not. A walk or stroll may be planned, or not, and may often result in the unconscious creation of an axis or point of interest. One then 'engages in the construction of situations' (Debord 1958: 68) whereby becoming an actor within a given social context. One may engage in a *dérive* as an individual or as a group in which case there may be 'rendezvous points' or not, but the emotional response as the participant to a geography is the key to the theory of the *dérive* in addition to

exploring the meaning behind those emotional responses, specifically the meaning of power.

Debord wrote and spoke about what he called *The Society of the Spectacle* (2012), which critiques a consumerist society that he felt grew more and more fixated on ‘images and appearances over reality, truth and experience’ (Nicholas 2019). Debord was a member of the Situationists International, a group concerned with the ever-growing consumption of goods, images, and electronics that ‘induced boredom’ while simultaneously shaping peoples’ desires during an age of consumption and boom of capitalism. Debord wrote about how capitalist societies, East and West, contributed to the ‘fragmentation’ of everyday life, including labor, to create and maintain a false unity, the ‘spectacle’ (Wollen 1989).

The theory of the *dérive* was not written within the context of modern-day consumerism, but consumerism of the past, with revolutionary acts in Paris, France during the 1950’s-70’s, which also battled consumerist goods and services, including an introduction to the digital age in the 1950’s (Weller 2012). Activists, painters, artists, educators and alike participated as members of the Situationists International to ‘agitate’ against the oppressions of everyday life. The theory of *dérive*, we felt, resonates strongly with the present-day social context of the pandemic, inequity, and the postdigital age.

Debord (1958: 66) also writes of the difference between urban and rural space, that ‘wandering in the open country is naturally depressing and the interventions of chance are poorer there than anywhere else’. This is a portion of the theory that we challenge through an examination of ecopedagogies and resiliency during the pandemic but also in re-examining an Indigenous-based relationship with tech and the outside urban/ rural environments, specifically how use of tech, while inherent to the settler project of capitalism, has the potential to perpetuate inequities or to address it.

Mo’s Autoethnography: ‘Allied’ Perspective on Reality, Ritual, and Support

Quarantine was an interesting time. I told myself I was utilizing it in the healthiest way I could, working on my health, on my discipline, and my relationship with myself and my body. Technology was an instrumental part of that work. TikTok recipes, Peloton classes, scrolling through Hinge – it was a time to learn, and change and grow in all the areas that I have historically neglected or lacked consistency.

In reality, the months came and went while I clung to old patterns, claiming this time was different. Sure, I am still spending half of my paycheck on Amazon – but this time it’s for home improvement! Or self-improvement! Yes, I am still scrolling through the same three food apps, just to spend half the cost of the entire meal on getting it delivered – but I deserve it! And okay sure, here I am again, giving way more of myself to someone than I am receiving, but I am mastering the art of being

casual! So, it's fine! My typical depressive behaviors of overspending, overeating, and inappropriate romantic pursuits had crept up again, except now I was delusional enough to label them as 'self-care'.

I grew up with a strong sisterhood – there are 6 of us altogether – and although being cooped up with partners and children had its own challenges, I'm sure – I couldn't help but feel left out and alone. My mother would call and say, 'I just can't stop worrying about you, you're my only child who doesn't have *anyone*'. Of course, she meant well, but it really stung. My work – a place where I typically feel so confident and secure in my abilities – now left me feeling inadequate and ineffective. We didn't know how to fix these problems. Even if we did, we didn't have the passion or energy to solve issues for others when we were so miserable and burnt out ourselves. I needed some support. I was getting to the point where the reality that I hadn't learned or changed or grown in the slightest was getting hard to ignore, and I needed to get out of the house.

I started winter hikes with one of my oldest friends, Hugh. We'd pick a trail we had never been to, bundle up, and head out. Sometimes we'd do a mile, sometimes we'd do eight. We would catch up, vent, and try to process the pandemic. We'd bounce theories off each other and talk about everything going on in the world. It was therapeutic and became such an important part of keeping me sane. Out in the snow, surrounded by trees and frozen water, I wasn't trying to convince myself – or Hugh – of anything. (Not that I could, he can recognize my depressive patterns by now.) Although our conversations were often bleak, I found myself feeling so much better. Out there, away from everything and everyone else, we found peace.

Eventually the snow thawed, and we could see the ground again. I'd become really close with a group of women, all struggling with quarantine in their own right – but so similar to mine, (and everyone else's) in so many ways. Feelings of inadequacy, burnout, anxiety, and fear. We were all going through it. We decided to start roller skating. The parks and rinks were all closed, so we began taking over basketball courts that weren't in use.

It became such a ritual. We'd bring music and snacks, and skate for hours. I hadn't used a pair of roller skates since the fifth grade but suddenly this was a weekly commitment. We started to question – why had it taken us so long to do this sort of stuff? And why, as adults, do we forget about all the things that made us happy during our childhoods? Is it weird to be in our 30's and 40's, in our sparkly skates, dancing on Reese Street to the Center Stage soundtrack? Who cares! We relearned what it felt like to *play outside*.

For a while, what I was consuming online matched up with what I was experiencing in real life. Protests, marches, people taking to the streets; I was participatory and experiencing it in real time. The struggle with being stuck inside, having too much time alone with our thoughts, wondering if we were doing the right thing or being the person we should be; there was a collective understanding and narrative that we were 'all in this together'.

Summer came and that narrative changed. Now we were witnessing celebrities who just *had* to get away, to a private island with 20 of their closest friends (socially distanced of course! Tested and quarantined prior). We watched as they escaped to

their beach homes, threw lavish parties and later, took afternoon trips to outer space, which they publicly thanked their hourly-wage employees for paying for. Our new normal, that we were forced to accept, was so different from what celebrities were living. We were going back to work. Wearing masks for 8+ hours a day. Providing a service to other people – most of whom also had to work, to provide for their families, and resume all the expenses they had received such little assistance for.

My students went from mild detachment to total school avoidance. They couldn't function during normal school hours. They couldn't bring themselves to engage or sit and focus on their assignments. Kids who had actively participated in the brick-and-mortar classroom suddenly weren't even turning on their cameras. As counselors, we made ourselves available on every platform we could. We showed up at houses in our winter coats and masks, begging them to log on. We were more accessible than we ever had been, to children who had completely checked out. Then we started getting panic texts at 2 am, 3 am. The counseling department kept saying, it seemed like we were working less (effectively), but for so much longer. Even upon their return to the building, the detrimental effects of the pandemic remain. Mental health concerns are at an all-time high. Hospitalization, treatment center placement, and psychiatric evaluations are more prevalent than I have ever seen in my career. Students and families are in desperate need of supports beyond the capabilities of a public school, but with little-to-no resources at their disposal.

These struggles weren't a part of the social media world. Online, it looked like everything had gone back to normal. Protests had disappeared from my timeline. In real life, police were (using the budget that had *not* been defunded) to tase people who had skipped out on a \$2.50 subway fee. Online we were coming together, embracing as a community after our collective hardship. In real life, cities were spending money on anti-homeless architecture, and the new pool club that had promised to revitalize my neighborhood plastered a blatantly racist dress code on their front door opening weekend. People were still dying, hospitals were overflowing, and healthcare workers were still suffering from immense burnout – no matter how many times we called them heroes. We were just talking about it less – and celebrities seemed to not be experiencing it at all.

My attitude about what I was seeing online quickly changed and radicalized me more every day. Initially, I was hopeful. Vacations are allowed. Bars are open. We're almost in the clear. I soon realized that our lives, real people's lives, were still the same. We were still in the middle of a pandemic – we just had to live and work like we weren't. I needed to seek out real life reassurance. What is happening in our reality that can give me hope? I live in Riverside, blocks away from Black Rock Canal Park. I started with the bike path there.

Hugh and I resumed our walks. We ventured around my neighborhood, exploring streets we had never been down. We have tennis courts? They look brand new! Perfect for roller skating. An authentic Burmese restaurant, Ethiopian food, a thrift shop, and a vintage goods store. All places I had never even seen. The Niagara Street bike path construction started to expand past Forest Avenue right into our neighborhood! I found a path that runs under the Scajaquada Expressway where there was someone kayaking in the creek! Every day I found myself saying, 'This doesn't

even look like Buffalo. This feels like we're in a totally different city'. Eventually I had to realize that, despite living here for 15 years, I don't fully know Buffalo. I don't fully know the community, the neighborhoods, I don't know everything it has to offer. Our city continues to grow, and people continue to come and bring culture. Buffalo has new and old beauty to explore every day.

Hugh's Autoethnography: An Indigenous Perspective on Family, Work, and Culture

Listening to a song by Jacob Banks called 'Slow Up', in my Air Pods. I feel the crunch of snow under my boots with every step. I inhale, deeply breathing in the cold brisk air. Hundreds of tall white pine trees surrounded me. Snow gently falls from the pine needles, shimmering back rays of sunlight. The soft wind and cold air bit my face. My mind feels split, as if I am walking in two places at once— through the woods no, and through my memories. It is unclear to me why I am here, but I know that I feel oddly drawn to this place. I feel sad, but free. I am hiking into the woods further; I feel a calm stillness take over my body. The stillness feels good. It is as if the tall white pine trees embrace me and welcome me back home.

I wrote this note in my phone on 24 January 2021, as I sat stood by a large group of pine trees. I walked somewhat aimlessly in the woods at a location near Syracuse, NY, on Onondaga lands. This moment, I had a strong emotional response to the way these walks made me feel and I think to the healing process that I was undertaking but that I was not ready to describe at the time. I was somewhere between spaces. After about 8 months of reflection, and grown affinity to walking and hiking, I will now describe some of the reason that I was walking in the woods that day, alone. I will now describe some of my reflections while I walked about a few months prior, during the summer and fall of 2020 about challenges faced during Covid-19.

My oldest son, who lives primarily with me, was struggling with school his junior year, as he could not grasp modes of instruction from only online learning modules and struggling teachers. He became more and more withdrawn from me as his stressors added up. As a 'gamer' he would later confide in me, that a group of online friends from across the country were one of his main sources of support. He told me this and I wanted to thank his friends for being able to be there for my son. Still, I wondered why I felt so helpless as a father. I desperately missed my youngest son who was four at the time and in Covid lockdown with his mother on a First Nations reserve in Ontario, Canada while I was in Western NY in the United States. I saw him often on FaceTime where I can still remember hearing his voice, 'Daddy, I miss you', as it cut in and out of reception.

For months his voice echoed in my mind as the border remained shut down. I remember his voice on my long walks in Niagara Falls and Buffalo and Syracuse, NY. I called and Facetimed, but otherwise, I could do nothing but wait. Additionally, I was in a romantic relationship prior to and during Covid-19, to which my now ex-partner and I experienced compounded stressors from family, work and other social

strain which led to a relationship that became too fragile, left damaged, and in disrepair. This I also mourned on my walks.

My parents, who we occasionally visited, worked their regular positions, where my Mom and Dad's life grew more hectic while juggled their life as co-workers and owners of their small business during Covid-19. Years of clear communication certainly benefited their ability to navigate this pandemic, something that I grew admiration for about them while I was there. I took a note: 'love like my parents love one another'. My brothers and sister came back and forth while restrictions were somewhat lifted. My oldest son loved to see his Uncles and his Auntie during this trying time, and I too am forever grateful for their loving support during this pandemic.

At the beginning of the pandemic, I worked at a small liberal arts college. Eventually about half of the college faculty and staff would be laid off, students experienced alarming rates of depression, not showing up, or failing due to lack of technology, especially for students of color. Many of the Indigenous students that I spent years recruiting to the college, dropped out after their first semester. In the Spring of 2020, several of my colleagues, all 'layoff survivors', created sparse talking circles they mourned the loss of their colleagues often in eerily empty office spaces. The college shifted online for the summer, where many of us experienced burned out, zoom fatigue, family stress, budget cuts, poor employer-employee relations, and left to navigate a toxic work environment. In Fall 2020, eventually, I too left, where I found a part-time online position.

For the next 10 months, I worked part-time with an Indigenous-based nonprofit organization that felt good at first, but eventually became strained financially and culturally from Covid-19. At times I worked month-to-month, even week-to-week basis, often left not truly sure when and or *if* I would be paid. As I ate through my savings, I knew that I had to do something so I ventured out to create my own consulting business, which would allow me to work with other organizations, schools, colleges, and universities from online or afar. This allowed me to solely work from home and once restrictions opened, I was able to work from afar, cross the border, and visit my youngest son for long periods of time. (Sigh of relief.)

At my part-time position, we saw massive tech/Covid-related issues arise. While most of the younger generation were meeting online via Zoom using other forms of digital media, we noticed that the traditional governance-body or the decision-making body, Elders, were not meeting. Elders – who are much of our traditional leadership and Indigenous knowledge holders – typically only meet in person. They could not meet because Covid-19 ravaged Indigenous communities, specifically the vulnerable senior citizen populations (Burki 2021).

Many Elders could not, did not know how, or were unwilling, to meet using Zoom when our government structure has always (since time immemorial) met in-person to conduct governing relations through a traditional council. This detrimentally affected Indigenous communities and our ability to transmit knowledge and make important decisions for our communities. This is also cause for concern, not only in our traditional council, but in the classroom for language revitalization purposes. Many of the Elders did not participate in Zoom, so much of the instruction for language learners was hampered. This is particularly disturbing since many of

our languages are in severe danger of becoming extinct. While Native communities experience a great deal of digital connectivity issues, this in-turn caused Indigenous communities to navigate a complex web of institutional disparities in our (post) pandemic, postdigital age.

I watched as a compounded web of disparities related to Covid-19 forced me from my family, friends, and work. At first, I did not realize but eventually I came to understand that these compounded issues had a deep effect on my own sense of self and my well-being— as well as everyone around me. I just knew about a pain I felt deep in the pit of my stomach, a pain that was in nowhere close to the pain that people felt when they lost loved ones due to Covid-19. I thought of all of the people I can't get back, all who have changed. The pandemic forced me from the loving relationships which I so desperately tried to navigate. It wasn't until I was able to walk, wander, and reflect, that I learned why. In this next section, we will provide more about the theory of the *dérive* for application and praxis.

In Observation of the Movement of The Spectacle

This section briefly describes the authors' experiences in the *dérive* together, later in the pandemic (Spring 2021) as we walked and eventually 'mapped out' our thoughts on the Postdigital Settler Spectacle. We hope to illustrate this portion in the vein of the *dérive* by letting our thoughts 'wander' on the page in fleeting moments of thought, which at times might overlap or become contradictory or 'fragmented'. We call attention to our experience on Indigenous lands, in intentional observation of the world around us, to map the movement of the Settler Spectacle, to identify the façade, and to *resist*.

Fragment 1: Settler City Spaces

In Niagara Falls, Buffalo and Syracuse, NY (*Haudenosaunee* lands), cities showed evidence of postindustrial abandonment and an innate sense of melancholia. That feeling of ghost cities could be exhibited not just during the pandemic, but it seemed to be exacerbated during the pandemic. Mo and Hugh 'drifted' in several locations, often on the Buffalo's West Side or in the Downtown in the city of Niagara Falls, in and out of various neighborhoods from different race and class demographics, mapping out tensions and avoidances. #Blacklivesmatter could be seen spray-painted on walls, bathroom stalls, or with few protestors in full-view of cars driving by. Hugh depicts an emptied street in Niagara Falls, NY (Fig. 1). We show pictures of our 'drift' the meandering, pictures taken from our smart watches of Niagara Falls, NY (Fig. 2) and Buffalo, NY (Fig. 3). We depict Hugh's oldest son in a 'ghost' city in Ithaca, NY, often crowded with town-people and visitors (Fig. 4).

Figure 1: An empty street
(Hugh O. Burnam 2021)
(CC BY 4.0)



Figure 2: A *dérive* taken
in Niagara Falls, NY
(Hugh O. Burnam 2021)
(CC BY 4.0)

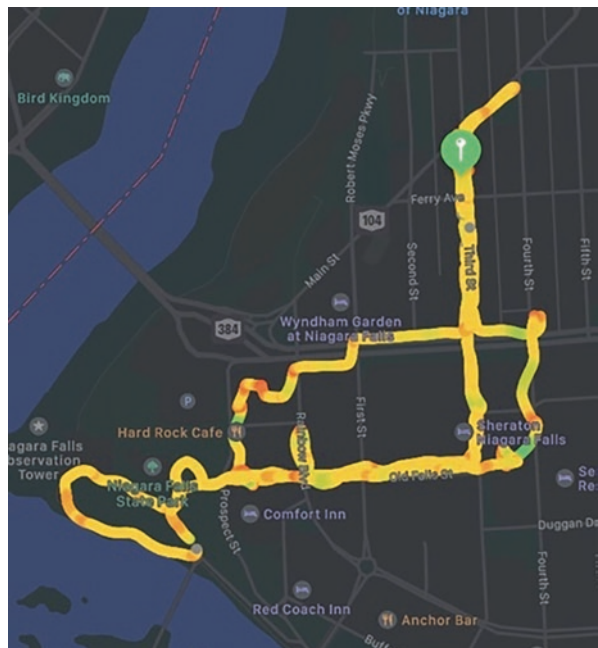


Figure 3: A *dérive* taken in Buffalo, NY (Hugh O. Burnam 2021) (CC BY 4.0)



Figure 4: Hugh's oldest son on an empty street (Hugh O. Burnam 2021) (CC BY 4.0)

Figure 5: Hugh walking through a construction zone (Hugh O. Burnam 2021) (CC BY 4.0)



We saw advertisements on busses and hotels, some promoting mask-wearing—some decrying anti-mask and anti-vaccine. The researchers took seriously the pandemic and the issuance of social distancing measures, so we often stayed far away in our observances of people. We saw both new and old advertisements, some half-scraped off building walls with graffiti over them. We saw abandoned ‘play’ areas, many taped off so that children would not play on the playgrounds (or anyone else for that matter). We jumped over and crouched under taped-off construction sites, only to get a clearer understanding of our current world. Hugh is shown walking through one of the construction sites under a bridge (Fig. 5) and observing surroundings from the view of church steps in Buffalo, NY (Fig. 6).

Figure 6: Hugh resting on steps (Hugh O. Burnam 2021) (CC BY 4.0)



Emotions came up plenty of times for the researchers. Hugh described the feeling of melancholy, loneliness, or lost in thought (wonder) during the beginning of his walks, often in early morning. But when he walked with Mo later during the day, it was more adventurous and exploratory than a feeling of wonder or melancholy. The behaviors of individuals in the streets were visibility different during specific parts of the pandemic. When lockdown was stricter, the streets were ghost-cities, except for the homeless who wandered the streets at times (sometimes visibly doing drugs). Expensive SUV's and different cars whizzed by, where drivers would offer quick glances or complete avoidance. We felt situated within the settler gaze. A clear ominous presence could be felt when thinking of the economic disparity of the city. We noticed crumpled trash in different parts of the city, used masks blowing in the wind, and most of all, an odd sense of avoidance or alienation from car drivers.

We felt that while watching people in our city class and racial disparities were prevalent. We noticed that Black and Brown people primarily walked on sidewalks or in the streets, while white people refused to look as they drove the streets, again, in avoidance, and many on their phones. We questioned the differences we saw. Again, used masks would blow in the wind, the sight of used blue and white masks on the ground became commonplace at some point during this pandemic. This

became a common sight on our walks. We also noted a hierarchy, the privileged settlers and the uber rich capitalist settlers on social media.

As we reflected, we noted that people defend the wealthy elite (often white people, from any class) on social media. But under the Postdigital Settler Spectacle the colonizers are colonizing the colonizers, too. Yet people do not often realize the class difference even among settlers. In her article ‘Refusing the Settler Society of the Spectacle’, Grande (2018) describes this very issue:

Despite the growing public awareness, economist Paul Krugman observes that the average citizen cannot comprehend the depth of the inequality, which is to say the actual distance between the lived experience of the ‘average citizen’ and the ultra-wealthy. I argue that this is due, in part, to the highly mediated and spectacular display of wealth ... The overriding but subliminal plotline is that, underneath it all we are the same. Lost to the veil of spectacle is the understanding that extreme wealth is contingent upon extreme poverty; hidden from view are all the forms of labor and extraction that enable the cruel disparity. (Grande 2018: 11)

In Grande’s chilling words, we echo that we are in fact ‘lost to the veil of the spectacle’ which is produced and reproduced in our postdigital age like air that we breathe and water that we drink.

Fragment 2: Settler Technology Spaces

While Debord’s spectacle is certainly present in the city streets, we question how else the spectacle is present when we see people just staring at their phones in public spaces. To us, this brings to clear attention the Postdigital Settler Spectacle which is so inherent to our human existence, that we have forgotten our own realities and replaced our realities for a different lens, the lens of a billionaire settler capitalist. The Spectacle, like a shapeshifter, moved from the streets to our devices.

But in the postdigital age, much of what we see online is the spectacle as well. So now the theory of the *dérive* is useful to see our realities, the postdigital age has prompted a shift towards an online ‘gaze’. We witnessed the emptied streets, our ‘ghost city’, and as people walked fixated on their phones. The Postdigital Settler Spectacle at play on social media takes over our lives and manipulates our realities while we walk alone or even together. We fixate on dating apps to choose partners, Instagram influencers posing with the newest energy drink, and waiting for a new Netflix series to drop, we have become an important and integral part of the settler spectacle: *the colonized*.

Like the settler capitalist billionaires who colonize even the colonizers, often coercing white working colonizers take up space and defend the settler capital billionaires online. We witness a political tug-a-war between the left and the right on social media. We noticed that in our walks, the tech-space takes up aspects of urban, suburban, and rural life. As researchers, we used our phones, Air Pods, smart

watches, and social media apps to track our walks or to drown out the sounds around us. In the ominous ghost-city, people can be seen walking as their phones lit up their faces in the dark city streets or people situated in ways that would make one think that they should be talking together, when really, they face one another with Air Pods in their ears as they stare at their phones. We are them.

People sit in their cars, engines running idly, waiting for nothing, while staring into their laps. Their phones light up their faces as they sit hunched over like trolls. An ominous presence again situates itself within a measure between us as observers and the avoidant car phone-gazer. People use their tech simply to avoid eye-contact with a strange passerby on the sidewalk. It's too much energy, too awkward, or even presumed unsafe to look at a stranger walking straight towards you. We write this fragment to map the Spectacle, as it has moved, or *shifted*, onto our screens, as opposed to solely in the streets.

Fragment 3: In-Between Decolonized Spaces

In moments beyond the settler streets, Mo and Hugh chose to also walk beyond the city-limits on longer hikes, another 'fragment' of reality. As snow spilled into our boots and our breathing labored more as we trekked up hills, we thought about observing these spaces as we did in the city. We noticed that there were at times hikers, offering 'hellos' as we walked by. It seemed that people still used their phones but maybe they used them less. Perhaps since service was spottier or their focus was to 'get away' from their social media lives, people were walking for exercise, to be with the land and nature, or to just 'get away' for a bit. Get away from what? We questioned. Get away from our current realities, either in-person or online? There were still phones, but they were used in a way that pertained to aiding health benefits, walking, hiking and being on the land. Art was still seen in various locations in more rural spaces, also depicting support for #Blacklivesmatter. The words 'Black Lives Matter' are spray-painted on a rock wall in a rural Western NY location with Mo sitting on top of the wall (Fig. 7). Another picture depicts Mo looking out onto a gorge in a rural Western New York location during the wintertime (Fig. 8).

As government enacted lockdowns took over the globe, researchers noticed patterns of resiliency among populations who engaged in appropriately socially distanced movement like walks, hikes, and runs, especially in urban green space (Geng et al. 2021; Samuelsson et al. 2020). We feel that these 'patterns of resiliency' offers us an important opportunity, providing for us a lens to view the world and our social context during our postdigital (post)pandemic age. While pandemic lockdowns spread across the globe, even playgrounds were taped off, drawing not only a jarring sight, but also turns us to question the relationships between human recreation/

Figure 7: Mo sitting on a stone wall (Hugh O. Burnam 2021) (CC BY 4.0)



Figure 8: Mo looking out into a gorge during winter (Hugh O. Burnam 2021) (CC BY 4.0)



movement, the pandemic, and digital world. Hjorth and Lammes (2020) describe that '[a]s play goes into the home and digital, we are reminded of the importance of non-digital play in how we socialize and innovate', which Hjorth and Lammes then refer to the 1960's Situationists International and the theory of the *dérive*, who 'sought to turn the whole city into a playground for politics, environmentalism, and sociality' (Hjorth and Lammes 2020). The third fragment of our reality exists for us, in an in-between space— beyond settler spaces.

For Mo and Hugh being back on the land enabled us to reflect and talk about our collective experiences. It's through these moments of silence, dreams, and spiritual 'metaphysical' interactions that we begin to deconstruct the many worlds that we 'walk' through. For the researchers, after walking through three different cities and some rural locations, it took some time to realize the amount of stress we were going through during the pandemic. The cold brisk air and the tall pines reminded us of our journey back to a sense of healing during his pandemic reality. It reminded us of our humanness.

Conclusion: What Does Experience on the Land Reveal about the Settler Spectacle?

In this chapter we intentionally examined the images, videos, and other media that we are fed online by billionaire settler capitalists during Covid-19. We used our decolonized lens of the *dérive* to *identify* or to *unveil* the movement of what we call The Postdigital Settler Spectacle, once deemed the 'society of the spectacle' (Debord 2012) where one could bear witness to images of the 'capitalist consumerist 'fragmentation' of reality' which contributes to the social inequity experienced by Black, Brown, Indigenous and working-class people. We used the *dérive* as paired with our iPhones and Smartwatches in order to map out our findings as a method to *disrupt* the Postdigital Settler Spectacle. Lastly, we use decolonized practices of simply walking, hiking, and *drifting to* express our own humanness in order to *resist* the consumerist fragmentation of reality. Below we detail the acts of identifying, disrupting, and resisting the Postdigital Settler Spectacle.

Acts of Identifying, Disrupting, and Resisting the Postdigital Settler Spectacle

In our reality today during our postdigital age, we may often unconsciously 'see' glimpses of the Postdigital Settler Spectacle every day on our smartphones, tablets, and computer screens. We watch in our lived realities, simply through walking, the

level of inequity that we do not understand because we are fixated on online images of our colonizers. It used to be that the *dérive* could help us to ‘see’ or ‘unveil’ the spectacle on the streets, but now, we are witnessing the *movement* of the spectacle, into our postdigital ‘realities’. The intentional act of the *dérive* becomes an act of simultaneously identifying, disrupting and resisting the Postdigital Settler Spectacle.

Through use of passive consumerism, we watch as tech billionaires literally leave this world during worldwide crisis in order to colonize yet another space, outer space, which is done on the backs of Indigenous, Black, Brown, and economically disparaged communities. We had to think of a name for this *new colonizer* which conveniently spills onto our social media pages, subverting our reality through fulfillment of our desires. We provide a brief outline to identify and describe our shared glimpses of what we call the Postdigital Settler Spectacle; and places; and moments that it can be seen. The Postdigital Settler Spectacle can be ‘seen’:

1. at the forefront of tech industry’s ‘new frontier’ to colonize outer space;
2. through images of typically white male billionaire settler capitalists who colonize colonizers;
3. hoarding unfathomable amounts of wealth and capital;
4. using digital media to manipulate reality and fulfill desires through passive mass consumerism;
5. risking human, nonhuman, and environmental wellbeing to cause ‘spectacle’;
6. using *both* capital and tech innovation to manipulate reality;
7. subduing the working class under ideology of the ‘rugged individual’;
8. exhausting the labor of Indigenous, Black, Brown and economically disparaged workers;
9. erasing the experiences of Indigenous, Black, Brown and economically disparaged people;
10. thriving during global crises through the fragmentation of experience;
11. removing bodies from the land and promoting sedentary lifestyle with little human interaction;
12. existing every day in our postdigital age like the air we breathe.

As we passively consume false images of ourselves and our socially constructed realities, we must consider the *cost* of what we call the Postdigital Settler Spectacle. The air we breathe is free (for now), but like the air we breathe, our technology comes with a cost as long as it intrinsically tied to capitalism. While we question the cost of living in our postdigital age, a limitation of this chapter that we did not discuss could be clearly situated. What is the cost of this new settler project to colonize space? Let us be clear here. We are not only questioning the settler cost (money) we are also questioning the cost of human and non-human life on this Earth.

In Fragment 1, we are able to see the spectacle in urban spaces, but urban spaces depleted of human life where Indigenous, Black, Brown and economically

disparaged communities live with the everyday realities of Covid-19. In Fragment 2, a sight that seems odd, uncomfortable, or even haunting— we observe the movement of the spectacle onto our screens and into our digital realities, which unveils The Postdigital Settler Spectacle. We watch as people in ghost cities *gaze* upon their colonizer, fixated, stuck, and often alone. In Fragment 3, a decolonized in-between space, we witness humans shift to open green space where their devices and their tech are used in moderation, where service may cut in and out of reception, and they tend to be closer to nature and their own humanness. All three of these fragmented realities may haunt all of us but they may also be spaces to identify, disrupt, and resist the spectacle, given our consciousness to it.

In the 'fragmentation' of everyday life in the *Society of the Spectacle*, Debord (2012) claims that capitalist societies contribute to new 'fragment' of happiness where the 'consumer is thus mentally enslaved by the spectacle's inexorable logic: 'work harder, buy more' (Morgan and Purje 2016). We wonder how the spectacle would hold up today within our postdigital (post)pandemic age where the context of 'space' floats and can be in many places, online and offline, in urban settings and beyond. We mapped the spectacle and watched it change like a shapeshifter, like a *colonizer*, from the streets and onto our screens, to earn the name: The Postdigital Settler Spectacle.

By Whose Ethic are We Being Led?

To breathe, to live, both together and separate, in our postdigital, (post)Covid, neo-colonial world may cause us to overlook our own sense of reality. As we collectively navigate our human-to-human/ human-to-nonhuman/ human-to-nature interactions, like we always have, may we be forewarned that our settler capitalist ethic brings with it a façade of the Postdigital Settler Spectacle causing us to blindly sprint towards our new epoch, the Anthropocene. As we collectively navigate our human-to-human / human-to-nonhuman / human-to-nature interactions, like we always have, may we operate from in Indigenous *human* ethic, as we intentionally place our own relationships with family, friends, living beings, and the Earth *first*, before the grand images and false gestures and hypnotic imagery of the settler capitalist world.

As we look, ever so briefly, through the lens of the *dérive*, a physical walk or wander, or drift, in our *now* time, may the settler spectacle come to consciousness once more to raise awareness, of our shared spiritualities, dreams, and visions the future, not as out-of-touch Silicon Valley billionaires, but as human beings cultivating a meaningful, healthy, and reciprocal relationship between humans, nonhumans, and the Earth. Perhaps our advanced innovation in our current postdigital age can prompt us to ask the question: *Whose ethic?*

Special Authors' Note: A *Dérive* Beyond Settler Borders

Once the pandemic restrictions lifted more and it was safer to walk and cross the settler border, Hugh and his oldest son were able to return be with Hugh's youngest son. Pictures below depict art painted on a city street showing #Blacklivesmatter in Toronto Ontario with Hugh's youngest son standing next to the imagery (Fig. 9). Another picture depicts a screen shot of a walked *dérive* which took place in Toronto, Ontario (Fig. 10). The Final picture depicts Hugh's children walking hand-in hand on a rural sidewalk (Fig. 11). These pictures are meant to denote the passing on of tradition of decolonizing space(s) on Indigenous lands or to Indigenous territories moving beyond the settler cities, in active resistance to the Postdigital Settler Spectacle.

Figure 9: Hugh's youngest son standing in front of a wall (Hugh O. Burnam 2021) (CC BY 4.0)



Figure 10: A *dérive* taken in Toronto, Ontario (Hugh O. Burnam 2021) (CC BY 4.0)

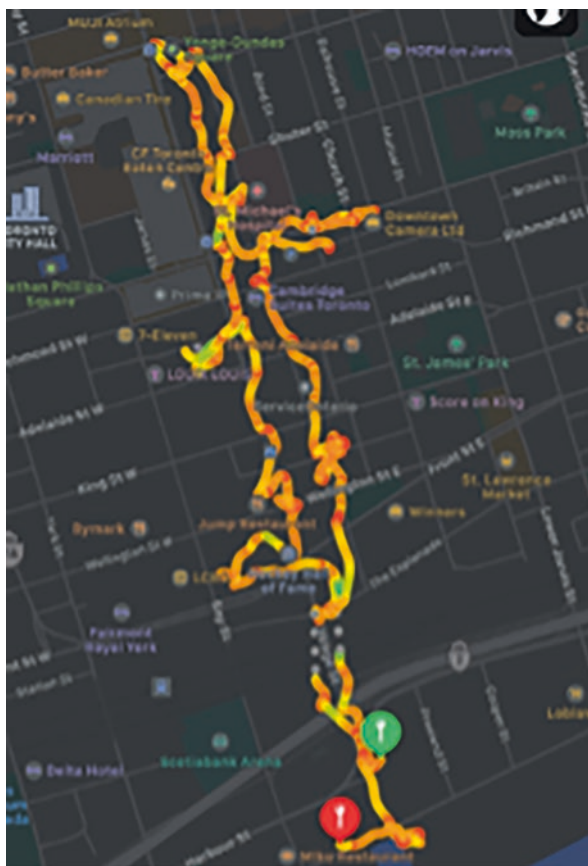


Figure 11: Hugh's oldest and youngest son walking (Hugh O. Burnam 2021) (CC BY 4.0)



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A Modest Proposal for A Pedagogy of Alienation



Sara Tolbert , Mahdis Azarmandi , and Cheryl Brown

Introduction

The initial idea for this book chapter was conceived in a conversation between three *tauiwi* (non-Māori) scholars living and working on Indigenous land (*Ngāi Tahu*) in Aotearoa New Zealand in post-earthquake and (post)pandemic Christchurch. Our proposal was to discuss postdigital pedagogies and how they are constituted within and by an institutional rhetoric of care, workload, job precarity, and structural racism. We used the writing process as an opportunity to ask ourselves how we could hold onto what we value as anti-colonial, anti-racist and feminist educators and how we could educate against the neoliberal and settler-colonial university, amidst compounding tensions. The initial idea of this chapter was to imagine and work toward an ‘otherwise’, a messianic utopian vision for postdigital ecopedagogies. The process of writing, however, shifted not only the focus of the chapter but exposed a larger problem of what we described as (our own) lack of imagination, and the feeling of being at odds with the university and the work we do.

Situated in Aotearoa New Zealand we find ourselves as ‘new settlers’ on Indigenous land, part of and complicit in ongoing settler colonialism, while simultaneously trying to challenge and work against colonial racism. In the university, this is especially challenging because our university is, on the one hand, positioned as bicultural and, on the other, is the site of pernicious neoliberal restructuring. In Aotearoa New Zealand, under decades of neoliberal reform (i.e. ‘Rogernomics’), universities were transformed from a public good to ‘economic investment for an educated citizenry’ (Kidman and Chu 2017: 9), where knowledge production is ‘at

S. Tolbert (✉) · M. Azarmandi · C. Brown
University of Canterbury, Christchurch, New Zealand
e-mail: sara.tolbert@canterbury.ac.nz; mahdis.azarmandi@canterbury.ac.nz;
cheryl.brown@canterbury.ac.nz

the centre of a neoliberal regimen of measurement, audit, and performativity' (8). We also find ourselves struggling against digital learning as commodification.

The process of development and distribution of course materials to distant students dispersed across the country creates a context where we feel relegated to the role of 'producers and deliverers', not teachers, disassociating us from the students we teach. As Noble (2003: 26) puts it, 'pedagogical promise and economic efficiency are thus in contradiction'. There is no doubt that digital education has enabled some continuation of otherwise disrupted learning that occurred through the pandemic. But even prior to this we grappled with binary contradictions in course structures (distance versus on-campus, online versus analogue, virtual versus face to face) and the complexities of establishing connections with students we never 'saw' or engaged with in real time.

Our writing process was thus guided by an overwhelming feeling of frustration and disconnection. This sense of disconnection was specifically reflected in our struggle with a culture of complacency that we found ourselves in and contributing to. This chapter is the product of making sense and venting about our sense of 'being at odds'; it is grounded in venting as writing practice and venting as feminist praxis. We adopted a collaborative reflection on self-narrative approach to our research (Mendez 2013; Roy and Uekusa 2020). Drawing on informal conversations (venting sessions) over coffee, beer, and Zoom, we grappled with dilemmas and posed questions about our practice. Each of the authors wrote a personal narrative. The narratives took different forms. One involved an Instant Messaging (IM) chat with a colleague, the other two are more like a diary conversation with the self. All narratives focus on specific circumstances, groups, or even individual situations, to illustrate what we were grappling with.

Narrative research, as explained by Kyratzis and Green (1997: 17), 'entails a double narrative process, one that includes the narratives generated by those participating in the research, and one that represents the voice of the researcher as narrator of those narratives'. As researchers we are members of the community which we are writing about, 'visible in published texts and committed to developing theoretical understandings of broader social phenomena' (Mendez 2013: 281). We found the narratives posed more questions than answers, but there were common themes even across our diverse positionalities and the diverse groups we teach. So what emerged at first was a rather dystopian vision rather than a vision of a possible future. We decided to turn towards this sense of alienation as a site of possibility and an opportunity to regain our lost imagination and re-orient ourselves towards new solidarities.

In part one of the chapter, we draw on our individual first-person narratives to illustrate a 'day in the life of' our work as university educators, presenting snippets of our experiences to highlight the types of teaching and learning opportunities and challenges we face. In part two, we articulate a pedagogy of alienation, which we derived from praxis, i.e., our reflections supported by a deeper engagement with feminist and anti-colonial literature, largely informed by the work of Sara Ahmed. Our narratives are represented in italics to contrast them from other material we have drawn on for context and reflection. Starting with our narratives, we unpack

the different themes and challenges in our work before discussing the lack of affect and sense of disconnection. It is here that our vision became more dystopian than utopian, as we realized the answer(s) to the challenges we face may, in fact, come from bringing others into a shared experience of alienation. We explore alienation as a possibility for radical politics of refusal and resistance.

Part One: Unpacking our Narratives

In the Aotearoa New Zealand context, at our university, the ‘hybrid model’ often refers to recorded lectures and seminars supplemented by resources provided through our Learning Management System (LMS). In our college of education, most courses can be attended on campus and via distance. We are operating in a hybrid environment whether we plan to or not. Unfortunately, *hybrid teaching is hard*, even when trying to establish more inclusive strategies for those watching asynchronously. As teachers we find that sometimes *nothing I do reflects what it is I want to do*.

Hybrid is not just a challenge in large classes. In smaller higher-level groups or postgraduate classes, especially those that are more conversational, this presents different challenges. There are legitimate reasons students need to ‘beam’ in via synchronous videoconference, some students are based out of town, others work full or part time or juggle study and family. *Despite the intimacy of our class size, connection and affect are hard to create when a person is not in the room... This hybrid-model of teaching translates to failing – or mediocrity, at best – on both ends*. Students in the physical class feel constrained by the need to use a microphone so the lecturer has to repeat comments and questions for the remote students. Often remote students merely watch/listen to the lecture and do not interact.

What Constitutes a Class?

Despite the diversity of the courses we teach, all three of us are grappling with the concept of ‘the class’. We don’t ‘see’ our students either because some are learning via distance or because they are viewing the recording asynchronously.

There are over 400 students enrolled in this ... on a good day a quarter show up in person.

An 8am lecture ... it’s lecture-recorded and I will be pleased if the venue looks half full (and those not there even watch the recording!).

There are usually 100 in each cohort who are on campus students and 80-90 or so who are distance students, all enrolled in the course at the same time.

We are not alone in this dilemma. Others also grapple with students’ feelings of disconnection when learning online (deNoyelles, Milanés, and Dunlap 2016), but few acknowledge the loss that university educators feel.

Presence As a Proxy for Engagement

Some of the classes we teach require sign-in sheets for attendance. We have no idea how to *reconcile physical and virtual presence* or what forms of participation count and how. This also raises the question of how hard it is to make sure we are engaging our students. This concept has been previously interrogated in the context of teaching and learning in our institution (Brown, Davis, and Eulatth-Vidal 2019). We all strive for inclusivity in our teaching and understand the role recorded lectures play in supporting our students' diverse needs. But this does raise ethical issues and there is some *legitimate resistance to this. I mean, this presents new problematics—ones that aren't necessarily going away as we think about how to make things more fluid for all students in a (post)pandemic world, or just teaching in the Anthropocene.* As our colleagues have noted,

[w]e also see how students are quick to record and share out-of-context excerpts of lectures to social media, where snap judgments are made with far-reaching consequences. Video recordings of lectures became standard even before COVID required the rapid transition of campus courses to online 'offerings', increasing the risk for teachers. (Taylor and Fraser 2021)

How Do We Create Connection?

Making a connection is hard face-to-face for a variety of reasons. But in hybrid classes, we know we are both teaching to the class in front of us and the class behind a screen. An ongoing struggle for us is *the issue of distance cohorts, who I feel I'm largely neglecting. This is both a structural and a pedagogical challenge.* The hybrid model impacts on the way we engage.

I stand at the podium, I hardly move because I want the distance students to see more than just my slides and hear my voice. ...

I feel like a hypocrite when our program (rightly) emphasizes the importance of knowing students' names and it's blatantly obvious I know few of theirs [my own students'] names.

Connections are elusive, whether in a large face-to-face class, *I no longer know my all my students names, in fact they might rarely know the person sitting in the row behind them,* or with distance students where we might get a *little face-to-face time* at the beginning of the semester, but for the rest *they do online modules and watch my recorded lectures, and we have a few periodic Zoom sessions for Q and A.*

Creating connection is further complicated by engagement apps that are supposedly designed to provide better pastoral care; that is, we can now see our students' logs and their level of 'engagement' on our Learning Management System. Students are rarely explicitly informed in detail about these engagement monitors and are often surprised when one of us uses this example to demonstrate how surveillance operates in educational settings. Despite attempts to criticize and expose these apps, we remain complicit in the system. Off-campus students reach out to ask for an

extension to deadlines, but we can see that they have never accessed a course reading or watched a single lecture recording. It is hard to foster connection when our communication is not genuine, and this includes us resorting to these tools of surveillance we critique in order to assess our students' needs.

Critical and dialogic pedagogy is based on reciprocity and lively exchange; a dialectic. How do we get that reciprocity when we don't see the students we teach? In the physical classroom of a large lecture theatre we strive for connection: *I can see only some faces peeking over computer screens. My gaze is fixed on the small cohort of adult students who usually sit at the front and take hand-written notes; they are close enough for me to see their facial expressions.* Complicating the dialogic classroom space is the problem that students often don't read the assigned readings or complete the online modules, which renders the 'flipped classroom' illusory. We wonder, where does our responsibility begin and end?

With university courses packaged into products and sold to students as paying customers, the relationship between staff and students has undergone a dramatic transformation. ... course instructors of all levels and employment types are now subject to a battery of evaluations, including public reviews by students ... Student anonymity and their customer-reviewer status mean staff can be policed (rightly or wrongly) for their teaching content, physical appearance and presentation. Opening up spaces for critical discussion can be difficult, if not downright scary. (Taylor and Fraser 2021)

As teachers, we find we depend on some *reinforcement and feedback* on the effectiveness of our teaching. In a face-to-face space this comes through smiles, nods, and sometimes thanks or questions as students exit the lecture. Online this is even less visible.

Depoliticization and Bicultural Competence

The most visible tertiary education reform project in our university is bicultural education. In 2014 our university introduced Bicultural Competence and Confidence (BiCC) as one attribute in our Graduate Profile (i.e., knowledge and skill which graduates from all of our programs should attain at our university¹). BiCC aims to respond to obligations under Te Tiriti o Waitangi², by equipping graduates with the knowledge, skills and attributes which position them to 'work alongside' the 'two distinct cultures' of Aotearoa New Zealand with confidence.

¹For more information on the University framework and BiCC see <https://www.canterbury.ac.nz/study/graduate-profile/employers/bicultural-competence-and-confidence/>. Accessed 15 December 2021.

²The series of documents signed by Māori and the British Crown. The English version of the documents was used by the Crown to claim control over the country. However, as recognized by the Waitangi Tribunal in 2014 in its report 'He Whakaputanga me te Tiriti: the Declaration and the Treaty', the chiefs who signed the treaty never ceded sovereignty. <https://www.waitangitribunal.govt.nz>. Accessed 15 December 2021.

While we recognize that there has been a significant shift in recognizing Indigenous rights and trying to shift the university's 'white frame', we worry that a promise of biculturalism does not necessarily translate into recognition of Indigenous sovereignty and redistribution of power and resources into Indigenous hands (MacDonald and Reynolds 2017). Nor does it translate into transformative politics with/for marginalized immigrant and refugee populations living in precarity within Aotearoa New Zealand. Drawing on the work of Indigenous scholar Taiaiake Alfred (1999, 2005), Elisabeth Strakosh (2016: 24) writes:

What is significant is not that Western settlers have their own understanding of the issues and the appropriate resolution, it is that they (mis)take this for a shared understanding and so for the middle thing. Thus, for example, the liberal settler state becomes positioned not as a settler institution that is implicated as party to the conflict, but as neutral arbiter between settlers and Indigenous peoples, and as the necessary site of colonial resolution.

We see state-sponsored biculturalism³, therefore, as a contradictory phenomenon. While the term acknowledges the presence of Indigenous people, and to some degree the history and impact of colonialism (Azarmandi 2017; Bell 2006; Cooper 2012) it simultaneously removes from view the constitutive role of colonial violence in building and maintaining institutions such as the university. To say that the university 'is' bicultural then assumes that colonial violence happened and ended in the past and that Indigenous people and settlers now exist side by side in a partnership of equal power. Sandy Grande (2018: 49–50) has articulated critiques of these politics of recognition originating within critical Indigenous Studies (CIS): 'Rooted in liberal theories of justice, CIS scholars argue that 'recognition'—as an equal right, a fiduciary obligation, a form of acknowledgement—functions as a technology of the state by which it maintains its power...and, thus, settler colonial relations.'

In our institution in particular, we support the efforts of Indigenous colleagues to decolonize the curriculum and challenge Eurocentric knowledge systems but also see a danger in universities adapting superficial 'culturalization' strategies that leave hegemonic structures largely intact. As MacDonald and Reynolds (2017: 56) have pointed out, cultural competence as pedagogy 'is unlikely to do this [change power structures] because the theoretical aspect of critical engagement, which has the potential to lend itself to discussions about race, is silenced during implementation'. For example, when we try to braid Indigenous knowledge and Western knowledge, we cannot lose sight over broader power structures. After all, these braids are still tied together within a broader context of racial capitalism.

³ State-sponsored biculturalism refers to ways in which the state frames and presents biculturalism rather than ways in which Indigenous communities are understanding and advocating for biculturalism.

On Affect

We also shared experiences around finding difficulty in creating dynamic, affective classroom spaces in hybrid learning environments. For example, when teaching topics about environmental injustice and violent histories of colonialism, students are reticent to contribute in ways that reveal strong emotions. Some of our students have expressed to us their own challenges regarding the difficulty of being able to contribute to these kinds of topics in class. The difficulty to create affect, however, is not limited to the class. In times of well-being policy, email reminders encourage us to 'look after' ourselves and even the Prime Minister reminds the nation to be 'kind' (Burrows 2020; Khalil 2020).

What is most often masked by these reminders and demands is the need to silence any anger and rage. Sharing frustration about the hybrid model or the lack of engagement of our students is often met by pedagogical advice (suggesting that the problem lies within our failure to innovate, for example), or with soundbites about 'student choice' and 'student demand'. Concerns over increased levels of surveillance are countered by the need to provide 'pastoral care'. Lecturers kindly provide services requested and we are kindly reminded to not question the systemic nature of disconnection. As Sara Ahmed (2014) says, we constantly work against the kind of 'affective strategies' that suppress dissent or encourage everyone to 'move on'. But maybe rage is a key part of being teachers of students in ways 'that the university does not want' (Meyerhoff 2019: 12). How can we respond to injustice if the '[n]orms of civility and collegiality ... suppress and stigmatize expressions of anger (Meyerhoff 2019: 11)? We look around the room at staff meetings and wonder at the absence of affect.

In an institution in which we are discursively positioned as partners and our knowledges are braided, policing anger is designed to maintain 'harmonious relationships' over productive confrontation and conflict. Emotions such as anger are avoided because they are believed to be polarizing and divisive. Some of our Māori colleagues privately worry about being perceived as 'moaning Māori' (see Kidman and Chu 2017). By naming the problem, you become the problem (Ahmed 2010). This binary approach to anger not only assumes emotions to be the opposite of rationality but also implies that any form of dissent exists along the lines of binary oppositions. For example, a critique to the limits of reconciliation and braided knowledges is seen as its rejection of biculturalism rather than an interrogation of how power structures often remain in place even when we engage in symbolic acts of Indigenous representation.

Interrogating liberal conciliatory practices/discourses of biculturalism without attention to power (and settler colonialism), and centering Indigenous knowledge, are not mutually exclusive. Further, as Cark, de Costa, and Maddison (2016: 5) have argued in the Australian context, '[s]ettler reconciliation projects in Australia never take seriously the right of Aboriginal and Torres Strait Islander peoples not to engage with us at all, or to do so on their own, very selective terms'. We want to be able to critique, to introduce nuance, without being corralled toward one of two

previously established ‘team player’ positions, or party lines (‘liberal v. conservative’; ‘with us, or against us’). We are often bewildered, and angered, by the lack of space, at the inability to articulate a wholehearted rejection of the binary discourses.

Uncertain Contexts for Resistance and Refusal

We also wondered how to resist or more publicly challenge some of the constraints negatively impacting on our abilities to be feminist-anticolonial-anticapitalist educators and felt we lacked imagination or vision in ways we had not experienced prior to our current appointments:

What does it mean to be a critical educator within all of these constraints? Do I try to work against them, despite their seemingly intractable nature? Do I find small pockets of resistance and focus my efforts there? ... I also think the students have more power than they realise.

At [prior university] there were still ridiculous incentives for teaching classes with large student numbers - in terms of promotion and tenure. But as faculty we collectively resisted those pressures, at least within teacher education.

As a friend (in the chat) reflected back, *How to change a university culture without engaging this in the form of a broad resistance...? One consequence of refusal is about being on a small island, and having to choose isolation from the establishment as a way to survive.*

Drawing from Lauren Berlant’s work on cruel optimism, Sara Ahmed (2017: 194–195) has remarked, sometimes we ‘stay attached to a life that is not working ... we hold onto something because we hope that it could get us somewhere ... Cruel optimism might be one way of explaining how we do not snap the bonds that are, at some level, compromising, maybe of our existence; maybe of our capacity to realize an idea of an existence.’ We wonder if cruel optimism might characterize some of our individual and collective reticence toward engaging in varied forms of dissent, versus complicity.

Part Two: A Messianic Dystopian Vision for a Pedagogy of Alienation

I refuse to offer a utopic description for a strategic decolonizing machine ... I hope you make this same refusal. (la paperson 2014: 52)

When I was a child I had a fever
 My hands felt just like two balloons
 Now I’ve got that feeling once again
 I can’t explain you would not understand
 This is not how I am
 I have become comfortably numb (Roger Waters 1979)

In part one, we conveyed our collective sense of disillusionment in teaching hybrid (combined online and face-to-face) courses. Here, the most visible tertiary education reform project is on bicultural competence, as politics of recognition, largely communicated as integrating bicultural content in our coursework. Yet there is little resistance to neoliberal (colonizing) organizational structures that constitute educational experiences for both students and lecturers (professors). Part of our disillusionment stems from a stark contrast between how we previously identified as university educators outside of Aotearoa New Zealand (e.g., in small dialogic classes, where distance students were taught in completely separate courses/programs, where faculty / staff / students collectively resisted, or unsettled, neoliberal restructuring, etc.) versus how we currently see ourselves, i.e., as relatively disempowered educators.

As newcomers to the university system in Aotearoa New Zealand, we locate this sense of disillusionment squarely within New Zealand's political / economic landscape and history. As we have highlighted, part of the challenge for us, our students, and our colleagues, is essentially a problem of critical imagination and a sense of complacency. In part two, we articulate how a sense of estrangement from our identities as critical university educators can be redirected—a redirection which does not necessarily alleviate the discontent we experience but turns us 'toward other possible worlds' (Ahmed 2010: 172). Extrapolating from Ahmed's (2010) work, we find pedagogical potential within experiences of estrangement, toward a pedagogy of alienation.

Following Ahmed (2010), we 'explore the strange and perverse mixtures of hope and despair, optimism and pessimism within forms of politics that take as a starting point a critique of the world as is, and a belief that the world can be different' (163). Ahmed reminds us that 'workers are estranged from what they make, giving their energy to the object of labor, which is then taken away, becoming commodity'. She cites Marx, who wrote that 'the worker puts his life into the object; but now his life no longer belongs to him, but the object' (Marx 1844 in Ahmed 2010: 166). The worker, therefore, is unhappy and alienated:

The appropriation of labor makes the worker suffer; the more the worker works, the more the worker produces, the more the worker suffers. Alienation is both an alienation from the products of one's labor—a kind of self-estrangement—and a feeling-structure, a form of suffering that shapes how the worker inhabits the world. Workers suffer from the loss of connection to themselves given that the world they have created is an extension of themselves, an extension that is appropriated ... It is no accident that revolutionary consciousness means feeling at odds with the world, or feeling that the world is odd. You become estranged from the world as it has been given: the world of good habits and manners, which promises your comfort in return for obedience and good will. (Ahmed 2010: 167–168)

Ahmed (2010) characterizes alienation as a refusal to be seduced by the promise of happiness, or the 'good life' of global capitalism. Alienation plays a role in the formation of revolutionary consciousness. She points out how 'a failure of consciousness, a false consciousness about the world, is what blocks other possible worlds' (165). She states that 'consciousness of alienation involves both recognition of suffering and recognition of what produces that suffering. To become conscious

of alienation is to become conscious of how one's being has been stolen.' (167) She draws from both Marx (1844) and Fanon (1961) to articulate, therefore, how 'double alienation' is to, first, be alienated from the world, i.e., as the worker is alienated from their species-being (Marx), or the native is alienated through subordination of the 'wretched' (Fanon), while, second, becoming conscious of how 'alienation is already, as it were, in the world' (167). It is the 'recognition of the wretched' that is revolutionary, a coming to understand how 'misfortune and unhappiness *are caused*' (Ahmed 2010: 168) (emphasis added).

This idea of 'double alienation' helps us understand alienation as a process of becoming conscious of how one has been (is being) alienated. However, the alienation that occurs through becoming conscious of alienation (i.e., from species-being) must not be reduced to a consciousness that resides within the individual subject: 'It is important not to individuate such an achievement but to recognize the role of collective labor in the process of becoming conscious of class, race, and gendered forms of oppression, which involves a necessary estrangement from the present.' (Ahmed 2010: 162). Thinking about alienation as pedagogy for a collective, therefore, can help us overcome the problem of imagination we face.

This leads us to the problem of complacency. Others have written extensively about the process of proletarianization of the Academy. Even Marx and Engels (1888) commented that the bourgeoisie 'has converted the physician, the lawyer, the priest, the poet, the man [sic] of science, into its wage labourers' (Marx and Engels 1888/2008). We wonder if most in the eroding academic petty bourgeoisie are still just comfortable enough-or perhaps, suffering from cruel optimism-to prevent us from taking bold action in the name of other possible worlds? Harvey (2020) describes how compensatory consumerism is a useful concept in terms of understanding how corporations (beginning in the 1970s, 1980s) responded to alienation experienced in the workplace by reducing the costs of consumer goods:

This entailed a Faustian bargain between capital and labor in which capital said to labor: 'we know we cannot create labor processes which are adequate to you, but we can compensate you so that when you come out of the labor process and go home you will have at hand a cornucopia of cheap consumer products, from which you will derive all the delirious happiness you crave. All of these consumer products will compensate for the fact that you have a miserable time at work.' (Harvey 2020)

Sharon Zukin (2010) coined the concept of 'pacification by cappuccino' to describe how urban spaces are 'imagined' in ways that uphold a cathedral of consumerism and turn urbanites' attention away from inequalities exacerbated by gentrification, such as the appropriation and commodification of public spaces (Strava 2012). In Al Jazeera's *Metropolis: A Time Lapse Perspective* documentarian Richard Bentley (2014) takes up both Zukin's and Harvey's work to communicate how consumerist complacency essentially keeps 'the pot from boiling over' in urban areas plagued by decades of growing racial and economic inequality such as New York City: '[A]s long as we have our branded phones and branded coffee, we can tend to ignore the bigger picture.' We find Harvey's concept of compensatory consumerism and Zukin's 'pacification by cappuccino' useful in understanding how

compensatory practices similarly make work more bearable in institutions of higher education but do not fundamentally change the contexts of institutional oppression.

Many of us, for example, appreciate the efforts to ‘decolonize’ academic spaces on campus. Yet, in terms of material improvements to the lives of the most marginalized workers on campus, including for academic staff members who are Indigenous and people of color and/or precarious fixed-term or hourly staff, the university fails. Family leave policies pale in comparison to comparable universities around the world, offering only 9 weeks of paid leave. In the Aotearoa university system, substantially fewer women, Māori scholars, and/or other people of color are promoted to professor when compared with white men in academic positions at the same universities, and women whose research trajectories are similar to male colleagues have significantly lower salaries (Brower and James 2020; McAllister et al. 2019). While our domestic enrolments surged over the past two years during a global pandemic, our workloads increased substantially due to persistent labor shortages resulting from border closures.

Cost of living increased in Aotearoa New Zealand by nearly 5% in 2021. Yet, the employer refused to offer more than a 1% raise versus the 3.5% outlined in our union’s demands (whereas the prior year’s collective agreement included a 3% cost of living raise from 2020 to 2021) (StatsNZ 2021; University of Canterbury nd). Radical changes to the current structures (e.g., getting rid of hybrid courses, hiring additional staff to reduce class sizes) are rejected as impossibilities, rationalized by neoliberal logics (limited resources, insufficient funding, etc.): ‘The silly or ridiculous nature of alternatives teaches us not about the nature of those alternatives but about just how threatening it can be to imagine alternatives to a system that survives by grounding itself in inevitability.’ (Ahmed 2010: 165)

Others have theorized that institutional projects limited to diversity/inclusion are similarly designed to placate ‘the wretched’, or give the illusion of progress without actually fundamentally destabilizing or unsettling the underlying power structures that constitute worker alienation (Grande 2018; Simpson 2014). Freire (1970) warns of a false generosity that only serves to placate the proletariat but not fundamentally change an unjust order. False generosity, like liberal progressivism, gives the illusion of improvements, and/or even effects incremental change, that is, toward a slightly more comfortable existence within the system(s) as it currently exists. Leanne Simpson’s (2014) points resonate with this concept of false generosity, within, for example, a bicultural university, i.e., how Academia co-opts Indigenous knowledge and practice in ways that, as we have described in part one, do little to disrupt settler colonialism. For Leanne Simpson and other critical Indigenous scholars (e.g., Grande 2018), refusing the promise of an Indigenous Academy is a political project of resurgence:

Withdrawing our considerable collective efforts to ‘Indigenize the academy,’ in favor of a resurgence of Indigenous intellectual systems and a reclamation of the context within which those systems operate goes much further to propelling our nationhood and reestablishing Indigenous political systems because it places people back on the land in a context that is conducive to resurgence and mobilization. (Simpson 2014: 22)

We wonder if it is the illusion of ‘progress’, the false generosity of an ‘inclusive’ institution, that has given birth to this sense of complacency we face ourselves, our colleagues, our students included – one where the goal, borne out of simultaneously neoliberal and post-earthquake histories, is feeling good, and being kind, and happy. A complacency is constitutive with not ‘feeling at odds with the world’, in which alienation is subdued by consumer-capitalist-careerist desire (Harvey 2020) and virtual networks of ‘friends’ and ‘followers’. Our generative dialogues and reflections have led us to theorize a pedagogy of alienation as an antidote to the problems of imagination and complacency we face. A pedagogy of alienation, as we describe in the sections that follow, embraces anger and rage as part of a broader politics of refusal—as an unsettling alternative to the politics of diversity and inclusion (Grande 2018; Kelley 2016; Simpson 2014). A pedagogy of alienation opens up spaces for new solidarities, within a third university in which alienated scyborgs⁴ can flourish (la paperson 2014).

On Anger, Rage, and ‘The Impossibility of Reconciliation’

Complacency is fueled by the promise of happiness, and the lack of affect. Anger and rage expressed by minority scholars in particular is viewed as incompatible with the inclusive positioning of the institution, especially if such rage questions the supposed bicultural and ‘democratic’ nature of the university. As scholars such as Lorde (1997a) and Thompson (2017) highlight, when expressed by those in marginalized positions, these so-called negative emotions serve a productive purpose of disrupting the status quo and exposing the systemic violence of the westernized university. In *An Exoneration of Black Rage* Debra Thompson (2017: 460) writes that ‘[a]nger is productive in that it can serve as a unifying discourse that seeks liberation rather than liberal democratic incorporation, and it is disruptive to the hegemony of powerful national narratives premised on the inevitability of racial progress but that actually mask the mechanisms of white supremacy’.

Antonia Darder (2011: 180) has written that anger is a form of love, ‘a political and radicalized form of love that is never about absolute consensus, or unconditional acceptance, of unceasing words of sweetness, or endless streams of hugs and kisses’ but rather a love that is ‘unconstricted, rooted in a committed willingness to struggle persistently with purpose in our life’. A pedagogy of alienation embraces rage and anger as precursors to justice and revolutionary consciousness. Anger also enables exposing and resisting false binaries that foreclose critical engagement and

⁴According to la paperson (2014: 10/90), ‘*Scyborg* — composed of *s* + *cyborg* — is a queer turn of word that I offer to you to name the structural agency of persons who have picked up colonial technologies and reassembled them to decolonizing purposes ... the scyborg delights in the ways that his agency is extended by the very circuitry of systems meant to colonize. Scyborg is system-interference and system-witchcraft, the ghost in the machine.’

productive conflict. Anger can serve as a call for connection rather than simply division and polarization.

Solidarities For the Multitude(s)

As Adrienne Maree Brown (2017: 134) has pointed out, '[i]n order to resist one size fits all justice, we have to resist the idea that everyone's process looks the same'. What we seek is 'a collective politics, as a politics based not on the possibility that we might be reconciled, but on learning to live with the impossibility of reconciliation, or learning to live with and beside each other, and yet we are not as one' (Ahmed 2014: 39). In our institutional setting, discourses about building community are widespread but, as we have pointed to, do not always make spaces for 'authentic conversation'. Darder and Yiamouviannis (2011: 427) remind us how 'both Freire and Fanon's writings reinforce the need for establishing decolonizing dynamics that instill a sense of intimacy and openness or "authentic conversation", in grappling with class, cultural, gendered, and racialized differences within the context of community struggles'.

Our own process of venting our anger and frustration as feminist praxis allowed us to move from disillusionment toward possibility. As we mentioned previously, the promise of double alienation as an alternative to the promise of happiness is the development of a revolutionary consciousness among collective labor. There is, of course, 'the huge challenge of effecting real change in the face of hard-to-swallow compromises and lack of solidarity' (Taylor and Fraser 2021).

How could a pedagogy of alienation catalyze solidarities for the multitude(s)? We see examples of this from time to time. Students who use online tools outside of the university's learning management system to create groups on social media; subversive postdigital venues for expressing discontent that fuel pockets of resistance, such as student petitions against an increasing student workload; or students' online organizing for a campus living wage. In one powerful example, politicized students in 2020 circulated an online petition, acquiring 1500 signatures, and took their grievances to the national media over being encouraged to attend class during the onset of the pandemic (1News 2020). Within less than 24 hours the university had moved all courses online (Kenny 2020). Students from a local public girls high school conducted an online survey of students' experiences with sexual assault which led to a protest march to the local boys high school, preceded by their public displays of rage including chalked protest statements on the boys high school campus (e.g., '[Headmaster] protects bullies', 'I hereby claim this school property of the queers'), garnering national attention for misogyny and sexual assault that is pervasive in Aotearoa New Zealand (McCallum 2021; McCallum and O'Callaghan 2021).

What can we learn from these small pockets of resistance? Where our own local university workforce is concerned, we can't think of any such example of collective resistance. This also presents a problem of imagination. Our colleague Nik Taylor has remarked that

[n]avigating the resistance versus complicity as an academic is really tough, and many choose not to see their own complicity at all-or cannot let themselves as they need a pay cheque. It's also pretty scary speaking out against all this, and near impossible for the precariously employed if they want to keep their jobs. Nevertheless, I agree in principle that we need some solidarity here as a starting point for changing all this. (Taylor 2021)

As Liboiron (2016: 68) has pointed out, '[I]et's not ask people to move into a risky space where they may face discursive violence, censure, and slander without support'. We can't put the work of leading resistance within the institution solely on people of color and/or precarious workers. Building solidarities is critical. Liboiron (2016: 68) cites feminist scholar and activist Silvia Federici, who stated, '[the] issue of solidarity, taking care of each other, creating structure, making our own reproduction as people, as activists, the issue-the political issue-is as important as the issue of fighting outside'. While discourses of care in our university focus primarily on 'pastoral care' for students (e.g., phone calls from university personnel to students who have been flagged by artificial intelligence as 'at risk' for not engaging online) and/or 'self-care' for our wellbeing (e.g., take breaks from the computer, no emails after 5 p.m.), '[c]are as an ethical and political obligation to maintain relations, is linked closely with solidarity ... While solidarity is defined in very different ways, it is about relation in the face of power struggles.' (Liboiron 2016: 69). Further, we reflect that who our department heads are, who are colleagues are, often 'significantly impact [our] willingness' to take on particular forms of resistance from within the institution (Liboiron 2016: 69).

We strive to nurture the seeds of discontent, in the name of a wider collective politics, toward living not as a unified, reconciled single-minded entity but rather as multitudes, 'with and beside each other'. A pedagogy of alienation foments collectivities of the alienated, solidarities among feminist killjoys, unhappy queers, and troublemakers (Ahmed 2010) – like trees communicating and sharing resources underground – 'a hidden network that creates a thriving community between individuals' (BBC News 2018).

Scyborg Wanderings: Undoing the Promise of Happiness

We need to tell each other stories of different ways you can live, different ways you can be; predicated not on how close you get to the life you were assumed or expected to have, but on the queer wanderings of a life you live... (Ahmed 2017: 265)

Audre Lorde reminds us that 'having a positive outlook' is an affective strategy used to obscure so much. Lorde (1997b: 76) writes, 'looking on the bright side of things is a euphemism used for obscuring certain realities of life, the open consideration of which might prove threatening to the status quo'. Where do we go from here? Third world feminisms have shown clearly that marginality is simultaneously a site of domination and transformative (subversive) politics. La paperson (2014) encourages us that while 'second world critique' has yet to make good on its promise of (an)other possible university, a third university is still possible:

If we think of the university as a machine that is the composite of many other machines, these machines are never perfect loyalists to colonialism—in fact, they are quite disloyal. They break down and produce and travel in unexpected lines of flight—flights that are at once enabled by the university yet irreverent of that mothership of a machine. This same disloyalty applies to the machined people, you. And thus there's some hope, the hope of the scyborg. Organisms in the machinery are scyborgian: as students, staff, faculty, alumni, and college escapees, technologies of the university have been grafted onto you. Your witch's flight pulls bits of the assemblage with you and sprays technology throughout its path. (la paperson 2014: 59)

Simpson (2014), for example, calls not for reconciliation projects (e.g., a bicultural university) but rather for appropriating Academia's resources for a 'radical resurgence project' that intertwines land-based Indigenous study with anticolonial resistance movements. A pedagogy of alienation is enacted within the undercommons as 'a subversive way of being *in* but not *of* the university' (Kelley 2016) (emphases in original), similar to la paperson's (2014) concept of the scyborg. Devotees of the undercommons (i.e., scyborgs) refuse to narrate the university's structural racism as a crisis that administrators could resolve through reforms of more diversity, 'safer spaces', increased training, or curricular acknowledgement of historical and present-day oppression (Kelley 2016). Rather, a pedagogy of alienation from the undercommons views 'making good trouble' as the alternative to the promise of happiness, enlightenment - or 'bicultural bliss'.

In a third university, there will be a range of approaches to feminist, anticolonial, anticapitalist projects. A scyborg's 'witch's flight' may include teaching first world curricula, e.g., 'engineering where wastewater systems are needed for sovereign lands; legal studies where the law is a principal site of decolonial struggle' (la paperson 2014: 52). As scyborgs, we '[f]igure out how technologies operate' understanding that '[t]echnologies can be disrupted and reorganized' (la paperson 2014: 33): 'The agency of the scyborg is precisely that it is a reorganizer of institutional machinery; it subverts machinery against the master code of its makers; it rewires machinery to its own intentions.' (la paperson 2014: 59)

Conclusion

While we set out to imagine a messianic utopian vision for postdigital tertiary education in Aotearoa New Zealand, our conversations morphed into venting sessions about how the neoliberal and bicultural institutional contexts in which we teach limited our abilities to think 'otherwise'. Our venting sessions became a form of feminist praxis as we began to make connections across our experiences of alienation, while also recognizing and accounting for important differences such as Mahdis' more marginalized position as a woman of color in the academy. We found that connecting our experiences, through venting as feminist praxis, offered us hope for a collective politics ignited by a pedagogy of alienation, 'learning to live with and beside each other' but not as one (Ahmed 2014).

We note that, in reality, our messianic vision has little to do with the postdigital/digital interface, but yet we have highlighted how hybrid teaching has, for each of us, produced a sense of estrangement and alienation, a loss of connection. Even more concerning is the way in which we find ourselves pacified by compensatory practices - and therefore complicit. Through a pedagogy of alienation, we identify and name the ways in which we feel alienated from a structure that is alienating, and we use our experiences of alienation to force us and our institution to think differently, to disrupt our complacency. In essence, this ‘double alienation’ (Ahmed 2010) is a process of transition and reorientation. A pedagogy of alienation becomes a way to trouble, rage, improve our practice, in order to ‘be in but not of the university’ (Kelley 2016). Alienation produces a possibility to create new possibilities; it is a rhizomatic witch’s flight. Our messianic vision for postdigital pedagogies, however, is unapologetically dystopian. We articulate a pedagogy of alienation, fueled by suffering from a loss of connection, sustained by anger and rage.

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Part III
The Aesthetics of Postdigital
Ecopedagogies

Towards Second-Wave Architectural Ecopedagogies



James Benedict Brown 

The Responsibility of Architectural Education

In 2020, the operation of buildings created 28% of all global energy-related CO₂ emissions. Taking into account their construction, buildings are responsible for 38% of all global CO₂ emissions (United Nations Environment Programme 2020). More than half a century has elapsed since the first Earth Day in 1970 and more than twenty years have elapsed since the text of the Earth Charter was approved in Paris. Yet there is still no greater crisis facing humanity than climate emergency, and there is still no more urgent field in which to address that climate emergency than ways in which we consume energy and produce emissions through our day-to-day existence. The detrimental environmental impact of our built environment is further compounded by ever-increasing urbanization. The population of global cities grew from 751 million in 1950 to 4.2 billion in 2018 (United Nations 2018). By 2050 more than two-thirds of the world's population will be living in cities, most of which will be megacities of more than ten million people. Confronted by the climate emergency and the rapid growth and densification of human settlements, there is an ever more urgent need to radically address the damaging effects of the manmade environment on the climate.

The discipline of architecture and its pedagogical frameworks are untethered from environmental crisis. Where architects address or include the non-human environment, all too often they do so in a way which abstracts natural materials and ecologies in service of an architectural effect. Architectural education, which this chapter is particularly concerned with, perpetuates this way of thinking and fails to teach students adequately about the responsibility of the architects. For lasting and meaningful change to be enacted to address the climate emergency, we must learn

J. B. Brown (✉)

Umeå School of Architecture, Umeå University, Umeå, Sweden

e-mail: james.brown@umu.se

from architecture ecopedagogies: pioneering actions of resistance against a capitalist model of production and reproduction that is usually focused on preserving the status quo. This chapter explores potentials and limitations of postdigital ecopedagogies in architecture and built environment education. It speculates about radical and legitimate responses to our post-pandemic anthropogenic moment, and about challenges facing emergent second-wave architecture ecopedagogies.

Architecture And the Non-Human Environment

It takes a long time to become an architect; typically, five to seven years of studying with periods of supervised apprenticeship. For students, the financial consequences of such longevity can be severe, placing great urgency on the need to secure stable employment after graduation. For teachers, the long gestation and professional regulation of architectural education influence the pedagogical character of the subject. Students are educated for a future so far ahead that few can accurately predict the challenges or technologies they will face. With half or more of curricula related to design, the work undertaken by students of architecture is often prophetic: located in an imprecise future, speculating pessimistically about continued environmental collapse or optimistically about technological or social innovation.

Relieved of the obligation to build their designs, students of architecture operate in a predominantly utopian condition; free of tedious constraints such as budgets, neighbours' objections, or planning conditions. Yet when graduates enter architectural practice, they often find that the construction industry is like an ocean liner: it takes a long time to change its direction. After ten years of studying and junior-level employment, principled young architects will likely find themselves at odds with suppliers, contractors, and colleagues in related disciplines who are reluctant to do things differently.

For many young architects, the shift in thinking between the progressiveness of the academia and the conservatism of architectural practice leads to intellectual dissonance (Poe 2017). However, the academia continues to celebrate and valorise prophetic thinking characterised by a detachment from environmental reality. An example of this highly influential approach to architectural thinking is Archigram.

Archigram was formed in the 1960s at the private architecture school in London, Architectural Association, where a group of students produced a series of handmade and collaged magazines. The group included Peter Cook and Ron Herron, who become some of the most influential individuals of their generation. Archigram are recognised for their provocative envisioning of walking cities: giant arcologies, freed from the constraints of gravity, foundations, and connections to sewers, stumbling around the earth's surface in search of a better climate or more abundant resources for their leisure-focused inhabitants. The walking cities were like cruise ships liberated from sea level, able to walk through forests and over mountains in pursuit of human fulfilment (Rattenbury 2010).

Prophetic approaches such as Archigram's are counter-productive to the need to address pressing environmental crisis. What if, instead, we consider a messianic approach that Tyson Lewis (2010: 238) places at 'the time that remains between time and its end'? This temporality 'reveals an immanence between this world and the future world ... not simply waiting for a Messiah to come to save human history; rather, the messianic is beyond the discourse of deferral (perpetual waiting) or historical dialectic that posits the completion of humanity's self-realization in a future temporality' (Lewis 2010: 239).

There are many examples of pedagogical initiatives that set out to overcome this tendency. Live projects (Brown 2012; Anderson and Priest n.d.) and design-build projects (Kraus 2017) are exemplary attempts at re-orientating architecture education from an untethered prophetic utopia towards a grounded here-and-now. Emerging from different traditions, these alternative pedagogies address the gap between professional knowledge and experience in architecture education and practice (Brown and Russell 2022). Against the unfolding catastrophe of climate emergency, what if we abandon the anthropocentric worldview to the built environment in which the goal of architectural design is the pursuit of environments that privilege human inhabitants?

This presents a challenge for architecture educators, in part because the practice of architecture is a capitalist, imperialist, and colonialist venture which co-opts the non-human world in the pursuit of better environments for humans. Elements of the non-human environment are used in the production of buildings as markers of a progressive environmental agenda. This kind of behaviour can be likened to the 'greenwashing' of corporate interests which uses marketing spins to persuade the client that a product is environmentally friendly. Greenwashing the built environment, however, needs no marketing materials, when it can be most easily demonstrated by architects who employ *actual trees* to provide a splash of green over the roofs, façades, and balconies.

In Shanghai, the international design office of Heatherwick Studio has built a pair of 'tree-covered mountains' that use 1,000 transplanted trees to decorate a mixed-used commercial and residential scheme. To achieve this, the building employs hundreds of thousands of tonnes of structural steel and reinforced concrete. In Milan, a 'vertical forest' has been built by Stefano Boeri Architects by planting trees on the balconies of two skyscrapers to offset the emissions of their construction (Boeri 2019). The long-term effects of planting trees on buildings are unknown. Removed from the deep and ecologically diverse soil that lies beneath a mature forest, including the complex microbial and mycological networks linking hundreds of different species (Sheldrake 2020), these trees have little chance of thriving. Yet their long-term survival is arguably irrelevant, since the very presence of trees serves a marketing purpose that is complete as soon as the building has been built.

It is not just individual trees that can be abstracted from natural environments in service of the built environment. In an attempt to dilute pollution that remains in the ground after heavy industry, so-called 'constructed wetlands' are being created on former industrial lands (Haberl, Perfler, and Mayer 1995). Constructed wetlands are

abstract representations of nature created to nurture wildlife and correct damage caused by the colonisation of the natural world and pollution.

Natural elements are also used to disguise damaging ecological consequences of architectural designs. Despite winning a competitive appointment, the Dutch architecture firm MVRDV failed to deliver a temporary summer pavilion to the Serpentine Gallery in London in 2004.¹ The project was aborted due to the impossibly high cost of constructing a temporary structural steel armature that would envelop the entire museum building in order to support a temporary grassy hill (Hobson 2015). Sixteen years later, that idea was revived and adapted to enclose the nearby Marble Arch. The adaptation sat next to rather than on top of Marble Arch and was built using a sub-structure of scaffolding components. The Marble Arch Mound, as it was called, was commissioned in the wake of the Covid-19 pandemic to draw consumers back to the formerly densely trafficked shopping of Oxford Street. This faux landscape was conceived as a means of bridging the hyper-consumerism of London's West End with the natural realm (albeit carefully landscaped) of Hyde Park.

Both in its original form and its final realisation, the Mound was an architectural folly with a substantial carbon footprint; a building that was designed to last only a few months yet would leave an environmental impact larger than many permanent buildings. The final realisation of the Mound as an attraction to reignite consumerist activity demonstrated that the building had no purpose beyond providing a sensorial experience in the service of shopping (Ravenscroft 2021). In words of one critic:

It would be magnificent if such a thing could be created permanently, with all the thought and attention necessary to make it ecologically rich and pleasurable to experience. In a better world, such a thing would happen. In an even better world, the creative and political energy that goes into something like the Marble Arch Mound would be directed at planting trees permanently in ordinary streets all over the country. That really would make a difference to the environment as well as enhancing the lives of thousands. But it wouldn't get the same attention as a temporary mound. (Moore 2021)

Barnabas Calder (2021) draws attention to the way in which some buildings are today marketed as 'net zero' in order to attract investors and inhabitants. A 'net zero' apartment building constructed using steel and concrete employs exactly the same carbon-emitting materials and processes as one that is not labelled as such, but the investor or inhabitant gets to feel good about their choice. Voluntary sustainability assessment schemes such as LEED (Leadership in Energy and Environmental Design)² in the USA or BREEAM (Building Research Establishment Environmental Assessment Method)³ in the UK serve a similar purpose: but despite quantitative methodologies, they are still highly subjective.

For instance, Bloomington railway station in Richmond Hill, Ontario, Canada (IBI Group 2017–21) recently achieved LEED Gold certification, the highest possible environmental rating for a new building in North America. Yet the station,

¹ MVRDV are the only practice to have failed to deliver a Serpentine Pavilion in more than twenty years of annual appointments.

² See <https://www.usgbc.org/leed>. Accessed 13 December 2021.

³ See <https://www.breeam.com/>. Accessed 13 December 2021.

built in Toronto's greenbelt, sees only five commuter train departures a day, has almost one thousand car parking spaces, and is effectively inaccessible to passengers who can't drive themselves to the station. As one critic of North American town planning has argued, it should be impossible for a reinforced concrete multi-storey car park to achieve LEED Gold status, especially one that actually encourages and subsidises suburban car use (Slaughter 2021). Meanwhile, in the UK, Barnabas Calder refers to the Bloomberg Headquarters designed by Foster + Partners and completed in London in 2017. Despite being awarded the highest ever sustainability score awarded to an office building (98.5%), the measurement took no account of the embodied carbon and emissions created by the demolition of the perfectly serviceable and similarly-sized office building that it replaced (Calder 2021: 434–36).

These invocations of the non-human environment in service of the human environment remind of Slavoj Žižek's critique of a consumer's decision to pay more for a Starbucks-branded cup of coffee; it is an act of environmental gratification and social appeasement about our extractive and colonial relationship with the coffee producer. 'The point is that, in buying them, we are not buying and consuming, we are simultaneously showing our capacity for care and our global awareness.' (Žižek 2009: 35) We may feel better working in an office with a high BREEAM score or driving to a suburban railway station with gold LEED status, but in doing so we are becoming complicit in a financial sleight of hand that does not lessen the carbon emissions of our investment.

Whether it is Heatherwick's mountains, Boeri's forests, MVRDV's mound, or bright green label of a 'net zero' office building, the non-human world is increasingly being co-opted by colonial and anthropocentric design methodologies to counterbalance our own energetic gluttony. As Moore (2021) writes, there would be no interest in making a genuinely positive environmental contribution to the non-human urban environment. We only justify this expenditure if it is in service of anthropocentric patterns of consumption. The discipline of architecture is trapped in service of this system of reproduction by aiming for ever-more elaborate conquests of the natural world in the pursuit of new buildings.

The Postdigital in Architecture

The craft of making shelter for human life and activity has been revolutionised by the emergence and refinement of digital technologies in design, analysis, manufacturing, and construction. Therefore, the built environment has the potential to become a frontier of postdigital practice. However, little has been written about the postdigital transformation of architectural practice and education. Digital technology that allows us to map a site, record a climatic environment, or manufacture building components, is no longer separated from the practice of putting one brick on top another. The human and cultural implications upon building are immense, and the adaptation of our profession and industry to these changes is evidence of the fundamental need for continuing education and continual re-evaluation of our

professional knowledge. Yet the blurring of boundaries between our digital and analog worlds has not led to a helpful definition or understanding of the postdigital in architecture. The very ambiguity of the postdigital – ‘a term that sucks but is useful’ (Cramer 2015) – causes problems for architects and architectural education.

Emerging from an unsatisfactory model of training through apprenticeship, the discipline of architecture is a latecomer in the academy; consequently, it is predominantly based on just a handful of models. The official pathway to architectural registration is through a programme at least half of which is oriented around the speculative design of buildings. Much of the academic and intellectual output of teachers draws on rich creative output of students associated with thematic studios or research groups. The term ‘postdigital’ appears frequently in the discussion of student works, but rarely extends beyond a shallow discussion of graphical representation and the hybridisation of the digital (i.e., computer aided) and the analog (i.e. by hand). Postdigital architecture leans towards a framing in terms of the architect as craftsperson or creator (Ortega Cerdà 2017) and methods of combining analog and digital media (Horn 2017).

In the wider field of design, the postdigital is being defined by developments in digital fabrication (Museum of Arts and Design 2014). Drawing on emergent models of architectural practice, Owen Hopkins writes that ‘the most immediate implication of this [postdigital] shift is that ... architects are now designing in code. This is fed directly to the builders of their projects – robots rather than humans.’ Hopkins argues for the reinvention of the role of the architect as a craftsperson directly connected to the act of making a building. Yet this approach also dehumanizes and desocializes the role of the wider construction industry in the process of making buildings: one in which the collaboration between designer and builder is decentred, and the intuitive practical knowledge of the builder is wrested back towards the architect.

While Hopkins argues that the future of postdigital design is on the move towards a more direct application of building technologies, other definitions look to a mode of practice that has moved on from the digital. In architecture-related literature the term frequently appears in its hyphenated form, *post-digital*. In discussions of undergraduate and graduate architecture design projects, the term implies that students are defining a designerly approach free of intellectual or methodological constraints of the computer. For example, in 2020 the University of Cambridge presented a digital exhibition of student work with the prefix that ‘the selected works below showcase the breadth of work created across the studios. Employing collage, hand-drawing, casting, CAD drafting and digital modelling, students often use post-digital approaches to ground their interventions in the ever-changing urban environment.’ (Crook 2020)

Neil Spiller’s (2009) meditation on the postdigital in architecture is one of the few texts to clearly elucidate what the postdigital might mean in the context of architectural research and practice. Despite making the case that ‘post-digital design must attempt to be immune to sophist arguments of style and good taste’ (Spiller 2009: 98), the article makes a limited excursion beyond the aesthetic realm.

Many definitions of the postdigital in architecture and design are burdened by a problematic and limiting dialectic between humans and technologies. However, Tim Fawns warns that ‘simplistic distinctions between education that features digital technology and that which does not begin to break down’ (Fawns 2019: 141). Spiller’s articulation of the possibilities of the postdigital in architecture brings to mind Peters and Besley’s (2019: 30) warning that ‘the postdigital does not describe a situation, condition or event after the digital. It is not a chronological term but rather a critical attitude (or philosophy) that inquires into the digital world, examining and critiquing its constitution, its theoretical orientation and its consequences.’ As we shall see in the following section, that critical attitude is fundamental to analysing postdigital ecopedagogies in architectural education.

Three Architectural Ecopedagogies

Ecopedagogies emerge from a long and rich tradition of critical pedagogy, defined most clearly by Joan Wink (2000: 30) as ‘a way of thinking about, negotiating, and transforming the relationship among classroom teaching, the production of knowledge, the institutional structures of the school, and the social and material relations of the wider community’. Founded on the practice of the Brazilian pedagogue Paulo Freire, critical pedagogy finds its roots in initiatives to develop literacy of disenfranchised rural farmers who were exploited by landowners and merchants, thereby liberating them and their oppressors from a dialectal relationship of oppression (Freire 1996). Freire’s model of literacy abandoned the concept of abstract syllabus, instructing teachers to go into the classroom as co-learners and name the word and the world.

The ecological implications of critical pedagogy are apparent: this is a ‘pedagogy of hope’ founded in the world around us (Freire 1994). In *Education for critical consciousness* Freire (2021) presents ten drawings that encapsulate learning situations described by students in early literacy circles in Brazil; all of them are rooted in the student’s relationship to the natural environment. Emerging from Freire’s work, ecopedagogies are ‘utopian education models which have the goal of ending all socio-environmental injustices and violence’ (Misiaszek 2019: 617).

Ecopedagogies share the characteristic hopefulness of critical pedagogies but are oriented towards a greater critical awareness and problem-posing of socio-environmental conditions. Ecopedagogies demand that teachers and students ask fundamental questions relating to knowledge, justice, and equity, and to connect that social awareness to unfolding ecological crises. In *Critical pedagogy, ecoliteracy, and planetary crisis: the ecopedagogy movement*, Richard Kahn writes that ‘if education for sustainable development is utilized strategically to advance the sort of radical ecopedagogy ... it could be a much-needed boost to social movements that are desperately attempting to respond to the cataclysmic challenges posed by unprecedented planetary ecocrisis’ (Kahn 2010: 17).

What examples of architectural ecopedagogies can be found? I have written elsewhere about difficulties related to applying the tenets of critical pedagogy to a professional education which is rigidly described by professional accreditation and industry demands (Brown 2015). In the context of architecture, teachers and students must find the delicate path to seizing the power to shape their curriculum while also working within the professional frameworks that have crippled our progress towards environmental action.

Architectural educators have engaged with critical pedagogies, yet these excursions have tended to focus on the construction of more democratic environments of education and practice (Crysler 1995, Brown and Morrow 2012) rather than the threat of imminent environmental collapse. Environmental concerns remain far from the signature pedagogies of the architecture design studio. Ashraf Salama (2016) posits that architectural education is founded on three traditional approaches to design education: the nineteenth century *École des Beaux-Arts* in Paris, the inter-war Bauhaus in Germany, and its lesser-discussed Soviet counterpart, the *Vkhutemas*. Whereas the *École des Beaux-Arts* aligned itself with the principles and values of classical architecture, the Bauhaus and *Vkhutemas* aligned with principles of modernism and propagated them globally during and after the Second World War.

Salama (2016: 119–142) lists ten alternative models of architectural education that have emerged in reaction to these traditional approaches. I move on to examine three models of architecture ecopedagogies, aimed at resistance against a capitalist model of production and reproduction, which I would characterise as defining the first wave of architecture ecopedagogies.

Arcosanti (1970–)

In 1970 the Italian architect Paolo Soleri began to construct an entirely new city in Arizona desert. Students of architecture and design from across the USA travelled to Arizona during their vacations and volunteered in pursuit of a new kind of architecture created with a consideration for all aspects of ecology. Arcosanti was opposite to low-density, energy-intensive suburbs of America. It would be built for high population density, nurturing social interaction, and maximising the efficiency of shared infrastructure; minimising energy consumption and limiting waste and pollution. Arcosanti was envisioned as the first of many such environmentally sensitive ‘arcologies’.

Arcosanti was conceived as a home to more than five thousand people. However, as a result of the tenuous model of constructing the community through attracting students and volunteers and generating income through short courses and souvenirs, the city has never been home to more than a hundred or so temporary residents. Soleri published *Arcology: The city in the image of man* (1969) one year before the beginning of construction, speculating about the design of megacities in a variety of different habitats including the sides of an active volcano and deep canyons. These ideas ‘were arguably closer to psychedelic fantasy than serious architectural

proposals' (Rose 2020), but they represented a set of prophetic architectural visions for the future of humankind living in a wide range of ecological conditions and closely aligned with the environment.

Arcosanti represented an architectural critique of European-American culture, and *Arcology* (Soleri 1969) is a proselytising document full of enthusiasm for an alternative ecological future. Students who volunteered at Arcosanti expected to realise that vision. David Grierson, the co-founder of the Master of Science in Sustainable Engineering: Architecture and Ecology taught between the University of Strathclyde and Arcosanti, writes that 'the myths of modern life may be full of false promise, but if Arcosanti fails to be persuasive as a feasible living alternative, its ultimate misfortune may be to stand as tangible proof that an ideology of frugality is what most of today's suburbanites fear most' (Grierson 2016: 70).

Soleri resigned as chairman of Arcosanti's foundation in 2010 after his daughter Daniela accused him of sustained sexual abuse and rape, prompting others to accuse him of making unsolicited sexual advances. A former inhabitant acknowledged him to have been 'a benevolent dictator' (Rose 2020). At the eve of a major public retrospective of her father's work, Daniela Soleri published an essay interrogating a widespread cultural acceptance of inhumanity amongst gifted creative artists, asking 'do we really accept abusive behaviour as a necessary and justified cost for the contributions of intellect or creativity? If so the implications are significant, and grim.' (Soleri 2017)

Arcosanti was established as an alternative means of exploring ecologically minded architecture. While hundreds, if not thousands, of architects and designers have passed through the community, Arcosanti's impact on mainstream architectural production is questionable. Furthermore, the revelations about Soleri's sexual abuse question pedagogical endeavours centred upon charismatic individuals.

Women's School of Planning and Architecture (1975–81)

The Women's School of Planning and Architecture (WSPA) was a feminist summer school that operated between 1975 and 1981. Co-founded by the architect Katrin Adam, architectural journalist and critic Ellen Perry Berkeley, artist and architect Phyllis Birkby, and the architects, academics and writers Bobbie Sue Hood, Marie I. Kennedy, Joan Forrester Sprague, and Leslie Kanés Weisman, the goals of the WSPA were:

to create a personally supportive atmosphere and a stimulating exchange of ideas in a vacation setting. We hope to encourage both personal and professional growth through a fuller integration of our values and identities as women with our values and identities as designers. Our aim is to create a forum within which we may discover and define the particular qualities, concerns, and abilities that we as women bring to the environmental design professions. (Records of the Women's School of Planning and Architecture 1999)

At the time of the foundation of the WSPA, fewer than 10% of registered architects in the USA were women, and an even lower proportion were faculty and

teachers. During the 1970s resurgence of the feminist movement in North America, professional women's groups and organisations were emerging within male dominated professions such as law, medicine, and architecture. Leslie Kanes Weisman recalls that 'one thing was clear to all of us; WSPA would not duplicate what was available in a traditional academic setting. I think we each understood - at least I certainly did - that form, content, and context have to have a kind of consistency.' (Weisman, Cerulli, and Kossak 2009: 10)

The WSPA dissolved the boundaries of the summer school, creating an egalitarian learning environment. Venues were chosen based on the 'blandness' of the architecture and their proximity to natural environments into which students could move freely. Over two weeks, six core courses were scheduled during the day, deliberately overlapping at critical moments to create intersecting joint sessions. Informal all-school sessions with more open structures were held in the evenings, fostering other forms of dialogue. A twenty-four-hour schedule was printed and posted at the centre of the venue, and participants were invited to add to or change the curriculum.

According to Weisman, 'you can't transform the behaviour and identity of those who are being educated without the personal transformation that can only come from placing academic knowledge within the powerful framework of personally meaningful experience' (Weisman, Cerulli, and Kossak 2009: 10). Creating a new pedagogical space against and outside the framework of normative architectural education, WSPA participants renewed and reconsidered their position in mainstream education and practice, contextualising their lived experience in the processes of learning.

The Centre for Alternative Technology (1973–)

One example that spans the distance from ecological marginality to mainstream practice is the Centre for Alternative Technology (CAT) in Wales.⁴ Founded in 1973 by the environmentalist Gerard Morgan-Grenville in a disused slate quarry as the British National Centre for the Development of Alternative Technology, the CAT was a direct response to the early emergence of ecopedagogies: a volunteer-run centre for collaboration and experimentation. Over time, the centre expanded to offer affordable short courses in environmental practice, which led to the establishment of the Graduate School of the Environment in 2008.

Today, in addition to postgraduate courses in renewable energy and environment studies, the Centre offers a Professional Diploma in Architecture course in Advanced Environmental and Energy Studies and a Masters in Sustainable Architecture. CAT pursued professional recognition for these courses, and they are now accredited by the Architects Registration Board (ARB) alongside more conventional

⁴ See <https://cat.org.uk/>. Accessed 13 December 2021.

university-based postgraduate degrees in architecture.⁵ The organisation of architectural education in the UK allows for students to complete an undergraduate degree in the subject in one institution and then change to another for the postgraduate degree. By focusing on offering the higher-level qualification, CAT is able to attract a diverse community of students who have started more traditional university-based studies in architecture but then sought out a graduate course with a clear ecological focus. Despite its small number of graduates, CAT demonstrates how an ecopedagogical alternative to mainstream educational practice might emerge: starting at the fringes with continuing and adult education, but unafraid to adapt and compete with capitalist higher education mainstream by offering an innovative ecologically-focused qualification that is now regarded as equal in standing to more traditional pathways.

Towards Second-Wave Architectural Ecopedagogies

The late Zaha Hadid (1950–2016) founded her office, Zaha Hadid Architects, in 1980. Yet it was nine years before construction of her first building began, the Fire Station (1989–93) at the Vitra Complex in Weil am Rhein, Germany. In those nine intervening years, Hadid established an international reputation for cutting edge architectural design through a number of competition entries and exhibitions. In 1988, some of her oil paintings – including those produced for the unsuccessful competition entry to design the Peak Leisure Club in Hong Kong (1983) - were exhibited at New York's Museum of Modern Art as part of Deconstructivist Architecture⁶. Not building was not an obstacle for the establishment of her career as a major architect.

Given that Hadid was a famous architect long before she had built anything, her work is subject to a common critique that architectural education teaches students how to design drawings rather than buildings. With the limited exception of design-build projects that place real building materials in the hands of students, architectural education remains focused on the generation of idealistic and prophetic visions of near-future. From Archigram's handmade magazines to Hadid's oil paintings, architectural culture has a problematic relationship with the abstracted imagery of our work. Despite its great potential to be a frontier of postdigital practice, architectural education and practice remain fixated on representational meanings.

The culture of judging architectural quality according to representations of buildings is also to blame for our continued failure to address the immense environmental damage caused by the construction and operation of buildings. Of all the design

⁵In the United Kingdom, architectural education is delivered through the combination of a three-year undergraduate (usually BA, BSc, or BArch) degree and a two-year graduate (usually MA or MArch) study. The Architects Registration Board refer to these as 'Part 1' and 'Part 2', with a professional exam called the 'Part 3' prior to professional registration.

⁶See <https://www.moma.org/calendar/exhibitions/1813>. Accessed 15 December 2021.

disciplines, architecture is perhaps most vulnerable to accusations of greenwashing. We transplant trees onto buildings to offset the environmental damage of building with energy-intensive concrete. We build grassy mounds out of steel to counterbalance consumerist impulses. We invent and promote highly subjective assessments of environmental performance to justify new constructions, when in fact ‘the greenest building is the one that is already built’ (Elefante 2007: 26).

Architecture is a slow-moving discipline, one with pedagogies firmly rooted in a very narrow range of traditional design studio pedagogies. Arcosanti, the WSPA, and the CAT are brilliant examples of architecture ecopedagogies because they demonstrate the ways in which alternative ways *doing architecture* can be taught. They are distinguished by the successful ways in which the WSPA created a democratic and inclusive learning environment, and how CAT secured its professional standing as equivalent to a traditional university-based education. All three were attempts to create temporally-delineated pedagogical environments outside the capitalist and colonist system of architectural reproduction. They pursued the conditions that might create an alternative and more ecologically inclusive environment for the design of buildings and cities. Despite these innovative reactions to the dominant approaches to architectural education, the widespread development of alternative, radical, or revolutionary forms of teaching and learning has been elusive.

Yet what lasting change did these three examples bring about? Weisman warns that efforts such as the WSPA are useful for ‘the consciousness-raising task of defining problems’ but they are less useful for implementing solutions (Berkeley and McQuaid 1989). Democratic and collectively formed initiatives such as the WSPA tend towards ephemerality, creating awareness amongst participants but not effecting measurable change, perhaps until many decades later when those individuals effect change in their own surroundings. Without the democratic and participatory structure of the WSPA, institutions such as Arcosanti depend on the charisma of individuals in positions of disproportionate power, especially over hybrid student-volunteers. Paolo Soleri claimed that his institution was a rebellion against humankind’s exploitative practices, yet he personally embodied many of these practices.

How do we prepare future architects and citizens for a climate that is likely to become catastrophically unstable? This chapter shows three different architecture ecopedagogies of resistance against capitalist models of production. Of these three, only the CAT managed to establish itself as a legitimate and sustainable means of resistance, by recognising (perhaps reluctantly) that architects operate within a capitalist system of reproduction. While the practice of architecture shares many characteristics and cultures with the practice of fine arts, paying clients outnumber benefactors and patrons a thousand to one. Architect’s work always depends on their relationship with a client. Despite its origins as a counter-cultural source of continuing education, the CAT not only survived but thrived by turning the corner from marginal to mainstream provider of architectural education.

If we are to see truly sustainable, authentic, and effective second-wave postdigital ecopedagogies in architectural education, they must learn from the successes and failures of the examples discussed above. They must abandon prophetism, rooting

themselves in the immanence of the present moment. They must be collaborative, inclusive and truly participatory. They must confront the slowness of our discipline. They will probably establish themselves outside the mainstream, but they must not be afraid to enter it.

Coda

This chapter was written overlooking a Swedish pine forest. This is an apparently natural environment, one which imbues the architectural education and practice undertaken in the north of this country. We build (and often heat) our houses with wood. Public buildings, such as the twenty-storey Sara kulturhus in Skellefteå (White arkitekter 2018–21) are international calling cards for the potential of so-called ‘engineered timber’ products capable of building as wide and tall as steel and concrete structures. Building with wood – especially in larger and more public buildings – invokes a kind of growing harmony between the built and natural world.

Yet the forests of northern Sweden are part of an almost entirely manmade industrial landscape: one which has been created and shaped since the industrial revolution according to quantitative calculations of economic productivity. Mårald, Sandstrom, and Nordin (2017) show how, in the pursuit of late capitalist models of production, northern Swedish forests have become locked into a cycle of economic and environmental goal inflation. According to these models, the forest is most productive when it is clear cut to the ground of all living vegetation, including all that which is not processed into wood products.

Forests are subject to competing regional, national, and international agendas, as a source of employment and economic activity, and through their environmental value as a carbon sink. The result is a human-nature relationship in which all assessments of the forest’s value are anthropocentric. The value of the forest as a carbon sink, for example, can only be comprehended once it is translated into economic terms; the value of the forest as an environment for moose hunting is co-opted by landowners as a means of protecting valuable raw material from damage caused by animals scratching their thick skin against tree trunks. In the face of the climate emergency, a common argument has been made for the increased use of renewable materials in place of energy- and carbon-intensive steel and concrete. Across Europe, initiatives are being proposed to encourage the use of timber in construction to lock carbon into buildings instead of releasing it into the environment as carbon emissions (Errard 2020).

To teach architecture in this environment, as I do, one has to confront the severity of the decisions we make as designers of buildings. Architects and architectural educators are complicit in the problematic power relations of a colonialist relationship between the human and non-human worlds. It is not enough just to replace steel and concrete with timber, if the forests we are extracting that timber from are being farmed unsustainably. Swedish forestry companies are eager to sell as much

structural timber as clients will buy, but to achieve economic profitability they are becoming increasingly outspoken in their preference for the wholesale clearcutting and monocultural replanting of forests.

We have seen in this chapter the ease with which architects can abstract and co-opt elements of the non-human world in pursuit of a built outcome. But we have also seen how architectural educators have (not without some failures) attempted to work outside the normal conceptions of neoliberal and colonial education in order to create pedagogical initiatives that recognise the potential of humanity to pursue radical ecological and social justice throughout the world. If we are to realise a second wave of architectural ecopedagogies, we must learn from successes, failures, and defining features of these first-wave examples.

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Postdigital Intercreative Pedagogies: Ecopedagogical Practices for the Commons



Carlos Escaño and Julia Mañero

It is true that education is not the lever of social transformation, but without it this transformation cannot take place.¹ (Freire 1997: 35)

Introduction

Paulo Freire (1997: 35) highlights the importance of educational praxis in social transformation. Education cannot bring social change on its own, yet social change is not possible without active educational intervention. No society exists without a passion for knowledge and learning, no society exists without creative risk-taking, and no society asserts itself without the improvement of culture, science, research, and technology. This all arises from education. And as Ivan Illich (1971) announced in our digital prehistory, we need education and research to imagine a different, better world.

Current pandemic, postdigital situation clearly demonstrates a deterioration of organic order by anthropogenic action. The Anthropocene is everywhere, including our educational institutions, shaped by concerns and disasters that characterise our world. Educational agents must seek to imagine and enact a better, more imaginative, equitable, accessible, sustainable, decolonial and flexible future, across social, cultural, and material differences (Veletsianos and Houlden 2020).

¹Authors' translation from Portuguese.

C. Escaño (✉) · J. Mañero
University of Seville, Seville, Spain
e-mail: jcescano@us.es; juliamanero@us.es

This is an opportunity for social change (Jandrić et al. 2020), which arrives with a responsibility to carry out exhaustive studies about our current situation from a critical ecopedagogical position. This pedagogical approach and exercise is crucial to the social and ecosystemic struggle against the hegemonic politics of capital. As Peter McLaren (in Jandrić 2017) notes, drawing from Fassbinder (2008), we are witnessing a profound and efficacious integration of social justice, education, and ecological justice movements.

Ecopedagogy opposes capitalism by linking people and diversities, both ecosystemic and social, against commodification. Coming back to Ivan Illich (1971), we need counterfoil research into possible uses of technology to create institutions that tend to mutual, creative, and autonomous action. As Misiąszek (2020: 260) points out, Ivan Illich is considered the grandfather of ecopedagogy, arguing that ‘without critically problematising technological advances we become playthings for planners, scientists, engineers and planners’. Therefore, continues Misiąszek, it is necessary to question how modernities are challenged through such technological ‘development’.

Ecopedagogy, in a widest sense, implies questioning (knowledge about) practices that lead to an eco-systemic deterioration and direct engagement against these practices. Ecopedagogical strategic action focuses on achieving a redistribution of the cognitive and social benefits of scientific and technological change along more equitable and sustainable lines by promoting a radically democratic understanding of our life-worlds (Kahn 2010). In Freire’s (1970) terms, authentic educational praxis involves maintaining an ecopedagogical attitude that involves perceiving the educational agent as an individual who participates ethically in his/her environment and acts in and for that environment. Following Jandrić and Ford (2020), ecopedagogies need to reject vertical and / or binary hierarchical politics. Instead, they need to embrace the contingency, uncertainty, and interdependent vulnerability of all agents that make up the context we inhabit. In this context, ecopedagogical work consists of different tasks.

This chapter analyses two fundamental axes of ecopedagogical action. The first axe revolves around the understanding that knowledge and knowledge generation are common goods that must be promoted, managed, and taken care of. This understanding is based on the conceptual framework proposed by Charlotte Hess and Elinor Ostrom (2007), who promote the concept of knowledge as a shared resource. In this view, science and culture are non-rivalrous social goods that can be used and shared by many people without depleting the resource. They form a complex ecosystem of common goods for which we all take responsibility by taking on the duty of discovery and keeping the pathways to discovery open. Obviously, such understanding of knowledge contradicts current hegemonic political thinking based on the capitalist logic of indefinite growth.

The second axe is the practice of creative interdependence. Translated into interactive praxis, creative interdependence develops a base for democratic action in the search for diversity and social improvement in our postdigital era. Introduced by Tim Berners Lee in the mid-1990s, the notion of intercreativity emerges as a conceptual space that reaches beyond interactivity: intercreativity is building together

and being creative together (Berners-Lee 1997). Intercreativity importantly implies a political dimension in the production of knowledge associated with the democratic ideal. In education, intercreativity is focused on the value of interdependence for the imagination of responses to contemporary challenges. Intercreativity is a democratic perspective that facilitates knowledge generation as an active and constantly changing praxis through engagement with real historical and material conditions (Darder 2020: 52).

Sustainable Production of Knowledge

Ecopedagogy provides a space for reflection about the nature of creative production, and knowledge as a common good, as sustainable practices. Neoliberal rationality that favours unregulated growth is an antinomian conceptual umbrella for sustainable politics. It challenges sustainable practices (technological, environmental, and economic), prioritising competition and growth criteria over cooperation, solidarity, and sustainability. In the context of twenty-first century cultural and creative expression, this type of socioeconomic thinking is strongly linked to the copyright paradox. Proponents of copyright legislation argue that creative work needs remuneration; if cultural products are freely shared and exploited, then creative workers will not get paid. However, information technologies allow almost unlimited multiplication of creative work at very little cost, leading to excessive illegal sharing popularly known as a *pirate* action (Escaño 2017).

In this paradoxical context, the concern for scarcity does not refer only to the depletion of minerals such as lithium and coltan, which causes serious political and other conflicts, or the exhaustion of the land, or any of many practices that lead to extinction of vital natural resources. Against Rosi Braidotti's (2013: 56) warning that neoliberalism should be concerned with these and many other topics, as 'the pride of technological success and the associated wealth should not prevent us from contemplating the vast contradictions and forms of social and moral injustice caused by advanced technologies', neoliberalism is concerned with the scarcity of cultural products.

Artificial scarcity in cultural expression is good for business because it increases competition and generates huge profits. Therefore, a legislative framework changing international property laws is promoted at the international (i.e., TRIPS and ACTA agreements)² and national levels, aiming to push cultural expression towards the logic of scarcity (Martínez-Cabezudo 2014). Cultural objects are first commercialized as final products (books, films, music, etc.) and then pushed into competition between each other. Being predominantly digital, however, cultural

²TRIPS: The Agreement on Trade-Related Aspects of Intellectual Property Rights. See https://www.wto.org/english/tratop_e/trips_e/trips_e.htm. ACTA: Anti-Counterfeiting Trade Agreement. See https://ec.europa.eu/trade/policy/accessing-markets/intellectual-property/index_en.htm. Accessed 12 November 2021.

products can be subjected to the logic of scarcity only partially and with great difficulty.

The copyright debate reflects a deeper epistemic principle. In their origin and nature, knowledge and creativity are non-exclusive, non-rivalrous, and indivisible. In this context, sustainability of knowledge consists of reverting the logic of artificial scarcity by expanding access to existing artefacts and production of new artefacts. Ecosystemic generation benefits from openness; more individuals committing to an adhesion process, imply a in usefulness of produced ideas and knowledge (Jollivet 2004). Consequently, ecosystemic generation of ideas and knowledge is incommensurable with commodification (Moulier-Boutang 2004).

Ecosystemic generation of ideas and knowledge requires a pedagogical commitment based on principles of openness and collaboration. Such cultural, social, and educational ecosystem implies preserving the commons. In this sense, free education together with free generation of knowledge is strongly related to individual and collective emancipation (Peters and Jandrić 2018b). However, neoliberal political patterns oppose development of such ecosystems and promote strategies of reification that transform public property into private property (Escaño 2021). Examples of this include eighteenth and nineteenth century land enclosures, and postdigital twenty-first century enclosure of information and knowledge (Boyle 2008; see also Bauwens and Jandrić 2021). Education needs to develop new perspectives that enhance creative work, rejecting those practices in which ‘the global capital of information exploits creativity, cognition and communication, and takes advantage of the intellectual heritage’ (Peters and Jandrić 2018b: 50–51).

This pushes the public-private axis towards a crisis of socio-economic production of knowledge and ideas, where the commons (re-)emerge as balanced spaces between the universal and the particular. According to Laval and Dardot (2019) the commons designate the political principle of co-obligation that reaches beyond human beings. This is a crucial aspect of our postdigital reality, in which life and technology are interconnected, and the digital and the analog are fused; a world where digital technology and media are not separate from or alien to social and natural human life (Jandrić et al. 2018: 895).

Creativity at Crossroads: *Homo Collaborans* and *Homo Economicus*

In her analysis of visual surplus (image, information, data, etc.), Remedios Zafra (2015) defines the culture-network through coexistence and construction of world and subjectivity through screens. In postdigitality, *bios* and *techné* are inseparable, and world and subjectivity are one. Moving towards bioinformational capitalism (Peters, Jandrić, and Hayes 2020), forms of cognitive capitalism coexist with more organic forms of vernacular social economy (Zafra 2015). According to Jandrić (2020), capitalism has exhausted the community action of knowledge, taking it

toward anarcho-capitalism. Any human creation, including life itself, can be transformed into an alienable act.

The documentary film *Surplus (Terrorized into Being Consumers)* (Gandini 2003) illustrates the productive and creative implications of political models of cultural production. The documentary focuses on consumption as a systemic social force. ‘More than ever to date, the economic machine cannot be in balance, let alone loose. It needs to aim at a beyond point, which Marx identified as surplus.’ (Laval and Dardot 2013: 361) *Surplus* (Gandini 2003) denounces that absolutely *everything* has been alienated. The term *everything* is not a literary licence, but a request of the regime of accumulation. So audiovisual critiques of alienation, such as *Surplus* (Gandini 2003), are just as susceptible to alienation as any other product.

In the nineteenth century mass communication became a key factor of social integration due to two main causes: technological development and hegemonic economic policies in western culture. Consequently, Armand Mattelard and Michele Mattelard (2005) propose that current communicational and intercreative processes can be understood using the two key concepts: the division of labour and the idea of the network.

Division of physical labour is based on the means of communication (waterways and land routes) as vehicles of social growth implicit in the *laissez faire* doctrine (Smith 2007). Charles Babbage, the father of computation, developed a model of division of mental labour, leading him to create the first electronic calculating machine in 1837.

In the late nineteenth century, Herbert Spencer (1898) and Auguste Comte (1975) contributed to an understanding of communication as an organic system of interdependent parts. Based on developments in biology, they promote an organic view of social development with communication systems as active agents. Saint-Simon similarly conceives society as an organic system: a lattice of networks, with little industrial structure, with strategic spaces for the systems of communication and credit (Mattelard and Mattelard 2005). These communicational foundations, and their intersubjective nature, are the key factors to understanding cultural and social action in our postdigital reality.

This calls for debate about the limitations and competencies between the public and private in the field of creative and cultural production which reflects two opposed yet dialectically interconnected understandings of human nature: *homo collaborans*, probably best exemplified in Kropotkin’s theory of mutual help, and *homo economicus*, closely associated with Darwin’s theory of evolution (Peters and Jandrić 2019). Based on Benjamin Peters (2016), Michael A. Peters and Petar Jandrić (2019) show that *homo economicus* and *homo collaborans* are reflected in ideologically mixed organisational models: capitalist behaviour of socialists and socialist behaviour of capitalists. In this hybrid context, *homo economicus* and *homo collaborans* drive creative-cognitive dynamics through constant dynamic interaction.

Postdigital Ecopedagogy

In a critical posthumanist perspective, education is understood as a process between humans and non-humans, between the material world and the discursive world (Bayne 2015; Jandrić and Lacković 2018). Education is not aimed at production of subjectivities, but at a gathering between human and non-human agents. This gathering is the essence of postdigital approaches to education (Jandrić 2017). According to Fawns (2019), digital and analog education cannot be distinguished; digital component is immanent to the social, economic, and political world, and cannot be determined by the presence of tangible devices or gadgets.

Knox (2019) highlights strong traditional links between education and the humanist project that results in a separation between humanity and technology. The humanist project legitimates two claims. First, that the digital world is fundamentally transformational, and second, that the digital world instantly generates improvement or disruption (Gourlay and Oliver 2018). In opposition to the humanist project, posthumanist and postdigital perspectives enable a thorough and non-dualist understanding of education. Education and technology are co-constituent entities, so we must become active and critical agents with respect to new forms of education generated by the incorporation of technology (Bayne 2015; Feenberg 2019). According to Edwards (2016), the main difference between the humanist and the posthumanist project is the decentring of the human individual.

From a postdigital perspective, Knox (2019) proposes a series of relevant considerations. First, digital world is subject to the logic of capital. There is an increasing interest in the extraction, analysis, and sale of personal data collected in various online (educational) platforms. Consequently, cybernetic capitalism permeates educational tools and practices (Knox 2016; Jandrić 2017). Second, Knox (2019) argues that digital technology has been positioned at the centre of institutions, as well as their strategies and capacities; this trend is now strongly exacerbated by the Covid-19 pandemic (Jandrić et al. 2021). Third, Knox (2019) suggests that the popularised view of digital technologies as intangible and invisible evolves through the postdigital critique toward the understanding of technology as the result of human labour, which develops as a material product that occupies space and time.

Gourlay and Oliver (2018) argue that digital education discourse is mainly focused on the experience and commitment of students and aims to maximise interaction between humans. They propose an alternative based on the sociomaterial practices, which recognises the mediating role of technology—material space and time—beyond a simple intermediary action. This perspective, based on Bruno Latour's (2005) actor-network theory (ANT), rejects dichotomies and dualisms. In this view, humans, non-humans, and discourses must be treated in a regime of symmetry.

This causes a decentralisation of human beings through a recognition of relationships between the student and technology as complex, constantly renegotiated processes (Gourlay and Oliver 2018). Consequently, postdigital knowledge ecosystems result from a dynamic between humans and machines (Peters and Jandrić 2018a) or

Tim Berners-Lee's (1999) social machines. Such systems require educational approaches that holistically tend to the tensions and balances. This is the context of the ethical, political, and pedagogical project of postdigital ecopedagogy.

Postdigital ecopedagogy tradition adopts the Freirian objectives of emancipation and humanisation of the lived experience, with an ecological attitude that opposes neoliberal rationality. Postdigital ecopedagogy allows for a critical gathering between education and technologies and demonstrates the commitment to problems of sustainability oriented to social change (McLaren and Jandrić 2014). Postdigital ecopedagogy addresses the dichotomy between economy and ecology, and places educational practice at the centre of bioeconomy (Peters, Jandrić, and Hayes 2020).

Ecopedagogy promotes collective eco-literacy and a network of knowledge cultures based on concepts like sustainability and biophilia (Kahn 2010). In a hyper-connected postdigital reality, collectivity is more important than ever (Jandrić et al. 2019). In this context, the concept of the commons acquires plural dimensions and new meanings. New relationships between the environment, body, and digitality (Lafuente 2007) imply a reconceptualization of connections between the self and all others of the Earth (Braidotti 2013). They demand the revision of the concept of literacy, tending to connections between biology, technology, economy, and politics (Peters, Jandrić, and Hayes 2021). Humans are collective beings, knowledge is plural, and creativity is intercreativity.

Intercreativity as a Pedagogical Process

Berners-Lee (1999) defines intercreativity as a process of creating and solving problems together on the web; it is a collective knowledge experience in permanent social and cultural construction and deconstruction. Intercreativity is a collective and creative process, where interaction among peers in relation to context implies a reciprocal learning process. Such interaction takes place in relation to non-human actors, such as algorithms, and leads to a sociomaterialist and posthumanist understanding of intercreativity. Technological dimension remodels the individual and their pedagogical relationships, diluting them as the centre of the teaching-learning process and hybridising them with the context in which *the other* human and non-human participate (Gourlay and Oliver 2018; Knox 2016).

This conceptual framework poses a great educational challenge: the aim is to allow individuals, as subjects and as a group, to freely transform their reality through exercises of reflection and criticism beyond human-human interaction (Wenger 1998). Intercreativity requires a process in which the individual creates themselves and their context from the *other*: human or non-human, digital or non-digital. This process enhances the nature of ideas: their belonging to the commons, and their reproduction. This highlights the need for an educational commitment to teaching and learning that promotes maximum freedom in production and sharing of knowledge.

Intercreativity is always an exercise in interdependence. Therefore, the intercreative act implies recognising ourselves as interconnected agents who need the collective to develop as individuals and as a society. This idea is essential to ecopedagogy, as it implies the need for solidarity of intercreative agents in a common time and space, including, importantly, their relation to nature (Lafuente 2007; Braidotti 2013).

Ecopedagogical Praxis for the Commons

Seeking models of intercreative ecopedagogical praxis, we now present two case studies: the Social Massive Open Online Course (sMOOC), ‘Free culture from education. Pedagogical strategies, remixes and resources that favour the development of free culture’, and the online collective audiovisual reflection project, ‘Cuadráginta’.

Free Culture from Education

‘Free culture from education. Pedagogical strategies, remixes and resources that favour the development of free culture’ is a Social Massive Open Online Course (sMOOC) developed between 18 November and 20 December 2019. The ‘social’ aspect in the sMOOC refers both to ‘social’ and ‘seamless’ (Camarero-Cano and Cantillo-Valero 2016) and highlights the enhancement of interactivity in learning, social participation, and accessibility from different platforms and media for better integration into real-life experiences.

‘Free culture from education’ promotes intercreativity and interaction. It emerges from the European project ‘ECO: Elearning, Communication and Open-data: Massive Mobile, Ubiquitous and Open Learning’³. ‘Free culture from education’ uses the openMOOC29 platform developed by Eco Digital Learning, a company that resulted from the ECO project, which allows a flexible structure and enables accessibility from multiple devices.

As can be seen from one of the course advertisements (Figure 1), ‘Free culture from education’ is focused on understanding of education as a political practice. Therefore, its educational exercise begins from the communicational model that is implemented in a pedagogical context. The banking perspective of education (Freire

³ECO is a European project based on Open Educational Resources (OER) that offers free access to wide range of MOOC (Massive Open Online Courses) in different European languages. The main goal of the project is to broaden access to education and to improve the quality and cost-effectiveness of teaching and learning in Europe. More about the project: <https://hub11.eco-learning.eu/>. More about the the openMOOC29 platform: <https://hub11.eco-learning.eu/course/cultura-libre-desde-la-educacion/>. Accessed 10 December 2021.



Figure 1: ‘Free culture from education’ advertisement (Carlos Escaño 2019) (CC BY NC SA 4.0)

1970) establishes a power relationship between the educators conceived as ‘knowers of the truth’ and the learners conceived as ‘ignorant of knowledge’. According to Freire, a liberating education must overcome this polarity and shape a symbiosis between educators and learners. Kaplún (1998) suggests an endogenous model of communication which provides a pedagogy that focuses on the process, the learners, and their reciprocal relationships.

‘Free culture from education’ involved 350 participants who used their own social networks to expand and transfer their educational practices. Activities took place in and beyond the openMOOC29 platform, provoking interaction with social

network users who did not participate in ‘Free culture from education’. Learning modules were focused on a reflection on the collective creation of knowledge, the importance of free culture, and its implementation in educational contexts. ‘Free culture from education’ was built around interaction, debate, and reflection, and did not involve pre-established questions.

Activity monitoring tools built into the openMOOC29 platform and social networks, combined with participant observation techniques, indicate positive results. Open forums in the openMOOC29 platform reached much more interactions in comparison to pre-directed forums. The teaching team’s interventions, proposing new questions or establishing other points of view, were found helpful (see Mañero 2020 for a detailed overview of evaluation).

The course was carried out free of charge. The focus was on massive interaction and social participation (Osuna-Acedo et al. 2018), which is essential for development of intercreativity (Camarero-Cano 2015), and which was perceived as an opportunity to produce knowledge (Knox 2016). Based on sociomaterialist approach (Knox 2016; Gourlay and Oliver 2018), interaction involved participants, resources, teachers, and the community, in equal measure.

‘Free culture from education’ sets the foundation of an ecopedagogical project that decentralises the human being from the educational practice and renounces political and digital immunity, in order to enhance criticism, uncertainty and interdependence between human and non-human subjectivities. The course concludes with participants’ audio-visual remix stressing the importance of new utopias, and the potential of education as an agent of social change. Such decentralizations, and utopias, are an essential part of the postdigital ecopedagogy project (Jandrić and Ford 2020).

The main ecopedagogical value of ‘Free culture from education’ is in raising participants’ awareness that all cultural and educational discourse implies the construction of shared reality aimed at common good. It is only through learning and harmonisation with others, and the environment, that individuals can complete ourselves. On the one hand, ‘Free culture from education’ resulted in a visualisation of Laval and Dardot’s (2019) idea of individual responsibility for the creation of common good. On the other hand, the course highlighted the decentralisation of the human individual (Edwards 2016) and the necessity of interdependence between social context, technology, and education (Fawns 2019).

Quadráginta: Collective Audio-Visual Reflection in the Time of Covid-19

‘Quadráginta’ is an audio-visual project of with pedagogical implications that seeks a collective reflection on the Covid-19 era. In Latin, the word ‘Quadráginta’ means ‘four times ten’ and is the etymological root of the word quarantine. Quarantine is temporary preventive measure of social isolation that prevents the spread of disease.

‘Quadraginta’ alludes to Covid-19 measures and lockdowns that have silenced the streets and squares since early 2020 and provides space for reflection about connections between the individuals, the society and nature.

‘Quadraginta’ involved a group of 10 professionals and aficionados of audio-visuals from Germany, Brazil, Chile, Colombia, Spain, India, Mexico, the Netherlands, Peru and the Dominican Republic. The project began in April 2020, roughly corresponding to first Covid-induced border closures and lockdowns. The project began by collecting audio-visual answers to the following questions:

- What is our experience of the Covid-19 pandemic in our different contexts?
- What are we learning as a society?
- What unites all human beings in these circumstances?

At first, all participants freely responded to these questions, shooting audio-visual responses from their localities. Then, each member of the group provided a set of 20 shots to the rest of the participants (see Figure 2). Finally, each participant used the 200 shared shots for production of their film. To ensure that the intercreative intervention includes all discourses, the films used material from all participants. This resulted in a series of short films that represented audio-visual reflections at the intersubjective intersection between the general and the particular.

This methodology reflects the view to knowledge development as a shared process that requires reflection, dialogue, and discussion. It is clearly connected to Freire’s (1970) idea that critical education is not an act of creating knowledge deposits (banking education), but a praxis that implies collective action and reflection aimed at social transformation. ‘Quadraginta’ also implies that cultural production cannot be set within the parameters of exclusivity, rivalry, and divisibility (Moulier-Boutang 2004), and that sustainable knowledge development requires free and open access to cultural artefacts.

The mediating role of technology in the construction of discourse reaches beyond technological affordances. Cultural artefacts developed in ‘Quadraginta’ follow sociomaterial patterns of learning and knowledge generation (Gourlay and Oliver 2018), functioning as spaces for collective reflection. ‘Quadraginta’ is a practice of

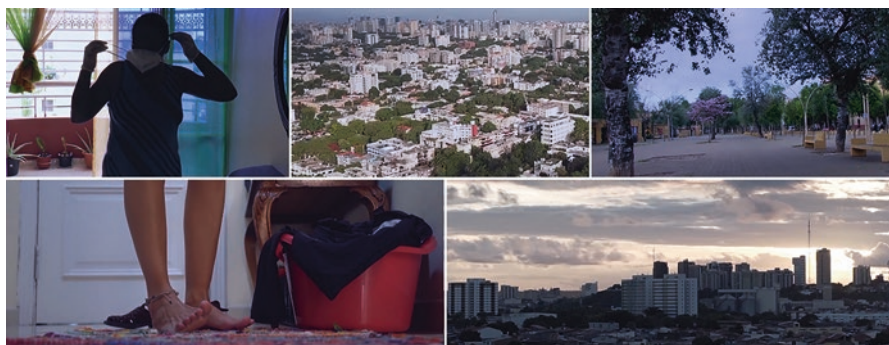


Figure 2: Stills from the Quadraginta project (CC BY NC SA 4.0)

intercreative action where the common bursts into the network of subjectivities and where the elaboration of personal discourse is based on interaction with the human and non-human other, demonstrating, both in form and content, that intercreative cooperation is the foundation of evolution as a society.

Conclusion

Within the Freirean conceptual framework, authentic educational praxis is ‘the reflection and action of humans on the world to transform it’ (Freire 1970: 32). Ecopedagogies must pursue the development of authentic educational praxis in order to achieve world transformation, which will inevitably involve a shift in the conception of ourselves and the society. Today’s ecopedagogies need to relocate Freire’s ideas into postdigital coordinates and seek new educational utopias that enable ‘educational forms that emerge from, negotiate, debate, produce, resist, and/or overcome the shifting and expansive postdigital ecosystems from and to which we write and think’ (Jandrić and Ford 2020).

‘Free culture from education. Pedagogical strategies, remixes and resources that favour the development of free culture’ and ‘Quadráginta’ reveal a postdigital perspective that attends to the reality transversally crossed by technological influences on our bodies and creativity. These projects put into practice the theory of creative interdependence and intercreative generation of common knowledge. Postdigital ecopedagogies operate within a posthumanist perspective, where learning and knowledge development are points of meeting and experimentation between human and non-human actors (Edwards 2016). ‘Free culture from education. Pedagogical strategies, remixes and resources that favour the development of free culture’ and ‘Quadráginta’ translate this principle into the practice of intercreativity which assumes a process between the material and discursive world, context, media, and humans intertwined (Bayne 2015; Jandrić 2017).

Presented case studies seek new ways of learning and cultural production in a postdigital context. Above all, they put into the fore an important critical dimension: the construction of cultural, social, and political discourse in society. To collectively produce knowledge and understand that creative production is to assume that our creativity depends on the creativity of others; that the construction of the subject is also a construction based on dialogue with the collective (Freire 1970). In short, to collectively produce knowledge and understand that creative production is to assume that there is an interdependence between participants, technologies, and contexts. Intercreativity reveals possible forms of network construction centred on interaction, which is observed in its rhizomatic and centrifugal development, moving away from patterns of exclusion and hierarchical growth.

‘Free culture from education. Pedagogical strategies, remixes and resources that favour the development of free culture’ and ‘Quadráginta’ are critical exercises of social transformation from and through technology. It is illustrative that the technological critique itself arises from the technological context. In both scenarios,

technology acts as a space for critique and self-criticism, a meeting ground between *bios* and *techné*, where the rules are imposed by algorithmic patterns subordinate to policies of performance and economic exploitation. At the same time, a multitude of social agents (users and inhabitants of the network culture) operate with pretensions of collaboration and mutual support in disagreement with the proposed performance patterns and aspirations of subversion.

This creates a terrain of experimentation, where the paradigms of *homo collaborans* and *homo economicus* enter dialogue, exploring their limits and connections. In this context, Freire's (1997) pedagogical insights guide us towards an authentic educational praxis which confronts the instrumentalization of knowledge, rejects 'banking education' as an antithesis of emancipation, and attacks the contradictions and risks generated by the political logics that reify the production of the collective. The two case studies seek to provide guidelines for this praxis, and this implies taking on board the critical, social, and political dimension of education.

'Free culture from education. Pedagogical strategies, remixes and resources that favour the development of free culture' and 'Quadráginta' emphasise a perception of knowledge as a shared resource; a social good that can and should be used and shared by many people without fear of extinction (Hess and Ostrom 2007). They promote an ecosystem in which ideas are visualised as common goods that everyone is responsible for developing. Both practices, and their intercreative dynamics, clearly indicate that all cultural production, and all knowledge production, arrive at being through a horizontal interdependence of all human and the non-human actors.

In both case studies participants experienced ways in which sharing and merging resources, situated outside of neoliberal educational logic, enrich collaboration and knowledge development. This exposes an important paradox: neoliberalism demands creative and collaborative individuals, yet it encourages individual competition which is directly opposed to creativity and collaboration. This ongoing tension between *homo collaborans* and *homo economicus* needs to be addressed through ecopedagogical practices. Intercreative strategies are important for addressing these tensions, because true ecopedagogical practice is always located within (creative, social, and other forms of) interdependence. Even more importantly, intercreativity is a crucial aspect of ecopedagogy, because it breaks the chains of individualistic neoliberal logic which reproduces the current social order and offers a way to imagine, and act towards, a better future.

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Ripple Effects: New Frameworks for Learning in Postcommodity's Sound Art



Noni Brynjolson

Introduction

My first encounter with work by the art collective Postcommodity (2021a) involved walking underneath a two-story high balloon installed in the corporate headquarters of Manitoba Hydro¹. *Repellent Eye* (Postcommodity 2021b), black with concentric circles of red, yellow and white, was modeled after products designed to scare birds away, which share a color scheme with indigenous medicine wheels. The installation was part of *Close Encounters: The Next 500 Years*², a massive exhibition of contemporary indigenous art that took place in 2011 across multiple sites in Winnipeg, a city that has been noted for both its large urban indigenous population and also for being named the 'most racist city in Canada' (McDonald 2015). It is a city that has long dealt with the impact of colonialism and genocide, in a country that has recently attempted to deal with the material evidence of the deaths of thousands of children in residential schools (Austen and Bilefsky 2021).

It was difficult to see *Repellent Eye* apart from its site: inside a building that symbolizes some of the damage done to indigenous people in Manitoba. Despite its associations with clean, renewable energy, Manitoba Hydro's projects have had major impacts on indigenous lands in the province, including flooding and the loss of access to hunting grounds. None of this was mentioned in a set of corporate displays close to *Repellent Eye*, celebrating the crown corporation's history, the

¹ Manitoba Hydro is the electric power and natural gas power utility company in Manitoba, Canada.

² See <https://plugin.org/exhibitions/close-encounters-the-next-500-years/>. Accessed 8 October 2021.

N. Brynjolson (✉)

Department of Art & Design, University of Indianapolis, Indianapolis, IN, USA

e-mail: brynjolsonn@uindy.edu

wonders of electricity, and the benefits of modernization—in this case, by plugging isolated indigenous communities into the grid throughout northern Manitoba. I thought about how the power of Postcommodity's balloon was potentially compromised by its enclosure in this space, and its association with this particular site and history. How could a work like this engage in symbolically 'repelling Western civilization', as members of the collective wrote at the time—even in a tongue-in-cheek manner?

Postcommodity has consisted of a number of different members since its inception in the mid-2000s. As of 2021 the group included two artists: Cristóbal Martínez (Mestizo and Chicano) and Kade L. Twist (Cherokee). They have described their work as a 'shared Indigenous lens and voice' (Postcommodity 2021a), signaling the dual importance of the visual and the sonic in their artistic practice. In the past they have been based in the southwestern United States, although both members currently reside in California. Since the group began to exhibit their work, they have gained a huge amount of recognition and acclaim, and have participated in biennials and major exhibitions around the world.

Since then, Postcommodity has continued to make work that critically analyzes western culture, capitalism and colonialism, by deliberately seeking out spaces where they can work from the inside. Their approach to making public art often involves seeking to intervene and infiltrate the spaces they occupy. However, at the same time, the group has spoken about their desire to 'mediate complexity' and avoid creating over-simplified models of the world (Puleo 2017a). I analyze this approach here, particularly through the group's work with sound. Compared with visual art, sound art has a greater potential to escape enclosure, detach from its origins, and end up in unexpected places. Like ripples in a pond, or waves in the ocean, sound waves are capable of traveling great distances. Sound spills over borders and leaks across boundaries and containers. Sound art by Postcommodity functions through this ripple effect, and this is both powerful and limiting: powerful, because it has the potential to spread far and wide; limiting because like ripples in a pond, its symbolic power dissipates as it moves outwards from its point of origin.

In previous incarnations of *Repellent Eye*, Postcommodity floated the balloon over top of cities, including Phoenix, Arizona, in 2008. Flying high above the city, the balloon played with issues of surveillance and mapping, symbolically imposing an indigenous presence on the city from above. But installed in the Hydro building lobby, it seemed too easily contained by the site. Acknowledging this, the group commented on the ineffectuality of scare eye balloons themselves, which only frighten birds away for short periods of time (Postcommodity 2021b). What the work symbolized more than the power of repulsion, then, was the difficulty of creating gestures that function from within the seat of power, but still manage to escape their containers. In this manner, *Repellent Eye* is a good place to begin, as a gesture involving the occupation of space, and association with a broader signifying context. In more recent sound art by Postcommodity, members of the collective have made similar moves to occupy spaces of power, and through sound, they have

transformed these spaces in a manner that goes beyond acknowledging ineffectuality. In this work, sound exceeds limits and reverberates off of walls, demonstrating the clearest link to the kind of infiltration the group is interested in.

Postcommodity's work can be analyzed as a form postdigital aesthetics—a concept that highlights the collective's use of networked media, technology and algorithms, and acknowledges the embedded nature of digital technology in contemporary culture. The term postdigital does not distinguish between old and new forms of media, but instead, involves experiments with both analog and digital technologies (Jandrić et al. 2018). Florian Cramer (2015: 13) has defined the postdigital era as 'the state of affairs after the initial upheaval caused by the computerisation and global digital networking of communication, technical infrastructures, markets and geopolitics'. Postcommodity's work appropriates technologies used by corporate and state authorities and puts them to different ends—thereby also opening up productive links between the postdigital, the postcolonial, and anti-capitalist pedagogies.

Postcommodity (2021a) has frequently described their work in the context of pedagogy: in relation to individual projects that offer new aesthetic frameworks; the 'learning communities' that develop around certain artworks; and in terms of collaboration—as a group, with members outside of their group, and with institutions. I analyze these claims further here, looking at the pedagogical potential of their sound art practices, and how they invite new ways of thinking focused on decolonization, particularly through their use of sound, and its symbolic escape from enclosure.

The group's work can also be connected more specifically to forms of ecopedagogy: a form of 'transformative teaching in which educators dialectically problem-pose the politics of socio-environmental connections through local, global, and planetary lenses' (Misiaszek 2020: 748). Ecopedagogy is linked to the theories of Paulo Freire and seeks to inspire people to confront the extractive nature of capitalism and colonialism, address the impact of climate change, and create sustainable and resilient communities.

Postcommodity's work may be seen as a form of ecopedagogy in several ways. First, many of their works involving sound have centered around human relationships to the environment, and act as forms of pedagogy for the viewer or listener, through aesthetic experiences that nurture bonds between individuals, communities and the environment. Second, through its emphasis on dialogical and participatory methodologies, which bear resemblance to forms of popular education written about by Freire and other theorists of ecopedagogy. And finally, in its critical engagement with structures power, both cultural and political, which has seen the collective operate from the inside, instead of from a safe (and potentially more ideologically pure) vantage point.

The notion that certain images and sounds have the capability of inserting an indigenous world view into the western public sphere resonates with work by the collective, suggesting a path that embraces the symbolic potential of art, and metaphor more broadly. According to this view, prefigurative actions that build new frameworks can serve as important points of initiation for larger processes associated with decolonization. The group's practice suggests possibilities not only for

transforming the way we think about the western category of art, but also the way we orient ourselves to the world and make use of its resources.

Occupying spaces of power requires getting in the door first, however, and by collaborating with western institutions, including corporations, museums and major biennials, there is the risk of containment and complicity, as with *Repellent Eye*. Yet this approach also opens up possibilities for dialogue, and for transformation to occur within institutions, which wouldn't happen if the group chose to operate in a more autonomous manner. This is especially the case with the group's work with sound, which goes beyond singular interventions and often involves multiple voices and collaborators.

Restless Spirits

The power of metaphor was visible in a sound-based project by Postcommodity that was part of the large-scale art exhibition documenta 14 in 2017. Typically taking place every five years in Kassel, Germany, where it has been located since its inception in 1955, the 2017 iteration of the exhibition took place in both Kassel and Athens, Greece, and was given the title *Learning from Athens*. According to the curatorial statement, its aim was to 'develop relationships with learning institutions, artist-run spaces, and neighborhoods to investigate the correlation between art, education, and the aesthetics of human togetherness' (documenta 14 2017). Many of the artworks, events and programs focused on the multiple issues facing Europe at the time, including austerity, increased numbers of migrants and refugees, and rising fascist movements. Holding part of documenta 14 in Athens was a way to foreground these political crises, since Athens was at the center of both austerity measures and a destination for migrants escaping from the Syrian civil war. It was also a way to reflect on the city as a historic symbol of democracy, and as one of the supposed birthplaces of western culture. documenta's move to Athens was intended to spotlight these issues, but it was not without controversy. Some critics spoke out about the temporary influx of money, resources and attention into the city, with no lasting engagement with its people or communities (Puleo 2017b).

For Postcommodity's project, they once again sought out the heart of a symbolic site, choosing the Lyceum in Athens, known as the home of Aristotle's Peripatetic school in 334 BCE (named for its walkways, known as *peripatoi*). The Peripatetic school came to be associated with Aristotle's habit of walking while giving his lectures—often cited as an early example of embodied teaching and learning. At the Lyceum, Postcommodity created a piece titled *The Ears Between Worlds Are Always Speaking* using Long Range Acoustic Device (LRAD) speakers, also known as sound cannons. LRADs were originally designed with the military and police in mind, and have been used against protestors since they are capable of conveying extremely loud sounds across long distances. Originally developed in the early 2000s to deter pirates at sea, they have since been used by numerous military and police operations, including against water protectors at Standing Rock, who were

subjected to short bursts of sound up to 150 decibels (sounds above 120 decibels can cause immediate pain and permanent injury) (Bryner 2009).

At the Lyceum in Athens, the sonic weapons were repurposed as instruments of healing by Postcommodity, at a much lower decibel level. Stories and songs featuring many different voices, accompanied by Greek, Syrian, Mexican, and indigenous musicians, were broadcast across the site. To create the piece, Cristobal Martinez had invited participants to tell personal stories involving travel and migration over long distances. The resulting work involved four acts, and took place over seven hours, with the aim of connecting 'contemporary and ancient oral tradition as well as a sense of embodied learning' (documenta 14 2017). It consisted of anecdotes in multiple languages, including the following description of a difficult journey:

The journey was so sad, and everything was so tiring. We worked so hard, walking so much. It was very hard work to advance so much, days—we walked for like fourteen days. We crossed terrible mountains where we would slip and fall to the ground for a while, bruised by the sharp rocks and punctured by cactus spines. (Postcommodity 2017)³

The stories and songs centered around the experiences of migrants, and the purpose was to share their actual voices with listeners. These sounds were capable of producing an aesthetic response from the audience that was quite different from reading words on a page, and involved a more personal and profound connection to the speaker or singer. In this way, the work may be seen as an example of Postcommodity's interest in pedagogy and constructing 'new frameworks for learning' (Gray 2017). The audience at the Lyceum were invited to learn about these experiences while walking through the site. Martinez has discussed the process of making the work, and how Postcommodity's request to use the site was initially met with resistance from its committee of overseers, who were 'apprehensive about people misusing or disrespecting their historical sites' (Gray 2017). However, he stated that through discussion, he was able to show them 'how utilizing the Lyceum would pay tribute to the history of peripatetic learning, in addition to the knowledge gained from those who have made these long walks throughout history' (Gray 2017).

This project connects with key ideas associated with the postdigital, in the sense that it is technology-oriented at the same time that it critiques militaristic uses of technology by the state. In this sense, it also serves as a critique of some of the traditionalist and essentializing assumptions surrounding indigenous artistic practices. Writing about *Ears Between Worlds* in the context of documenta 14, T. J. Demos (2017) argues that 'Postcommodity's Indigenous aesthetics assumed a post-traditional modality', which he views as implicated in the context of 'current geontological resource wars ... in the present context of petrocapiatist ecocide'. The site of the Lyceum was deliberately chosen by Postcommodity because of its symbolic significance within western culture, and because of their desire to work from within such spaces. However, the group's occupation of this space demonstrates their nuanced approach to critically analyzing legacies associated with western culture, as well as their interest in mediating complexity. In this case, their project involved

³Translation from Spanish by Postcommodity (2017).

repurposing and redirecting the technology of the LRAD, and reclaiming Aristotle's emphasis on embodied experience.

As a site-specific sound piece, the work may be looked at in relation to Walter D. Mignolo's notion of decolonial aesthetics, a term that he uses to refer to critical interventions within the cultural sphere that challenge the hegemony of modernity and colonialism. As Mignolo and Rolando Vazquez (2013) argue, 'the modern/colonial project has implied not only control of the economy, the political, and knowledge, but also control over the senses and perception'. The emphasis on sensation in Postcommodity's work acknowledges this, and seeks to reroute embodied experience to alternate ends, whether this is through the ears between worlds referenced at the Lyceum, or the eye-shaped balloons used in *Repellent Eye*.

Ears Between Worlds foregrounded several approaches frequently taken by Postcommodity: first, an emphasis on operating from within the symbolic heart of western culture. In this case, the piece worked in a similar interventionist manner to *Repellent Eye* in the Hydro Building. However, *Ears Between Worlds* went further, with the metaphoric power of voices filling the space of the Lyceum, and the repurposing of LRADs broadcasting sounds that were both healing and educational. Louise Erdrich (2017) described the Lyceum installation as provoking the uncanny feeling that 'restless contemporary spirits are interrogating the dead'. While loud sounds played through LRADs can rupture one's ear drums, quieter sounds have the potential to create the feeling of spirits standing right beside you, sharing their stories of migration and encouraging sympathy for the experiences of others.

Ears Between Worlds can be looked at as a form of site-specific art created through collaboration and dialogue. Within this type of practice, artists often work with other individuals and groups to make work focusing on specific social issues. Pablo Helguera (2011: 81) writes about this type of work as 'an emerging form of art-making in which art does not point at itself but instead focuses on the social process of exchange' going on to describe it as a 'reenvisioning of education that can only happen in art, as it depends on art's unique patterns of performativity, experience, and exploration of ambiguity'.

Many of the artists who make this kind of work draw inspiration from Paulo Freire's *Pedagogy of the Oppressed* (Freire 2005) and Augusto Boal's translation of these ideas into his *Theatre of the Oppressed* (Boal 1985). For Freire and Boal, the concept of the prefigurative gesture was important: small-scale symbolic actions involving dialogue and action that could be built upon or expanded by colonized peoples seeking to build broader movements. According to this model, symbolic gestures possess political potential, and metaphors may serve as a source of inspiration for action. As a form of site-specific art, then, *Ears Between Worlds* demonstrates a similar belief in the importance of supporting shared aesthetic experiences, in the form of stories told about losing one's home, going on long journeys, and ending up in new places, often where one is not welcome. Stories and songs are frequently retained and retold, reverberating, echoing, transforming, and sometimes finding new amplifications.

The emphasis on sound in *Ears Between Worlds*, and other works by Postcommodity, may also be understood as an intentional strategy to question the

centrality of vision within western art. Sound crosses boundaries and connects listeners together, immersing them in a shared aesthetic experience. Salome Voeglin (2010: xii) writes that 'seeing is believing, whereas hearing is full of doubt', arguing that any philosophy of the perception of sound must have its core the notion of sharing time and space with the object under consideration. The immersive aesthetic qualities of sound help to explain the potential for Postcommodity's work to serve as new frameworks for learning. Considering this point in relation to Postcommodity's work, Candice Hopkins (2017) asks, 'can sound, then, alter the perspective of an audience so that these differences are amplified instead of silenced? Can what you hear change what you see?'

Healing the Tower

Other work by Postcommodity speaks to the potential limitations of working with metaphors and frameworks, as well as the disconnect that can exist between artistic intentions and the experiences of viewers and/or listeners. For their work *The Point of Final Collapse* in 2019, the group continued their work with LRADs, installing them on top of the San Francisco Art Institute and aiming them at the nearby Millennium Tower. Built during the 2008 recession, the condominiums in the tower were some of the most expensive in the world. Despite their great expense, the tower was constructed improperly, and began to lean to one side and sink into the ground (more than eighteen inches over a decade). It came to symbolize the excesses as well as the failures of capitalism in San Francisco, one of the most expensive American cities to live in and also one of the most economically divided.

Postcommodity used data showing the gradual movements of the Millennium Tower, and used this to generate ASMR sounds that were broadcast throughout the entire neighborhood over LRADs. The aim of the piece was to continue playing the sounds until the tower was fixed or torn down. The sounds directed at the tower included gentle humming, a soft voice whispering 'you're a good friend', and a cat purring—sounds that produce a calming or healing effect in some listeners, and a tingling sensation in others. As the building shifted, the sounds began to overlap and mix together, becoming more abstract, spilling out into the city and mixing with ambient street noise. As a work of postdigital aesthetics, *The Point of Final Collapse* highlights the blurred boundaries between the digital and the analog, and between computers, networked communication and the human body. The gradual shift of a building was monitored, measured in discrete units, and linked to recordings of human voices, drawing together human and machine, the intimate and the depersonalized.

The work is similar to other projects by Postcommodity involving the construction of metaphoric frameworks, since it involved focusing on a potent symbol and inserting their own worldview into its center—in this case, the excesses of capitalism represented by the Millennium Tower. The piece relates to *Repellent Eye* in some ways, although in this case, the intervention came from the outside and

surrounded its target, ricocheting and echoing into the streets, with sound waves bouncing off buildings and mixing with traffic noises, sometimes connecting with clarifying sight lines, but also landing inside random ear drums—perhaps provoking the same uncanny feeling of restless spirits described by Erdrich in Athens.

One potential problem with this method, though, is that unless passersby were standing within a fairly small radius, the sounds were indistinguishable from the noise of the city street, and its meaning was likely only intelligible with prior knowledge of it as an art project. Those who were unaware were unlikely to stop and listen, or connect random snippets of subtle sounds to the tower, or question their role in perpetuating systems of inequality. Critic Matt Sussman described the experience of encountering the piece as underwhelming:

The bells of nearby Saints Peter and Paul Church had just stopped tolling when a sound emerged above the surrounding buzz of traffic and street noise, clear yet still distant, like a far-off stadium concert. There were a few bursts of static, like from a walkie-talkie. A heavily accented female voice said a few phrases that I couldn't make out, followed by a quick fanfare of what could have passed for whale song. And then it was over. I thought that a nearby couple stopped to listen with me, but it turned out they were merely angling for a good selfie with the fog-enshrouded moon. (Sussman 2020)

This critique points to the mode of public interaction that Postcommodity are interested in through their work—which is typically a form of broadcast rather than a feedback-oriented form of participation. This approach contrasts with other forms of socially engaged art that involve more open-ended situations. However, Postcommodity's projects operate pedagogically in a different manner—often, by inviting active listening. Listeners who choose to take part and invest time and effort become part of a learning community around these works. The ideas and issues that are represented, in addition to this sense of investment, have the potential to build stronger connections among smaller groups of people.

Between Two Worlds

Although Postcommodity's work typically does not involve feedback from the general public, this also does not mean that it is not collaborative. Collaboration is a key part of the group's process, and this involves collaboration amongst themselves, with other artists, scientists, and musicians, and with institutions. Collaboration allows Postcommodity to gain access to, and possibly a certain amount of control over, worldviews that they are seeking to transform. And while this opens up the risk that their work might be contained, collaboration also allows boundaries to be crossed. While *Repellent Eye* was enclosed by the Manitoba Hydro building, becoming a metaphor for ineffectuality, another project, *Repellent Fence* (2015), saw the same balloons spaced out in a line across the US-Mexico border, symbolically connecting indigenous tribes in each country that are separated because of imposed boundaries.

This version of *Repellent Eye* operated in a similar manner to Postcommodity's sound art works, by cutting across boundaries, like the sound waves produced by an LRAD. This was also a project that involved significant amounts of collaboration, aided in part by Kade Twist's background in tribal policy. Matthew Irwin describes how the group 'spent two years in Douglas/Agua Prieta working with/in local governments and social networks, which helped them determine a location for the installation, organize the launch, and discuss the project with locals' (Irwin 2017).

Another project demonstrating the approach to collaboration taken by Postcommodity was *Let Us Pray for the Water Between Us*, at the Minneapolis Institute of Art (MIA) in 2020. Built on one of the sacred sites of the Lakota peoples, the museum could be seen as a larger symbol of the erasure of indigenous traditions by white settlers. As part of a 2020 exhibition titled *When Home Won't Let You Stay: Art and Migration*, the museum commissioned Postcommodity to create an installation reflecting the broader theme of 'stories of home and the difficult journey of migrants' explored within the exhibition (Minneapolis Institute of Art 2020).

As with the Lyceum work, the group created a sound piece focused on the theme of movement, again by experimenting with the ability of sound to travel, detach from its source, and reverberate. The exhibition could be viewed as one of many recent examples by western art institutions to deal with histories of colonialism, racism, and sexism—exhibitions like these have increased in number and in scale following movements such as Standing Rock/NoDAPL, Black Lives Matter (especially in Minneapolis after the murder of George Floyd), and #MeToo. Numerous museums have been publicly called out for making racist statements, for their lack of diversity, and for their ties to major corporations. In response, some have made attempts to highlight work by artists of color—sometimes with a genuine interest in diversity, and sometimes as a way of making small concessions in order to avoid more drastic structural changes.

For the exhibition at MIA, Postcommodity chose the rotunda space near the entrance, and convinced curators to displace a Greek statue of Doryphoros. In its place, the collective installed a 2200-pound black chemical storage tank used to mix pesticides. The tank was set up as a giant drum, and played sub-bass sounds that reverberated through the rotunda and filled the entire wing of the museum. The sound spilled out, detaching from its visual source, pulling people in, with the sub-bass producing a sensation similar to hearing your own heartbeat.

The piece exemplified Postcommodity's approach to collaboration as a co-determined process involving dialogue. They have spoken about how making work with an institution requires forms of diversity training, and they see this as one important way in which it functions pedagogically: 'we have to make sure institutions are prepared to steward our work' (Postcommodity 2021c). In this way, the group operates from the inside of an institution whose worldview they are seeking to critique. In Dylan Robinson's *Hungry Listening*, which focuses on indigenous sound studies, he argues that 'Indigenous logics, as structures rather than content, are generally not considered in the everyday operations of music performance, compositional practice, and listening' (Robinson 2020: 8). Postcommodity provides a

counterpoint to this model, by offering an example in which both the creation of sound and the experience of listening occurs through an indigenous logic.

They have stated that they view the best outcome for work like this as being able to negotiate with people who have opposing views, and they have described the process of trying to find common ground as life affirming for them—and as potentially offering this same feeling of affirmation for others who are willing to engage in similar processes of seeking common ground (Postcommodity 2021c).

The group has also discussed how they feel about gestures of cancelation. The installation at MIA was the visual opposite of the Doryphoros sculpture, with its smooth, white, polished marble surface, demonstrating the height of artistic achievement in ancient Greece through a sense of harmony and balance and the celebration of the ideal male physique. At MIA, its central location near the entrance symbolizes the continued importance of the classical tradition within western art, and its connections to teleological narratives in both art and politics. In contrast, Postcommodity's installation took the form of a large black mass—its visual qualities were denied, in favor of the aural. The shape of the tank appeared from a distance almost like a black square, a symbol that evoked redaction or stamping out, an updated version of Kazimir Malevich's 1915 *Black Square*. Despite this visual effect of negation, Postcommodity stated that they did not want to 'cancel' the statue or remove it permanently—which is in line with their interest in collaboration, their resistance to taking a more oppositional stance, and their insistence on working in a manner that mediates complexity.

New Frameworks

In the works described above, Postcommodity creates symbolic gestures through sound that involve de-centering western culture and symbolically escaping containing boundaries. According to this mode of practice, prefigurative gestures possess political potential, and metaphors can serve as a source of inspiration for action. Yet this is a notion that has been challenged by some, including by critics of socially engaged art who argue that artists who are interested in politics should focus their efforts on 'pure' activism instead of getting side-tracked by aesthetic gestures (Davis 2013). In a similar vein, scholars Eve Tuck and K. Wayne Yang have critiqued the emphasis on metaphor within contemporary political movements centering on decolonization. In their essay, 'Decolonization is Not a Metaphor', Tuck and Yang (2012: 20) contrast Paulo Freire's ideas with those of Frantz Fanon, writing that Freire 'situates the work of liberation in the minds of the oppressed' while Fanon positions 'the work of liberation in the particularities of colonization'.

Tuck and Yang argue that too much of an emphasis on developing critical consciousness 'can waylay decolonization' since the 'experience of teaching and learning to be critical of settler colonialism can be so powerful it can feel like it is indeed making change'. Their position is that 'until stolen land is relinquished, critical

consciousness does not translate into action that disrupts settler colonialism' (Tuck and Yang 2012: 19). Although their essay does not specifically discuss art, this understanding of decolonization leaves little room for actions that are symbolic or prefigurative, or not geared towards immediate material redistribution of land. The creation of metaphors then risks falling into what they refer to as 'settler moves to innocence', which they describe as 'diversions, distractions, which relieve the settler of feelings of guilt or responsibility, and conceal the need to give up land or power or privilege' (Tuck and Yang 2012: 21).

How might these critiques of metaphor apply to socially and politically engaged artworks, and more specifically, to Postcommodity's sound art projects? The group has explicitly discussed their interest in creating prefigurative models, or as they have described them, 'new frameworks for learning' (Gray 2017). Metaphor plays a central role in their work, and helps to situate their work in the context of postdigital ecopedagogy, which as Petar Jandrić and Derek R. Ford (2020) write, 'can help attune education, politics, and research to the vast and complex ecologies that act on, inform, and transform our senses and perceptions'. Yet rather than enabling settler innocence, their work has the effect of making white settler worldviews more visible and audible. It mediates complexity, showing the entanglement between western and non-western worldviews, and between ways of thinking assumed to be oppositional. Prefigurative models and metaphoric gestures become launchpads rather than endpoints. Other scholars have described the importance of prefigurative gestures within movements geared towards decolonization, including Glen Coulthard, who writes:

If we are committed to reclaiming the commons we are going to have to work critically to re-establish non-capitalist and decolonial social relations and legal traditions that have survived through generations of Indigenous communities. It's not just about land; it's about the legal and customary relationships that emerge from our connection to the land that are integral to imagining new formations beyond private property. (Coulthard in Gardner and Clancy 2017)

For Coulthard (2014: 159), 'indigenous resurgence is prefigurative—the methods of decolonization prefigure its aims'. Small-scale actions and frameworks can be built on, experimented with, and expanded. One example: in 1964, a group of five Sicangu Lakota people occupied Alcatraz Island for several hours. This was before the nearly two-year occupation by hundreds of people in 1969. The earlier occupation was inspired by Bay Area Street theater traditions, and this prefigurative gesture carried over into the 1969 occupation, which was also initially intended as a form of street theatre or agitprop (Strange and Loo 2001: 60). As scholar Troy Johnson (2019) has shown, the earlier occupation was significant as a form of prefiguration for this longer event, as well as for concrete demands worked out at that time, including 'for the use of the island for a cultural center and an Indian university [that] would resurface almost word for word in the larger, much longer occupation of 1969'.

Postcommodity's work prefigures the kind of social relations they want to exist in a future decolonized society—bringing an indigenous logic into their creation of sound and spaces for dialogue and collaboration. It resists simpler gestures

involving oppositionality or role-reversal, existing instead in a zone of complexity—in between worlds that are intimately entangled. This relates to Robinson’s concept of ‘Indigenous+art music’, which points to ‘encounters between Indigenous music and Western art music ... foregrounds a resistance to integration, and signals the affectively awkward, incompatible, or irreconcilable nature of such meetings’ (Robinson 2020: 9).

The group has stated that ‘reciprocity, relationships, responsibility and redistribution structure our collective. We bring this ethos to how we structure our relationships, with each other and with institutions and with audiences.’ (Postcommodity 2021c) This has been influenced in part by some members of the group having taken part in political demonstrations—for example, former member Raven Chacon discussed his experience visiting the Oceti Sakowin Standing Rock camp in 2016:

The camps became the imagined microcosm of a North America where we were still the majority, self-sustained and self-governed, no other direct action than simply being alive and retaining our ways. What became apparent—even in the short time I was there and under the shadow of militaristic surveillance—was a shared experience: remembering one’s identity, while at the same time re-imagining who we aimed to be. What was achieved there was not a funneling of a pan-Indian sameness, but rather a radial explosion of every potential dreamt history. (Chacon 2020)

Postcommodity’s work resists simpler gestures involving oppositionality or role-reversal, existing instead in a zone of complexity—in between worlds that are intimately entangled. By emphasizing the notion of ‘new frameworks for learning’ the collective suggest that powerful ideas related to indigenous futures can take hold through the aesthetic power of sound and its ability to connect people together. In the group’s sound art works, we see the greatest possibilities for the construction of pedagogical frameworks built on the concept of infiltration, as well as the origination of a powerful aesthetic, capable of summoning restless spirits—spirits whose voices might have the potential to meld with one’s own internal monologue. Frameworks like these may be taken up by active listeners seeking to unsettle western assumptions in the art world, and beyond, and who understand metaphor and action, aesthetics and politics, to be interconnected. Powerful metaphors bind people together and small-scale actions can prefigure larger transformations. Ripples move outwards and sound waves travel great distances, sometimes reaching unexpected places.

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Malfunctioning Right in Our Backyards OR The Strangeness of Ecological Awareness



Jesse Bazzul and Valerie Triggs

Introduction

This chapter, first and foremost, is about ecological awareness. What we (Jesse and Valerie) are after is a pedagogical sensibility—one that remains open to the uncanny strangeness inherent in ‘being ecological’, and what this kind of ecological thinking might mean for educational practice. This sensibility requires an examination of the aesthetic dimension, and, more specifically, how things continually mediate and malfunction (including ourselves). How getting to know a thing, and how something gets to know you, is strange business. Educators often take for granted how things (say insects) get to know other things (say plants) through strange and pleasurable modes of mediation.

But here’s the catch: things always hold back. No mode of mediation, no way of knowing something, ever exhausts a thing. The way things mediate – ontologically and aesthetically speaking – is undervalued in educational philosophy, the learning sciences, environmental education, and, well, just about any other field of education. To approach ecological awareness and how all things mediate we need to wade into the theory side of things, but also an experimental side of things. So this chapter is also about educational philosophy and theoretical experimentation.

Quite earlier on, however, things get a little weird. Because this chapter is also about backyards. And here we mean backyards in a few different ways. First, we’re literally going to talk about that small strip of pavement or lawn attached to our little homes. Sometimes colloquially referred to in English as just ‘the yard’. Second, we mean backyard as a kind of slogany metaphor. Like: ‘Ecological awareness can be realized right in your backyard!’ Backyard here meaning anywhere... but somewhere close. Third, we mean backyard in an uncanny Anthropocentric sense: like a

J. Bazzul (✉) · V. Triggs
University of Regina, Regina, SK, Canada
e-mail: Jesse.Bazzul@uregina.ca; Valerie.Triggs@uregina.ca

weird, ‘personalized’ piece of capitalist infrastructure that simultaneously means very little, and yet symbolizes the current social and ecological crises brought about by capitalism and colonialism. Most people in education would agree land use (read: land theft) today is ‘crazy’ wrong. And if that’s true, backyards are perfect for pedagogies that are critical of the forces of Empire. However, we also talk about our backyards as a way to recapture pleasure and wondrous relations with the world. A place/thing, like any other, where everything mediates and eventually malfunctions. If educators are serious about moving outside of Anthropocentrism, it will involve exploration of a ‘flatter’, and more open ontology. One that is common to all and infinitely pleasurable.

Our chapter begins by outlining the aesthetic-philosophical concepts of media and malfunctioning using the work of John Peters, Timothy Morton, and Brian Massumi. The overall aim of this first movement is to glimpse a different kind of ecological awareness; one that is informed by different coordinates or ways of thinking (which should be always rethought and changed again!). We also use the work of Elizabeth Ellsworth in relation to pedagogy as sensation construction, and not just on the part of humans. We are trying to pursue a more transdisciplinary pedagogy, a must for education in times called the Anthropocene. After this we descend into our backyards with all the strange encounters and Anthropocentric imagery that might entail. This descent will include some images, some poems and personal reflections. In a time of climate change and mass extinction, educators must try to attend to how nonhuman actors and media (writ large) orient teachers and students. As a playful device we employ the symbols of alchemy to hint that the ontology in this article is a mix of intention, creativity, philosophy, and some kind of strange science. They mostly signify another rabbit hole in our field of understanding.

Our Alchemy Symbols

- Ŕ - Tincture (Theory Mixtures)
- ƒ - Dissolve (Disappearing Boundaries)
- γ - Earth (Environmentality)
- ∇ - Aqua Vita (Experience)
- ∅ - Spirit (The Ineffable)

Malfunctionings and Gaps

γ (Aesthetics and Environment.) This chapter is about an ecological awareness that embraces how all things mediate and malfunction. This means this chapter is also about aesthetics, pedagogy, objects, politics, nonhumans, and backyards. Over the

last few years we've worked closely together to try and understand the significance – political, environmental, creative – of the aesthetic dimension. While painstaking, we continue to arrive somewhere in the midst of an understanding of being and ecology. We also want to show how exploring the uncanny reality of things is highly pleasurable, and why this is useful to education for ecological awareness.

Ř (Media in postdigital worlds.) Throughout this article we draw indirect attention to the tension between digital and 'analog' as far as media is concerned. Media are not the digital pieces of information served up for consumption by communicative capitalism. Rather they are a blurred process of being that's at once informational and analog. The subject of a postdigital world is one that is inherently enmeshed, but also extended through processes of mediation (Ford and Jandrić 2021). We assert that iconic phrase by the Canadian media studies guru: the medium is the message (McLuhan 1964/1994: 21)! Media is about being. In this way, the study of media, mediation and environment is an important part of the postdigital landscape.

∇ (Why Backyards?) We've used the phrase 'right in backyards' in the title to indicate that ecological awareness does not just happen in specific places, say a forest or field. It happens right in our backyard! Backyards are the kind of everyday things that people can '(re)attune-with' in order to step outside anthropocentrism and the sociohistorical forces that keep many of us mired there (save Indigenous peoples and those already holding strong ecological relationships to land). Backyards, like anything else, are always more than what they appear to be. But this means they're also less. Something about them (like everything else) is also withdrawn. Choosing backyards as our foray into ecological awareness has no special signification. It's just the way to somewhere else. See! This chapter is already beginning to malfunction: but that's ok because everything is eventually and consistently malfunctioning. But how is this the case, and why is it ecologically important?

Ř (Not returning to normal.) In this chapter we approach malfunctioning on an ontological level. Climate change is an example of malfunctioning on a global scale, but it's also happening right in our backyards. While something must be done about climate change, this does not mean that climate is something that 'returns to normal'. Rather, a malfunctioning climate is a large-scale version of how all entities and objects function (from the perspective of object-oriented ontology (OOO), climate can also be seen as an object). It might seem counter-intuitive but embracing how things malfunction might be a way to rethink some of the predicaments and constraints humans have created.

Not only is the climate malfunctioning, but, in a way, the human species is malfunctioning—if we consider that destroying its own habitat is not something a species typically does. Our current situation may actually stem from a human desire for certainty, for categorization, precision. Reality, according to Morton (2012, 2013), does not work this way. Instead, everything has an opening through which life inserts itself in indeterminate and unforeseen ways. The idea that everything malfunctions means nothing works in one particular way. Things are always moving in

more than one direction and functioning in the middle of something. In her argument for a pedagogy that thinks beyond the ‘binaries that have been strategic to social, political and educational thought’, Ellsworth (2005: 3) notes that current media and technologies and the massive global exchange of people, cultures, products and ideas offer a sense of the blurring or entanglement of things that are not present all at once and never fully knowable.

‡ (Educators can rethink reality!) About three years ago Valerie shared Timothy Morton’s (2012) paper ‘Mal-functioning’ as a beginning point for thinking about aesthetics and ecology. How might we begin to understand our world when things go wrong? Is our ecological crisis a problem with the way modern Western people are thinking about reality? Backyards are a kind of placeholder for reality – a mundane object as good and as problematic as any other. We mean to say that educators and students can begin thinking about ecological awareness, being, aesthetics (anything ontological) anywhere, anytime, and with anything. This is something more immediate than memory, cognition or recognition. Lived experience, as Ellsworth (2005) argues, is more immediate than these functions, and pedagogy is rooted in the aesthetic movement of moving bodies. Backyards might be typically considered from a substance-based view, but instead we want to think about everyday ways in which to care for what emerges in the midst of things that interact and affect in these randomly corralled spaces.

∇ (Moments of malfunctioning.) Addressing moments of malfunctioning helps us acknowledge that everything mediates, such that when we respond we are responding in the midst of mediation itself. In other words, we’re trying to accept the challenge of posthuman thinking that recognizes that bodies don’t entirely coincide with themselves. For Ellsworth, the medium of human existence is the time and space of the indeterminate learning self. It is a pedagogical force already at play between one thing or another and it is both pre-individual and pre-collective, an extension of the body, understood as a ‘processual engagement of duration and movement articulated through webs of sensation across landscapes and panoramas of space, bodies and time’ (2005: 24). In the simultaneity of interference and resonance ‘distributed across the social body’ (28), there is necessary malfunction in which the immediacy of sensation interacts with perception to transduce qualitative difference rather than coherence to interpretation or representation. Sharing our sensations of malfunctions as we experience(d) them in our yards is a kind of (malfunctioning) method: things become evident when they don’t actually ‘work’, when they are excessive in their workings, when we are compelled to attend differently to what we used to think of as uncommunicative materiality.

In our backyards we tried to attune to the malfunction(s) in which things disappear just as they come into existence or are ‘underway’ (appearing and disappearing) without our direct involvement.

Consider the winter snow’s ‘grief work’.

When it gradually recedes from the firm support of the iron bench.
Feeling the dreamlike recollection of its once-again changing form,
while the planet pushes upwards on the four legs of the bench
just where the bench thrusts its legs into the dirt beneath.

Which has been around for hundreds of years.
 Ancient saline soil mixed with Superstore potting enhancer.
 (Is this anthropomorphic thinking or an attempt to think with the bench?)

f (In the midst.) Addressing things in the midst of change makes them significant not just in how they are used (yard and body) but how they mediate, alter and re-assemble. Morton (2017) emphasizes the irreducibility of things to relations or perceptions and the way in which things ‘say’ things beyond human use. Media are also things that transmit stored meaning, and, once in a while, transform their receptor and possibly their sender. Often, we’re less aware of their (and our own) necessary malfunctioning—that interfering noise inherent in their movement.

∇ (Mind the Gaps.) Morton claims that existing means living with gaps, which might be thought of as a built-in malfunction. The malfunction occurs between what you are and how you appear. Even to yourself! This is not just a feature of subjective perception. Everything experiences these gaps, which means our understanding of ecological awareness must always contain an inherent uncertainty. We as educators are never dealing with the whole account of anything.

Ř (What’s malfunctioning?) Malfunctioning is how we might describe something when it does not sound or seem like itself. When it doesn’t adhere to the qualities we’ve always associated with that person or thing. It can also be when things (or some other kind of noun) are not working out as we expect them to. This could be considered learning! The electricity cuts out and the furnace does not function for several hours in the middle of a cold winter day. The sun’s heat melts the ice cream because we’ve forgotten that ice cream ‘is for more’ than just eating. ‘Malfunctioning is ontologically underneath functioning.’ (Morton 2012: 100). In a similar way Peters describes infrastructural technologies as ‘never only function’ (2015: 36); their everydayness of standards and forgotten rules are bristling with social meaning. Must the ice cream melt, or the yard become overgrown before I really ever become aware of malfunctioning? In this pedagogy who is doing the learning? What are the learning selves?

f (Appearing Backyards.) The backyards weave through this writing as a kind of device that helps us think through ecological awareness, malfunctioning, mediation, and aesthetics. They appear to bring some materiality, levity, and weirdness to the chapter (being so insidiously enjoyed in North America and beyond). One of the pleasantly strange thoughts about backyards is that, in Canada at least, they (re) appear each spring. They are seasonal creatures that happen in the midst of things. One season does not get out of the way for another; somehow they are another season’s malfunction. A yard in summer shows that things emerge again, differently and a yard in winter more overtly reminds us that things continually malfunction. The mistake is in imagining backyards as plain lumps of matter that aren’t as infinite and strange as other beings or objects. In the yard, we feel like we are the only deciders, but in reality backyards are deciders too.

Media(tions), Infrastructure, and Environmentality

Ŕ (Media.) Historically media were conceived as distributors of messages and meanings on merely a human scale, commonly understood as influential but not infrastructural. Drawing from the work of John Peters (2015), we recognize media as ‘fundamental equipment for living’. As substances for growing cultures and enabling environments. This really broadens what we might think of as media. Media provides habitats for diverse forms of life, including other media. They are ensembles of natural elements and human craft. A body is one of the most basic of all media. It sends messages and is also a constituent part of the media systems. So, rather than being ‘one with themselves’ bodies are networked forms of media beyond subject/object, humanist/scientist and disciplinary divides.

ƒ (Being over content.) Following Marshall McLuhan, Peters (2015) insists that taking media seriously involves questions of being rather than content (though the content of media is also important). In other words, it is perhaps just as important that things connect and function (are mediated) as opposed to having this or that essence. Questions of mediation always proceed questions of being or the actual infrastructures and media themselves (molecules, seaweed, silica, ink-type, DNA). The implications here are that media have to do with being, not information (or information is secondary). Ellsworth describes a pedagogy that attends to the sensations of living as an aesthetic and relational triumph over the binary of either knowing or not knowing. It is how knowing can be borne - carried - ‘an envelope which permits the passage from one space and position to another, rather than the containment of objects and functions in which each finds its rightful place’ (2005: 125). But we only notice in the midst of being mediated, (when this mediation is somehow presented to consciousness?) and we notice it most especially when things are not working out as we had planned.

γ (Environmentality.) According to Morton (2013), ecological awareness is not just about climate change, recycling, and solar power. It has to do with everyday relationships between humans and nonhumans. The environment is mostly just other life forms and nonliving entities adapting and mediating. Ecological awareness has to do with having a sense of environment, which Morton (2012) calls environmentality. He claims that the ‘ity’ part is also about a kind of form or quality that is a physical medium. Contact is folded into this form of environmentality because it is hard to know where physical environment stops and human meaning begins. For example, we use oil for cars and heating and this is one way we make contact with the entities in an environment. Sharing the same space and time with other things brings to awareness the ‘eons of improbable evolution [that] have conspired to enable any encounter’ (Peters 2015: 6).

When we reposition and respond to an environment, we are mediating with ‘moving targets’ because at the same time other entities are also repositioning and responding in-relation to us. This results in uncertainty and ambiguity, not to mention confusion and anxiety, because this constant mediating makes it impossible to draw rigid lines between the things we think we already know. Imagine the

‘impossibility’ of a pedagogy that malfunctions in this way (versus imagining possibility). Environmentalism, according to Morton (2012), is not a form that we can directly point at and say: ‘That! That is environment!’ Instead, it is an experience of the aesthetic dimension, a relational atmospheric field where things affect other things. It’s where we have access to what is normally felt to be outside ourselves: uncanny illusory sensations. Ellsworth (2005) claims that it is the impossibility that gives pedagogy its force, which makes other forces visible such as the experiences of learning selves.

∅ (Valerie thinking with the backyard at 2:30 AM 19 August 2021.)

The bedroom window faces south over our little backyard.
 Lightning lights up the night.
 In the distance flickers; thunder rumbles quietly.
 Light rain begins to fall softly in the bushes and louder on the tree leaves. Cool air pulses through the window. The window is low and large and I feel part of the backyard.
 but safer, less vulnerable.
 In the distance more thunder. I’ve drawn the curtains to stay warmer.
 Thunder slowly subsides, withdrawing, disengaging.
 In the stillness, the highway sounds – a low hum of semitrailer noise.
 The thunder sounds discontented, quietly ominous. But maybe it’s laughter. I don’t know.
 August. But it has a magnitude and an unpredictability.
 Wind inhales the curtain flat against the screen, its metal hoop openings ping against the curtain rod.
 Wind thrusts the curtain out into a fully distended shape.
 It breathes it in again in a rush, pulling it flat against the window screen.
 If the screen were not there and the curtain released itself from its attachments, how far would it travel?
 Would the wind return it to the window in its next exhalation?
 The rain begins again in a rush
 and stops.
 The highway sound stops. All seems suspended.
 Thunder mutters, rumbles more loudly
 Suddenly colliding, crashing, amplifying as it slashes
 I’m dissolved in the finality of sound.
 Rain again, in a torrent. A burst of soil fragrance.
 Arousal and renewal? I’m drawn to the outside, to the yard. It isn’t waiting for me to give it meaning. I inhale the wet air.
 Michele sits up, her eyes wide and startled but still dark and deep with sleep. ‘No tennis in the morning’ she says, because I am still awake, or maybe because she hears the rain.
 We’ll see. I may yet sleep before dawn.
 A lighter breeze blows the curtain; it billows across the bed. Maybe the courts will be dry by morning.

γ (More on environmentalism.) In Morton’s ‘environmentalism’, the environment becomes a bunch of malfunctioning entities, as in things that are not exclusively for what they seem to be for. (What is August for?) Morton (2012: 98) draws from Kant to claim a gap between phenomenon and thing. This does not mean that we cannot have direct experiences of the environment but it does mean that direct experience involves a malfunctioning: the direct experience of interfering and resonating desires. No direct mechanics of exchange. Malfunctioning seems to be a deep fact

about reality: things become what they are not. Even if we do not notice or are unaware, environmental ‘functioning’ is simply a kind of malfunctioning.

‡ (Strange and wonderful.) Ecological awareness is always strange. The seemingly irrelevant inclusion of our backyards hints at this. It is impossible for us to really know anything (or anyone) completely. There’s always something mysterious to what we love (which is why if you have to enumerate the reasons why you love something or someone you probably don’t really love it/them). Take the backyard-rabbit-holes we are about to mediate-with: it’s impossible for us to know our own backyards. We can map them, dream about them, dig them up, ingest parts of them, put them in verse, and photograph them. But while all of these things will be some of the backyard, none of them (ever) are all of backyard (or the backyard itself). There is a certain weirdness in this gap—and this weirdness (some might call it perplexity or wonder) increases the more that ecological awareness or environmentality shows itself (Morton 2012).

This is all to say that it may be extremely helpful to think about relationships that don’t need to have ‘a human’ in the middle of things, as this seems to be a highly limited way of being in relation. I think we might indirectly get a glimpse of how difficult this is when we get to our backyards. About a year ago, we were looking for some place to start talking about ideas of media, environment, ethics, and malfunctioning. We thought the idea of backyards was entirely acceptable—though around each corner we second guess. Perhaps this is a good thing?

¶ (Why backyards again?) Literally everything harbours something that anchors our existence. This something makes what we do possible. Backyards are pervasive things because they are one of our most pervasive surroundings, at least in this particular city (Regina, SK, Canada). They are taken-for-granted and enable a certain kind of living. They emphasize the immediacy of nonhuman being in the midst of a ‘habitat(s) for diverse life forms’ (Peters 2015: 3). They are also something people think they already understand—some weird synthesis of both technology and nature—though we discovered we hadn’t really thought about them before. Here we’re thinking about them as strange object and infrastructures (of data and media). Things that mediate our daily practices. Even though it’s all too familiar, the backyard provides an opportunity, perhaps, to revive some basic problems of living in complex societies. It also offers a way for us of addressing the materiality of a particular time and place being dissolved in the reconfiguring of relation in sensation and movement that are ontologically prior to cognition (Ellsworth 2005). How do we nurture and care for this kind of malfunctioning?

Ⓡ (Backyards are infrastructural.) Backyards are infrastructural as far as they are a typically unconsidered basis for being or living. Infrastructures stand under worlds. Before we understand infrastructure there is infrastructure (Peters 2015: 33)! Considering them might point to some aspect of being, or it might simply point to other infrastructure or environmentality and bodies. I think part of our goal of getting at environmentality is to dispense with the idea that environments are containers for things—environments emerge through mediations and the modes of being that are the result of these mediations. So, what does the malfunctioning and mediations of something seemingly mundane like our backyards offer us in terms of

a pedagogical sensibility of ecological awareness? If questions of mediation come before questions of being, how might we find the two entangled? The two together? Peters (2015: 36) recommends finding the ‘miraculous in the common ... trees, daylight and dirt’. To become ‘students of the diverse stages and seasons that being can assume’ (39) in its entanglement in media.

Perhaps these are part of reviving ancient navigational functions, not to provide a unifying story or guide us from one point in the yard to the next, but rather from one moment to the next? At least point us in time and space in ways that are not linear and causal? Bowker and Star (2000) recommend the intentional violation of a social norm to bring the background (everyday things that often get ignored, and also the realm of ambiguity and self-contradiction) out into the open. Perhaps seek to violate academic writing norms as we undertake this inquiry. (Sub)urban backyards seem to be the most ‘artificial entity’ imaginable!

Despite living in the fallout of (perceived) human mastery over the environment, many of us still expect things in their backyards to ‘behave well’. They are little pieces of the planet where modern Western humans might believe they’re in control of things, equating human with the one who gets to make the decisions. In their artificiality, however, the overriding message of yards is co-existence: a message which modern Western people are grappling to hear. The backyards’ mediated surplus is a place for us to learn how to jump into the midst of things.

∇ (Getting out of the way.) We began this backyard exploration by attending to details we would not typically ‘linger with’, let alone describe in writing detail. We wanted to attune to mundane, earthly things to nurture a kind of unmooring into malfunction. Last year, in late winter, Valerie in particular began focusing on how things were already interacting with other things. She took photos and filmed long shots with her iPhone as shown in Figure 1. At first Valerie was worried about the interference of her body as she filmed and photographed. How might we respond to things that mediate us in our yards without getting too much in the way? This question requires us to pause in the middle because it’s only part of the question!

Part of the question acknowledges that things are always already in the midst of mediating such that predetermined expectations and assumptions narrow our awareness of all that is continually emerging in the yard. And while the question of our involvement also acknowledges a ‘premissing’ of observation and attentiveness toward the yard, it does not consider the yard’s inclinations towards us. How is the yard luring me? What might it ‘want’ to be invited to do? What new relational processes does it engender? How does it shape my sensory experience? What are the changing and mediating materialities that modulate light, heat, magnetic force—as well as one another?

The other part of the question, the part of the question not asked overtly yet, has to do with what we might do, given that we are already too much in the way. We are ‘of the yard’, more than we’ll ever fully understand. Getting out of the way really means getting in the way: realizing there is no exterior position with objective knowledge. Then again, today, the yard’s relations may have nothing to do with her at all. Maybe for the yard, they will just be background today.

Figure 1: Getting out of the way, March 2018 (Valerie Triggs 2018) (CC BY 4.0)



Coming to terms with environmentality as a kind of ‘deep, structural mistake’ (Morton 2012: 100) does not happen in a one-time experience. Instead, the uncertainty of its contact is part of feeling that everything is weirdly withdrawn and that everything is in the midst of becoming what it is and what it’s not. In attempts to reduce uncertainty, Morton observes that ‘uncertainty explodes’ (100). You never know if something is playing as itself or not.

f (Alluring reality.) This is one problem with writing: it often acts like an interruption. It often gets in the way of things (for better or for worse). It’s worth dwelling on this word luring or alluring, because it can also refer to a mysterious attraction. Attuning ourselves to media and mediation includes various tools of noticing, but also tapping into immediate attraction. Knowing full well that what lures us can simply be a call from what Jacques Lacan (1977) calls the Big Other (what or how we are meant to like, think, do, order something). There is an ethics to how we attune. There is also an ethics in how we ask after this attunement. (How many times do we realize we’re attuning to the ‘wrong’ things!?) In a materialist way, it’s also important to ask how thought (sometimes formed over years) mediates the light and soil and objects (of the backyard). Of course, we often think about something only when something is not quite right, when something malfunctions. Like climate.

f (Double articulation.) So, from Peters we see that mediation comes before being. Landscapes, histories, organisms, materials, and idealities and being are perhaps not so much two sides of the same coin, but one coin that always has something extra. It's not that our backyards appear one way, and really are some different essential 'essence'. Rather appearance and reality are one curvy-Möbius-strip side together.

Would it come as an unbelievable surprise that media and being function just like Althusser's (1998) theory of ideological interpellation and hailing: the 'hey you!' coming before the 'who, me?'. That is, social forces often tell us who we are before we somehow articulate 'ourselves'. The yard impinges on sensation in the form of an instructive address and we are compelled to respond before full understanding. Or, like the twisted Möbius strip, is being much more ambiguous than saying that the 'hail of the social world' comes before identification? Isn't there always some kind of double articulation? Don't entities change/emerge together (Barad 2007)? This is probably why people probably get things like ecology and evolution so wrong. Fixing or preventing malfunctioning from a human perspective inevitably creates havoc. The yard's teaching is not directly accessible except, as Ellsworth (2005) notes, in one's response. The performativity of malfunctioning is the educative responsibility of pedagogy. We wonder how we can practice malfunctioning to align more closely with the material conditions that shape life on earth?

Susceptibility: Into Our Backyards

γ (Stuck in microcosms of private property.) We're speaking so profoundly about all media... yet we're stuck in the microcosms of backyards! How do the yards reach toward us? Do they possess us like we claim to possess them? And when mediating aren't we putting ourselves in the way somehow? To somehow experience those 'invisible' things upon which being resides. Backyards are also proliferating spaces of private property mediated by capital (the rule of private property) and colonial settlement patterns. Regina is a 'gridded' town with neighbourhoods segregated by race and class.

∇ (Malfunctioning is dream-like.) As we sit and gaze at our backyards, we also have this feeling that they're fully present. We often mistake appearances as an absolute starting or ending point. A dream-like quality is more fitting of how the backyard (re)presents itself. It's easier to accept malfunction as something that happens at a distance, between other entities. It's a bit more mysterious when one actually feels they're losing their most stable reference points. Something is malfunctioning in the midst of bodies, in the midst of what we think of as self – responding to what we might not yet know or may never know. Sometimes these connections emerge in dreams or just the feeling of something mysterious. Dreaming-talk might actually be the best way to communicate the distance presented in everything. Dreaming-talk is what Jesse does in the back of the backyard,

Figure 2: Jesse's father sitting at a glass table (Jesse Bazzul 2018) (CC BY 4.0)



where the fence meets the alley-way. Figure 2 is Jesse dream-talking with his dad (mediating his presence).

∅ (Jesse at the yard-gate: Trying to become imperceptible.)

I stand unnoticed
Out of the sun's way

Space aging junk
Now there's a real neighbour

Suburban houses make fitted beings
Private property machines

Something pushes me back
Away from the houses

A voice enters: do you like flowers and plastic?

But the Sask sun outshines everything
Dads and deeds

Ř (New Logics.) Malfunctioning is a certain logic that's also the antithesis of reason (reason as in idyllic human understandings). It moves across and through things, escaping itself. So, for example, when a furnace is working, pumping heat into cold houses by burning natural gas, we think of it as functioning. It seems like malfunctioning is contained to the 'not functioning' of the furnace. But the furnace is malfunctioning when it burns natural gas (raising CO₂ emissions), and also functioning and malfunctioning in other dimensions of space-time. Malfunctioning always finds itself beside itself. What's the difference between the everyday malfunctioning and the malfunctioning that causes harm?

Perhaps what we're trying to do is one kind of ecological thinking: a poetics for learning across systems and levels by both inviting and providing conditions for restructuring with fusional variation. Morton (2013: 90) claims that the 'meaning of an object is another object': presumably the meaning of something is something else. We think this means that our time in the yard is the meaning of the yard but of course not all of its meaning. This necessitates a different kind of attunement to the yard's lure—one that is continually engendered but also haunted by a fundamental loss.

For anything to happen it has to happen twice, as Valerie considers in the 8 1/3 minute-old light experienced in Figure 3. The poet is a mediator of what does not yet exist *and* the current moment. Ethical response might be found in coming as close as possible to the shared intimacy of the continuously varying signal, mediating without ever trying to attune perfectly, even though sometimes we helplessly come too close. Keeping difference in play.



Figure 3: Overlapping with light (Valerie Triggs 2018) (CC BY 4.0)

∅ (Valerie: light overlapping.)

If I could step away from the sun's sustaining besiege, to consider my desire for plastic and flowers, I might be able to take stock of my actions before the expectancy of its next rays of lights.

But next rays are already old and still in the midst of arrival while I am yet suspended in the middle of working with the last rays. I am making something of a certain quality of old and used light, diffracting its embodiment into relation with other qualities of the universe. I've had a direct experience of light but I have not received all of light; in its delay, the light and I have malfunctioned, been interfered with, and affected in clouds, heat waves, airplanes, insects, sound waves, the motion of bird wings, my skin, the streaming of music. I'm in the midst of light's mutation and so far, it looks like I am going to survive it through my own mutational expression.

In this mad modulating, there is no place out from everything where I can catch my bearings and decide on the 'right' course of action.

∅ (Jesse sitting with what Valerie said.)

I awoke in the backyard today
provoked and scribbling

A lot happens while beings are sleeping, or while their backs are turned.
Things get pleasantly and horribly stuck
maple bugs
Those red critters everyone hates
Swarm the trees and doorways

Maybe they hate them because they don't understand numbers
or they pay homage to the boundaries of the backyards
They want everyone out
Except furniture stores and Capital
These things crawl into the backyards constantly

While our loved ones sleep, we wonder
about a different set of relations in the yard,
and the yard just reminds me that humans can turn their back,
that human-love is an odd substance splattering on the cement like maple bugs

Love these bugs, maybe because I can't trade them up for something bigger
and better

Today I step around them differently
No more killing, and no more tilling

∅ (Jesse finds one of an infinite number of dark yards.)

There are great sewers that run underneath the backyards, mostly in straight lines. They are dark things full of rain and animals we don't know about

The visuals are the following: air currents, fluids, and rat packs
They won't act like you want them to—that's not how things work

Every ensemble in the garden above is the same—left alone they won't follow orders

I wish to be mediated by wind and the rain; but today it's the round circular sewer
the maple bugs

the cracks in the stucco
and the missing being

The first thing I ever did in this yard was remove the gravel in the little Zen gardens
Underneath was a small concrete pit about 1.5 meters deep and 6 feet long
Inside was more broken concrete, its intended use I can't determine
Was it perhaps the dark yard of the sewer
A virtual piece of dark fiction that I can't get away from

∇ (The dark predicament of the yards.) The yards teach us about the nonlocality of experience. In Figure 4 you might look for the splatter of maple bugs, but instead find the splatter of your beloved (like a hung red shirt). Something different happens each time we get out of the way... (by getting in the way?) Reality is a constant malfunctioning-in-translation. Of one thing by another. Nothing has total access to another thing but everything has an openness to affecting and being affected. Ecological awareness seems to also involve a constant defying of location and temporality—as much as we pay a kind of homage. Being ecological must also include these ‘weird inclusions’; these dark and wonderful experiences. We’re continually sending and receiving information from other places. Whatever we’re looking at—has been, and is continually, being mediated as/before we look at it. Because everything has an irreducible unknowability, the backyard only appears in its act of becoming or unbecoming a yard, and all we’re left with is an uncanny sensory and statistical performance – perception/data - within which we’re caught up to various degrees.



Figure 4: From the hammock: Human love is an odd splatter—like maple bugs (Jesse Bazzul 2018) (CC BY 4.0)

γ (Sounding like ourselves.) Morton (2012: 95) claims that ecological thinking depends on susceptibility to receiving and interpreting messages from the environment. Susceptibility includes ‘attending to directives’ and ‘listening as a condition for speech’. Rather than just spontaneous or impulsive response, one has to attend to things for a sustained amount of time. Susceptible attunement is not spontaneous or impulsive response but rather a kind of listening and improvising. Morton quotes musician Miles Davis who asserts that ‘you have to play a long time to sound like yourself’ (Morton 2012: 56). Morton argues that ‘playing is a mode of attunement’ (56). Presumably, we have to play with the environment in order to attune and it can’t be an immediate responsive undertaking, so - for three years now, we’ve been playing in our yards.

Well, after a year of observation and image-making (of thinking about ecological responsibility) we realized Morton’s (2012: 56) use of Davis’ quote about playing for a long time before you begin to sound like yourself, included things like the yards and not just us. It (the yard) had to play for a long time to sound like itself. Sounding like itself is a mediating malfunction. It involves the aesthetic dimension of parody, and artificiality. This artificiality is not something to apprehend in order to rip it away to find some deeper essence. Morton (2018) claims that the dreamlike quality of things is precisely what is most real about ecological reality.

Feeling the withdrawn mysterious nature of backyards might be close to thinking ecologically.

Ř (Queer expectancy.) While seeing (accessing) is not reality it brings to the fore a certain kind of causality—one that took us three years to really consider. To sit with the yards’ artificiality and all its malfunction(ings). And they became real in playing with them or in their playing with us: in our misreadings and our malfunctions. Every seeing—every accessing—is a tune or a tuning. A parody, a mal-translation. In the midst of all this artificiality and malfunctioning, one works to respond to the differing of difference – its appearance, its malfunctioning, its artificiality. This is a queer expectancy in this discussion of mediation and malfunctioning; mediation always queers in its malfunctioning and this queer expectancy is infused with suspense (and a kind of suspension). Malfunctioning is not just about being continually surprised by the backyard; perhaps it is more about other things bearing us when we’re not aware of it. The yard attunes—even when we don’t. Morton (2013) might say it ‘yard-pomorphizes’ us into a yard-centric parody of ourselves. It makes a space for it to appear as itself, and we’re part of its appearance.

Farewell! And Now the Haunting...

∇ (Valerie and Jesse meet for tea.) In our last backyard dialogue we affirmed this inquiry as an analog movement—a trans movement between disciplines and categorizations. This is where ecological awareness and responsibility lies. This is also what postdigital means to us. We learned to accept one thing’s artificiality/

malfunctioning; to respond to/in the place of ease, the yard, beside itself. In other words, we've learned a little about how to linger with the sense that things are always engendering something else. We accept this malfunctioning and offer a response that will engender a next movement. This could involve acquiring greater permeability and interpenetration with the surroundings, as claims Indigenous peoples do in attunement to the land. Becoming a student of the shapes and seasons that being might assume. It also involves a sensorial imagination that Goethe describes as an alternative to explanation: difference and unity are simultaneously present together. It plays out as ethical, Morton argues, if it engenders us (Morton), rebirths us? Who, me?

∅ (Valerie and Jesse's Farewell.)

The backyard is slowly turning yellow.
The light seems thinner, less golden.
Robins are still chirping although it has already frozen some nights.
I have not suffered any real disaster from the yard.
But could the yard say the same?

Figure 5 is another image of what Morton describes poetry to be: a 'record of causal-aesthetic decisions' (2012: 219). Not all of what presents is readily apparent

Figure 5: Yellow (Valerie Triggs 2018) (CC BY 4.0)



and it is different from the things from which it's made. In each return, the record is reactivated to release different meaning, forcing us, as Morton claims, to 'acknowledge that we co-exist with uncanny beings' (Morton 2012: 222).

∅ (Swan and pelican song.)

While immediately feeling the yard.
The wind and rain,
We were lulled by the myth of smooth-functioning (Morton):

nature here, humans over there,
Philosophical violence

Coexistence means embracing a web of hauntings
future, past, present
Unspeakable
but always available

Conclusion: Toward Malfunctioning and Pleasure

Ê Here at the end, and some years later, perhaps it is best to trace where we've come in this chapter. And in some relation to this present time. What have we learned together? Let's spell some of these very pleasurable things out.

1. Everything, including you, including us, including your backyards big and small, will malfunction. We in fact only know these things as they malfunction.
2. Ecological awareness begins at home and continues indefinitely! Every lesson of mediation, relation, and equality can wonderfully begin right in our very backyards!
3. Backyards are mysterious, at once ideological and sociopolitical constructions, that nonetheless come to form the fabric of our mediated reality. Think of people you've met, Valerie's partner, maple bugs, and Jesse's dad.
4. We are haunted by the things in our life that always withdraw or are in the process of withdrawing. Everything is pleurably infinite and only showing part of itself.
5. The way humans relate to things is exactly the same as the way other things relate to each other. Whatever strangeness we humans think we see in relationships and mediation should be granted to the rest of creation!?
6. Our criticality towards our backyards is a constantly mediating process that we find ourselves in the middle of always. We are constantly in the process of mediation. We can take pleasure in many ways. To savour it, dissect it, talk about it, play with it, experiment with it, or relax with it. Either way involves both attending and attuning and trying to get out of the way!

While we feel there are many 'jumping off' points in this work our intention is to run with this idea of *pleasure* and environmentality. Where might pleasure take us in the work we do as educators working towards justice, equality, and collective

futures? And how will this pleasure, along with the conception of equality and justice, malfunction in interesting and productive ways? We anticipate that we can do better pedagogy in contexts of noticing that open to malfunctioning already underway, thinking about how to act and engage on the basis of what presents. But perhaps the most important thing is that we both enter and come away with a sense of ‘universal’ malfunctioning and how wondrous things are right in our own backyards.

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Afterword: Towards an Ecopedagogy of Revolutionary Optimism in The Age of Climate Crisis

Collin Chambers

In a (post)pandemic time — when, as Jandrić and Ford (2020) put it, ‘many people are just exhausted’ — to add in discussions of the ongoing climate crisis inevitably runs the risk of paralyzing and sterilizing the possibility of a mass politic necessary to adequately deal with both the pandemic and climate crisis (Carson et al. 2022). It may not be pedagogically and politically useful to *only*, and *ad nauseum*, point out the compounding climate catastrophes that are occurring as a consequence of our fossil-powered energy regime. In fact, it can just add to the grief and frustration many oppressed and working-class people are already feeling (see Featherstone 2021). ‘Speaking truth to power’ — i.e., the constant *explaining* and *teaching* of how capitalism is leading to climate destruction — as a pedagogical logic is not sufficient in the era of climate crisis.

Working-class people already know the severity of the climate change because they are told about it and live it on the everyday scale. Rather, in a time when memes, movies, and news articles of climate catastrophe are force-fed to us, an ecopedagogy of revolutionary optimism is a necessary pedagogical form and logic. It would be a theoretical mistake to see this kind of ecopedagogy as simply a kind of opposition to ‘fossil capital’ (Malm 2016). This kind of ecopedagogy is better conceived as a form of exodus because it radically reconfigures the terrain of climate politics in the (post)digital social formation. Climate change as a consequence to fossil capitalism is ‘true’ in the sense that there is no way to scientifically deny that catastrophic climate change is occurring because of the logics of capital accumulation. However, there is an essential Marxist thesis that must be emphasized here:

ideas, even if they are true and have been formally and materially proven, can never be historically active in person, as pure theoretical ideas, but can become active only in and through *ideological forms—mass ideological forms*, it must be added, for that is fundamental—caught up in the class struggle and its development (Althusser 2006: 48) (emphasis in original).

C. Chambers
Syracuse University, Syracuse, NY, USA
e-mail: cchamber@syr.edu

Revolutionary optimism makes climate science ‘active’ on a mass scale. Developing revolutionary optimism is of utmost importance in the socio-ecological context of climate crisis. Simply put, revolutionary optimism is a *visceral ideology* that says the working *class* and nationally oppressed peoples *themselves* have the structural power and agency necessary to change the world. However, this visceral ideology is not ‘free floating in air’, it is based in objective capitalist relations of production. Additionally, I am not talking about educational *tactic* here, but rather a new pedagogical *logic* of revolutionary optimism (Ford 2021a). Marx (1990: 927–930) famously in Chapter 32 of the first volume of *Capital*, outs how capitalism lays the material foundations and *possibility* for socialism. The compulsions of value relations put pressure on capital to constantly revolutionize and develop the productive forces, and capital tends to concentrate and centralize into fewer and fewer hands. Out of this process of centralization and concentration more and more proletarians are produced and less and less capitalists exist — ‘[o]ne capitalist always strikes down many others’. The means of labor are transformed into forms ‘that only be used in *common*’ (Marx 1990: 929) (emphasis added).

Due to these historically specific — *and presently existing* — relations of production of monopoly capitalism, the transition out of the capitalist mode of production will be easier than previous historical transitions as it would be the first time there was an ‘expropriation of a *few* usurpers by the *mass* of the people’ (Marx 1990: 930) (emphases added). *Numerically speaking*, because fossil capital is centralized to such a high degree a *mass* ecological revolutionary movement can force a socialist green energy transition. Clearly this is not a call for a naïve pedagogy of optimism, but an ecopedagogy that is rooted in historical materialism and emphasizes the material and ideological conditions that already exist in the present that point to a radically different future.

Yet, one may argue that though the objective (and technological) conditions exist for socialism and to solve the climate crisis (see Landis 2020), the subjective conditions are still in embryo and thus an ecopedagogy of revolutionary optimism is truly naïve, utopian, and delusional. Having revolutionary optimism in non-revolutionary times (in a subjective sense) is perhaps even a form of ‘stupor’ (Ford 2021b) and thus non-legible to the capitalist class. The visceral ideology of revolutionary optimism is an ideology that cannot be extracted by capital and used to produce surplus-value or to revolutionize the relations of production for the continued reproduction of capital. A pedagogy of revolutionary optimism is a true ideology in the sense that it changes the ‘hearts and minds’ of people into believing they can take power from the capitalist class on a mass scale.

This may indeed seem utopian, but what is fundamental about ‘utopian thinking’ is that it ‘steps back from the real without losing sight of it’ (Smith 2009: 58). This conception of ecopedagogy fits nicely with how critical educational scholars frame exodus and exopedagogy (Ford 2019; Lewis 2012). It restores ‘a sense of futurity to politics’, and centers ‘itself at the nexus of becoming’ (Acaroglu 2021: 59). Revolutionary optimism offers a possibility of ‘self-valorization’ where people come to not simply understand but *feel* their autonomous power over capital — it

become a part of the ‘general intellect’ that cannot be extracted by capital (Ford 2021b: 77–78).

To be more concrete, the pedagogical logic of revolutionary optimism radically reconfigures the terrain of climate politics. The current hegemonic way of thinking and acting on climate-based issues is to put political pressure on capital and the state to reform and enact a green energy transition, which would represent a ‘socio-ecological fix’ for capital (see Chambers 2021). An ecopedagogy of revolutionary optimism blows up this inner dialectic between struggle→reform→struggle and posits that workers and the oppressed can solve the climate crisis without the capitalist class and the *capitalist* state (see Hunter 2021).

A basic Marxist tenant is that there is a unity between theory and practice (Romè 2021). Thus, what does an ecopedagogy of revolutionary optimism look like in practice in organizing and lecture spaces? In the postdigital age it is common for students to do a carbon footprint exercise where your daily practices (such as how often you order take-out, the temperature you keep your home, how much you drive, etc.) is measured and digitized into CO2 emissions measured in pounds. The average per capita carbon footprint in the United States is 37,000 pounds per year.¹ The exercise also shows how many earths would be needed if everyone on the globe lived like an average person living in the United States — that number is five earths!

While this is certainly important and interesting information, what exactly is the pedagogical logic behind these carbon footprint exercises? The carbon footprint exercise promotes a pedagogical logic which asks millions of people to change their consumption/lifestyle habits without questioning the fossil-produced built environment we are all structurally forced to function within. It thus offers no hope of social change and transformation and is in fact an opposite pedagogical approach to revolutionary optimism.

The historical responsibility of carbon emissions should not only be understood in per capita terms at the nation-state scale, or even on a household consumption scale but also in *production* and *class-based* terms because it offers a clear pathway to social transformation that the masses of people can get behind. One (post)digital example of this approach and pedagogical logic is the website Unequal Carbon Footprints made by Environmental Geographer Matt Huber. The website allows you to input your digitized carbon emissions and compare them with high emission electric power plants, refineries, steel plants, cement plants, and ammonia (fertilizer) plants. For instance, according to the website one would have to multiple their own household carbon emissions by over one million to equal one typical high emission (coal) electric power plant.

The fact that there is such an extreme difference of carbon emissions between a worker just living life and the capitalists *producing* the energy and commodities we are structurally compelled to use is not even the most important point. The ecopedagogical logic of revolutionary optimism would show, as Marx does above, it is easier to change the actions of a handful of fossil capitalists than millions and

¹ See <http://www.unequalcarbonfootprints.org/ucf/>. Accessed 10 January 2021.

millions of working people. Even more importantly, these masses of people have the capacity and social power to take control of production, transition off fossil fuels, and produce what we need *and desire* that is ecologically sustainable.

One final comment on developing an ecopedagogy of revolutionary optimism is that there needs to be an emphasis put on historical examples of revolution and ruptures rather than taking a chauvinistic approach as some western Marxists are known for taking in regard to the former USSR, Cuba, China, Vietnam, the DPRK, Burkina Faso, etc.² If one cannot draw from historical and contemporary examples where the working class and oppressed nationalities have taken power and held on to it, how exactly are we to pedagogically develop revolutionary optimism? Not only are these examples of societies trying to move beyond capitalism, but in each of these social formations there exists alternative approaches to mitigating and solving the climate crisis. It is due time to *study and learn* from them.

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²Without citing specific examples, some western Marxists are chauvinistic in the sense that they are quick to critique ‘actually-existing socialisms’ as ‘state capitalist’, ‘authoritarian’, and, in general, as ‘not being socialist enough’ without taking in serious account the imperialist-capitalist global system that these countries have to function within. More importantly some western Marxists are apt at *critiquing* ‘actually-existing socialism’ but fail to acknowledge or even consider that there have never been socialist revolutions in *their own countries* (see Manoel 2020).

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