Reassembling the Natural and Social Commons

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Creating and preserving a 'common world for all' is not so much a call, as it is a chorus. The need to continually make the commons grow exceeds the grossly uneven distribution of natural resources and wealth between the global elite and the impoverished majority.[1] Witness the scientific designation of our current geological moment, *the Anthropocene*, a moment in Earth's history so marked by the activity of one primate species that geologists have proposed an entirely new unit of geological time, where human destructiveness will remain biologically and geologically evident for tens of millions of years on planet Earth (Lewis and Maslin, 2015). The Anthropocene's extinction rate is '100 to 1,000 times higher than normal background rates, and probably constitutes the beginning of the sixth mass extinction in Earth's history' (p. 172). In the last 40 years, Earth has lost half its wildlife diversity (Carrington, 2014).

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While we use the term Anthropocene for the sake of its increasingly widespread recognition, we want to highlight some of its limitations:

1. It renders less visible the populations of humans who have lived for thousands of years and maintained a more productive symbiotic relationship within their material/ecological communities and
2. It disguises the central role of patriarchy capitalism in the rapid (and recent) environmental destruction that distinguishes the Anthropocene from other epochs (see Moore, 2016). However, we argue that educational communities should be fixed on the predicament of rapid environmental destruction within the more recent history of the Anthropocene, along with the widening social inequality that is inseparable from it.

Instead, current education reforms position schooling as an apparatus of social control and human capital (re)production. Resistance to these reforms involves preserving and producing a shared world in-common, for example through the free sharing of intellectual labor, protesting the inaccessibility of higher education (e.g. in Canada, Chile), high stakes testing opt-outs in the United States, massive demonstrations and strikes against neoliberal education reforms among teachers, youth, and families (e.g. in Detroit, Chicago, Mexico City), eco-justice educational movements that re-appropriate land for food access, and indigenous education movements that center collective priorities and communal politics (see Barronet and Ortega Brena, 2008). This chapter argues for educational practices that (re)engage the commons (Means, 2013; Mueller, 2008). We outline a theoretical context for the *natural* and *social* commons as pedagogical concepts, synthesizing the two in Deleuze and Guattari's (1987) concept of *assemblages* in order to highlight political possibilities of the commons for critical education.

In modernity, knowledge of the natural world has been shielded from proper political reckoning, and the importance of protecting and producing a shared *commons* obscured. As an ethico-political concept, we can view the commons as the natural and social worlds, or wealth, to which 'we' have shared, equal access. This definition is difficult to apply today, nor does it reflect the relational ethic of many indigenous communities in which humans are understood as part of, not separate from, the natural world (e.g. the Lakota mitakuye oyasin, or 'all my relations' and the Maori kaitiakanga or 'guardianship, protection' as in of/for the natural world).

Though we often view parks, conservation areas, and nature reserves as common spaces, they are seldom accessible to all humans, nor to the biota that are 'pushed out' to make way for ornamental plants, animals, and other microscopic 'critters'. To afford nature a 'political imagination', and politics the materiality it needs for enactment, 'social' and 'natural' distinctions must be blurred, while recognizing that traditional linguistic, scientific, and cultural constraints will resist such blurrings. According to philosopher Bruno Latour (2009) one reason for our current environmental mess and growing social inequality is because Eurocentric notions of politics and nature have historically been kept separate; the former confined to what 'should be' while the later 'what is'. This fundamental schism has successfully functioned to keep politics out of the 'study' of nature, and 'nature' out of the practice of politics, moral philosophy, and ethics.

From the onset of the Anthropocene, humans are themselves a geologic force. In a provocative way, educators must recognize allusions to 'nature', all that is non-human or non-artificial, as ideological. The ideological character of nature as static other can be seen not only by continued disregard for ecological realities, but also from the 'voice of warning' when scientific breakthroughs reposition our place within an unquestioned conceptualization of 'nature'. Rejecting nature as unquestionable backdrop to which we must always 'return', is essential to asking big questions that link the 'social and the natural'. For example, Slavoj Žižek (2011) stresses that considerations of capital cannot be divorced from questions of nature and puts it this way: 'how are we going to think the link between the social history of Capital and the much larger geological changes of the conditions of life on Earth'?[2] One important lesson of structuralism is precisely that the taken-for-granted should be refused. When Roland Barthes writes, 'the "natural" is in short, the ultimate outrage' (Barthes, 1977, p. 85), we should understand a fuller ontological meaning to natural—the outrage comes not just from rendering the historical and political as natural, but the 'natural as natural'! If humans are inseparable from nature, then nature itself is *always already* ideological.

This undoing of the modern culture–nature divide is a necessary part of what Hardt and Negri (2009) call *altermodernity*. That is, shedding the controlling aspects of modernity, colonialism and private property, and grasping modernity's creative, immanent powers needed for creative labor and new political and educational practices that promote a multiplicity of differences and production of the commons (Hardt and Negri, 2000; Hardt & Negri, 2013). Combining the natural and social commons

requires a creative refocus on virtual/actual ontological frameworks that allow their interplay. As Vine Deloria and Daniel Wildcat (2001) point out, Indigenous thought and practices have long fused the 'natural' and the political and promoted communal living between humans and non-humans.

> Modern ecology and indigenous models of politics and ethics have much in common: they are both about complex relationships between living organisms and their environments. Indigenous thought has, in my mind, one key advantage: it sees the ecosystem as the appropriate site for the study of politics and ethics. (Deloria and Wildcat, 2001, p. 139)

If *the commons* serve as the grounds for education for emancipation, how do we envision its immanent potential in classrooms and movements for social and ecological justice?

We argue here that assemblage theory, in short, the fusing of material and discursive parts in social analyses, adds a much needed ontological dimension to education research and critical pedagogy. Clayton Pierce (2015) cautions that the neoliberal restructuring of schools does not allow teachers and students to take the view that both humans and non-humans have agency, precisely because agency is geared toward (bio) capitalist ends through entrepreneurship and commodification. The prefix 'bio' describes our current political reality where forms of life, including educational life, have become the focus of modern governance and control. Pierce stresses the double meaning of 'bio' in biocapitalism. In one sense, a new form of modern governance, and capitalism, that reaches into every corner of human social life to reproduce the subjectivities and modes of living needed to reproduce the social order. However, 'bio' also means the harnessing of *all* powers of life—literally the commodification or mobilization of DNA, cells, genes, etc. for the purposes of capital.

Education must not only produce and nurture a world-in-common, but also challenge the *enclosure* of the commons—that is, exploitation of what is common (forests, groundwater, and ideas) for private interests and the production of capital. Neoliberal, global capitalist enclosure of the commons is perhaps the key political battle for education for the twenty-first century (see Means, 2014; Slater, 2014). Hendersen and Hursh (2014) outline the biopolitical nature of our current moment—resistance to neoliberal reforms will come from below through production of the commons.

PART 1: THE COMMONS AS AN EMANCIPATORY PEDAGOGICAL CONCEPT

As stated above, privatization (or enclosure) of the commons is dangerous because it values biotic and abiotic entities as private commodities for certain individuals, not communities or the commons. The private commodification of water in California by Nestle™ is a good example of profit accumulation destroying the commons. Yet, resistance to privatization is growing. Urban populations are consistently creating the commons through shared struggles of collective existence, and the creation of 'ecological space' (Hardt and Negri, 2004). Indigenous peoples' ecologically and community-oriented sense of place is highly threatening to the goals of capital because indigenous ways of being often do not rely on products from global capitalist commodity chains (Peña, 2014; Wildcat, 2009). However, the struggle to produce and preserve the commons is not just about commodities, but the (re)production of subjectivities needed to produce the commons (Hardt and Negri, 2009). Graham Slater (2014) encourages educators to move beyond an exclusively anthropocentric notion of the commons as shared human language, communication, and by extension, culture.

> Although this is an invaluable aspect of the common, it is limited insofar as it asserts the primacy of verbal communication in social production and centers an anthropocentric vision of communicative relationships in which meaningful and responsive relationships with nonhuman animals and environments are subordinated to intraspecies dialogue … This shortcoming is not a fatal flaw in Hardt and Negri's conceptualization of the common, rather, it indicates the need to embrace this antagonism as the grounds for elaborating a more fully ecological theorization of the common. (p. 547)

Slater emphasizes an antagonistic version of the commons, for example one that does not let settler colonists feel comfortable with a social commons that forgets destructive colonial realities. Indeed, the commons has a history—a social, colonial, ecological, geological, mythological, philosophical, and theological past.

While there is some recognition that we share ecological habitats, with the rise of immaterial labor and its cultural, cognitive, artistic, intellectual and affective products that can be shared in common, our current notion of the commons needs to expand. The (bio)political potential of immaterial labor is that the ideas, signs, and affects required for (bio)capitalist growth,

rely on interconnectivity and free sharing—paradoxically, what global (bio) capitalism needs to grow is anti-thetical to the rule of private property. A recent article in *The Guardian* on the 'end of capitalism' articulates this well:

> By building business models and share valuations based on the capture pri-vatisation of all socially produced information, such firms are constructing a fragile corporate edifice at odds with the most basic need of humanity, which is to use ideas freely. (Mason, 2015)

The old 'logic of scarcity' rule that is widely seen to drive economies and resource development also needs to be rethought. The logic of scarcity sees 'natural resources' as something to be consumed. However, according to Hardt and Negri (2009), a key aspect of the commons is that it puts the bios to work for the commons, involving not a logic of consumption but of growth.

Resources of the commons, such as free education, are continually renewable. If we read a text, offer an interpretation, discern a new truth in science, this by no means limits anyone else in doing the same. On the contrary, interpretations and new science proliferate when people are encouraged to build off the exchange of ideas, affects and interpretations. This on its own should be a justification for offering free K–12 and higher education! The logic of consumption distorts our view of the commons. For example, we are not running out of fossil fuels, in fact, there are too many deposits, and they should be left in the ground. Education should promote a fundamental shift in the logic of production from utter con-sumption of the commons to the proliferation of the commons (p. 300).

In Canada, Latin America, and New Zealand indigenous curricula and pedagogies that promote non-exploitative relationships and communal living are gaining ground thanks to community and indigenous activism. In Chiapas, Mexico, the Zapatista movement led to the establishment of autonomous education for indigenous Tzetsal youth in which children learn, alongside literacy and numeracy, skills for political resistance, col-lective democratic engagement, caring for land, gender equality and the revolutionary role of women, etc. (Barronet and Ortega Brena, 2008). In Canada, aboriginal communities have engaged in democratic politics through dissensus in the name of equality (Rancière and Corcoran, 2010; Bazzul, 2015). Indigenous political actions break down artificial dichoto-mies between natural and social commons. The Idle No More movement

advocates a view of rivers, lakes, and non-humans, as part of the same commons and deserving of equal consideration—something unthinkable to a modern juridical mindset. Such activist movements are *alter-futures* (much like Hardt and Negri's concept of altermodernity), a combination of democratic thinking and communal forms of life. Idle No More employed social media to (re)produce commons resources, understandings, and labor needed to fight for just futures. Educators whose aim is to produce a common livable world must challenge colonial discourses and ontologies, where land is viewed only as a 'natural resource' for human consumption rather than that which we are ecologically embedded within and part of (Barad, 2007; Watts, 2013). As we shall see in the next section assemblage thinking can help educators and students envision something new. Education for the commons recognizes that the long-term project is one of (re)production, something continually (re)made:

> The common is thus in a paradoxical position as being a ground or a presupposition that is also the result of the process. Our analysis, then, from this point on in our research should be aimed not at 'being common' but 'making the common.' (Hardt and Negri, p. 123)

Emancipatory education and social struggles have their basis in the common, not simply as a 'resource', but 'an inexhaustible source of innovation and creativity' (Hardt and Negri, 2009, pp. 111–112). The commons consists of a multitude of singularities, subjectivities formed along the lines of sex/gender, race, culture, class, spirituality and beyond.[3] Engagement with the commons is therefore an engagement with alterity, as the commons sets the stage for interactions with singularities and becoming. Encountering alterity begins a critique of what we have taken for granted as other or self, as well as processes of becoming autonomous that arise from the production of a shared commons (Hardt and Negri, 2009, p. 122; Slater and Griggs, 2015).

A pedagogy of the commons employs (bio)political reason to intervene in the controlling forces of biopower that employ education as a way to maintain a White/Eurocentric/global capitalist/neocolonial vision of the world (Bazzul, 2014; Tolbert and Schindel Dimick, in press). Engaging biopolitically means (re)working forces of biopower from below toward different forms of eco-social relations—life in the service of the commons (Hardt and Negri, 2009, p. 125).

> Whereas the traditional notion poses the common as a natural world outside of society, the biopolitical conception of the common permeates equally all spheres of life …. We might call this an 'ecology of the common—an ecology focused equally on nature and society, on humans and the non-human world in a dynamic of interdependence, care, and mutual transformation.' (Hardt and Negri, 2009, p. 171)

The struggle over subjectivity is integral to the commons, and therefore biopolitical in that forms of life (subjectivities) come together in cooperation to (re)produce the commons.

The Metropolis is an extremely important site for (bio)political struggle and producing the commons today, as cities are ideal locations for interactions of the multitude and immaterial labor. Facing down neoliberal restructuring of public schooling through coalitions of teachers, students, and parents is also a form of building the commons. Such coalitions create spaces where common interests, knowledges, relationships, and forms of life grow. At the same time the commons are a creative entity always in danger of enclosure—sometimes for purported social or ecological good. Figure 4.1 diagrams some enclosures of the commons through the privatization of life (e.g. genetic, educational). Biopolitical struggle is inherent to all fields of education including science education, where the (re)production of biotechnological labor is often in conflict with science for the common good (Bazzul, 2012; Bencze and Carter, 2011; Pierce, 2013). If scientific knowledge is produced in-common and belongs to all, why should it be appropriated, enclosed by companies such as Novartis™ and Monsanto™, and not just along global capital lines, but along those of nationality, gender, and race (Shiva, 2000).

Developing education for the commons, may involve developing more qualitative indicators of both *growth* (and *corruption*) of the commons, since it exceeds the use of metrics (Hardt and Negri, 2004). Education for the commons must move away from reproducing what Hardt and Negri (2009, p. 159) identify as *corrupt* forms of the common—systems of organization geared to the needs of certain individuals and not what is common to all. Some examples of this corruption are *nepotistic practices*, the chauvinist (nationalist) *nation state* and its blind adherence to mythic natural origins, the rule of private property, ethnocentrisms, racisms, heteronormativity, and the *corporation*—a parasite of the commons for the accumulation of (bio)capital. The following educational goals are relevant for fostering the biopolitical production of the commons:
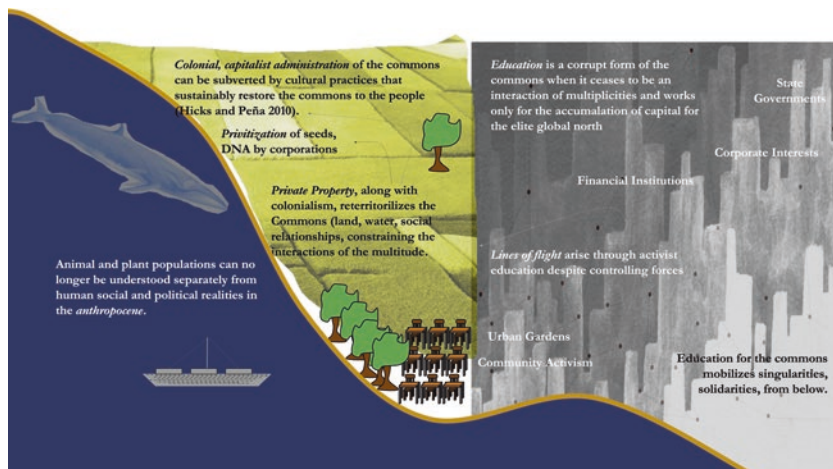
Fig. 4.1 Assemblage of natural and social commons and the juxtaposition of urban and rural; molar and molecular; private and communal property; enclosure and freedom

- *Maximizing Free Accessibility of Knowledge*—Education must facilitate access to knowledge and give all students the competencies and tools to access this knowledge.
- *Flattening Hierarchies*—Education for the commons involves tearing down structural and pedagogical hierarchies (see Freire, 1972; hooks, 1994; Hardt, 2011).
- *Preservation of the 'Natural' Commons*—Education must employ rationalities toward the service of life, ecology and relations between humans and non-humans.
- *Trouble the 'Expert'*—Educational communities must de-privilege the voices of experts who tell us we have no alternative (like the 'TINA' rhetoric of neoliberalism).
- *Inclusiveness*—Radical inclusion should engage subjectivities at the precarious edges of politics as they have the greatest knowledge of, and ability to challenge, practices of biopower.

Education for the commons employs the power of the commons, which is greater than imperial or corporate power. Classroom communities can envision assemblages of the commons to help forge an escape from private

interests and state institutions that would contain/exploit the commons. Figure 4.1 lays out some dimensions of biopolitical engagement within the commons, including the role of cities, privatization, and collectivist practices.

Neither private interests nor state power can fully contain the commons because the commons belongs to the multitude of singularities that comprise it. What is common goes beyond any force trying to control it—its productive form is rhizomatic, rebellious, and unwieldy (Deleuze and Guattari, 1987).

The 'multitude' can be thought of as an assemblage of human and non-human forms of life along with abiotic factors that make life possible. Through the expansion and interaction of the multitudes a myriad of possibilities emerge. At the same time, hierarchies, walls, and relations of power that would co-opt and capture this expansion are also parts of assemblages. This is *not* to say that struggles to produce and maintain the commons are not organized, nor are they separate from modes of economic production. Quite the contrary, social and economic (re)production ultimately stems from the commons—which is why it must be the center of educational life and pedagogies of love and collective being (Freire, 1972; Hardt and Negri, 2009). The next section introduces the concept of assemblages as a way for students and teachers to elucidate the commons as the product of a multitude of singularities, along with its biopolitical character.

PART 2: (RE)DRAWING THE COMMONS WITH DELEUZE AND GUATTARI'S ASSEMBLAGES

Conceiving of the commons as complex assemblages helps provide a critical, ontological dimension to transformative research and pedagogy. Deleuze (1988) describes diagrams as machines of discursive and non-discursive content simultaneously. They either help others create or understand—or they fail. Diagrams can offer a visual representation of the natural and social commons for critical, and politically engaged, pedagogy. Deleuze and Guattari's (1987) emphasis on ontology fuses the *actual* with the *virtual*—what *does exist* with what *could exist*—in order to imagine new animal/plant/non-human/human relationships.[4] Noel Gough (2004) encourages educators to re-imagine education as a material-semiotic assemblage caught up in socio-technological networks,

where connecting with these assemblages means taking into account non-organic, non-human entities. Assemblages, expressed here as *diagrammatics*, merge materialities, practices, discourses, ecological dependencies, and institutional arrangements as an assembly of *intra-acting*[5] parts, as well as relations of force that stabilize an arrangement or direct it toward a certain purpose. Diagramming assemblages is a way to *palpitate*, or tease out, multiplicities, imagine modes of becoming, trace rigid structures, and open possibilities for different actors and networks. This chapter offers three diagrammatic assemblages as a way of imagining (bio)political engagement and the commons: a *Topology of the Commons* (Fig. 4.1); *Lines of Flight* (Fig. 4.2); and the *Tar Sands Struggle* (Fig. 4.3).

Assemblages describe how parts of a system relate and co-constitute each other, as well as ways of knowing and doing (Barad, 2007; Deleuze and Guattari, 1987). Immanent becoming is the terrain of the assemblage; and diagramming assemblages clears space for different thoughts and forms of collective action (Ford, 2014). The parts or entities of an assemblage have various *histories*: social, material, cultural, ecological, biological, physical, ideological, fictional, mythological etc., that provide a socio-material account of the interplay between plants, animals, peoples (privileged and oppressed), institutions, relations of power, and geologic and evolutionary forces. This point of historicity means that assemblages
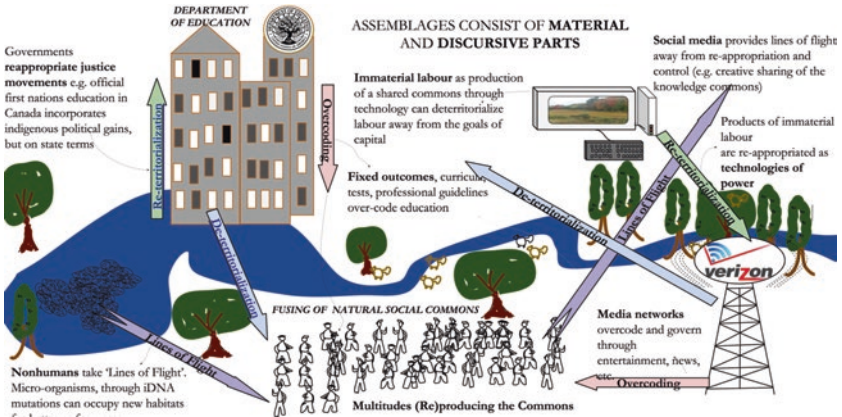

Fig. 4.2 Assemblage demonstrating the concepts of reterritorialization, deterritorialization, lines of flight, and overcoding and their relation to the commons
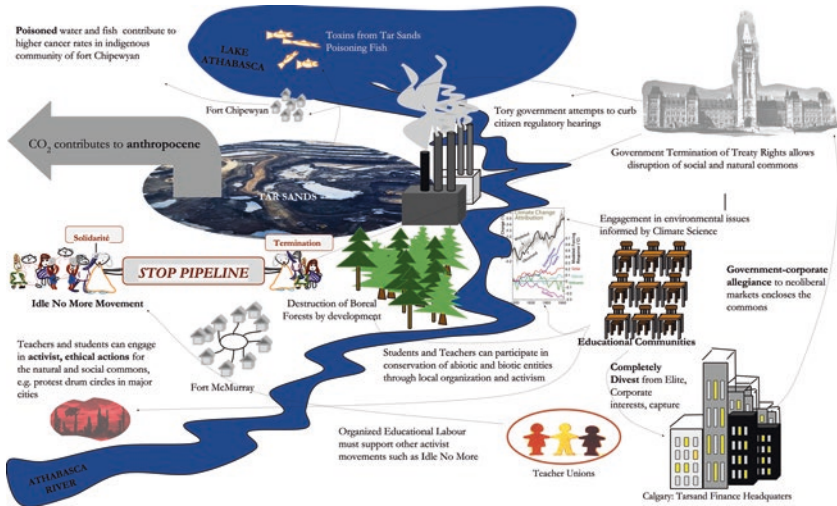
Fig. 4.3 Assemblage of the political problem of the Tar Sands

are simultaneously discursive and social, biological, and material. As Karen Barad (2007) asks, 'If biological forces are in some sense always already historical ones, could it be that there is also some important sense in which historical forces are always already biological' (p. 65)?

Educational institutions, networks, and practices figure into assemblages both as mechanisms of control and (bio)political intervention. Assemblages consist of material and discursive parts (Deleuze and Guattari, 1987), and can be 'free-flowing' (*deterritorialized*) or 'bound-up' (*reterritorialized*) and discursively *over-coded* with various coding systems such as laws, speech acts, DNA. Figure 4.2 demonstrates the concepts of reterritorialization, deterritorialization, lines of flight, and overcoding in relation to the commons. In addition, the differences between arborescent structures and rhizomatic lines of flight can be made visible as forces of control, subversion and becoming.

The part to whole relationship is vital to understanding assemblages. Parts of an assemblage, for example, a classroom or body of water have contextually specific capacities, and when they intra-act they have emergent properties that cannot be attributed to the individual parts (see Bazzul and Kayumova, 2015; Delanda, 2006). The intra-action between entities in assemblages separates them from collections. Parts can be separated from

one assemblage and 'plugged' into another resulting in new capacities and emergent properties. In this way, *performativity* is inherent in assemblages, where the semblance of a unified whole is actually a performance of inter-acting capacities that change depending on how parts are fitted together. Assemblages are *irreducible* in that they can't be reduced to the sum of their parts, yet *decomposable* in that they can be broken apart and reformed into different assemblages with different emergent properties, performing dif-ferent functions. Assemblages trouble totalities like 'society' and 'humanity' (Delanda, 2006). The intra-actions of the parts of an assemblage (multiplic-ities) enact processes, including processes of making the social and natural commons. Diagramming assemblages can help locate both what is con-straining and enabling to these processes.[6] Figure 4.3 is an example of the political problem of the Tar Sands, diagrammed as an assemblage.

Diagramming assemblages allows educators to consider forces that appropriate and exploit the commons, including the labor and subjec-tivities of the multitude. For example, when thinking about the socio-political context of charter schools in the United States, the language, affects, and capital, operationalized by arborescent structures such as the Bill and Melinda Gates Foundation, can be diagrammed and visualized. In Fig. 4.3, forces, peoples, and institutions that keep the Tar Sands operat-ing at the expense of communities as well as productive forces that fight against enclosure of the commons via resource extraction can be related together. Assemblages allow educational communities to determine lines of flight, or modes of deterritorialization, away from rigid, authoritarian, and destructive structures. These lines of flight are vital to political move-ments, because as Deleuze and Guattari (1987) put it: 'there is always something that flows or flees, that escapes binary organization, the reso-nance apparatus, and the overcoding machine: things that are attributed to a change of values, the youth, women, the mad and so on' (p. 216).

What Deleuze and Guattari (1987) argue for in *A Thousand Plateaus* is a focus on the ontological production of social life: unhinging the fixity of things to imagine how they can be re-materially assembled, disassembled, or altered. What we are also seeking through the use of assemblages are alternative forms of subjectivity—to imagine alternative powers. If we say that the 'subject' of an assemblage is multiple, as all subjectivities are, we must acknowledge at least three points:

1. The subject exists only in relation to other entities,
2. The subject is a location of multiplicity since the term 'subject' itself is understood to be a linguistic construction and an effect of power, and

3. An individual's complete subjectivity can never be truly 'captured' (Foucault, 1977; Butler, 1997).

Working with assemblages helps facilitate a reconstitution of parts/ entities to bring about (bio)political, queer events—new monsters on the horizon. *Desire* as a creative, revolutionary force immanent to assemblages can challenge the existing social order (Deleuze and Guattari, 1983; Styhre, 2002). The problem is that the social order can arrange communally harmful interests that act as a capture for desire. An important goal of education should be to refocus desire toward the production and preservation of the commons. Assemblages of the natural and social commons—bird populations, community gardens, a university—all embody particular configurations of desire. Diagramming assemblages can involve outlining how desire is invested in certain consumerist interests at the expense of environmental justice, as well as, how communities can harness desire for making and protecting the commons. *Deterritorializing* from the capitalist structures and arrangements meant to capture and harness our desire will come from heterogeneous, plural, and collective modes of thought and action (Gough and Price, 2009).

Finally, if assemblages afford new ways of being, questions of ethics emerge. Karen Barad (2007) articulates the ethics of intra-connectivity, as providing *the ability* for entities, ecosystems, and organisms to *respond*, that is, an allowance of becoming. However this *ethos* is even more enlivened when we conceive of being in assemblages as an ethico-political problem of the commons. Assemblages of the common would not only allow entities to respond with forms of self-determination, but insist that responses allow the commons to grow by providing the material conditions of becoming for all. Assemblages without emancipatory political considerations are more likely to embody an ethos of continued destruction and inequality—especially if controlling forces of modernity, private property, colonialism, and white supremacy envelop all forms of life.

Drawing Things Together

This chapter is part of a larger effort to reconceptualize education for the commons. We have approached this project through assemblage theory. We'd like to conclude with a summary of the major points about the commons and diagramming assemblages.

1. The commons consist of everything that can be shared in common such as knowledge, ecosystems, and social movements.
2. The commons provides a space for becoming different, living in just relations with others, and a merging of the natural and social.
3. The commons is in danger of enclosure by those that seek the short-term gain of a few.
4. Struggles to create and preserve the commons are (bio)political as they are struggles over collective forms of existence.
5. Education for preserving and producing the commons is a site of biopolitical struggle.
6. Diagramming the commons through assemblages can help students and teachers trace oppressive powers and find different, collective forms of existence.

In a time when the story of an 'individual' existence is being increasingly revealed as a gross misrepresentation of the complexities of our 'world-ecology',[7] a story serving no one, we desperately need another (set of) story apparatus(es) to reimagine our collective and intertwined human/non-human, biotic/abiotic existence. Indeed, there is no individual existence; 'we are all lichens' (Gilbert, Sapp, and Tauber, 2012, p. 336). Diagramming is a (re)storying apparatus, a form of art–science activism that can help participants in educational communities imagine and (inspire to) enact new possibilities for more mutualistic symbioses with/in nature: 'The human social apparatus of the Anthropocene tends to be top heavy and bureaucracy prone. Revolt needs other forms of action and other stories for solace, inspiration, and effectiveness' (Haraway, 2016, p. 36, Kindle Locations 1094–1095). No less than our common future is at stake. Diagramming the commons can be an activity for educational communities to understand, produce and preserve the commons.

Notes

1. Hardt and Negri (2009) refer to both 'the common' and 'the commons' in their writing, the essential difference being that the former is more abstract than the latter. We refer to the commons in this paper as a key pedagogical concept, which can also address what is 'in common'.
2. See in more detail Dipesh Chakrabarty's (2009) 'The Climate of History: Four Theses.'

3. The Multitude can refer to any beings; however, peoples, subjectivities that have come against mechanisms of (bio)power, are most able to then turn against this power biopolitically. This can be seen in indigenous struggles, where peoples are fighting extinctions, and continue to work against forms of imperial colonial power towards new ways of living.

4. Todd May (2005) characterizes Deleuze and Guattari's virtual/actual distinction in terms of problems and solutions. Problems are inexhaustible open fields, while solutions consist of stable identities tied to a certain form of a problem.

5. We choose to use the word 'intra-action' to recognize Karen Barad's insight that entities and phenomena in nature are mutually constitutive, emerging through an entanglement with each other. Our position is that both inter-action and intra-action are useful and accurate terms to describe entities in relationship.

6. Although we focus on assemblages that involve humans, assemblages, due to their virtual character, can also describe the growing field of ecology and science and technology studies (see Hustak and Myers, 2012; Stengers, 2010).

7. See Moore (2015).

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