Introduction

In *Bioinformational Philosophy and Postdigital Knowledge Ecologies*, Peters et al. (2022) bring together a wide range of scholars’ work on the inseparability of digital technologies with biological processes to unpack the influence of these interactions upon our knowledges. Reviewing an edited book is always a difficult task by attempting to weave one’s own expertise while also sharing the book’s contents. Depending on the book, one of these is more challenging than the other. The latter is unquestionably a more perplexing task for this volume due to its vast diversity of topics and authors’ expertise and positionalities. If books could be weighed in terms of their depth and density in providing arguments, theorizing, philosophizing, and providing a diverse range of examples and disciplinary foci, this book would be exceptionally heavy. This massive weight is required as the book attempts to answer an important ‘eternal question of [the] human race – the interplay between biology, information, and society’ (Peters et al. 2022: v), as no amount of pages could completely answer this question.

The editors frame bioinformational as the ‘blurred and messy relationships between physics and biology, old and new media, humanism and posthumanism, knowledge capitalism and bio-informational capitalism’ (Jandrić et al. 2018: 896). The sheer messiness of the intersectionalities between these relationships is without-a-doubt complex and is innately challenging to fully comprehend. However, the book’s structure and the editors’ introductions (book and parts) help guide readers through the topics. Threaded throughout the book is the notion that mystifying post/biodigital effects upon knowledges is systematically utilized to intensify hegemony
in various ways. The importance for education to counter such methodical veiling is why this book is crucial to read.

**What is in the Book?**

The book’s organization is particularly useful to those who are not experts in these fields—I place myself in this category. After introducing the book’s overall topics, the editors divide the book into three parts. In each part, they introduce the connections between chapters through meaningful and insightful ways, as well as connecting the chapters to the larger fields of postdigitalism and education, and beyond. The first part, ‘Bioinformational Philosophy and Theory’, gives the foundations of the book’s topics and guides readers to better understand the next two parts. The second part, ‘Emerging Configurations and Practices’, provides richly detailed ‘real world’ examples. The last part, ‘Teaching and Learning in Postdigital Knowledge Ecologies’, focuses on educational aspects more specifically; however, education is threaded throughout the book.

Although the book’s title might initially seem disconnected to one’s own specific work, readers will, without-a-doubt, attach their own specific pedagogical work to what is written throughout the chapters. The inseparability of technologies, biology, and knowledges within our postdigital world makes this book an important read for any scholar. While reading the book, I continuously questioned the epistemological effects from biodigitalism in determining our (anti-)environmental actions.

My reading here reflects my work on ecopedagogy and will be weave throughout the second part of this review. In doing so, I am attempting to exemplify the book’s importance in deconstructing biodigital effects on knowledges in varied topics, fields, disciplines, and contexts, as well as possibilities of transformative reconstructions of technologies. In addition, my ecopedagogical examples stress the immense value of reading the book entirely rather than selecting specific chapter(s). The weaving of authors’ and editors’ arguments has the book being, as the popular phrase goes, ‘more than the sum of its parts’. Ecopedagogy is also key to the book’s topics as the book *Postdigital Ecopedagogies: Genealogies, Contradictions, and Possible Futures* (Jandrić and Ford 2022) is being simultaneously published with the Postdigital Science and Education book series.¹

**Weaving Ecopedagogy**

This second part of my review non-linearly describes and unpacks the book’s chapters through the theme of ecopedagogy. A vastly too short definition of ecopedagogies is the following: critical theories grounded environmental pedagogies. The biodigital influences of the following three areas will be focused upon: logic, imaginaries’ hope and fatalism, and reanimation possibilities of dead education and knowledge.

¹ See [https://www.springer.com/series/16439](https://www.springer.com/series/16439). Accessed 1 July 2022.
Biodigital Logic

What are the implications of following non-human constructed logic? How is humans’ logic affected by living in our current postdigital world? These two questions are problematized throughout the chapters in diverse and unique ways, including by deconstructing anthropocentrism in rather unique ways. Many chapters situated anthropocentrism beyond the devaluing the rest of nature outside of humans, which is epistemologically countered in ecopedagogical work, to the more positive aspects of grounding humanism within digitalization processes. This includes problematizing the dehumanizing characteristics of artificial intelligence (AI) and labor replacement by biodigitalization.

Non-anthropocentric, technocratic perspectives lead to ‘pure logic’ that Reader, in ‘Biodigital Becoming’ (2022), argues is dehumanizing. Logic absent of humans’ socio-historical reflexivity removes justice, respect, love, and sustainability from decision-making, for example, neoliberal logic that prioritizes profiteering within the private sphere without care for each other or nature overall (Postma 2006). A quite opposite example is pure logic of environmental sustainability that focuses on lessening population numbers which views wars and pandemics as positive. Reader and other chapter authors utilize critical problematizing of relying more on AI decision-making to interrogate how intensifying biodigitalism (re-)constructs our reasoning as we become, as Shadbolt and Hampson (2019) termed, ‘digital apes’.

Planetarily-holistic logic is necessary for ecopedagogical praxis. For example, Johnson et al.’s chapter, ‘Reconceiving the Digital Network: From Cells to Selves’ (2022), analyzes how sciences and mathematics found in nature, including human biology, is essential in constructing AI technologies. They argue that we should strive to gain holistic knowledges (e.g., body-environment-planet) rather than mechanically segmented understandings such as only microscopically observing human cells.

Authors problematizing how digital technologies legitimize certain epistemologies and delegitimize others begin to answer my second question on how biodigitalism affects our logic. In their chapter, ‘Technē and Indigenous Exosomatic Memory: Heidegger, Stiegler, and Cutting the Gordian Knot of Modernity’, Irwin and White (2022) deconstruct northern modernities that use technologies to epistemologically justify the commodification of biology from cellular-to-planetary levels. Within the Anthropocene, accelerating cyber technologies too frequently distances us from each other and from the rest of nature. They argue for disrupting northern-based perceptions of human superiority that justify environmental violence by utilizing Indigenous/Southern epistemologies that ‘recognise the faciality, languages and technē of other species’ (77).

Such critical epistemological questioning can be more easily incorporated within the social sciences and humanities, but is also essential in technical, hard-science fields, as the chapter ‘Maps of Medical Reason: Applying Knowledge Graphs and Artificial Intelligence in Medical Education and Practice’ (Cope et al. 2022) discusses. Utilizing both philosophies of ontology and more positivistic technical aspects of biodigital technologies, the authors map the possibilities of using AI within medical professions with essential humanistic groundings which,
biodigital logic to help guide planetary sustainable actions. Price’s chapter ‘Agriculture 4.0: Bioinformationalism and Post-digital Hybrid Assemblages’ (2022) is an example of this. She critically problematizes the contested terrain of biology and technologies in farming labelled as modernized (i.e., Agriculture 4.0) by deconstructing the ‘entanglements between human, the biological more-than-human world and technology’ (122).

**Biodigital Future(s) and Imaginaries’ Contested Terrains**

How does biodigitalism affect hope? Does it help support imaginaries of many possible futures or a fatalistic, unalterable single future? Disrupting fatalistic teaching that instills a single postdigital future of oppressions and unsustainability is a central ecopedagogical tenet of utopianism with many possible futures (Gadotti 2008; Misiaszek 2020). In her chapter ‘Competing Pedagogies for the Biodigital Imaginary: What Will Happen to Teachers?’, Sinclair (2022) calls for transforming pedagogies from being anthropocentric to ecocentric [i.e., ‘attending to the ethics of sustainability education and to curriculum needs’ (291, citing Lautensach 2020)] by, in part, deconstructing imaginaries (e.g., ecological social, biodigital, neoliberal imaginaries). She gives an excellent analysis of what the digitalized futures of education has been imagined historically. To counter oppressions and unsustainability, Sinclair argues that we must teach to be ‘aware of the ways that our social imaginaries affecting education are infiltrated [by neoliberalism]’ (297) as we construct postdigital future(s) guided by our imaginaries.

In their chapter ‘Digital Culture, Media, and the Challenges of Contemporary Cyborg Youth’, Gennaro and Kellner (2022) question how we, in various ways, have become cyborgs. They initiate their arguments with Haraway’s ‘A Cyborg Manifesto’ (2006). Coinciding with postdigital foundations, they argue the inseparability of the Internet from our ontologies as a ‘space we can visit, activate, engage with, or take part in, but an environment in which we live on-line identities’ (225). In particular, they deconstruct continuing socio-historical oppressions (e.g., patriarchy, racism, heteronormativity) for youth cyborgs who are disproportionately more intertwined in the postdigital world. Utilizing feminist foundations, they argue that (youth) cyborgs challenge ‘traditional structures of knowledge creation, construction, and dissemination’ (233) and give Greta Thunberg’s work as an example of emergent planetary imaginaries.

Imaginaries are essentialized in the chapter ‘The Global Pandemic Did Not Take Place: Cancellation, Denial and the Normal New’ by Bennett and Jopling (2022). They question ‘how do we take the tensions and contradictions of the pandemic to create new knowledge ecologies and forms of education’ (304)? Covid-19 experiences have the possibility of being catalysts for environmental paradigm shifts; however, it remains to be seen if this will actually occur to any degree (Misiaszek 2021). Their answer is no if neoliberal imaginaries are overwhelmingly centralized in our postdigital world. They discuss how technology guided by neoliberalism and lacking humanism is, citing Māori scholar Bargh (2007: 14), ‘a propaganda coup of the highest order’.
In what ways will digitalism intensify or counter fatalism from neoliberal indoctrination? Bradley’s ‘On the Collective Algorithmic Unconscious’ (2022) critically compares hope of collective postdigital intelligence based on ‘(hu)man-kind planetary love’ (73) which Lévy (2000) touts, as opposed to more fatalistic predictions that collective stupidity (bêtise) from postdigitalism dominated by neoliberalism which Stiegler (2013) argues. This latter pessimistic analysis emerges from, as Bradley (2022: 60) argues, an unconscious ‘collective algorithmic’ that causes ‘mental pollution of the very worst kind’. Being neoliberally ‘stupid’ of such corrosive postdigital ‘intelligence’ is discussed by Pappachen and Ford in their chapter ‘Spreading Stupidity: Intellectual Disability and Anti-imperialist Resistance to Bioinformational Capitalism’ (2022). In very unique and interesting takes, they discuss praxis that utilizes a theory of stupidity to weaponize stupidity to oppose ‘bioinformational capitalist exploitation and oppression’ (238), in short, countering neoliberal-grounded smartness to disrupt a single fatalistic future. Among their many arguments is how autism is framed as negative due to neoliberal indoctrination.

Lastly, it is crucial to counter fatalistic imaginaries that instill a single oppressive and unsustainable future; however, predicting our postdigital futures is extremely complicated and messy as Sinclair’s (2022) chapter illustrated. Royle (2022) reminds us that our predictions are frequently wrong in ‘Cycling in the Time of the Biodigital: Small Acts Towards a Conscious Uncoupling from Non-regenerative Digitised Economies’. He argues that unpredictable fluidity and interactions between actors/politics/etc. make it impossible to binarily categorize biodigital events as positive or negative. Royle first metaphorically describes this with jazz music’s improvisation and then more extensively by mapping UK cycling clubs’ interactions. His symbolic comparisons exemplify that biodigitalization ultimately results in largely unforeseen outcomes from unpredicted interactions and influences.

Necrotic Postdigitalism and Reanimation

Deconstructing how biodigital processes are leading towards Marxist concepts of dead knowledge and dead labor is Neilson and Enright’s overall question in their chapter ‘From Dead Information to a Living Knowledge Ecology’ (2022). Due to neoliberalism being inherently necrotic, they advocate to (re)focus on reanimating knowledges within biodigital processes through humanist and socialist lenses. Such biodigital reanimation is essential in our neoliberal-influenced academia. Their chapter provides insightful aspects on how biodigitalism and postdigitalism affect environmental pedagogies stemming from ecopedagogical arguments that ecocentric planetary lenses are also essential and are, reversely, inseparable from humanist and socialist lenses.

Webb and Mikulan indirectly examine dead education in ‘Decolonizing Racial Bioinformatics: Governing Education in Contagion and Dehiscence’ (2022). After briefly discussing Kant’s racist framings of ‘good life’, they explore possibilities of bioinformatics to escape oppressive politics of education including neocoloniality and racism. By creatively viewing technologies as digital contagions, they discuss in creative ways biodigital possibilities to ‘escape’ dead education that reproduces oppressions.
Conclusion

I want to reemphasize that I use the theme of ecopedagogy to exemplify the wide range of pedagogical and research applications of this book and to illustrate the benefits of reading it entirely. Ceasing of the increasingly blurred lines between our digital world as inseparable to our ‘real world’ in which postdigitalism emerged from is unperceivable (Jandrić et al. 2018), signifying the importance of better understanding how postdigitalism affects our epistemologies in diverse ways. This includes the ‘mutual interaction and integration of information and biology’ (i.e., biodigitalism) (Peters et al. 2022: 3), which has significance that cannot be overstated. Probably nothing can exemplify this more concretely today than Covid-19, as expressed in various ways throughout the book (see also Jandrić 2020). The pandemic’s devastating biological aspects had technologies forming contested terrains of being both positive and negative.

Digitalization often allowed access to education while in-person teaching became dangerous, but digitalization also furthered the adverse effects from digital divides. Many of my own students from the Global South had to drop out (or rather were systematically ‘pushed out’) of my classes and sometimes their degree program overall due to insufficient Internet infrastructures in their home locations. Digitalization gave access to important, often life-saving information on Covid-19, but also was the means of widely spreading false post-truths (e.g., Covid-19 does not exist, vaccines are dangerous, false cures) which too frequently led to harmful consequences, including increased deaths. The timing of this book is favorable as it is on the tail end of Covid-19 (optimistically, but without 100% certainty) because critical comparisons can be made through the editors’ and chapter authors’ arguments to hopefully construct better digital futures (plural to indicate the transformative possible of tomorrow rather than a fatalistic single future). However, if the postdigital impacts upon biological systems that the book unpacks were initially better understood more widely and actually heeded, possibly the human toll from the pandemic could have been significantly lessened—especially the 3.645+ million who died from it (an already underreported figure).²

I would argue that the importance of this book is problematizing bioinformation postdigitalism on current and future horrible global, planetary events. Environmental devastation is definitely one of them as I wrote in ‘Covid-19 foreshadowing Earth’s environmental tipping point: Education’s transformation needed to avoid the ledge’ within Peters et al. (2020) collective piece arguing that environmental demise does not have a possible vaccine and we, optimistically, are rushing towards an irreversible tipping point or, pessimistically, we are past a point of no return. In the same collective piece (Peters et al. 2020), Jandrić also wrote a similar sediment problematizing the possibilities of Covid-19 shifting individual and collective responsibilities and interests while asking the following question which is also the title of his piece: ‘What Type of University do We Deserve?’ For myself, today,

² See https://covid19.who.int. Accessed 8 July 2022.
I reread my piece with less optimism and hope compared to when I wrote it during Covid-19’s initial stages. In *Bioinformational Philosophy and Postdigital Knowledge Ecologies*, Peters et al. (2022) provide a balanced range of authors’ arguments and analyses which shift between hope and pessimism for our postdigital futures. I would argue that this approach is very much needed for such a topic that is weaved throughout everything we do.

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