Educational nomadism for the Anthropocene: notes for future revolution

Nomadismo educacional para o Antropoceno: observações para a revolução futura

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ABSTRACT:

This paper locates three movements for the future of education that will be mapped to understand how they impinge upon contemporary practice as disruptive yet potentially unifying forces; 1) The Anthropocene. The planetary boundaries hypothesis is one of the most proven scientific theories, yet contemporary education still fails to incorporate its most basic tenets into its operations - such as a move away from fossil fuel usage. This paper contends this is in part due to the continued domination of realist scientific epistemology backed by capital, which is not future or imaginary oriented, or able to incorporate deeper notions, such as enhanced connections to nature/change. 2) Nomadism. Given the tenets of the crossed planetary boundaries, and how they will cut supply chains, disrupt agriculture and power supplies, and put pressure on the global economy, a move to small scale, self--sufficient and moveable society is necessary. This paper will outline these combined elements for a future education as nomadism, which is differentiated from 'the nomadic', that we derive, for example, from Rosi Braidotti (2014). 3) Time. How long do we have left to implement these changes in educational practice? 'Net zero for 2050' is a common mantra that has been mobilized by governments and corporate PR departments to assuage citizens and clients that they are acting on climate change. This paper comprehends real time with respect to transformed and revolutionary educational practice.

RESUMO:

Este artigo situa três movimentos para o futuro da educação que serão mapeados para entender como eles impactam práticas contemporâneas tão destrutivas, ainda que potencialmente una forças; 1) O antropoceno. A hipótese dos limites planetários é uma das teorias científicas mais comprovadas, mesmo assim, a educação contemporânea ainda falha em incorporar o princípio mais básico em sua operação - como se distanciar do uso de combustíveis fósseis. Esse artigo afirma que isso é em parte por causa da contínua dominação da epistemologia científica realista apoiado pelo capital, que não é orientado por uma visão imaginária ou que vise o futuro. Ou, que possa ser incorporado em noções mais profundas, como maiores conexões com a natureza/mudança. 2) Nomadismo. Dado os princípios dos limites planetários cruzados, e como eles cortarão cadeias de abastecimento, agricultura destrutiva e fontes de alimentação, e colocar pressão na economia global, é necessário um movimento de mudança para uma sociedade de pequena escala, autossuficiente e móvel. Esse artigo irá delinear estes elementos combinados para a futura educação como nomadismo, que é diferente do "nômade", na qual derivamos, por exemplo, de Rosi Braidotti (2014). 3) Tempo. Quanto tempo temos para implementar essas mudanças na prática educacional? "Net zero até 2050" é um mantra comum que tem sido mobilizado por governantes e departamentos de RP de corporações para assegurar cidadãos e clientes que eles estão tomando medidas quanto ao aquecimento global. Esse artigo compreende o tempo real respeitosamente para a prática educacional transformadora e revolucionária.

KEYWORDS:

Anthropocene; education; nomadism; revolution; time.

INTRODUCTION

One could argue that contemporary education is being ruptured from within by the three forces of the 'Anthropocene', 'nomadism', and 'time'. The Anthropocene is the premier force, because the value-systems, curriculum and pedagogy as currently practiced come from the Holocene, wherein the atmospheric system was stable, and this stability enabled the development of human civilization since the end of the last ice age, 10,000 years ago (cf. Meltzer, 2021, pp. 27-51). Education in the Holocene assumes that even though there have been the cyclic expansions and contractions of human population, culture, civilization, territories and, indeed, the control of nature during the last 12,000 years; there has always been another cycle, and that nature and the human place in nature will be refreshed and rejuvenated, often through the flourishing of new civilisations, contexts, times, peoples or places. The difference that the Anthropocene makes to education is that these cycles of (natural) rejuvenation of human activity can no longer be assumed (Beasley & Peters, 2020). Instead of the 'phoenixes' of human knowledge, truth, and spiritual quest arising from the ashes of a previous destructive phases of war, famine or environmental and social crises and displacement, the Anthropocene presents an end to human life, the extinction of a species by their own hand. Elsewhere, I have referred to this as the singularity of the Anthropocene, as a black hole of nihilism and schizophrenia that we are being drawn into by anthropogenic effects on the planet Earth (Cole, 2024a). As such, if education is to have any lasting effect in and on the Anthropocene, pedagogy and curriculum must take account of the forces that are creating the Anthropocene and go beyond superficial and limited counters to the pressures these forces are creating (e.g., through straightforward techno-fixes), to turn around the actions that we are producing in this new age.

Nomadism is rupturing education from within because the stable, expansionist program that has built sedentary structures of power and domination are shifting in the Anthropocene. One could argue that stable nations have always been wary of nomadic others skirmishing on their borderlands and have frequently resorted to demonising the nomad as being savage/barbarian (e.g., Diener & Hagen, 2024, pp. 1-21). However, this image from history is not what is overturning human society in the Anthropocene. Rather, it is pressure on the very economics and its systems that have helped to establish one world global capitalism that are collapsing due to nomadic forces; for example, food supplies and fresh drinking water are dwindling (cf. Taylor, 2008, pp.120-138), the ability to effectively deal with human waste is reaching a breaking point (Cairns, 2004), the build-up of plastics in the biosphere and other pollutants from human industrial activity are adding to the destruction of natural ecology and human ability to thrive on planet Earth (Dey, Veerendra, Babu, Manoj & Nagarjuna, 2024). Lastly, time itself is rupturing education from within. Highly time prescribed 'timetables', successive and mechanical curricula and pedagogic techniques that are meant to work like clockwork, struggle to deliver the necessary gains in the contemporary situation. This lack of gains is because the Anthropocene and nomadism embody a different time to the modernist, progressive, growth-oriented time of the Holocene; this new time is simultaneously darker and more fatalistic, and being continuously broken up and extended (Alberro, 2020, pp. 92-110). One way to describe the educative time that we are now inhabiting is as stochastic time,

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wherein randomness and chaos are augmented through positive feedback and crossover loops (Cole, 2021, pp. 1-16). In this state, time begins to shatter and explore its multiple levels, synchronicities and refractions from the atomised to duration, from repetition to difference, from the emergent to planar (Oliver, 2016). In short, the notion of a measured, easy to formulate time in which we learn becomes impossible and meaningless in a hostile universe.
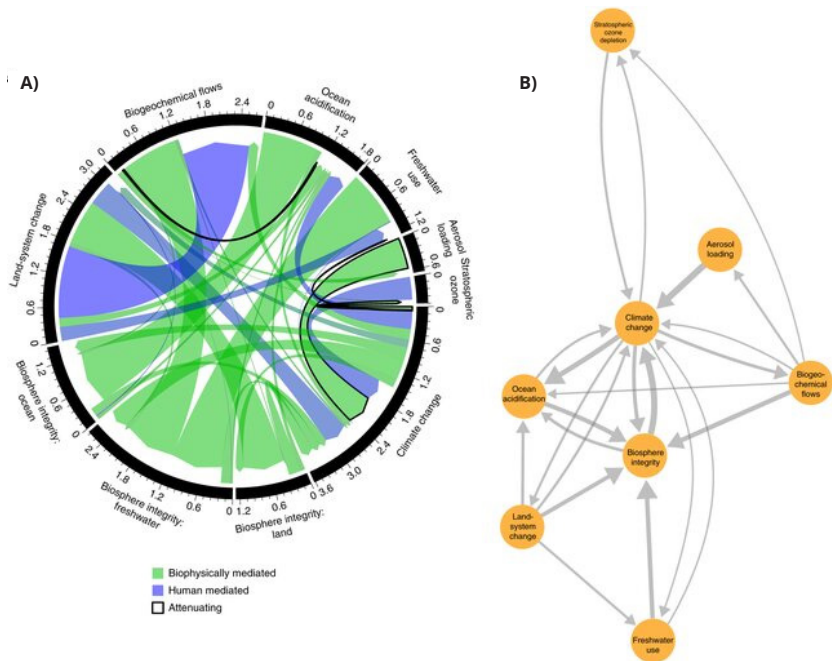
THE ANTHROPOCENE

If one admits to the transition to the Anthropocene, one must immediately decide how one will act in relation to this new age of the human (Slaughter, 2012). Even though official geological authorities have been slow to recognise the Anthropocene, other disciplines such as education, the social sciences and the humanities have been taking the shift to a human-dominated era seriously. As Figure 1 shows, the planetary boundaries are quickly being surpassed, spelling an increased risk for human inhabitation of the planet Earth. This risk is augmented since every planetary boundary is interlinked and connected (Figure 2), and subject to feedback and crossover effects, such as one boundary cross pollinating another and shifting the boundary lines further, such as those of ocean acidification and climate change (Figures 1 & 2).

FIGURE 1.

The evolution of the planetary boundaries framework. Licenced under CC BY-NC-ND 3.0 (Credit: Azote for Stockholm Resilience Centre, Stockholm University). Based on Richardson et al. (2023), Steffen et al. (2015), and Rockström et al. (2009)
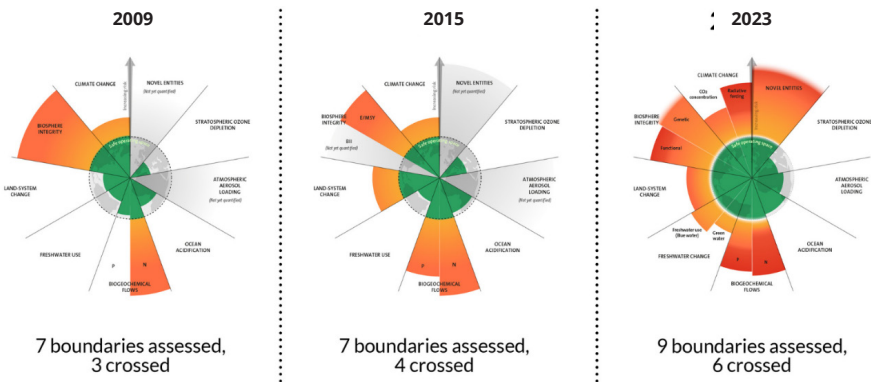
FIGURE 2.

Interactions between the planetary boundaries. A) Circular and B) force-directed representations (Lade, Steffen, de Vries, et al. 2020, p. 121). Image used with permission.

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However, the problem remains with respect to effectively changing behaviours, attitudes, and actions in the Anthropocene, and not augmenting already escalating effects as seen in Figures (1 & 2). The first step towards solving this problem lies in realising that every behaviour, attitude and action starts at the local level, and this level is riven with the planetary systems changes as described above (Figures 1 & 2) (Fanning, O'Neill & Büchs, 2020). Yet, the bio-physical alterations in the world's planetary systems do not change human behaviour and systems unless there is a direct impact on human functioning, such as fires and heat, floods, drought and consequent food shortages. Furthermore, these 'crises impacts' are also mitigated by social-cultural-political systems that expose and protect specific human populations, and augment and diminish the effects of the bio-physical Earth systems - elsewhere I have characterised this aspect of the Anthropocene as 'patchworks' (Cole, 2024b). Examples include countries where civil war has occurred due to increases in the impacts of climate change (Devitt & Tol, 2012), and others with existing civil defences that enable a general mobilisation against naturally occurring crises such as wild fires (Cole, 2022a). With this point in mind, it is worth examining a case study that exemplifies changing fortunes of the Anthropocene, and how education fits in with these changes.

THE NEW SILK ROAD

China's 'Belt and Road' infrastructure initiative represents one of the most ambitious and all-encompassing projects of the 21st century (Zhang, Zhang & Xiao, 2022). Primarily, Chinese expansion in the Eurasian corridor will result in increased emissions and enhanced climate change (Tracy, Shvarts, Simonov & Babenko, 2017). However, China is also one of the world's largest investors and producers of renewable energy technologies, and as such, its expansion along the Eurasian corridor will result in increased distribution and uptake of renewable technologies (Gao & Liu, 2024). Significantly, as a defining feature of the Anthropocene, and for understanding geopolitical shifts in the 21st century, I will refer to the Chinese 'Belt and Road' initiative as the new 'Silk Road'. The reason that I am referring to it as the Silk Road is because of the rich history of the previous Silk Road, which was a major highway for human development throughout history (Andrea, 2014). People, commerce, religion, philosophy, money and power flowed along the Silk Road long before the west came to prominence from the 16th to 18th centuries onwards and the geopolitical map of the world shifted from Asia to the west (Kashmeri, 2019, pp. 13-51). As the new Silk Road demonstrates (Figure 3), there is still enormous interconnected economic and political power in the Silk Road region as a corridor and functioning matrix to reengage the world in turning its attention back from the west to the east (Figure 3). This matrix stands in contrast to the bio-physical matrix of planetary boundaries and their interconnections (Figure 1 & 2) that do not include geography or human history. It is the contention of this paper that the new Silk Road will either be a defining feature of the Anthropocene, and it will lock humanity into the destiny of, for example, hothouse Earth (Steffen et al. 2018), or it will determine a point in history and geography that enables a cleaner, renewable future.

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Reviving the Silk Road

Announced by Chinese President Xi Jinping in 2013, the Silk Road initiative, also known as
China's Belt and Road initiative, aims to invest in infrastructure projects, including railways and
power grids, in central, west and southern Asia, as well as Africa and Europe.

Source: Mercator Institute for China Studies.
C. Inton, 23/04/2018

The point of inclusion of the new Silk Road (Figure 3) in this section on the Anthropocene is that it demonstrates political and capital-based movements of energy, infrastructure, labour and power of the 21st century. The shift in intensity that the new Silk Road signifies, shows how the Anthropocene is being restructured from a human, political and societal perspective, and how this restructuring has consequences in terms of the patchworks of human life within the remit of this restructuring (Bould, 2021, pp. 39-58). Furthermore, the education of this shift is not a straightforward remarking of territory and power from the west to the east, or from Americas to Asia, as power in the Anthropocene is mitigated by three factors:

1. The world is now mediated by digital technology. Thus, the geographical markers of east and west are less meaningful than the past. The new Silk Road, though geographically emanating from China and the policy of the Chinese Communist Party, is learnt about and understood through articles, analysis and reports written by economic and corporate employees (Van Noort, 2021, pp. 73-93). The facts of the new Silk Road will be shared and pored over via electronic means that are global. Thus, even though the flows of capital, investment, labour, techniques and skills of the new Silk Road come from China, the end results will be learnt about via the global capitalist systems of surveillance, communication, stock exchanges and hierarchy, which do not have one fixed or determining source (e.g., Chan, 2018). In a sense, this means that learning about the new Silk Road is a non-geographical but power-related process that involves understanding its effects through multiple, interconnected, digital inquiry.

2. Infrastructure builds do not fundamentally change the character of the populations that are living in their remit. Thus, tribal, national, social, cultural, economic and religious tensions will still exist despite investment in infrastructure and the new interconnectedness that the new Silk Road brings. The historic mixing of cultures, societies, knowledge and skills that the previous Silk Road brought is happening again (to an extent), yet the global system of finance and national border controls work together to make people more likely to stay in their place (e.g., Todorova, 2015). Also, the increased population from the time of the previous Silk Road to now makes the wholesale exchange of peoples less likely, even though the new Silk Road could enable the transit of environmental and other refugees (Sternberg, Ahearn, & McConnell, 2017). Thus, even though the multiculturalism of the new Silk Road can be studied and understood through education, it is not as prominent as other concerns.

3. The most pressing concern is the environmental impacts of the new Silk Road. Even though, as already mentioned, the new Silk Road will see easier transport and distribution of renewable technologies, the fact remains that natural habitat, biodiversity, atmospheric, water and land-based pollution will occur with the construction of the new Silk Road. Thus, even though educationally economic growth is prioritised and written into curricula and pedagogic agendas, clearly the reality of the new build will have negative impacts on nature (e.g., Moore, 2012, pp. 104-129). Thus, educators are placed in contradictory, even schizophrenic situations through their pedagogy and choices; in that the overwhelming pressure that they face is to give their students the means to succeed in a commercial, competitive human environment, yet they simultaneously know that these knowledges will enable environmental catastrophe (Cole, 2022b). Thus, we are compelled to invent a new means of education that takes account of the shift in the new world order yet gives the educator the means to teach for the good of the planet, and the sustainability of life on Earth – here it is called 'educational nomadism'.

NOMADISM

The ancient Silk Road was open to the incursion of nomads from the North. The eastern and western steppe (Figure 4) were home to a myriad of nomadic tribes that had become hardened to the environment and moved across the terrain with their animals and belongings. For example, the Huns, the Mongols, the Magyars, the Turks, the Xiongnu, the Scythians and the Goths (in Europe) lived alongside and adjacent to developing cities and empires that were connected via the Silk Road (Harl, 2023, pp. 13-28). Even though trade and contact between the nomads and the sedentary civilisations that were intermingling through the Silk Road did occur, the barbaric image and fear of the nomads was real. This was because the nomads chose to live life on the move, in contrast to the settled, hierarchical, protected life of the city and empire dweller (e.g., Osinsky, 2021) and because they were fearsome warriors. It is interesting to note that the zone of the eastern and western steppe (Figure 4) coincides with much of the new Silk Road, and even though nomadic peoples have dispersed

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and/or moved to live sedentary lives, ghosts of the former tribes still loom across the imagination of central Asia (and the rest of the world). Hence, it is incumbent upon us to notice that the shift in power from the west to the east (given the three caveats about power as mentioned above) marks a shift back to the psychic functioning of the Silk Road – in both a recognition of the significance of Central Asia, and the unconscious influence of the nomad. Note that nomads are not vagabonds, drifters, indigenous peoples, hunter and gatherers (i.e., premodern peoples) or outcasts/miscreants from hierarchical sedentary society (Dragomir, 2019). Rather, nomads are peoples that have chosen to live on the move across the land, and have maintained their customs, rituals, skills, societal mores, language and codes, and organizational and bodily enactments that enable a life of change. It is with these points in mind that I construct an educational nomadism for the Anthropocene.

FIGURE 4.
Eurasian steppe belt (turquoise).
Image at: https://en.wikipedia.
org/wiki/Eurasian_Steppe
(image has been released into
the public domain)

EDUCATIONAL NOMADISM FOR THE ANTHROPOCENE

What does the crossing of the planetary boundaries and the geopolitical shift from the west to the east with respect to the new Silk Road have to do with education? This paper asserts that the combined effects of the changes in the Earth's systems and the shift from the west to the east in terms of geopolitical power and leverage calls for what I am proposing here as 'educational nomadism'. This is a non-phenomenological, non-subjective approach (Cole & Woodrow, 2016, pp. 1-16) to understanding how the search for knowledge and its application(s) through education have changed and will change further in the Anthropocene. I outline the tenets for an educational nomadism below:

1. Even though we are now in the Anthropocene, and geopolitical power has shifted due to the construction of the new Silk Road, education continues as if we were still in the Holocene, and that power comes from the west (cf. Padilla, 2021, pp.56-72). Thus, education that still functions from the bases of the Holocene and the west fails to understand fundamental shifts in the Anthropocene. This is because education in these terms is not reconciling changes in time and space as being important to their orientation. Educational nomadism for the Anthropocene recognises the changes in the Anthropocene, and that power has shifted due to the new Silk Road and incorporates these learnings into the construction of knowledge. What they both exactly mean depends upon the context and knowledge area that is being worked through at any given time. For example, the sciences and the development of technologies with respect to power supply should emphasize clean, renewable energy, and cease to educate about fossil fuels. This shift needs to be written into curriculum documents, pedagogy and syllabi (e.g., Petersen, Klingenberg, Mayer & Makransky, 2020). The teaching and learning of world history must include the spatial and time coordinates of the Silk Road, both ancient and modern, and their consequences.

2. The educational nomadism of this article does not stop at the 'meta' levels of the changes in the planetary systems and the shift in power focus from the west to the new Silk Road and teaching and learning about them. Rather, the changes that educational nomadism tracks and comprehends in new pedagogical acts goes to the micro, chaotic and immanent levels. At these levels, the changes as mentioned above shake the foundations of education. Knowledge is usually taught as if it is universal, timeless, and as if it points back to a stable point of emanation (e.g., Brunschwig, Lloyd & Pellegrin, 2000, pp. 1-27). This can lead to curricula not evolving or working with context or the contemporary (variable) situation. As soon as knowledge is formalised in any knowledge area, it is open to change, reinterpretation, and new methods of pedagogy, that educational nomadism recognises and enhances. In short, educational nomadism does not tend towards knowledge accumulation and state/corporate/exterior control but prioritises local situations as evolving nexuses of dynamic change. This shifts the focus of education to teachers, schools, colleges and universities, and empowers them to do something about climate change and the new Silk Road.

3. In addition to the meta and micro levels of change that educational nomadism focuses on and enhances, it is also a source of positivity and energy to do something about the future. Of course, there are pro-environmental philosophies and approaches that one might insert at this point (e.g., Environmental and Sustainability Education (ESE)). However, all eco-educational, nature positive philosophies may be integrated into evolving a new practice of Buddhism for the Anthropocene, and for the educational nomadism of this article. Mindfulness and its exercises already have a strong foothold in educational contexts (cf. Thera, 1986). The focus here is to strengthen and work on student thinking and having the ability to think given the plethora of digital distractions that students routinely encounter, and the acceleration of digital images and cultural shifts/directions that they are experiencing in the contemporary moment (cf. Cole, 2023). In short,

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educational nomadism signifies a move away from the ubiquitous and incessant production of digital cultural artefacts as presented by the internet, and the reawakening of inner journeying into the self. This is to echo the understanding of the nomad as someone ready and able to travel, but who is also equipped with a great inner calm and wealth of internal resources for the probable obstacles and barriers that they will have to overcome as they journey across the land. To illustrate educational nomadism for the Anthropocene, I will turn to the issue of housing.

Case study for educational nomadism: Housing

The thesis behind this paper is that the shifts in biophysical and geopolitical power in the 21st centuries require a change in favour of small scale, self-organizing, moveable and adaptive educative units, not dependent on large, state or corporate run systems with immutable, timeless knowledge and systems of evaluation and assessment that tend towards the domination of existing elites (Cole & Baghi, 2024). Of course, this is to an extent an idealism in the current situation, as resources and power are locked into place, and there is a little leverage for dismantling or radically altering the status quo in terms of what education is or how it is organized. This is why alternative philosophies and approaches to education need to be tried in the 21st century that enable change, even if it is initially only from the individual and interest-group outwards, as they realise the shifting nature of biophysical and geopolitical reality and plug those changes into what is taught and how education is organized. As mentioned above, a reimagined Buddhism along with elements of social ecology (e.g., Gregory & Sabra, 2008), degrowth (Nelson & Schneider, 2018) and critical thinking about the future and present social-cultural-economic systems and their power structures make up the proposal for an educational nomadism that tackles pertinent issues for the 21st century such as housing.

Currently, housing is an issue not properly discussed by education. Rather, individuals are taught in separate knowledge areas, and expected to enter the housing market once they have gained full time employment that enables them to pay off a mortgage. Educational nomadism can be positively enacted, for example, by teaching and learning how housing can be reimagined on a small scale, with 3D printed houses (Cole & Baghi, 2022), connected in co--housing arrangements with shared sustainability-oriented developments, such as PV arrangements (solar panels), water collection and recycling facilities, food growing areas (gardens), and micro grids that are controlled through BMS (Building Management Systems) (Figure 5). These 3D printed houses can incorporate the very earth on which the construction is made to connect the dwellers with the place where they live (Ibid.), so even though they are not moveable, they connect the inhabitants with nature. These technologies are currently available and have been proven to create a sustainable future (e.g., Sakin & Kiroglu, 2017), yet are not mentioned or integrated into curriculum and pedagogy:
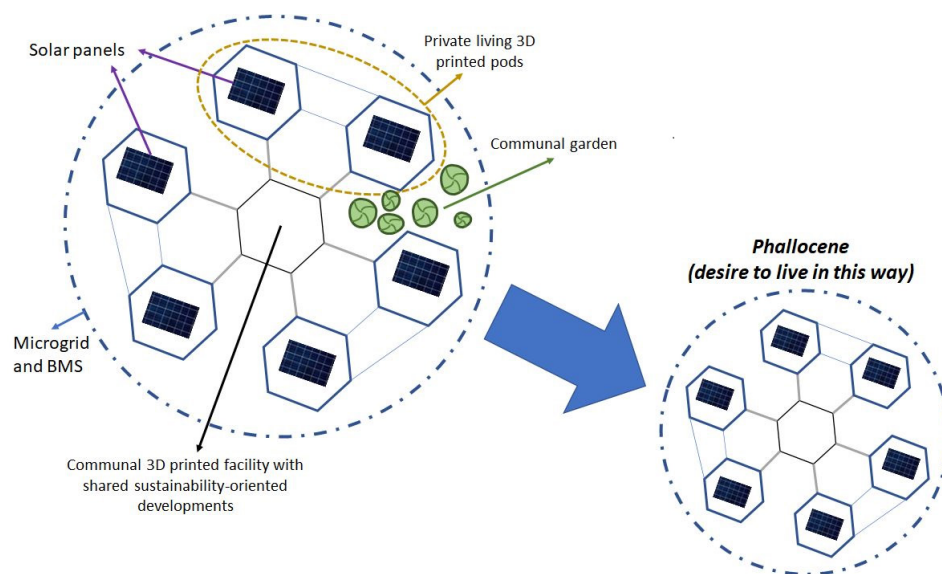
FIGURE 5.
3D printed houses in the phallocene © Baghi 2023 (Cole & Baghi, 2023, p. 9).

These features of reimagined housing facilities, suitable for an 'educational no-madism', are possible, but not enacted, as we are encumbered in the present situation by limitations on what we can do and imagine by capital (Bida, 2018, pp. 1-12) and its accompanying realism. Elsewhere, I have reconciled the differences between where society is today, and the emergent possibilities that might enable us to imagine and do something about the current situation in the Anthropocene in terms of Guattari's (2013) 4-zones of the unconscious diagram that are: - the zones of Territory (T), Ideas of the Universe (U), Social Flux (F), and Machinic Phylum (Φ), which in unison constitute a schizoanalytic take on the unconscious. In my work, the 4-zones are refigured by applying Deleuze/Guattari (1984, 1987) to the Anthropocene as 'Tool-enhancement', 'Carbon trail', the 'Phallocene', and 'Atomic-time' (Cole, 2021), that lead to the black hole or singularity of the Anthropocene, in a non-linear material cloud analysis (Ibid.). The point of this analysis is to make it possible to escape the black hole of the Anthropocene, and the suggestion of housing above (Figure 5) is a move in this direction. The potential of this housing suggestion is underwritten by available technology and redirecting capital and the imaginary to serve a sustainable future and not the profit margins of contemporary corporations. Furthermore, a new orientation of time in education is enabled through such practises to redirect the action and thinking practises of future generations towards what will enhance flourishment and living conditions on planet Earth.

TIME

The essential problem for/in/as education is that learning is continually cut up and ended through predetermined aspects of power and control such as the 'timetable'. Further, students are scheduled to learn and teachers to teach in 'clock on' 'clock off' rituals that are like factory, regulated office work, or being in an army barrack. Within the segmented and distinct time units, students are put in competition with one another in terms of marks, evaluations, assessments, exams, leading to fluctuations in their relative positions in the classrooms, and affecting their self-esteem and ability to cooperate and work in teams (cf. Strom

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& Strom, 2011). As a result, the educational nomadism of this article becomes untenable, as the students are isolated and separated in their individualism, rather than being able to work collectively towards important goals, and such as 'Education in the Anthropocene' requires (Clarke, 2019, pp. 1-29). One way to think about these contrasting results of time imposition is 'individuation' (Figure 6). The notion of individuation comes from process philosophy (Bueno, Chen & Fagan, 2018, pp. 17-28), and thinkers such as Gilbert Simondon (2005), who thought through how one becomes in a situation:

> What is at stake is the recognition of a 'pre-individual' state of being in which individuation produces itself (Lefebvre, 2011, p. 3). Simondon writes that "one mustn't consider being as substance, matter or form, but as an oversaturated system in tension, above unity" (Simondon, 2005, p. 25).

Thus, individuation is produced as a systems property, and not through personal choices. In unhealthy, toxic situations, individuals are made to compete against one another, leading to disaggregation from colleagues, distrust and vulnerability in terms of being open to exploitation (Figure 6). In contrast, healthy individuation suggests that individuals are encouraged to cooperate, work together, and this results in regeneration, empowerment, and respecting diversity (Figure 6).
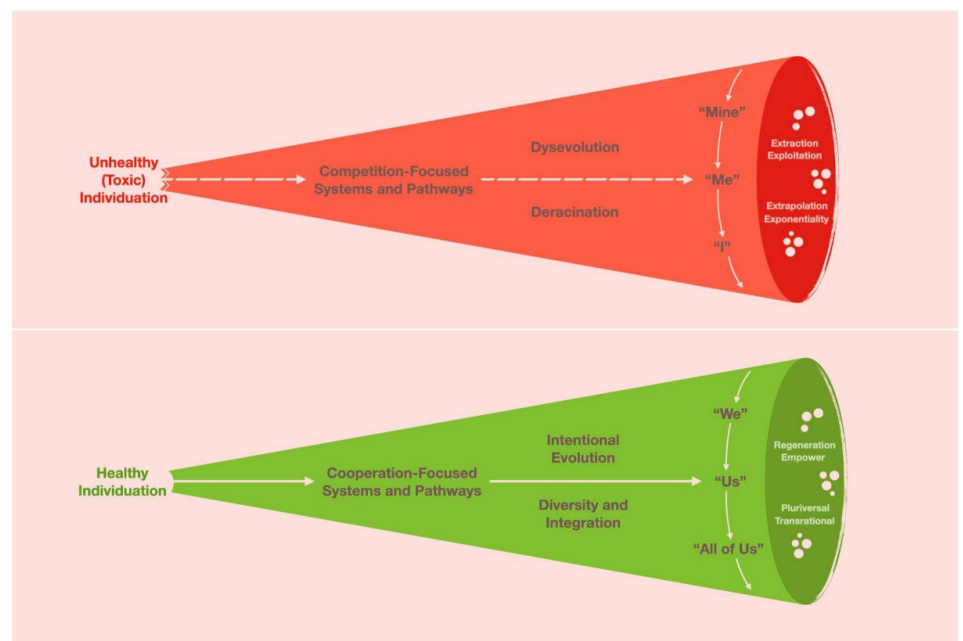
FIGURE 6.
Healthy and toxic individuation (adapted from: Roy, 2006, pp. 162-7). Image use with permission.

Of course, the processes of individuation are not dualistic or linear. Rather, non-linear, multiple and complex functioning characterizes the cones above (Figure 6), and hence the separate pathways entirely intermingle (Harris & Ashcraft, 2023). This point is also true with respect to the 'educational nomadism' of this article, as it does not create a dualistic world with sedentary, accumulative, repetitious and time disrupted educational practice and mores. Rather, it sits alongside these mainstream practices and expectations, as a complex and interwoven potential for improvement, similar in kind to the plan for future housing

above (Figure 5). Nomadism has divergent meanings and can be taken up and practised in variant manners depending upon circumstances and opportunities for breaking the mould of a bounded and restricted life (Deleuze & Guattari, 1987, pp. 379-383). The point is not to romanticise the nomad or nomadism, but to look to their energies and moments of rupture in the present situation that have influence. We currently live in a world regulated by capitalist realism and dominated by technologies that destabilise our inner selves and make us yearn for the latest commercial fad, as if our lives depended on it. In a sense, time is not our own, as we must either spend our lives working to pay off debt, or looking at screens that diminish our joy and separate us from real life and nature. In contrast, the nomad is in time and nature as part of an interconnected whole, as a process of duration that ruptures sedentary life. In a sense, nomadism is a myth that comes back to haunt modern people, and question the very lifestyle and existence that modernism has afforded us:

> One does not go back to reconquer the myth, one encounters it anew, when time quakes at its foundations under the empire of extreme danger (Deleuze & Guattari, 1987, p. 403).

It is the contention of this article that the combined actions of the shifts in biophysical energies and geopolitical power makes the myth of the nomad pertinent and real today (Fagain, 2008, pp. 105-126). We are not being asked to become nomads or directly challenge the sedentary forces that are fixing us in our places and making the situation worse in terms of adding to planetary boundary crossing and confusing the geopolitical situation. Rather, the time of the nomad, which is a continuous now, and not interrupted by the interpolation(s) of work, capital and/or digital distraction, shows us how its energies fervent and coalesce (cf. Williams, 2020, p. 73). The time of the nomad is buried inside us, like ghosts of previous modes of living, other intermingled cultures, and the codes that they reveal in our contemporary lives. Even though modernism has seen great strides in the productions of technology, science, medicine and commerce, it has left an emptiness in the heart of humanity, which has seen increases in dislocation, loneliness, alienation and misunderstanding – the singularity of the Anthropocene (Ivanovic, 2024, p. 58). The educational nomadism of this article fits into this void, not as a remedy or solution to the predicaments of modern people, but as a passenger and signal of/for the Anthropocene. The future is unknown, yet the tendencies, rhythms and durations will endure, such as the anthropogenic biophysical alterations as noted above (Figures 1 & 2) and the shift in power (Figure 3). Educational nomadism is a strategy to link the increased intensity of these biophysical systems alterations with the shift in geopolitical power (the new Silk Road) and the movement of humanity – both inner (as in the fluidity and strength of thought) and outer, as in the example of 3D printed houses. As such, it is a means to control time (and not be controlled by it) and to be thoroughly immersed in place.

CONCLUSION

What is the revolutionary educational practice for which we are searching? As has been suggested, the response of educational nomadism is two-fold, as

the strengthening of the inner self through practises such as a new Buddhism, adapted and updated for the Anthropocene through critical practises to question the intrusions of global capitalism and its greenwashing (Fremaux, 2017, pp. 61-72). This new practise must (re)engage students, teachers and administrators with and in nature, as adaptive mechanisms to change learning away from sets of universal, timeless knowledges that plug into contemporary global capitalism yet cannot deal with the Anthropocene. Further, the educational nomadism of this article extends to external factors of the Anthropocene, such as the geopolitical changes bracketed within the term, the 'new Silk Road' along with geo-biological systems changes already mentioned. Together, the inner and outer push for change through education could be understood as the 'Anthropocene-event':

> ... learning to apprehend technological processes in ways that do not assume the transcendence of the human over nature will be entirely necessary if we wish, paraphrasing Deleuze, to become worthy of the 'Anthropocene-event' (Roberts, 2027, p. 541)

Currently, the development of technologies and techno-fixes to the climate crisis are prioritised due to governmental and corporate interest in the profits of these developments, as well as the environmental improvement (cf. Symons, 2019, pp. 29-74). This will not result in the revolution that that we seek, or the necessary changes to turn around the current situation and to endure in the Anthropocene. Rather, educational nomadism presents a way forward to unite the desire to strengthen the self with external social-cultural and economic concerns. Populations need to be attuned and aligned with nature, but the systems that govern and control the flows of energy and resources around the globe also need to be in tune with changing biophysical and geopolitical situations and not exacerbate them further. In sum, this leads to the notion of future nomads, able to survive the Anthropocene.

REFERENCES

Alberro, H. (2020). Ecotopia rising: an ecocritical analysis of radical environmental activists as ecotopian expressions amid Anthropocene decline [thesis]. Nottingham Trent University (United Kingdom).

Andrea, A. J. (2014). The Silk Road in world history: A review essay. *Asian Review of World Histories, 2*(1), 105-127.

Besley, T., & Peters, M. A. (2020). Life and death in the Anthropocene: Educating for survival amid climate and ecosystem changes and potential civilisation collapse. *Educational Philosophy and Theory, 52*(13), 1347-1357.

Bida, A. (2018). *Mapping Home in Contemporary Narratives*. Springer.

Bould, M. (2021). *The Anthropocene Unconscious: Climate Catastrophe Culture*. Verso Books.

Braidotti, R. (2014). Writing as a nomadic subject. *Comparative Critical Studies, 11*(2-3), 163-184.

GALÁXIA

Revista Interdisciplinar de Comunicação e Cultura

Brunschwig, J., Lloyd, G. E. R., & Pellegrin, P. (Eds.). (2000). *Greek thought: A guide to classical knowledge*. Harvard University Press.

Bueno, O., Chen, R. L., & Fagan, M. B. (Eds.). (2018). *Individuation, process, and scientific practices*. Oxford University Press

Cairns Jr, J. (2004). Ecological tipping points: a major challenge for experimental sciences. *Asian Journal of Experimental Sciences, 18*(1), 1-16.

Chan, M. H. T. (2018). The belt and road initiative–the new silk road: a research agenda. *Journal of Contemporary East Asia Studies, 7*(2), 104-123.

Clarke, D. A. G. (2019). Practising immanence:(still) becoming an environmental education academic [thesis]. University of Edinburgh.

Cole, D. R. (2021). *Education, the Anthropocene, and Deleuze/Guattari* (Vol. 5). Brill.

Cole, D. R. (2022b). Caught between the air and earth: A schizoanalytic critique of the role of the education in the development of a new airport. *Educational Philosophy and Theory, 54*(4), 422-433.

Cole, D. R. (2022a). Unwriting for the Anthropocene: Looking at the disaster from the inside. In B. Herzogenrath (Ed.), *New perspectives on academic writing: The thing that wouldn't die* (pp. 137-148). Bloomsbury.

Cole, D. R. (2023). No media... In J.P.N. Bradley, A.T-G Lee & Manoj N.Y, (Eds.), *Deleuze, Guattari and the Schizoanalysis of Postmedia* (pp. 149-164). Bloomsbury.

Cole, D. R. (2024b). Patchwork Vectors for the Anthropocene: The Role of Creative Ecologies. *Qualitative Inquiry*. DOI: 10.1177/10778004241229785

Cole, D. R. (2024a). The praxis and imaginary of Environmental and Sustainability Education in the Capitalocene. *The Journal of Environmental Education, 55*(1), 1-12.

Cole, D. R., & Baghi, Y. (2022). 3D printed sustainable houses for education [report]. Western Sydney University: https://researchdirect.westernsydney.edu.au/islandora/object/uws:62628/datastream/PDF/view

Cole, D. R., & Baghi, Y. (2023). Fitting the human body into 3D printed houses: A requiem to the Phallocene. *International Journal of Body, Nature, Culture, 2*(1), 15-34. https://doi.org/10.23124/JBNC.2022

Cole, D. R., & Baghi, Y. (2024). Housing in the Capitalocene: Environmental education and sustainable living. *The Journal of Environmental Education, 55*(1), 13-25.

Cole, D. R., & Woodrow, C. (2016). *Super Dimensions in Globalisation and Education*. Springer.

Deleuze, G., & Guattari, F. (1984). *Anti-Oedipus: Capitalism and Schizophrenia* (R. Hurley, M. Steen & H.R. Lane, Trans.). The Athlone Press.

Deleuze, G., & Guattari, F. (1987). *A Thousand Plateaus: Capitalism and Schizophrenia II*. (B. Massumi, Trans.). The Athlone Press.

Devitt, C., & Tol, R. S. (2012). Civil war, climate change, and development: A scenario study for sub-Saharan Africa. *Journal of Peace Research, 49*(1), 129-145.

Dey, S., Veerendra, G. T. N., Babu, P. A., Manoj, A. P., & Nagarjuna, K. (2024). Degradation of plastics waste and its effects on biological ecosystems: A scientific analysis and comprehensive review. *Biomedical Materials & Devices, 2*(1), 70-112.

Diener, A. C., & Hagen, J. (2024). *Borders: A very short introduction*. Oxford University Press.

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GALÁXIA
Revista Interdisciplinar de Comunicação e Cultura

Dragomir, C. I. (2019). Nomads, "Gypsies," and Criminals in England and India from the Seventeenth to the Nineteenth Century. *Critical Romani Studies, 2*(1), 62-81.

Fagan, B. (2008). *The great warming: Climate change and the rise and fall of civilizations*. Bloomsbury USA.

Fanning, A. L., O'Neill, D. W., & Büchs, M. (2020). Provisioning systems for a good life within planetary boundaries. *Global Environmental Change*, 64, 102135.

Fremaux, A. (2017). Towards a Critical Theory of the Anthropocene and a Life-affirming Politics [thesis]. Queen's University. Belfast, UK.

Gao, S., & Liu, G. S. (2024). Green Silk Road and Belt Economic Initiative and Local Sustainable Development: Through the Lens of China's Clean Energy Investment in Central Asia. *International Journal of Environment and Climate Change, 14*(7), 480-498.

Gregory, J., & Sabra, S. (2008). Engaged Buddhism and Deep Ecology. Human Architecture: *Journal of the Sociology of Self-Knowledge, 6*(3), 51-65.

Guattari, F. (2013). *Schizoanalytic Cartographies* (A. Goffey, Trans.). Bloomsbury.

Harl, K. W. (2023). *Empires of the Steppes: The Nomadic Tribes Who Shaped Civilisation.* Bloomsbury Publishing.

Harris, K. L., & Ashcraft, K. L. (2023). Deferring difference no more: An (im) modest, relational plea from/through Karen Barad. *Organization Studies, 44*(12), 1987-2008.

Ivanovic, V. (2024). Anthropocene Imaginaries. Science Fiction as Method for Ecological Reading [thesis]. Pennsylvania State University.

Kashmeri, S. A. (2019). *China's grand strategy: weaving a new silk road to global primacy*. Bloomsbury Publishing USA.

Lade, S.J., Steffen, W., de Vries, W. et al. (2020). Human impacts on planetary boundaries amplified by Earth system interactions. *Nat Sustain,* 3, 119–128. https://doi.org/10.1038/s41893-019-0454-4

Lefebvre, A. (2011). The Individuation of Nature in Gilbert Simondon's Philosophy and the Problematic Nature of the Technological Object. *Techne: Research in Philosophy & Technology, 15*(1), 1-19.

Meltzer, D. J. (2021). *First Peoples in a New World: Populating Ice Age America*. Cambridge University Press.

Moore, A. (2012). *Teaching and learning: Pedagogy, curriculum and culture*. Routledge.

Nelson, A., & Schneider, F. (Eds.). (2018). *Housing for degrowth: Principles, models, challenges and opportunities*. Routledge.

Olivier, B. (2016). Deleuze's" crystals of time", human subjectivity and social history. *Phronimon, 17*(1), 1-32.

Osinsky, P. (2021). The rise and fall of the nomad-dominated empires of Eurasia. *Sociological Inquiry, 91*(3), 578-602.

Padilla, L. A. (2021). *Sustainable development in the Anthropocene*. Springer International Publishing.

Petersen, G. B., Klingenberg, S., Mayer, R. E., & Makransky, G. (2020). The virtual field trip: Investigating how to optimize immersive virtual learning in climate change education. *British Journal of Educational Technology, 51*(6), 2099-2115.

GALÁXIA
Revista Interdisciplinar de Comunicação e Cultura

Richardson, J., Steffen W., Lucht, W., Bendtsen, J., Cornell, S.E., et.al. (2023). Earth beyond six of nine Planetary Boundaries. *Science Advances*, 9, 37.

Roberts, T. (2017). Thinking technology for the Anthropocene: encountering 3D printing through the philosophy of Gilbert Simondon. *cultural geographies, 24*(4), 539-554.

Rockström, J., Steffen, W., Noone, K., Persson, Å., et.al. (2009). Planetary boundaries: exploring the safe operating space for humanity. *Ecology and Society 14*(2), 32.

Roy, B. (2006). A process model of integral theory. *Integral Review, 3*, 118-167.

Sakin, M., & Kiroglu, Y. C. (2017). 3D Printing of Buildings: Construction of the Sustainable Houses of the Future by BIM. *Energy Procedia*, 134, 702-711.

Simondon, G. (2005). *L'individuation à la lumière des notions de forme et d'information* (ILFI). Paris: Million.

Slaughter, R. A. (2012). Welcome to the Anthropocene. *Futures, 44*(2), 119-126.

Steffen, W., Richardson, K., Rockström, J. & Cornell, S.E., et.al. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science, 347736*, 1259855.

Steffen, W., Rockström, J., Richardson, K., Lenton, T. M., Folke, C., Liverman, D., ... & Schellnhuber, H. J. (2018). Trajectories of the Earth System in the Anthropocene. *Proceedings of the National Academy of Sciences, 115*(33), 8252-8259.

Sternberg, T., Ahearn, A., & McConnell, F. (2017). Central Asian 'characteristics' on China's new Silk Road: The role of landscape and the politics of infrastructure. *Land, 6*(3), 55.

Strom, P. S., & Strom, R. D. (2011). Teamwork skills assessment for cooperative learning. *Educational Research and Evaluation, 17*(4), 233-251.

Symons, J. (2019). *Ecomodernism: Technology, politics and the climate crisis*. John Wiley & Sons.

Taylor, G. (2008). *Evolution's edge: The coming collapse and transformation of our world*. New Society Publishers.

Thera, N. (1986). *The power of mindfulness*. Kandy: Buddhist Publication Society.

Todorova, B. (2015). The new challenges on the Silk Road. *Journal of Literature and Art Studies, 5*(10), 911-916.

Tracy, E. F., Shvarts, E., Simonov, E., & Babenko, M. (2017). China's new Eurasian ambitions: the environmental risks of the Silk Road Economic Belt. *Eurasian Geography and Economics, 58*(1), 56-88.

Van Noort, C. (2021). *China's communication of the Belt and Road Initiative: Silk Road and infrastructure narratives*. Routledge.

WEF (World Economic Forum). (2018). Reviving the Silk Road. Online article at: https://www.weforum.org/agenda/2018/09/three-ways-china-can-make-the-belt-and-road-initiative-sustainable/

Williams, P. (2020). *Dreaming the graphic novel: the novelization of comics*. Rutgers University Press.

Zhang, C., Zhang, M., & Xiao, C. (2022). From traditional infrastructure to new infrastructure: a new focus of China's Belt and Road Initiative diplomacy? *Eurasian Geography and Economics, 63*(3), 424-443.

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