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ARTICLE

Red Biocentrism for the Anthropocene

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Abstract

If the dawn of the Anthropocene heralds the collapse of the natural and social sciences into a single geostory, then why not also a radical synthesis of the anthropocentrism of Marxist theorising with the biocentrism of Deep Ecology? This article proposes just such a unification for theorising education. First, those on the educational left who wish to develop a fundamental unity between red and green should perhaps unearth the roots of Deep Ecological thinking and delve into the long and manifold history of socialist movements, with the aim of identifying where, between the deep red and deep green, might lie some shared origins in common ground. The flawed but nevertheless distinctive monism of the first philosopher of Marxism, Joseph Dietzgen, offers a philosophy that both prefigures the cosmology of Deep Ecology and suggests means of reconciling the narrative of human toil and 'progress' with that of human 'nestedness'. The task facing the socialist looking to explore such a possibility needs to be located principally at the level of 'cosmic', rather than 'social' ontology, and this article sketches the outlines of such a unity project. Second, from this synthesis flows a set of implications for education and human growth. As the article explains, themes such as alienation and subjectification that cross-pollinate the theoretical perspectives might serve as central motifs in a red biocentric educational project fit for the Anthropocene. It is not solely environmental education, but approaches to education more broadly that require reconceptualisation for the Anthropocene.

Keywords: Marxism; biocentrism; Anthropocene; Eros; Deep Ecology; pedagogy

A spectre still haunts Europe. Indeed, it haunts the whole world. And the spectre is *still* communism: the ghost of a world held in common, land unowned, a usufruct over all the earth. Marco Armiero and Massimo De Angelis (Armiero and De Angelis 2017) are right in marking the moment of the triumphal return of the grand narrative: not that of the coming of communism, but the Big Story of the Anthropocene, its claims to the immutable truth of a new chapter opening in the book of the Earth appearing to occlude the possibility of any counter-(grand)narrative, such as Marxist historical materialism, Hegelian 'speculative modernity' (Lyotard, as cited in Browning, 2003, p. 224), or even teleonomy. The Anthropocene, so the story goes, is a matter of hard stratigraphic fact: the first letter of the first word of the first page of this chapter is now being written. When the Earth reaches this chapter's conclusion, its plot, we are told, will reveal the significance of that first word. We humans may or may not be there to review how it has all panned out (our presence in the story may be limited to the early paragraphs), but Gaia will nod sagely as she closes the Anthropocene chapter, confident in the knowledge that the darkness of Anthropos' long night of dying fell upon the earth precisely in the moment that the chapter opened.

So, like Hamilton, Bonneuil, and Gemenne (2015), let us take very seriously the claim that the Anthropocene represents not just a challenge to Holocene meta-narratives, but to the idea that competing accounts might coexist in the natural sciences on the one hand and social sciences on

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the other *at all*. Let us also face the reality that *Holocene Marxism is dead*; but the continuity of the communist necessity (Moufawad-Paul, 2014) requires a rethinking of Marxist orientation. No, more than that, it requires an explosion in Marxism's inclusivity. The Holocene may have been so named because it was wholly or entirely recent, but the irony is that while the Marxism of the Holocene was (almost) wholly anthropocentric — Anthropomarxism — the Marxism of the Anthropocene must be entirely holistic — Holomarxism.

What does it mean to say that 'humans have become a telluric force, changing the functioning of the Earth as much as volcanism, tectonics, the cyclic fluctuations of solar activity or changes in the Earth's orbital movements around the Sun' (Hamilton et al., 2015, p. 3)? This is to claim that where the impacts of material movements in our corner of the solar system are registered by whole earth systems as significant enough to be the 'difference which makes a difference' (Bateson, 1999, p. 259), these derive from activity, some of which might be defined as capitalogenic (Moore, 2017), some as volcanogenic, but all of which counts equally as movement within a single system, a single material ecology. Those features of human activity we package up as politics, economy and culture no longer function in an order different to or separate from thermohaline circulation or plate tectonics. Material movements are only that: there are no parallel 'planes' of activity. The time of binaries is over: dualism has had its short-lived day. A dialectics of 'man'-*and*-'nature' is left behind in the previous chapter along with Holocene fantasies of spirit *and* matter, phenomena *and* noumena. Put differently, 'the conception of the natural world on which sociology, political science, history, law, economics and philosophy have rested for two centuries — that of an inert standing reserve of resources, an unresponsive external backdrop to the drama of human affairs is increasingly difficult to defend' (Hamilton et al., 2015, p. 5).

The approach introduced here is Red Biocentrism. Red Biocentrism is the collapse of Holomarxism and Deep Ecology into each other's spiralling orbit. And this article can only be a sketch of the Red Biocentric project in relation to philosophy and/or education.

Historical (Holocene) context

It would be a pretence to claim that the essence of the argument I intend to make in this article is wholly new. Red Biocentrism has long lurked *in potentiâ* behind the claims of Marxist heretics and misfits. If one were to delve into the annals of the early days of the socialist movement, after a little searching one might discover the lost world of the poet visionaries and dreamers of early Bolshevism, giants in their own ways, but sadly so little regarded among serious green socialists in the present day — Bogdanov, Gorky, Lunacharsky — figures whose names could be on the lips of those seeking to find educational solutions now, in the 'collapsing times': Bogdanov for his vision to create a science of all things, a meta-theoretical approach intended to enable precisely the recoupling of the natural and human sciences that so many of us struggling with the meaning of the Anthropocene seek; Gorky for his imagining of the transformative capacity of a surrender to the collective; Lunacharsky, both for his marriage of Marxism and religious sentiment, but also for his application of those ideas of proletarian cultural evolution to the field of education, as the first Soviet Commissar of Education, no less. And behind them all lies the even mistier figure of Joseph Dietzgen (1906a, 1906b).

To set the theoretical context for the call for Red Biocentrism, allow me first to illustrate the potentialities immanent at the moment of post-revolutionary confusion in the decade following the 1905 revolution in Russia. Why might this be of any interest whatsoever? During this period, the intellectual and moral leadership of the Russian Marxists was contested, and with it the direction social democrats should take in advancing the revolution. Perhaps the ideas born of and grown in this ferment could not outlast it; certainly, they could not have emerged except in response to the set of material conditions and a balance of forces that it offered. Or perhaps the unique context offers a lens through which we might recognise something of the meaning of the Anthropocene, of our own restlessness, distrust of leaders, sense of impending transition,

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rootlessness. For we bear witness here not only to a moment of political transition after 1905, but also to a new scientific context — a recognition of the importance of energetics and natural limits, an emerging awareness of the new physics; and, of course, a keening sense of the disorientating disequilibrium occasioned by the ongoing brutal and uneven advance of capital across the landscape. Add to this a deeply superstitious and fatalist peasantry and a rapidly growing proletariat receptive to and productive of novel and revolutionary ideas and we have a cauldron of contradictions. From this context, it is argued, we might learn something of the organic synthesis of the religious and scientific, the political and the cosmological, the ἄνθρωπος and the βῖος. The historical overview offered here attempts to relocate the precursors of the Red Biocentric synthesis within a set of material practices and ideas that are both particular to the moment and offer a glimpse of the project of epistemological and pedagogical reconstruction possible, and necessary among the contradictions of the current period of environmental crisis.

What is fascinating and important for those of us on the left, from the perspective of the early Anthropocene, is that the grand project of rethinking the conceptual basis of our epistemic disciplines is not new to our traditions at all and lurks in the darker corners of wild experimentation before the coming of Marxism-Leninism. For Ted Benton, Bogdanov's proposal for a universal organisational theory represented a 'new proletarian science' of the sort anticipated by Dietzgen, which 'was a precursor to, and possibly even a superior version of, the systems theory of Ludwig von Bertalanffy' (Benton, 1996, p. 116). Bogdanov's all-encompassing attempt to offer a set of general methods of explanation of the interrelations between every element of the universe allows the retrospective reader to attempt a more or less direct line from Bogdanov through systems thinking into the Anthropocene expansion. In addition, for Benton, '[b]y conceiving humans as part of and within nature, as existing only through their capacity to obtain and process usable energy, Bogdanov [for the first time] brought the limitations of the natural environment into sharp focus' (Benton, 1996, p. 116).

Bogdanov's theory has been characterised as representing a supersession of Marx and Mach (Jensen, 1978), but commentators have tended to neglect the influence of Dietzgen. Under the influence of Dietzgen (and Mach), the pedagogical aspect of social transformation came to the fore within the thought and writing of Bogdanov and the other *vperedists*. In proposing workers' self-organisation into a 'General Workers' Soviet', Alexandr Bogdanov recognised the need for proletarian self-education: for this to operate, he, like Sorel (1999), saw the need for a working-class *mythology* to inspire a reorientation within the world.[1] Such a project is of special interest today in collapsing times. For along with autodidacticism goes a cosmology or worldview that identifies collective action of the extended proletariat (see below) as a manifestation of contradictions in the material conditions of production within which they find themselves, but which does not require the necessary intervention of a party from the outside; such a dualism being seen as representative of a mind-body split, or of a theoretical-practical divide. Here, Joseph Dietzgen's legacy goes far deeper than some recognise. For it is only on the understanding of the universe as single and unbroken that it is possible to conceive of a dialectics without mind-body or party-people dualisms (Boxley, 2019). This theme is one common within recent debates among feminist and ecological thinkers wrestling with the implications of environmental crises for cosmology and ontology, coming from perspectives that draw together the concerns of feminism and ecosophy (Mathews, 2003, 2005; Naess, 1995b, 2008; Skott-Myhre, 2018).

It has often (Goodison, 1992; Peat, 1987; Žižek, 2010) been said that the Left has failed to reach those affective yearnings and affiliations that would really equip us to tackle the challenges of the Anthropocene. If the Left reaches only the right brain, then its neglect is not of sentiment, but rather it fails Dietzgen's earlier challenges and divides the rational from the emotional, the political from the 'religious', in such a way that it lacks the vocabulary to approach desire, the sensual and spiritual. Bogdanov and Lunacharsky saw this[2], and we would do well to learn from them some important lessons: *hold on to the long view*; *evolve the symbols, the mythology that supports a collectivist, monistic worldview*; *find new ways to feed desire without the need for endless growth*.

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Why Red Biocentrism?

The first, most prosaic answer to the question 'why Red Biocentrism?' is because *there is no going back*, and such a positioning is a necessary response to the new epoch. If Dryzek and Pickering (2019) are correct, planetary boundary conditions cannot any longer be regarded as those that pertained under now unobtainable Holocene conditions (Dryzek & Pickering, 2019, p. 9). At issue here whether an *ontological* Rubicon has been crossed, or whether we might indeed go on thinking about a return to the status quo ante. There can be little doubt that, even were we to find impossibly neat technological solutions to our energetic throughput, which included currently unimaginable levels of carbon sequestration, it would still take many thousands of years to return to the Holocene conditions that we left behind so recently. On a day like today, as I write this article, on what our news broadcasters in the United Kingdom are proclaiming the warmest winter day ever recorded (Shukman, 2019), one can almost smell the smoke from burning bridges. Yet, it behooves us well to retain the long view. Thinking again of Alexandr Bogdanov in 1919 when he published his *Course in Political Economy*, Bogdanov imagined a utopian social order organised on the principles of his universal science, Tektology[3] (Bogdanov, 1996). Most interesting from the point of view of 'popular Anthropocene' theory is the role Bogdanov assigns to capitalism in this text. The domination of capital represented a period of profound instability between far more stable and organised epochs. From the perspective of Russia, with capitalism a relatively recent, shallow and incomplete mode of production, Bogdanov saw this phenomenon as brief and transitory, covering 'a period which is very important from the point of view of the individual but insignificant when examined from the perspective of mankind' (Bogdanov, as cited in Susiluoto, 1982, p. 58) It was preceded by *primitive collectivism* with its relatively resilient and sustainable character, and will be succeeded by *advanced collectivism* in a state of equilibrium.[4] The Anthropocene 'moment' has begun, one of great significance for those who live through it, but one which may prove ephemeral — like Bogdanov's view of capitalism, a period of great temporary instability between relatively steady states. We might even say that the phase of capitalist production and the early Anthropocene are not separable phenomena, but represent different names for the same material reality. In this respect, Dryzek and Pickering are quite wrong to glibly dismiss the important work of Jason Moore (2015, 2016). To claim that for Moore the epochal shift is tied too closely to the gadfly phenomenon of the capital system entirely misses the point[5] — that while it may be ephemeral in geological terms, it is precisely the set of material conditions that have coalesced within the capital system that have taken us to this place. These are just the psychological, institutional, systemic, political, economic and cosmological conditions that Dryzek and Pickering require rethinking: to claim that the mode of production is secondary to these is to run scared of the beast that cannot be confronted, the domination of capital itself. Red Biocentrism points towards the (re-)turn to future stability, at some as yet to be determined point later in the Anthropocene, a stability that will hopefully point towards a 'Gaian' epoch to succeed it.

Some readers may detect a familiarity in the term 'Red Biocentrism', born of reading the writings of David Orton (1998, 2000) and his Left Biocentrism. I admire this work and wish to build on it. However, Left Biocentrism exists as a species of Deep Ecology, drawing on its eight-point platform while also identifying with anti-authoritarian Lefts, both anarchist and socialist traditions. But it is not communist. Red Biocentrism seeks a truly communist mode of expression suitable to the Anthropocene. Unlike Left Biocentrism, it is a species of Marxism, as much as Dietzgen's formative cosmic socialism, Bogdanov's empiriomonism or indeed Merrifield's (2011) magical Marxism. It is communist, but the common in its communism is interspecific. That said, Red Biocentrism shares a great deal with Left Biocentrism. Drawing from Curry's (2011) analysis of Left Biocentrism, one might make the following brief observations. First, for Left Biocentrism, 'concerns with class, gender and race, while urgent … are viewed in the context of ecological justice' (Curry, 2011, p. 117). This is nearly right: for Red Biocentrism, *class, gender and racial injustices are also necessarily*

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ecological injustices. Second, Left Biocentrism's goal is 'solidarity with all life, not just human life' (Orton, as cited in Curry, 2011, p. 115). This is entirely in accord with Red Biocentrism. Third, for Left Biocentrism, nature is 'a true commons — even, as such, sacred — and therefore "not to be privatized"' (Curry, 2011, p. 115). Yes, of course! Dietzgen (1906b) said as much in the 1880s (Boxley, 2019). We go further and recall, after Michael Hardt (2010, p. 136), that the distinction between a 'natural' and an 'artificial' commons quickly breaks down especially under Anthropocene conditions. The common products of human creativity — language, ideas, and education — constitute but a part of the material commons of nature. Red Biocentrism rejects the myth of private property in its 'natural' or 'artificial' emanations.

On the other hand, while the Marxism of the Holocene was anthropocentric, simply asserting biocentrism, left or otherwise, will not do if it allows an accommodation with capitalism. A Biocentrism of the New Age too easily falls prey to temptations of consumerism, competition, hierarchy.[6] While in its origins in the 1960s and 70s biocentric New Agers may have celebrated sufficiency with axe in hand, the festival of healing methods, spiritual paths, self-help and reawakening packages that followed became nothing less than a carnival of profiteering (Goodison, 1992, p. 240; Greer, 2012, p. 105).

Why, then, Red Biocentrism?

(1) Because the distinction — Anthropos and Bios — can no longer be sustained. Much has been written about this (Bonneuil & Fressoz, 2016; Hamilton et al., 2015; Moore, 2016) — I do not intend to revisit here a theme that must surely feature in most discussions of popular Anthropocene ontology.

(2) Because recognising ourselves as a species means becoming a species among species. The Anthropocene meaning of Marx's species being has been recognised (Žižek, 2010) to require a material reimagining of humanity, not only in itself but now also for itself. As Marx saw in 1849, the conditions of capitalism carve out new abstractions, as materially real as the nexus of impacts they affect upon the world about them; '[t]he domination of capital has created for this mass of people a common situation with common interests' (Marx, 1995, p. 189), from which it is but a short yet existentially revolutionary step to not only our class but our very species uniting as it is constituted 'for itself', recognising in the political struggle to rewrite the Anthropocene the new species-consciousness of our telluric identity. In this sense Red Biocentrism represents a 'species-being movement' in the manner Dyer-Witheford (2006) proposes. But this is not enough ...

(3) Because the communism of Anthropomarxism could not accommodate the wider community. An Earth-centred Marxism adequate for the Anthropocene requires further extension of proletarianisation (Žižek, 2010) through identification (Naess, 1988) to solidarity with the wider collective (Gorky, 1910)[7] — pan-speciesist proletarianization.[8] What could this possibly mean? Joanna Macy and John Seed famously coined the phrase 'the Council of All Beings' (Fleming & Macy, 1988) for ritual 'Deep Ecology Work ... to heal our separation from the world, or to know our interexistence with all beings' (Macy & Brown, 1998, p. 150). The expansion of an extended ecological self beyond class identification to such interspecific solidarity is a necessary and essential feature of Red Biocentrism:[9] in the insurrectionary spirit of radical self-realisation, let us rename its nexus 'the Soviet of All Beings'.

(4) Because all species must be included in a new compact with the earth. Holomarxism cannot rely any longer on the acquiescence of non-human life to the revolutionary project. Insofar as untold ecological damage has been wrought in the name of the revolutionary dictatorship of the proletariat, the opportunity for an anthropo-exclusive soviet (along with anthropo-exclusive councilism[10]), though invaluable a century ago, is over: the Soviet of All Beings must be consulted and means constructed by which non-human species' 'voice' can be heard in the determination of policy.

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(5) Because capitalism, liberal and neoliberal, is driving the great acceleration and cannot persist into the new age. Liberal and social democracies only did better at responding to environmental pressures when, as Nicholas Stern (HM Treasury, 2006) so comprehensively pointed out, they started to do irredeemable damage to economic growth and its long-term prospects, not because they had conceded to pressure from environmental campaigners as they claim (Dryzek & Pickering, 2019, p. 25). This was a case of interest convergence, but one which cannot hold in the face of the global juggernaut of capital.

What is Red Biocentrism?

Full definitions fall beyond the scope of this article. However, before moving to consider a Red Biocentric educational project fit for the Anthropocene, let us identify a couple of points that provide a 'primer' in the spirit of earlier examples of such formulations for Deep Ecology (Naess, 1973) and Left Biocentrism (Orton, 1998). What is Red Biocentrism?

(1) Red Biocentrism is dark Marxism; dark green Marxism. Red Biocentrism posits itself from within the traditions of Marxism, while seeking to radically extend the scope of revolutionary agency beyond wage-workers, beyond even Mariarosa Dalla Costa's (2019) universal female reproductive labour[11] into the reproductive capacities of all those species that provide the human life support and whose exploitation feed the accumulation of surplus value for capital. For Rikowski (2018), as for Merrifield (2011), to invoke a 'dark' magical Marxism is to call upon a primitive spirit of spontaneous energy that resides in the darkness, in the communism that already exists here and now. Derek Ford is right that the dark Marxist revolution 'is not projected into a future but injected into the present, making it so the present feels foreign and the future feels possible' (Rikowski & Ford, 2019). 'Primitive' thinking that enables the theurgy of dark Holomarxism is not exclusive to tribal peoples but is a structure of thought common to all that can access it.

> *[W]hile the primitive resides within us all, and while it implies some sort of cosmic liaison between human beings, animals, plants, and the stars, sometimes a demonic liaison, it's also an everydayness present in the sensual, in the erotic, in the vital, in a joyous accord of love, of friendship, of camaraderie. (Merrifield, 2011, p. 184)*

The project of magical Marxism (Ford, 2017; Merrifield, 2011) is the leap from a dead world of zombie economics into a rich world of magical desires, a world where we can live out the primitive. Red Biocentrism is a dark green Marxism because it recognises that in the Anthropocene there is no leap into the 'primitive' future of an earth in common if our communism cannot act upon and organise for the liaison that Merrifield identifies. Conjuring dark spirits of Marxism to scare the bourgeoisie is also essential to Red Biocentrism!

(2) Red Biocentrism is feminist, pro-witch, and (eco-)sex-positive. Insofar as Red Biocentrism requires further extension of proletarianisation through identification, to solidarity with the wider collective (see Endnote no. 7), sex and collective consciousness are inseparably intertwined aspects of the movement towards unity, from the erotic, the 'magic' of unity with sexual partners, to group identification, species-being and the panspecies widening of the Self (Fox, 1995, 2016; Naess, 2008). The basis of ecosexuality — a rapidly expanding field of study — is an acceptance of an erotic energy[12] existing in all of nature, moving through and around us. In an echo of Merrifield, for Hagamen 'Sexuality is a potent and precious expression of this life energy, and it represents our primal desire to merge with Life itself' (Hagamen, 2016, p. 28):

> *As a social movement, ecosexuality emerges out of the deep place in our bodies that is retching in the pain we are inflicting on the world — on ourselves — and is grasping for the only thing that can bring it to an end: the rapture and pleasure of humbly submitting to intimacy so profound we begin to feel the Earth simultaneously as lover and as self (Hagamen, 2016, p. 28).*

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There is a serious attempt here to locate an important, indeed an incommunicably deep locus of reconnection, an undeniably powerful drive to draw together community and place in an embrace seemingly forgotten, the 'rapture' of contact. Marxists should not treat lightly the possibility that the erotic, like the 'magical' primitive, acts as an unparalleled force for reconnection and collectivism. That expanded sense of 'we-Self' that starts in sexual union and offers the possibility for loving others in solidarity and support pushes the boundaries of class consciousness towards what the Dietzgenites called *World Consciousness* (Untermann, 1918, p. 243). For Anderlini-D'Onofrio (2016), as for McIntyre, sex is 'the balm that heals the split between humans and Gaia' (McIntyre, 2012, p. 11). It has even been argued that in humans, 'unique connections between the forebrain and cerebellum may account for the fact that some women experience orgasm so intensely that they enter altered stares of consciousness similar to religious experiences' (Long, 1981, p. 41), offering ecstatic glimpses of an expansive, rapturous ecological-Self, and that the primary adaptive function of female receptivity in humans has become not reproduction, but 'the development and maintenance of affectional bonding' (Long, 1981, p. 41). So, of course, it is not without reason that non-reproductive sex — sex for pleasure — became an obsession within early capitalism for its dangerous power to disrupt the necessary cycle of the reproduction of labour (Collard & Dempsey, 2018, p. 1354), as so vividly conjured by Silvia Federici (Federici, 2014, pp. 194–195) in the figure of the witch. As we know, reproductive labour was rendered cheap, and then women's activities defined as non-work, consigning women's bodies to the realm of non-human nature to be used up and exploited without any of the old recognition of the sacredness of non-reproductive sex.[13] Duty and chasteness replaced the old order, reproductive labour a free resource for husbands and capital to exploit. As Reich noted in the 1930s, '[f]rom the attitudes of bourgeois ideology towards natural sexuality, one could easily infer that it served the purpose of safeguarding economic interests' (Reich, 1976, p. 123). The 'relegation' of women as (dangerously) 'close to nature' (Collard & Dempsey 2018, p. 1356) is regarded by Red Biocentrism as a ground for collective strength, struggle and an education in erotic reconnection.

Why Red Biocentrism in education?

As Collard and Dempsey (2018) explain, the 'reproductive realm' represents that 'iceberg of patriarchal capitalist accumulation' (p. 8) that, dwarfing the formal economy, made possible the catastrophic, exponentially accelerating throughput of late Holocene hyperconsumption. This vast reproductive hinterland includes all those 'cheaps' whose inexhaustibility Moore (2017) reminds us never blindly to accept. Among these, giving birth, parenting, subsistence production, but also the reproductive capacities of nature itself, the energetics of ecological systems, the very work of photosynthesis. Also, of course, *education* in its broadest sense.

What is the product of a Red Biocentric education? Like capitalist education, like all education, it is subjectivity. Let us be clear, education plays a central part in the reproduction of the conditions for the possibility of capitalism. The wage labourer's subjective existence is dependent upon a relation to capital established by and through educational process (Rikowski, 2002); likewise, the capitalist's. That section of the *Grundrisse* wherein Marx offers his analysis of precapitalist economic formations explains that '[t]he production of capitalists and wage-labourers is a major product of the process by which capital turns itself into values' (Marx, 1965, p. 118). This is a process of subjectification.[14]

The Holocene saw a revolutionary transformation in the forms of human subjectivity and subjectification that accompanied the 'separation' of labourers from the nexus of relations that comprised their precapitalist ecology (Mezzandra, 2018). What Marx calls, rather provocatively 'natural conditions of existence' (Marx, 1965, p. 87) have a dual character — an objective and a subjective aspect, an outside and an inside. For those producing within such conditions, the 'producer occurs as part of [an ecology,] a family, a tribe, a grouping of his [sic] people . . . It is as such

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a communal part that he has relation to a determined (piece of) nature (let us still call it earth, land, soil), as his own inorganic being, the condition of his production and reproduction' (Marx, 1965, p. 87). During the course of the late Holocene, human consciousness underwent a process of subjective estrangement from these 'natural conditions' that accompanied the emergence of the capital relation. In respect of this weirdly abstracted subjectivity, while the biological requirements of ongoing, lived entanglement with nature is retained,

> *what requires explanation is not the unity of living and active human beings with the natural, inorganic conditions of their metabolism with nature … What we must explain is the separation of these inorganic conditions of human existence from this active existence, a separation which is only fully completed in the relationship between wage-labour and capital. (Marx, 1965, pp. 86–87)*

Capital, as we know, deployed enclosure as the means of producing wage labourers, of stripping women of their power within a gendered division of labour by devaluing the non-monetary 'cheap' labour of birthing and childrearing, and of effecting this separation.

The form of education in the early geological Anthropocene will be necessitated by a revolutionary transformation equal to that of the late Holocene. Its aim is the production of revolutionary biocentric subjectivity, capable of extending the ecological Self across class and species to turn identification and solidarity into realisation and flourishing. Specifically, *unlike* capitalist or bureaucratic-centralist socialist education, it is not merely the production of the subjective aspect of labour capacity.

If, as Red Biocentrism asserts, consciousness or subjectivity does not stand above and against materiality, if in the Anthropocene there is no separation between actor and backdrop, then while it is necessary in order to produce biocentric consciousness that the structures of society be transformed, it must also be true that a revolution in the social, political and economic structures of society cannot be deep or sustained without a revolution of the mind.[15] A century ago, Bogdanov and Pannekoek (1906) were as one in applying Dietzgen's philosophy to reach this conclusion. In his exposition of Pannekoek, Gerber (1978) takes the dialectic of 'inner' and 'outer' revolutions to a spontaneist conclusion in declaring that '[a]lthough the outcome of… revolution will be decided by the physical power of the working class, it is not this power alone that is decisive, but the 'spiritual power' that precedes it and determines its use. Revolution is thus a victory of the mind, of historical understanding and revolutionary will' (Gerber, 1978, p. 17). Bogdanov formulated his proletarian systems thinking in response to just this dialectical challenge[16], drawing out of the slipstream of 19th century materialism a prefiguration of the challenges of the unimaginable Anthropocene; and it was Dietzgen's autodidactic ideal and the manner in which it found political form in support for spontaneism that hung over the proto-systems theoretical perspective, and that still haunts the holistic project of an Anthropocene education for Red Biocentrism.

A Red Biocentric educational project for the Anthropocene cannot set its sights on mere knowledge, nor even understanding of the environmental crises that beset us, but rather an aspiration that children and young people *feel* it, *live* it. If, as Steven Jay Gould so powerfully claims, '[w]e cannot win this battle to save species and environments without forging an emotional bond between ourselves and nature as well — for we will not fight to save what we do not love' (Gould, as cited in Orr, 2004, p. 43), then Red Biocentric education aims to take up and extend the exhortations of David Orr further, to care for the earth as a lover and partner, perhaps even 'proposing a major shift in the leading metaphor that informs cultural interpretations of the planet we humans inhabit and share' (Anderlini-D'Onofrio & Hagamen, 2015, p. 4), from *mother* to *lover*[17]; building a relationship of respect, mutuality, agape, and perhaps also eros. Red Biocentric education intends to produce young people capable of receiving the responsibilities of biotic citizenship in these collapsing times, without despairingly retreating into eco-anxiety (Pihkala, 2018),

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ecophobic passivity and incapacity; citizens who are as intentional about the kind of sex they practise as the food they eat and the products they consume. Such a project does indeed draw on the insights of deep ecology, for it is Fox (1995), Naess (1995a) and others of their ilk who so beautifully and compellingly make the case for a project of self-expansion, to enable a real and meaningful identification with non-human nature within our greater, collective we-selves. Red Biocentrism sees this as complementary to, not at odds with the pedagogical projects of Marxist collectivists such as Dietzgen and Gorky.

What this means in educational terms for our children is a matter that we will all need to continue to explore. However, what I have witnessed in my own practice, and which has often given me hope, is the closeness that can develop between a child and particular places, animals and trees, for example, which in its intensity recalls the relation to Winnicott's (1953) transitional objects. This is to say, the importance of a tree or community of pond-side plants to the child in and as part of their sense of self is as intense as the feeling of identification that some feel with their 'tribe, or grouping of people'[18], and which many recognise, for example, from the inclusion within their family of pets, this engendering such real identification that the loss of some element of that family, human or non-human, produces a gap, an absence in one's very self. Red Biocentrism finds hope in collective identity at the scale of family, yes, but also ecosystem and bioregion, and also crucially, *class* and species. Unlike Naess, though such self-expansion is not seen principally as a matter of maturity (in the particular sense in which Naess [1995a] intends it), but also of pedagogical intervention towards providing the opportunity to *love*, to be absorbed, for the ego-self to be lost in collective experience of land-community and class-consciousness. The truth is that such opportunities exist almost nowhere in any current formal education, including even environmental education.

Unity is to be found in action, in sex and solidarity. Marxism has rarely been sexy — a rediscovery of the place of sex 'magic' in Holomarxism is essential to its biophilia. This puts sex and relationships learning in a central role in the Red Biocentric educational project for the Anthropocene, along with a rich and varied experience of learning in place, outside learning and a burgeoning understanding of the network of relations that enmesh us in ecological and erotic nexūs. Sex and relationships education, at least in the United Kingdom, is anthropocentrically concerned with human coupling (straight and gay), but neglects the erotic energy of attraction towards the non-human, places and landscapes, and the capacity of such energy to enhance lovemaking between humans. Red Biocentric sex and relationships education encourages the growth of the kind of feelings described by Williams (1995), which accord also with those active opportunities for identification and absorption with/in place.

In the Anthropocene, environmental education is erotically charged, as it calls us all, children and adults, into nature's embrace. First spring warmth on freshly exposed and wildly sensitive skin, the softest of breezes bringing up goosebumps; the giddying heave of the water fast moving against waders; the fungal musk of humus on a damp, silent forest morning — this is the erotic pull of learning in and among our 'natural conditions'. But, our environmental education should also help us to appreciate that at the cusp of the Anthropocene, we live, for the most part, in a pornographic relationship not only with one another but also with nature,[19] one where mutuality and organic holism are fractured by the complicatedness of commoditised estrangement, rendering Gaia's body, like that of a 'pornified' sexual partner, one 'that is used, rather than a body that is shared' (Williams, as cited in McFarland-Taylor, 2004, p. 42). Desensitised to the lightest of brushes with our environment, we so often seem to require the backlit hyperreality of super-high-definition widescreen exposing the impossibly unseeable (the snow leopard, the angler fish) in obscene detail. The musty closeness of the forest floor does not sufficiently excite. Identification (Naess, 1988) remains the basis of overcoming this alienation, and to that end, we must overcome pornographic environmental education in favour of erotic environmental education.

The author worked for many years in early education, a phase where children are all too willing to raise up the earth to smell and taste its cool musk, embrace the craggy bark or hunker down in

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the darkness of the bower to feel its quiet harbour. Some adults too (you know who you are) will sometimes consciously embrace such opportunity, but our anthropocentric, and especially our 'tired, indoor pedagogy' (Orr, 2004, p. 52) all too rarely provides chances for young people of all ages to feel the erotic draw of the soil, the forest, the lake. While readers will be aware of examples of just such experiences offered as part of outdoor and 'adventure' learning, Red Biocentrism necessarily takes a further step to request a conscious gathering of forces in defence of increasingly loved places. Such an effort requires children and young people to ask of those living things within their grasp whether and how they wish to live and flourish, and to become attuned to the necessary preservation of habitats for the wealth and wellbeing of non-human species. *This gathering of forces is the beginning of the convening of the Soviet of All Beings*.

In the United Kingdom, as across the world, our children are rising in defence of the planet (BBC, 2019). As we lurch into the Anthropocene, tens of thousands of young people have been taking part in a school strikes in what must surely be understood as an act of solidarity and identification with those ecosystems and their many and varied species which provide the forms of what deep ecologists term our 'wider Self'. As in the time of Marx's writing, capital has ransacked the commons of childhood, appropriating children's time for the benefit of the employers, always pushing back the limits of children's working days in schooling. The international credit system (the financial markets and the banks) 'often conceals one of the sources of primitive accumulation in this or that people ... A great deal of capital, which appears today in the United States without any certificate of birth, was yesterday, in England, *the capitalised blood of children*' (Marx, 1990, p. 920). Marx was right, the blood of our children mingles with the blood of the earth as both are shed to yield succour to bloated capital's ceaseless accumulative expansion. The laws that protect the enclosure of our common inheritance Marx calls 'bloody' (Marx, 1990, p. 896) for their disinheriting of our children from their shared commons of culture, of history, of homeplace. Red Biocentrism follows Chris Knight (1991), Silvia Federici (2014), Peter Grey (2013), and the uprising of Extinction Rebellion (Hallam, 2019; Mohdin & Carrell, 2019; Real Media, 2019) in ritual celebration of our shared and spilt blood. In the absence of real, erotically charged, self-realising environmental education in our schools, and in the name of blood-red biocentrism, deep green holomarxists exhort our children, walk out of school: *strike*! Find common cause with the beasts of the field and wildflowers of the meadow, in the Soviet of All Beings. All power to the Soviet!

Conclusion

It has been possible to outline only the general shape of a Red Biocentric philosophy for environmental education. In the context of emergent popular Anthropocene theory, the collapse in any ontologically meaningful distinction between the politics of human affairs and the geostory of human activity as a feature of the wider movement of Earth systems defines the parameters of educational endeavor towards a sustainable human subject. The *hope* in the case that has been put is that this collapse might actively and consciously be reflected in a Red Biocentric cross-pollination of Holomarxism with Deep Ecological insights into the nature of the ecological Self, one aided, inspired and facilitated by Marxist-feminist and ecosexual theory. Yes, there is much to take on here, much to consider and I daresay, plenty that will be rejected. But this provocation stands as an initial statement of intent, and an invitation to engage in the conversation about the part education may play in superseding the system that has enabled capital to infect the whole web of life and brought us to the brink of ecological catastrophe at the dawn of the Anthropocene.

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Endnotes

1 It should not be surprising that Bogdanov's sense of the centrality of labour in defining the dialectics of 'nature' marks his theory as anthropocentric. This makes it perhaps all the more notable that his predecessor Dietzgen's (1906a) conception of thought as matter retains a dogmatic holism, a vision which his supporters understood as demanding a 'world consciousness'. In this respect, Dietzgen's vision is truer to the nature-monist aspirations of Red Biocentrism than were the intermediate phases of Bogdanovite systems thinking. The cosmology after which Bogdanov strove was certainly worked through in far more detail in his so called 'proletarian science' of Tektology than Dietzgen ever achieved, but many of its features are already present in Dietzgen's monistic sketches. Politically, it was Dietzgen's cosmology or cosmopolitics that informed those whose attempts at drawing together Marxist and anarcho-syndicalist strands were most effective, such as Pannekoek (2003) and Gorter (1989).

2 Bogdanov and his co-thinkers' marriage of a pedagogy of 'spiritual' transformation with the cosmopolitics of monism represented the cornerstone of both Dietzgenite myth-building and the ecosophical and panpsychist reimagining of society. The possibility of this transformation is to be found in the worldview that Bogdanov begins to map, a cosmology which 'is rightly considered to be the forerunner of … general systems theory' (Belykh, 1990, p. 571).

3 Even then, two years after the revolution had begun, he did not describe this systematically organised social system as socialist or communist, but as collectivist (Susiluoto, 1982, p. 58).

4 Bogdanov takes the long view of evolutionary time — sub specie æternitatis as Dietzgen said of Spinoza — and finds in the primitive collectivist systems pointers towards the sustainable society to come, a 'steady-state' world of internally coherent elements. Bogdanov's approach was that of a natural scientist rather than that of a politician: although he saw capitalism as a 'brief' transitional phase, he did not foresee its immediate decline, even among the turmoil of 1919 in Russia. Indeed, because he felt that in order for a new social system to emerge and sustain, what was required was a new worldview, a socialist outlook on the cosmos, '[h]e had his sights set centuries ahead. He could not, therefore, provide exact advice on how a new society should be built. The ideal should be implemented through a prolonged period of learning, in the process of which the collective experience would raise the awareness of the people to a new level' (Susiluoto, 1982, p. 59). In contrast with later Marxist orthodoxy, Bogdanov, like his Dutch contemporary and keen 'Dietzgenite' Anton Pannekoek (1906), takes as a central lesson from Dietzgen the importance of the transformation of consciousness in any successful revolutionary process.

5 It is rather like the comic absurdity of assigning a single date, year or decade or month, to the start of the geological age, as if we could have expected the Bardi and Peruzzi to have declared, 'That's it, it's begun, capitalism is with us.'

6 It is for this reason that Greer (2012), like Merrifield (2011) and Skott-Myrhe (2018), all in their various ways hold on to the idea of magic as that which evades the commodity form. It cannot be served up with an exchange value. Perhaps though this is wishful thinking that the very immateriality associated with the word does not sit well with those of us who advocate holism, monism, even the transpersonal and panpsychist. Our earlier 'cosmic socialists' who would no doubt have learnt from those informed by quantum physics, the Kapras and Bohms, just as they did from Mach, would have had little time for 'magic' but plenty for symbol and myth building.

7 Although Naess is certainly sympathetic to the kind of 'mystical union' with one's 'wider self' propounded by certain religious traditions, he does not regard a mystical or meditational state to be a necessary condition for such union; indeed, he wishes to avoid such terminology altogether. This is not only because of its association with obscurantism and vagueness but also for substantive philosophical reasons. Romantics, like mystics, often posed 'cosmic union' as a total state, a dissolution of the self into the wider cosmic whole. This is unhelpful from an ecological standpoint, because ecological systems require selves to operate at multiple levels simultaneously. They are *bio-diverse*, having many distinct but highly interrelated elements and, if they are to be viable, require such diversity to be sustained, and internal relations to be intensified, thus 'Self-realization in its absolute maximum is, as I see it, the mature experience of oneness in diversity' (Naess, 1988, p. 261). In *A Confession*, Gorky (1910) contrasts proletarian collective consciousness with mystical union: in the latter, the protagonist Matve opines, 'my mind was enraptured when I disappeared, as it were, from consciousness of self, and ceased to be' (Gorky, 1910, pp. 277–278), while, as in ecosophical theory, 'in this communion with men [the proletariat], I did not abandon myself, but on the contrary grew and raised myself above myself' (Gorky, 1910, p. 278).

8 I do not intend to take time here to discuss the claims of the many ecosocialists and ecomarxists who have either identified a green turn in Marxist thinking, or identified in Marx's own formulations a discourse of metabolism with nature. I am with Moore (2015) on this, insofar as a metabolism still requires boundary across which energy-flows pass.

9 As I risk the accusation of playing fast and loose with the 'for-itself' of an interspecies 'proletariat', I must beg the reader's indulgence, for this is not the place to expand upon such a discussion.

10 Pannekoek (1906, 2003) and others in the Council-Communist trend (International Communist Current [ICC], 2001, pp. 70–71) saw Dietzgen's work as a bulwark against the fatalistic and mechanical vision of historical materialism that underestimated the role of consciousness in class struggle.

11 Dalla Costa declared, 'we are challenging the domination of capital which has transformed our reproductive organs as much as our arms and legs into instruments of accumulation of surplus labor; transformed our relations with men, with our children and our very creation of them, into work productive to this accumulation' (Dalla Costa & James, 1975, unpaginated).

12 A movement notoriously prefigured by that most wayward of magical Marxists, Wilhelm Reich (Ollman, 1979).

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13 'You'll lose your mind and play / Free games for May' sang Syd Barret! Precapitalist relations provided the conditions for the bacchanalian, celebratory rites of May, the infamous revels that puritanism and early capitalism sought to quash, as best exemplified in Phil Stubbes' *Anatomie of Abuses* describing the social customs of England in 1583:

'The order of them is thus, Against May, Whitsonday or other time, all the yung men and maides, olde men and wiues run godding ouer night to the woods, grouse, hils & mountains, where they spend all the night in plesant pastimes, & in the morning they return bringing wt them birch & branches of trées, to deck their assemblies withall . . . But the cheifest iewel they bring from thence is their May-pole, which they bring home with great veneration, as thus . . . I haue heard it credibly reported (and that, viua voce) by men of great grauitie and reputation, that of fortie, thréescore, or a hundred maides going to the wood ouer night, there haue scaresly the third part of them returned home againe vndefiled (Stubbes, 1973, unpaginated — *Lords of Mis-rule /The order of May-games*).

'The attack on the sacred sexuality of precapitalist ritual was so relentless as to successfully cause these rites to be reviled (Pearson, 2007), and spoken of little in public, driven underground in the wake of what Shuttle and Redgrove contentiously termed the 'nine million menstrual murders' (Shuttle & Redgrove, 2005, p. 198) of Medieval Europe. Peter Gray powerfully summarises the assault on the old sexual order thus:

'[t]he creation of a purely malefic figure of the Witch was an attack on women, though men too were burned. Woman was attacked in this way to enable the state to enclose the common land. Woman was attacked to remove her control over her womb. Woman was attacked to divide the sexes and rend the social fabric. Woman was attacked to destroy the sacred in nature . . . We do not need to follow Marx, we simply need to follow the money. The process has continued because the enemy has inexhaustible greed and diminishing returns. It is not simply the commons that are enclosed, everything is being sold into the hands of the few' (Grey, 2013, p. 11).

14 Interpellation, if you prefer the Althusserian term.

15 For all its talk of the 'new man', actually existing socialism always led too much by the nose for the transformation of consciousness itself to guide and deepen structural change.

16 Mansueto (1996) agrees with Williams (1986) that the heart of the much-debated dispute between Lenin and Bogdanov was the question of the transformation of consciousness. Lenin's emphasis on the role of revolutionary activity and of the vanguard occurring along the fault lines of capitalist contradiction contrasts with Bogdanov's vision of organic change across wide swathes of the proletariat through gradual historical time, with pedagogy and organisation coevolving as 'social development, like cosmic evolution generally, was a product of growing organization. When a group emerged within human society which understood how to organize at a socialist level, it became possible at least in principle to reorganize society on a socialist basis' (Mansueto, 1996, p. 50).

17 The 'eco-sexual turn' may have been proposed first by Charles Eisenstein in his 'Rituals for Lover Earth' (2009).

18 Recognising in such identification the dangers of tribalism and communalism that beset features of green political thought that does not understand class politics and internationalism.

19 Of course, I use the term loosely, though there is an argument that ecosexuality can stretch as far as even ecoporn activists Fuck for Forest, of whom it is said that they operate within a deep ecological framework. Măntescu (2016) claims that for Fuck for Forest, the failure of Western societies to 'communicate with nature' should be met 'not by suppressing Nature in order to make nature listen, but rather make Nature listen by acting in accordance with Nature's drive' (Măntescu, 2016, p. 22). The polysexuality of Fuck for Forest may be a world away from heteronormative mundanity — its lesson to engulf the other, for the other to be swallowed up in oneself. The line argued by Măntescu takes the radical, perhaps extremist ecosexuality of Fuck for Forest into realms that echo Warwick Fox's (1995) transpersonal ecology: the other here 'can be human or non-human, organic or inorganic, from this world or other-worldly. "The other" is not exterior, it is not marginal; the other is not invasive, but rather it is an opportunity for self-expanding into the world' (Măntescu, 2016, p. 23) The argument is indeed redolent of Naess while also exemplifying something of the freewheeling ecosexuality of Callenbach's famous *Ecotopia* (Callenbach, 2004): 'when suppression dominates social [and primarily socio-sexual] interaction, inner- and outer-exploration fades away. Deepening the understanding of the-self-in-Nature is, in the FFF view, seeing otherness as formative and not as occlusiv.' (Măntescu, 2016, p. 23). The Fuck for Forest response to Western body-consciousness is to reject the capitalised forms of unhealthiness to meet 'societally induced anxieties, untold fantasies or superfluous caprices related to corporeality . . . going naked in front of the camera in FFF shootings means leaving the Western body-ideal behind, together with its normative self' (Măntescu, 2016, p. 24).

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