Chapter 13

Struggles over Nature: beyond Biopolitics

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'There is no sure ground even for criticism.' (Latour 2004)

Introduction

At a UK conference back in 2010 one of us was standing with two colleagues whose work, like ours, takes inspiration from Michel Foucault, talking about the upcoming International Studies Association (ISA) conference in the US.[1] Somehow the conversation turned to how a lot of people are concerned about the impact that inter-continental flights have on our climate, and how European International Relations (IR) scholars allegedly contribute to detrimental climate change by always having to travel to North America for their major annual international conference. 'Ah well, it's all about the politics of catastrophe, isn't it' said one colleague mockingly. Everyone laughed at this remark, which implicitly referred to the research on notions of catastrophe that many of our colleagues are involved in. Much of this research is very critical of the idea of environmental 'catastrophe', which, it is suggested, occludes the existence of internal, structural societal problems (such as inequality and exploitation) by shifting our focus to 'external' ones (such as climate change).

Yet the conversation was also unsettling. Being what one might want to call 'environmentalists', concerns about climate change bother us, and we have therefore attempted to limit flying to some degree. We have a lot of respect for colleagues and friends who – for this very reason – are willing to undertake long train and boat journeys to avoid flying when travelling across Europe for work. The way the conversation took for granted 'our' ('Foucauldian') consensus about the need to dismiss, or at least critique, this environmental commitment was for us a source of disquiet. Whose political argument does such consensus supports and whose political struggle does it eliminate? As Bruno Latour (2004, 231) remarked over a decade ago, the notion of critique that comes to the fore here attracts strange bedfellows, for whom it is a welcome resource in their fight against those who stress that we have an environmental problem. Indeed, right-wing climate change deniers might find this critique useful in gathering support for their commitment to the continuation of 'business as usual', to a politics that embraces continuous economic growth and the need for a 'small' non-interventionist state determined to abandon even the most vulnerable to brutal market forces.

A predominant strand of the 'politics of catastrophe' argument, inspired as it is by Foucault's critique of supposedly 'objective' scientific knowledge, cautions us against reliance upon science for political decisions – a reliance that can marginalise those voices emphasising the need for a radical *internal* economic and political restructuring of society. In relation to environmental problems, it is argued that a science-based approach pushes forward the need for either technocratic regulation (de Goede and Randalls 2009) or neoliberal policies that advocate the need to adapt to (instead of combatting) forces of nature by bolstering societal 'resilience' (Cooper 2010). Latour is usually taken to be at the forefront of efforts to unravel the objectivity of scientific knowledge and to highlight its historical contingency. In the text mentioned above, however, Latour (2004, 232) urges us to contemplate whether a critique that is based on the continuous questioning of scientific

truth-claims is still up to the job if the same logic is used by those it so firmly sets out to oppose – if it is 'encouraging us to fight the wrong enemies and … to be considered as friends by the wrong sort of allies'. What does it mean, Latour (2004, 227) asks, 'when [the] lack of sure ground is taken away from us by the worst possible fellows as an argument against the things we cherish?'

There is, nonetheless, no question that much of the critique to be found in the 'politics of catastrophe' research is not only valid, but also politically significant. Just consider the following statement, which was made by direct action group Plane Stupid's member, Joss Garman:

> [T]his isn't about *ideals* so much as *hard science*…We know how this story ends, but not because we've read *obscure economic treaties or dense theories* from Friedman and Hayek, or Hobsbawm and Marx. We know because *scientists are providing measurable objective evidence* that he high-carbon economic model has an in-built self-destruct mechanism. (Garman 2009; our emphasis; cf. Schlembach, Lear and Bowman 2012, 818)

This quote shows how, for many activists, the problem of climate change has more to do with a proper comprehension of 'hard science' than with an overall diagnosis of societal wrongs and all-encompassing visions for the world as such. It indeed illustrates a lack of desire to globally restructure 'the entire social space' that we inhabit (Žižek 1999, 208). Moreover, what is critiqued in the 'politics of catastrophe' research is not environmental activism per se, but a particular environmental approach, which is embraced by Western governments and international institutions, an approach that often complies with paradigms such as ecological modernisation, sustainable development and green growth, and that stands in 'historical tension' with more radical environmental Marxist and anarcho-autonomist branches (Reitan and Gibson 2012, 396-7).

But our discomfort arises from the problem that this, justified, critique of scientific knowledge too often slips into an outright, binary dismissal of *any* political argument that is based on a potentially 'apocalyptic' discourse. The statement below from Michael Hardt illustrates this problem well:

> Anticapitalist movements are apocalyptic in the long tradition of millenarian and revolutionary groups that struggle to precipitate an event of radical transformation. The end of the days is the beginning of a new world. The apocalyptic imagination of climate change movements, *by contrast*, sees radical change as final catastrophe. (Hardt 2010, 273; our emphasis)

Hardt's critique of climate change movements is based on an *either…or* standpoint: if a movement is anticapitalist, it cannot be 'apocalyptic' in the sense of 'final catastrophe'. As we will show in the next section of this chapter, the same tendency can be found – albeit implicitly – in the 'politics of catastrophe' literature, particularly the strand that draws on Foucault's concept of 'biopolitics': if science is used to justify particular 'neoliberal' policies, it seems to have become useless for combatting other (potentially equally neoliberal) policies. If apocalyptic imaginaries feed into technocratic governmental regulation, they apparently have to be discarded as basis for radical critique. Thus, if environmental activism uses this discourse, it only serves the system instead of challenging it. What interests us in this chapter is how certain political struggles are rendered invisible by this kind of approach. If scientific 'truths' about climate change are conceived as feeding straightforwardly into (neo)liberal regimes, the ongoing political struggle over the question of how 'true' the charge of human-made climate change actually is can no longer be acknowledged. In what follows, we challenge this understanding and develop an alternative approach, one able to

go beyond binaries and appreciate the differentiated nature and politics of resistance – an approach that begins with the struggles themselves.

Biopolitics, Binary Logics, and Environmental Activism

Much of the 'politics of catastrophe' literature is linked to Foucault's notion of biopolitics. Inspired by Foucault's exposition of a biopolitical governance of populations, reliant upon knowledge taken from the human sciences, several scholars have argued that the invocation of looming environmental catastrophe buys into the objectives of (neo)liberal biopolitical regimes, which foster and contain the life of populations at the expense of more radical politics. In this spirit, Julian Reid (2012, 69), for example, argues that a majority of environmentalists fail to recognise that contemporary biopolitical rationalities are based on 'ecological reasoning', which accordingly can no longer be considered a straightforward means of contestation. Indeed, he points out that environmental activists are profoundly mistaken when thinking that our contemporary governmental regimes do not show sufficient concern for the natural world, and that they ignore human vulnerability. On the contrary, Reid (2012, 69) suggests that governance today is *all* about our vulnerability to nature and other external forces (such as terrorism), which, we are told, can neither be predicted nor controlled, and to which adaptation and becoming resilient is conceived as the only viable response (cf. Chandler 2012; Evans and Reid 2013, 2014). Instead of not recognising how ecological systems work, Reid (2012, 68-9, 77) maintains that contemporary governmental systems have understood this far too well: they have made it part and parcel of the neoliberal logic of self-reliance and responsibility. Among other things, Reid (2013) pertinently elucidates the consequences of such an understanding for the global poor in relation to development politics: sustainable development has given up the objective of 'securing' populations by *preventing*

disasters and closing the gaps between North and South. Instead, development discourse promotes a notion of self-reliance that abandons the poor to 'natural' forces in the name of resilience.

Many biopolitics scholars trace this neoliberal logic back to new developments in science, particularly complexity and network science (Dillon and Reid 2009; Dillon and Lobo-Guerrero 2009; Duffield 2011a, 2011b). Those scholars who locate their work within 'security studies' argue, for example, that these scientific developments have fundamentally transformed governmental understandings of what 'national security' is about and how it should be achieved. While previously security was all about the predictability and consequent prevention of threats, complexity science has, it is maintained, introduced security regimes to a notion of life characterised by uncertainty and unpredictability. This means that the (biopolitical) aim of these regimes is nowadays to enhance the capacity of a population to 'bounce back' from catastrophic events (e.g. a terrorist attack, a hurricane, or a famine), accepting the fact that some, or even many, will be left to die. The implied focus on the survival of the population instead of the individual seems to represent biopolitical governance par excellence. Moreover, as Melinda Cooper (2010, 184) points out, it also serves and consolidates imperialist strategies: 'what matters [now] is whether the accidental event of turbulence can be harnessed to the strategic ends of sustaining the US-dollar denominated world'. This is an important argument, and Cooper's (2010) meticulous report of how the reality of climate change 'turbulences' have been slowly becoming accepted knowledge in US 'grand strategy' scenario planning is as devastating as it is convincing. The problem, however, emerges in relation to Cooper's overall conclusion when she maintains that this new way of strategising now represents US neoliberal imperialism *per se*. A similar tendency underlies Mark Duffield's (2011b) suggestion that global neoliberal domination *as such* now rests on the (complexity, science-based) imaginary that the world is 'a purposefully interconnected system'. This kind of thinking, which is again to be found in much of environmental activism, should be, according to Duffield, the principal enemy for

critical theory. Like Cooper, Duffield frames one particular imaginary as representative of world hegemony as such. Resistance thus has to take the form of binary opposition to this imaginary. But what kind of political struggles are rendered invisible if Duffield (2011b) maintains that the greatest problem that the globe faces today is the 'imaginary' of a complex world threatened by 'dangerous climate change'? His argument testifies to the great amount of certainty that we can find in some of the biopolitics literature when it comes to identifying *the* (absolute, singular) problem that needs to be challenged by critical theorists.

This certainty and conviction occludes how theorists themselves contribute to setting up particular problematics, a move that renders certain elements visible while it (necessarily) elides others. Lara Montesinos Coleman and Hannah Hughes (2015) have explored the implications of how the framing of problems is influenced by the taken for granted objects of study offered up to us by academic fields of study (Coleman and Hughes 2015, 143; Coleman 2015b). The 'field' of security studies, for example, exercises a 'force on our thinking' (Coleman and Hughes 2015, 143), resulting in a privileging of the concept of 'security' against which all governmental and resisting practices are read. Moreover, in the 'biopolitics of security' approaches, 'biopolitics' has been transformed into a sort of sociology or theory of society that is used to characterise contemporary global (neo)liberal order and domination as such (Coleman and Hughes 2015, 147; Coleman and Rosenow 2016). The tendency to 'sociologise' Foucault runs very much counter to Foucault's own philosophical project and the way in which Foucault developed his concepts in the context of very specific problems (Coleman and Hughes 2015, 147-9; Debrix 2010; Veyne 1997). 'Biopolitics', for Foucault (e.g. 2003, 239; 2007, 30-32; 2008, 65), is not the cornerstone of a theory of liberal rule but developed, in slightly different directions at different moments, to make sense of certain family resemblances between nonetheless heterogeneous approaches to the population as an aggregate entity in Europe from the eighteenth century onwards – in the context of diverse problems such as

war, food scarcity, public health concerns, or the need for a politically docile labour supply. Foucault's work has increasingly been used to theorise 'global' power in such an exhaustive manner that the complex and diverse interplay between strategies of world-ordering and expressions of political struggle has been made less visible (cf. Coleman and Hughes 2015, 144). Instead, resistance to biopolitics becomes visible at an equally all-encompassing level – it is supposedly found in the 'excess of being' that cannot be scientifically comprehended and classified (Dillon and Lobo-Guerrero 2009, 5), in a notion of 'the human' that understands it as 'singular' rather than as part of a 'species', or in the incorporeal political subject (Reid 2012, 78; cf. Evans and Reid 2014). For the biopolitics of resilience literature, any political struggle that make use of a 'corporeal', science-based discourse – as much of environmental activism does – is dismissed wholesale, while other practices of resistance, which do not fit within this binary logic, are simply invisible.

Many of the aforementioned scholars of biopolitics claim to be doing 'genealogical' analyses of political practices. Yet, for Foucault (1977, 139), the objective of genealogy is precisely to contest monolithic readings of history. It aims to cut history into 'events' that pay tribute to their 'singularity…outside of any monotonous finality'. In other words, it is important to recognise that the development of history can never be grasped with all-encompassing, homogeneous, finite theorems.[2] Moreover, in *Society Must Be Defended* Foucault (2003, 7) is keen to emphasise that the development of historical truth regimes is subject to constant struggles; characterised by the

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[2] It is interesting how close some of the biopolitics literature stays to Foucault's archaeological project that, in contrast to his genealogies, sticks to the (Kantian) idea of necessity and systematicity when trying to uncover the general conditions for the possibility of knowledge in a given historical epoch. However, it needs to be acknowledged that genealogy often falls prey to the same problem. As we discuss in a forthcoming paper, it is unclear, for example, from which position Foucault can maintain – as he does in several places in *Discipline and Punish* (e.g. 1979, 28) and *The History of Sexuality Volume 1* (e.g. 1998, 92) – that the power-knowledge nexus is a general feature of history insofar that it can take 'different historical forms' in different historical epochs (Han 2002, 143). Béatrice Han emphasises (2002, 143) that this 'seems to reactivate the type of Hegelian schema so disliked by Foucault', as the power-knowledge nexus is no longer 'a contingent and historically given configuration', but a 'metaphysical entity, endowed with a quasi-transcendental function'.

'insurrection' and elimination of other types of knowledge, which should become the object of genealogical rediscovery. As William Walters (2012, 132, 134) notes, this understanding of 'genealogy as struggle' is still 'somewhat rare'.[3] Instead of focusing on actually-existing struggles of knowledge, the literature referred to above has rendered (global) power and politics theoretically saturated and monolithic, and has thereby contributed to rendering invisible the battles for 'truth' that do not fit into the pre-fixed theoretical schemas mapped out (Coleman and Rosenow forthcoming).

Our aim in this chapter is to formulate a different approach, one that does not start with the 'biopolitical question', but with a foregrounding of struggle (see Coleman 2015b; Coleman and Rosenow 2016; forthcoming). However, the mere genealogical (re-)turn to forgotten or neglected battles of truth is not sufficient. Walters (2012, 132, 134) uses the term 'genealogy *as* struggle', in contrast to mere 'genealogy *of* struggle', precisely in order to indicate the need for a more politicised understanding of, or indeed engagement *in*, the struggles that we (re)discover (Coleman 2015a; 2015b; Coleman and Rosenow 2016; forthcoming). This is what Thomas Biebricher (2008, 366), also drawing on Foucault's understanding of genealogy in *Society Must Be Defended*, calls a 'self-consciously partisan perspective' of the genealogist that leads her/him to write the chronicles of political struggles in order to incite contestation.[4]

The desire for a more partisan perspective on struggles is related to the (political) discomfort that we have outlined in relation to the sort of consensual laughter related in the anecdote with which we started this chapter. At first glance, Latour's distinction between 'matters of fact' and 'matters of

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[3] Walters focuses upon how genealogy, as a method, has been in used in governmentality studies – but we contend that his diagnosis is adequate for the biopolitics literature as well. It needs to be emphasised though that apart from *Society Must Be Defended*, Foucault's work itself does not pay much attention to these struggles.

[4] For a more detailed discussion of this point, see Coleman and Rosenow forthcoming.

concern' resonates with this, as it indicates the need to reflect on what 'concerns' are driving our critique. However, Latour (2004, 229), in a move that he describes as 'stubborn realism', aims to turn towards a concern with 'things', contemplating their agency, and the need to transform 'objects' (e.g. nature) into such 'things'. Despite a degree of sympathy with such a move (cf. Coleman 2015b), we want to focus here on a different aspect of efforts to gain distance from apparently obvious objects and frames. Our concern here is that there is just as much need to (re-) turn to the political concerns of the *self* engaged in research as there is a need to turn towards the concerns of *things.* Indeed, the two are inseparable. It is a politically embodied and engaged researcher who genealogically aims to make visible particular struggles, who actively contributes her-/himself to the constitution of what is perceived to be a 'problem' in the first place (Coleman 2015b). The researcher, as partisan, is willing to put her/his body on the (political) line, both literally and metaphorically, acting and theorising in solidarity with those whose struggles (s)he is committed to, rather than basing political judgments and suggestions on fixed theoretical schemes. We (2016) have argued elsewhere, in line with William Connolly (1992, 146), that every analysis contains fundamental ontological 'presumptions' about the world that cannot help but structure the frameworks within which analysis takes place. This brings to light a 'paradoxical condition' for the critical researcher, who always needs to move in-between critical analysis and what Connolly (1992, 145) calls 'projectional interpretation', which implies that certain presumptions are intentionally projected into every interpretation. Engaging the politics of resistance requires, we argue, a particular sort of ontological investment, one shaped by engagement with complexes of power and domination that struggles expose and frame from diverse positions. Struggles against domination, including ecological domination, oppression, dispossession and so on, offer a privileged, albeit partial and perspectival, view on aspects of the constellations of power they are directed towards. We may think of them 'as a baseline or conjecture' permanently in question, in persistent interplay with the experience of repression, neutralisation, domestification or dismissal

through 'superior' claims to scientific knowledge. We can acknowledge such interpretations as fictions – they make their objects of study through engagement, encounter and the attempt to manipulate the world – but that which they frame is no less real as a result (Coleman 2015b; Coleman and Rosenow forthcoming). This 'back-and-forth' (Coleman 2015b), or double move, between ontopolitical projection and critique enables us to overcome the dilemma of either having to privilege a genealogical or deconstructive practice of gaining distance that shies away from political judgments, on the one hand, and a constructive account that is based on abstract, binary accounts of problems and solutions, on the other. The next section will outline this argument in more detail while in the last section we will engage one particular case of 'apocalyptic' environmental activism.

Beyond Ready-made Problems and Binary Solutions: Ontopolitics and Critique

The tendency to fall back onto binary ways of thinking signals that many of the scholars discussed so far remain epistemologically stuck in what Connolly (1992, 131) has once called the 'ontopolitical matrix of late-modern discourse', a concept originally developed in reference to the frame within which most of the Anglo-American political theory was located in the early 1990s. The matrix, for Connolly, contains two axes: the horizontal one defined by the opposing categories of *mastery* (referring to the desire for human control over nature) and *attunement* (professing the desire for living in harmony with nature) and the vertical one that outlines the primary constituent of responsibility and activity, oscillating between the poles of *individual* and *collectivity* (Connolly 1992, 131). Connolly (1992, 132) argues that mainstream political discourse is incapable of moving out of the matrix as such: if one of its central poles is questioned, the interrogator is automatically 'drawn as if by a magnet' towards one of the other ones. This happens due to the unacknowledged desire to compensate for long-gone enchanted understandings of the world – compensations that

work either via mastery- or harmony-fantasies, that insist on the need for discipline, organisation and regulation, and that avoid reflective self-problematisation that would open our disciplined selves to the experience of contingency (Connolly 1992, 133-5).

At first glance, some of the critiques made in the biopolitics of security literature seem to resonate with Connolly's argument, particularly the emphasis on resistance being found in a critique of scientific classification and organisation, in the non-measurable 'excess' of incorporeal existence (Dillon and Lobo-Guerrero 2009, 5; Reid 2012, 78). However, some of what is suggested as political alternatives makes clear that much of the discourse is still firmly located within this matrix, as will be shown in the following. If *attunement* (as the understanding of nature as external, harmonious and superior) is rejected, what is turned back to is the concept of *mastery*. If, as it is argued, *uncertainty* and *contingency* characterise contemporary governmental rationalities and regimes, it is *certainty* that we should strive for as an alternative. If it is not *nature* that knows best what needs to be done, then surely it must be the *human subject*. David Chandler, for example, whose argument is closely related to this literature[5] sets out in firm contestation of any politics that invokes the concept of dangerous climate change, a critique he targets in particular at proponents of complexity science. Chandler (2013, 518) maintains that human freedom is only conceivable within 'the structures of laws of necessity'. The *only* (and unacceptable) alternative, for Chandler, is 'enslavement…to the arbitrary and unknowable whims of blind necessity'. Indeed, Chandler exercises what Connolly calls the 'magnet-move' of the matrix par excellence, being drawn automatically to the opposing pole, as the following statement illustrates:

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[5] Chandler's argument is related when it comes to diagnosing contemporary politics as being shaped by complexity science and the rationality of 'resilience'. However, Chandler does not draw on Foucault – indeed, he is very critical of the biopolitics literature in other respects (see e.g. 2009, 2010).

> The argument is straightforward: if there is no longer necessity – no laws and
> regularities operating both in 'nature' and through social relations – then there can be
> no meaningfulness in the world and we would be entirely subject to what appear to us
> as external processes. Objects really would literally appear to rule over us […]
> (Chandler 2013, 519)

Now why this is the case, why some kind of 'rule of objects' is the only alternative, remains unclear: it seems that dismissing one pole of the matrix automatically implies an embrace of the other. The magnet lure of a binary argument can likewise be traced in Reid's account. Reid (2011, 776; our emphasis) explicitly calls for the rediscovery of 'the *hubristic* dimension of the subject', which 'acts against the monarchy of life, challenging the subject's reduction to a status of dependency on things outside the self, sacrificing that on which he or she has hitherto depended, taking what he or she wants, and celebrating autonomy.' In a similar vein, Brad Evans argues, together with Reid (2013, 85), for the need to conceptualise a subject that 'can conceive of changing the world, its structures and conditions of possibility' versus a 'resilient subject which must permanently struggle to accommodate itself to the world'. This invocation of the *political* (vs. the *resilient)* subject is deeply problematic. It speaks to the wish to base meaningful politics on the conceptualisation of a subject that is able to shape its environment in accordance with its desires, a subject not paralysed by an externality beyond its control, but who regains power by taking things into her/his own hands, in other words, by the explicit wish for and the fantasy of *mastery* that emerges from a binary *either…or* understanding of critique.[6] Somehow surprisingly, this argument

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[6] It should be added that this hubristic understanding of the subject also reflects worryingly masculinist onto-epistemologies. Reid's (2011) critique of Judith Butler's ethical ontology of vulnerability, for example, not only invokes a binary logic (according to which any attachment to vulnerability is automatically discounted as complicit with contemporary liberal regimes). It also disregards a long history of feminist critique based upon experiences (of contingency, connectivity, and vulnerability that go along for example with pregnancy and childbirth – see e.g. Di Stefano 1990), which are also disavowed by the centring of the hubristic subject.

resonates with certain Marxists understandings of the world, which have long been subject to critique from within the Marxist tradition. As David Harvey (1998, 327; our emphasis) points out, these understandings are characterised by a 'strongly productivist ethic' and an 'instrumental approach' that Marxism has 'inherited from capitalism'. Harvey emphasises how hard it has been 'to wean Marxism away from a rather *hubristic* view of the domination of nature thesis'.

The move to the opposite side of the horizontal matrix – *attunement* with nature – deserves to be mentioned as well, despite not being a feature of the biopolitics literature. Harvey (1998, 328; our emphasis) astutely puts his finger on the problem of attunement in environmentalism when arguing that 'the postulation of a planetary ecological crisis, the very idea that the planet is somehow "vulnerable" to human action, *repeat in a negative form the hubristic claims of those who aspire to planetary domination.*' The main problem of the attunement-claim is the notion that humanity as such is a source of negative disturbance to an otherwise harmoniously operating 'Mother Nature'. In this conceptualisation, 'humanity' and 'nature' exist in a dichotomy, whose gendered undertones should not go unnoticed. Historically, this has implied the spread of a resoundingly colonial logic of conservation that has led to the dispossession of people considered a 'disturbance'. One example is the constitution of the Nagarhole National Park in southern Karnataka/India, which was set up as a reservoir for tigers. Influenced by a 'biocentric' perspective that regards human presence per se as a problem, John G. Robinson from the Wildlife Conservation Society in New York argued for the removal of about 6,000 tribals in the area: 'Relocating tribal or traditional people who live in…protected areas is the single most important step towards conservation', he maintained, because tribes 'compulsively hunt for food', which means that tigers cannot compete with them for prey (quoted in Guha and Alier 1997, 106). Environmental movements themselves are far from immune from incorporation into this frame – indeed, given our emphasis on engagement and commitment, we should underscore at this point that commitment and solidarity do not imply an automatic

embrace of existing activist frames, but that they also require some critical distance (Coleman 2015b; see also Hale 2011; Routledge 1996). To simply adopt this conversationist rhetoric would not provide a way out of the matrix, but merely reverse the move between the two poles.

If we are to find a way out of the ontopolitical matrix, we need to return to the question of critique. As mentioned before, Connolly considers this matrix to be an effect, among other things, of a lack of reflective self-problematisation. It is this element that leads us back to emphasise an understanding of analysis and critique that reflects explicitly on the role of the critical theorist who enables a certain problem – or political struggle – to be perceived as such in the first place, at the expense of other, potentially equally relevant, or even *more* important problems and struggles. To be sure, most theorists who draw on Foucault emphasise the need for self-transformation and -creativity, but often – as Coleman and Hughes discuss (2015, 147) – this does not include a reflection on their own role as 'problematisers' and the politics at play in the moves by which we make certain elements visible and occlude others. Despite Foucault's strong emphasis on the 'contingency' of the self, those who aim to follow in his footsteps seem to be unwilling to question the certainty of their problems and, by implication, the certainty of their own self-positioning (see also Coleman 2015b). Diverging from Connolly, this work of critical self-reflection should not be reduced to mere reflexivity, which would imply a distinction between subject and object. Instead, we need to think through and in relation to practical engagement and encounter in struggles, which can – as we discuss below – force us to risk ourselves as subjects within the practicee of truth-telling (Coleman 2015b).

For Connolly, the certainty of the problem is questionable precisely because its definition and identification is always based on particular – and to a certain extent contingent – ontopolitical commitments that come from the self as a knowing subject (cf. Coleman and Rosenow 2016). He

thereby does not confine the concept of ontopolitics to the arena of the conventional matrix, but argues that *no* political analysis or critique, no matter how 'historical', 'genealogical', or 'deconstructive' it may claim to be, can do without particular pre-analytical commitments. No problem is ever simply given. Insead, it can only become visible within a particular framework that 'establish[es] the possibilities within which its assessment of actuality is presented, delimits its distribution of explanatory elements, generates parameters within which its ethic is elaborated, and centers (or decenters) its assessments of responsibility' (Connolly 1992, 119). Foucault himself recognised this to a certain extent: he is very clear that genealogy is an interpretation of historical events that does not claim to be any 'truer' than those interpretations it sets out to contest – it is always a 'fiction', with 'the only possible truth' consisting in 'not disguising the "fictive" or "fictionalizing" nature of [this] enterprise', and thereby fighting against dominant, truthful interpretations (Han 2002, 102, referring to Foucault 1977). However, this argument harbours the dangers of circularity: it seems to rely on a pre-genealogical understanding of what constitutes the dominant 'truth' in a given historical époque that struggles are up against – an understanding that genealogy is supposed to reveal in the first place! It does not sufficiently reflect on its own onto-assumptions in relation to the question of truth – as Connolly (1992, 143-5) maintains. Foucault himself too often proceeds as if the theories and frameworks to be deconstructed were only those of *others*. Probably out of a 'desire to minimize an implication in ontological assumptions it could never vindicate without drawing upon some of the same media it has just ambiguated', Foucault, according to Connolly, remains overly silent on his own ontopolitical commitments.

From the perspectival lens of engagement with struggle, outlined above, we contend that the very practice of truth-telling about general relations of power and forms of knowledge in need of contestation is actively constituted by an ontopolitically committed, embodied, partisan researcher (Coleman and Rosenow 2016). This researcher is in one respect immanent to the particular

problems s/he sets out to investigate and engages within. On the other hand, critique of ready-made frames, critical distance from both struggles themselves and available scholarly problematics constitute moments of transcendence, in which we risk ourselves as subjects at both ends (Coleman 2015b). It is from this perpetually dislocated position of immanence/transcendence that wider political alternatives are mapped out in the unstable space between attachment to and critical distance from struggles themselves. Although it does not emphasise struggle, Connolly's move of ontopolitical projection also recognises how apparently transcendent claims about ontological 'truth' are grounded in political contingency and immanence. This means that commitment to political alternatives can never gain a totally secure status. From the perspective advanced here, moreover, the constructive element itself is transformable, informed dialectically by changing struggles, experiences of engagement and contexts of commitment (Coleman 2015b), which prevents it from merely moving between oppositional poles when diagnosing problems and putting forward responses.

Finding Opposition in Struggles over Nature and Life

In the following, the chapter will engage with some of the implications of this approach for the struggles of knowledge that can be found in environmental movements, based on the example of the debates about the benefits and ills of genetically modified organisms (GMOs). The substantive research projects from which this chapter emerges have involved, for both of us, an element of partisan commitment and/or active engagement in a series of struggles: over the effects of oil exploration, agrofuel production and armed land concentration in Colombia (e.g. Coleman 2007; 2013; 2015a; 2015b; Aeberhard et al. 2007) and over GMOs in Europe and India (Rosenow 2009; 2012; 2013). However, talking about partisan commitment and engagements as having taken place 'prior' to critical analysis is in a sense misleading. Reflecting on the embodiment of researching

selves implies that it is impossible to think about analysis in terms of 'starting' and 'end-points' (Coleman 2015b; Coleman and Rosenow 2016). There has never been a *prior* political commitment that has *then* led to a theoretical contemplation of the ills of biopolitical research, and *then* to the development of a framework ready to be 'applied' to a given case. An embodied and ontopolitically committed self is always already in the middle of the double move of analysis and projectional theoretical construction, or theoretically-informed engagement and critique of those very practices (Coleman and Rosenow 2016; Coleman 2015b). 'Where/how to start' becomes a superfluous question, because in reality all of us have already started somewhere. We are all already embodied, influenced by past research or political activities and experiences, by the practices we engage(d) with, or by our own political beliefs.

We started our research journeys driven by particular political and ecological commitments that have put us in solidarity with those similarly committed and engaged in processess of resistance. At the same time, however, we have been influenced by reading the work of Foucault and other philosophers, such as Butler, Bachelard, Deleuze, Marx and others, as well as those scholars drawing on these traditions in our own academic fields. We have used concepts drawn from these thinkers but the active constitution of the problems identified, not only in this chapter, but also in the larger projects this chapter draws upon, has been taking place in the uncomfortable space in-between existing categories or concepts, in-between particular practices of struggle, and conscious, reflected, ontopolitical projection, which requires us to challenge, question and redefine ourselves within the practice of writing (Coleman 2015b; Coleman and Rosenow 2016).

The debate around GMOs is, like the debate over climate change, another good example of the potential biopolitical corruption of environmental activism. As Eric Swyngedouw stresses (2007, 21), the anti-GMO argument strongly features a conception of nature as 'packaged, numbered,

calculated, coded, modeled, and represented by those who claim to possess, know, understand, and speak for the "real Nature'''. However, in contrast to the climate change debate, in the GMO controversy the concept of 'scientific consensus' is not used *in favour* of environmentalism, but *against* it: the argument about calculability is used by those who argue in support of GMOs. Meanwhile those (marginalised) scientists and activists who oppose genetic engineering (GE) use a different understanding of life and nature, one that questions the idea of calculable predictability and instead points to the uncertainty created by 'meddling' with nature. Contra the conviction of biopolitical theorists that neoliberalism is founded on an episteme emphasising the uncertainty and unpredictability of life, traditional modern epistemes are characterised by concepts of predictability where human control remains prevalent. The regulation of biotechnology is but one example (Rosenow 2009; 2012; Ansems de Vries and Rosenow 2015). At the peak of European anti-GMO activism – the late 1990s and early 2000s – some of the most outspoken anti-GMO activists were biologists who were keen to point out how the discipline of genetics has traditionally been based on the 'gene-centric' school of thought, which understands the world in Newtonian manner as existing in perfect equilibrium. Gene-centrism forwards the so-called 'Central Dogma' which argues that information about organic development irreversibly moves in a linear manner from gene to protein to final organism. This understanding relies on the possibility of distinguishing ontologically between information and its realisation or materialisation. According to Oyama (2000, 1), the notion of the ontological autonomy of information, located in the gene, resembles the theological notion of God as eternal, atemporal and intentional creator, which implies that the question of life is still asked with regard to its origin, no matter whether it is located in a causalistic God or in the gene as 'Nature's agent'. This is echoed by one of the best-known anti-GMO activists in the UK, Mae-Wan Ho, a critical biologist who argues that the entire Western worldview, which emphasises 'the persistence of the eternal soul, or order and stability in the face of change' (Ho 1998, 72), is contained in the notion of what August Weismann originally called the 'germ plasm', and which is

today understood as the 'genetic code'. This notion assumes that biological heritage is contained and passed on unaltered through the generations. Otherwise, it would become difficult to explain how disorder (a 'heap of chemicals') could produce the ordered unity of being (Oyama 2000, 14).

This understanding resonates resoundingly with the ideal of predictability and (self-)control. The stated aim is to get to know life as such and thereby oneself, with this knowledge being compressed so that it can be possessed and controlled by a (universal) subject. For a long time, biologists nurtured the dream of one day being able to put an individual's entire DNA on a single CD, which is a dream that testifies to the wish to reduce the meaning of life – and of our entire identity – to the sequences of our basic genetic units (Fox Keller 2000, 6). The 'facile genetic reductionism' (Sarkar 2006, 86) that characterises this approach of genetic determination was seriously challenged by the publication of the results of the Human Genome Project (between 2003 and 2006), which aimed to decipher and map the total number of genes in the human genome. According to the results of the Project, there are far too few genes in the human genome to explain the vast amount of human organic traits, which hints at the more complex processes that are apparently going on in the interaction of genes, proteins and organic development. Some scientists and scientific commentators were consequently quick to argue that the Central Dogma was finally clearly disproven. However, a more thorough analysis of contemporary scientific and non-scientific discourses around the concept of the gene reveals that there are full of tensions, discontinuities and outright contradictions. The notion of 'the gene' (or nowadays alternatively the entire 'genome') as central carrier of the information of life, including the popular metaphors of the genetic 'code', 'blueprint', or 'book of life', have largely remained unchanged (Carolan 2008, 757). Consequently, it is not surprising that biologists who belong to a different school of thought - sometimes called 'developmentalism' – which has opposed and has been marginalised by the dominant gene-centric school of thought for decades, have taken the results of the Human Genome Project as confirmation

of their own, competing, complexity science-based theory. According to their argument, '[t]he cause of development…is the relationship of the components, not the components themselves', which implies that development is emergent and causality rarely linear or straightforward (Gilbert Gottlieb quoted in Hood et al. 2010, 4).

The struggle over GMO represents a challenge to those scholars of biopolitics who argue that complexity science is definitive of a mode of reason informing neoliberal governmental regimes. The GMO controversy illustrates where this integration meets its limits. The biotech industry, as indeed any industry in a modern market economy, crucially relies on the manufacturing, patenting and trading of 'products', in this case the product of 'the gene' (Ansems de Vries and Rosenow 2015; Rosenow 2012, 534). Contrary to complexity science, which emphasises relationality and the blurring of boundaries, tradeable products need to have discrete recognisable properties and clear boundaries; they need to be clearly identifiable, differentiable and representable. The 'industrial gene' needs to be 'defined, owned, tracked, proven acceptably safe, [and] proven to have uniform effect' (Caruso 2007), and the possibility of this would be thrown into doubt if the notion of a stringent cause-and-effect relation between gene and organism were to be abandoned. If the concept of the gene as entity and central agent in the development of organisms were given up, the industry would not be able to sustain itself. This might, indeed, explain the lack of impact that complexity science related developments in the life sciences have had so far on the biotech industry and on its governmental regulation (Caruso 2007; cf. Rosenow 2012, 534).

For developmentalist biologists, such as Mae-Wan Ho, complexity science challenges not only the notion of clear-cut entities, but also the traditional hierarchy between the scientist as subject and the scientific object (see also Coleman 2015b; Coleman and Rosenow forthcoming). Ho argues (1993, 100) that the role of the cell or even the organism as a whole needs to be upgraded, as it is more

than merely the sum of its parts. Indeed, the scientist needs to understand her/himself as being informed *by* the organism, which should be allowed 'to tell its own story…to inform us of its internal processes' (Ho 1993, 100). Ho draws on quantum theory, frames objects such as particles not as pre-given, but as only becoming visible in their interaction with scientific instruments. In other words, the object is altered when scientifically manipulated and can only produce the effect that brings it into existence in this interaction (Castelao-Lawless 1995, 50). Ho concludes (1993, 142) that 'the subjectivist-objectivist dichotomy is falsely drawn' and that subjectivity is indeed an 'anthropomorphic-anthropocentric concept' that results from human chauvinism. The effort to dissolve the subject-object-distinction is one of the key motivations for Ho's opposition to genetic engineering, as this technology is based on the notion that the scientist as subject is in clear control of her/his recognition of and interference with the object. As many anti-GMO activists emphasise (Ho 1998, 71, 135), genetic engineering overlooks how the organism is an 'active, autonomous being, which is open to the environment', and whose integrity and autonomy is violated by its genetic modification. Such an understanding is disregarded in mainstream molecular biology because recognising the organism as an actor that can transform in unforeseeable ways would threaten the status quo.

Engaging with this controversy prompts us to seek resistant politics elsewhere from those who legislate for environmental politics through the lens of biopolitical sociologies of (neo)liberal regimes. Engaging with anti-GMO struggles, we do not only find compelling contestation in the practices of environmental activists who use apocalyptic imaginaries of catastrophe and who rely on scientific 'truth' and concepts of nature as 'one'. In this example, the 'knowledge' that scholars of biopolitics identify as the one that dominates neoliberal governmental regimes – complexity science – is precisely that mobilised in order to *contest* the commodification of nature. We might also draw parallels here with other knowledges mobilised in contestation of such commodification. For many

rural populations in Colombia, the environmental catastrophe has already happened. 'Natural resource' extraction in the context of neoliberalisation of the economic model has taken place through widespread massacres and forced displacement at the hands of state-linked paramilitaries whose close cooperation with both the official state forces and multinational corporations has been extensively documented. Social organisations contesting the development paradigm, and the associated commodification of peasant and indigenous lands, mobilise critiques of the epistemic violence of notions of the sovereign subject in dominion over a nature that can be predicted and controlled as external matter. These struggles have been denoted *planes de vida* (plans of/for life). Under the influence of indigenous cosmovisions, life itself has been redefined in terms of 'a dynamic equilibrium between the physical, the biological and the human' and a critique of linear temporalities imposed by capitalist modernity (Coleman 2015a). These mobilisations in defence of territory, moreover, do not take land (*tierra*) as an external object or assume a relation to it as property. Rather, the notion of territory is developed and redefined in a process of understanding the complex forces which threaten a certain relationship with the land, understood not as object but as an organic part of experience (Coleman 2015b). Like with the Zapatistas in Chiapas, land 'itself is a rebel', known in ways incommensurable with a commodity fetishism which vacates not only social relations (as Marx would have it) but the being of the land itself. It is a fetishism of 'those who sell and buy the land as if the land was not [had no being] and as if the colour of the land that we are was non-existent' (Subcomandante Marcos, quoted in Vásquez 2011, 37). Land here is irreducible to an object, or even a thing. Land (*tierra*) 'exceeds the modern limit of reality in presence' – not only due to this sense of organic unity but because 'it implies the past, heritage, memory. *Tierra* has to be defended … for the sake of protecting the ancestors, of preserving an origin that is both past and always, already present' (Vázquez 2011, 37-8).

A word of caution is required here. We too need to be careful about binaries. It would be a mistake indeed to seek to appropriate this epistemic terrain into the domain of complexity science. There are overlaps, indeed, in the divergence from modern metaphysics evident in quantum physics and the ontologies of microbiology inspired by complexity theory. But the irreducible dissonance in notions of space-time, memory and life itself is something to be tarried with rather than dissolved (Coleman 2015b). Indeed, this dissonance itself might prompt a certain hesitancy in declaring the radical challenge that complexity science-based notions of life might pose to relentless commodification of nature. That commodificataion invokes an understanding of life as being about control and predictability, and a separation of subject and object, does not entail that resistance is automatically found in a readymade opposite move. This, once again, harbours the danger of falling into the *either…or* trap. Rather than legislating for resistance, we need to engage where struggle is actually taking place and only from this uncertain, in-between space, interrogate its politics. Avoiding the legislative *either … or* also puts us on guard against another potential appropriation, that of forcing struggles over life back into the ontopolitical matrix toward the pole of *attunement* with nature: the idea that nature is, in itself, harmonious, such that it may be even better without human disturbance.

Movements struggling over life and territory in Colombia do indeed emphasis harmony with nature, but notions of time, memory, the ghosts of pasts generations permeating the very being of the land, give a humanistic aspect to their struggle that can no more be evaded than it can be reduced to the coercive monologism of the sovereign subject (Coleman 2015a). So too, Ho's critique of genetic engineering rests on an understanding of life that emphasises its telos of harmony and order (Ansems de Vries and Rosenow 2015), while publications of other anti-GMO activists, such as Jeremy Rifkin, also make exhaustive use of notions such as the 'integrity of natural kinds' and the 'natural telos of the self-defining purpose of all life forms' (quoted in Haraway 1997, 60).

Nonetheless, the undermining of the subject-object distinction and sovereign subject of knowledge means that we cannot map this epistemic territory neatly onto Connolly's late modern matrix.

While critics of GMO, such as Ho, do not simply turn the magnetic needle of the ontopolitical matrix in the other direction, this does not imply that we should enthusiastically endorse her frame as simply other to the domination and commodification of nature. Maria Hynes notes (2014, 1934) that biologists often make use of aesthetic metaphors to highlight the relevance of their work, metaphors that often occlude unacknowledged metaphysical assumptions. Ho (1998, 76), for example, speaks of life as a 'vibrant world of colour and form, of light and music', contradicting the dull, mechanical view that is supposedly dominant in mainstream biology. The implicit metaphysics is related to holism, which forward 'romantic aesthetic values' that emphasise the beauty of complexity and diversity, and express a longing for coherence, purity, harmony and perfection (Hynes 2014, 1935). Although she aims to downplay herself as subject who 'knows' about life, Ho thereby ends up enclosing the frame, making her research largely about the search for exemplars, inhibiting any perspective that might unsettle it from outside (Hynes 2014, 1935). What is invoked is what Gilles Deleuze (2004, 64) calls the 'beautiful soul', which regards differences as 'respectable, reconcilable or federative' and allows for absolute notions of the whole that exclude everything that does not fit (cf. Ansems de Vries and Rosenow 2015). Indeed, Ho's account is vulnerable to a problematic political extension, grounding her understanding of the ideal societal and political order. In line with complexity science, Ho contests the traditional boundary that distinguishes ways of understanding nature from ways of understanding society, and argues that if knowledge of how organic system work were taken seriously, it would be used to guide us in how we think we should organise societies. For her (1998, 273), radical democracy is the best way to organise societies, because, like nature, democratic systems are characterised by inter-communication, reconciliation, and the distribution of control – the 'beautiful soul' all over again.

Democracy, for Ho, is the most 'natural' form of both environmental and social organisation (cf. Ho 2010, 65-7). Similarly, Stuart Kauffman (1995, 5, 28), one of the most distinguished and well-known complexity scientists in the popular realm, argues that 'the idea of a pluralistic democratic society' is not to be thought of as simply a human creation, but, rather, it is 'part of the natural order of things'. In his account of life, Kauffman (1995, 28) identifies 'hints of an apologia for a pluralistic society as the natural design for adaptive compromise' (cf. Ansems de Vries and Rosenow 2015).

The comparison between 'natural' and 'democratic' social systems reveals that both do not exist on equal footing, but that the 'truth' of the former is to be used as a levelling board for the latter. Ho's and Kauffman's effort to use the same criteria for organising both society and nature is implicitly based on hierarchically distinguishing the latter from the former: society has to 'learn' from nature, the 'natural' is primary- the producer of 'true' living- while society becomes nature's dualistic, inferior 'Other'. The (scientific) truth of nature as a harmonious democratic system is supposed to undermine less democratic forms of societal organisation, providing for example justification for Bush's 'axis of evil' of 'rogue states'. This is potentially more dangerous (in terms of a potential elimination of 'undemocratic' forms of life) than traditional political contestations of perceived democratic gaps, because 'truth' that is grounded in nature has few grounds to be challenged upon (Ansems de Vries and Rosenow 2015). Not quite attunement, but enclosure nonetheless – and one with potential to occlude or delegitimise struggles conceived outside of this frame.

The struggles over life in Colombia are more fluid and more riven with internal contractions. This is, in part, related to an element of self-critique about exclusions and violences at play within them. Self-critique has, for example, taken place around gendered hierarchies which privilege certain voices (Coleman 2015b). So too have activists within these processes sought to undermine their

own reiteration of the very 'logic of war' they confront through resistance, 'a logic that annuls, that marginalizes, that tells the other "not you"' (cited in Coleman 2015a). The porous boundaries of political critique are also the result of the 'diagnostic' nature of the enterprise. Problems are not given in advance, or read off an abstract theory of capitalism or colonialism (except in the form, perhaps, of a 'preliminary protocol' – cf. Coleman and Rosenow forthcoming). Rather, analyses of the power relations confronted are forged and rethought as the sketched contours of political subjectivity, filled with content in the process of struggle (Coleman 2015b). Here, the frames at play have cracked edges from the start. Something outside the frame is perpetually sought, glimpsed, or allowed to enter to unsettle given ways of knowing power and resistance (cf. Coleman 2015a). This very troubling of cognition, of presence, must itself caution us against a romantic vision of other epistemic terrains. Even less should we be tempted to appropriate such terrains into a singular economy of truth as a secure and certain ground for critique. To begin with, the self-critique to be found in such processes testifies to relations of domination also at play within struggles (such as the power relations constituted around questions of gender). However, engagement with such processes also forces recognition of the violence of any attempt at appropriation of knowledges emergent from convergence with other cosmo-visions. Not only does 'land' (*tierra*) itself exceeds cognition, and resist incorporation into a modern metaphysics of presence and of the present 'as the sole locus of the real' (Vazquez 2011, 38). So too, the very notion of language, of the word, draws its credibility from those in a past that unsettles presence, from an in-between that defies appropriation and translation into modern metaphysics (Vazquez 2011, 38; cf. Coleman 2015a).

Conclusion

Starting from struggle, with partisan commitment, does not imply adopting wholesale the arguments and perspectives advanced within those struggles. The example of anti-GMO activism,

in particular, illustrates the close connection that exists between the opening of new spaces for radical political thought and action and the adherence to traditional, dominant ways. Moreover, as the discussion of struggles over land commodification has highlighted, there may be a violence in the very attempt at appropriation, in our own attempts to insert struggles back into what can be said, fixed, rendered present as an objection of cognition. To understand solidarity and partisanship as mere embrace of arguments and practices to be found in struggle would be misleading and omits the importance of a back and forth between ontological investment and (self-)critique, the demand that we linger in the gaps between knowledges and epistemologies (Coleman 2015b; Coleman and Rosenow 2016; forthcoming). It is only by living with the gaps, by perpetually performing the double move –oscillating between critical analysis and ontological investment – that partisan solidarity can be *critically* practiced. The oppositional potential of the different notions of life and nature that we have identified in arguments forwarded by developmentalist biologists does not lie in an embrace of *attunement* – which is the opposite pole of *mastery* – but in the way it provides us with a resource for further exploration in the double move. Likewise, the challenge to given understandings of life and land enacted by social movements influenced by indigenous cosmovisions, do not provide us with resources to be exactracted from context. The very evanescence and indeterminacy of these struggles, their irreducibility to presence, to be fixed within the terms of available categories, can prompt something similar to what Foucault (1994) called an 'ethic of discomfort' that incites a perpetual shifting of our ontological ground. This movement is literal insofar that it can never rest, it is never linear, and can never follow the easy path outlined by pre-given problems. It does not enable us to be ever certain about *the* problem of our time (as the biopolitics literature often is). The exposure to something that cannot be grasped by the categories we possess points to the need for a constant working at our conceptual limits. Struggles form one point of entry for such critical practice, but are certainly not an end-point.

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