

Title	Insurrection training for post-human politics
Type	Article
URL	https://ualresearchonline.arts.ac.uk/id/eprint/15923/
Date	2020
Citation	Nold, Christian (2020) Insurrection training for post-human politics. International Journal of Sociology and Social Policy. ISSN 0144 333X
Creators	Nold, Christian

Usage Guidelines

Please refer to usage guidelines at <http://ualresearchonline.arts.ac.uk/policies.html> or alternatively contact ualresearchonline@arts.ac.uk.

License: Creative Commons Attribution Non-commercial No Derivatives

Unless otherwise stated, copyright owned by the author

To cite this paper:

Nold, C. (2020), "Insurrection training for post-human politics", *International Journal of Sociology and Social Policy*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/IJSSP-03-2020-0066>

This author accepted manuscript is deposited under a Creative Commons Attribution Non-commercial 4.0 International (CC BY-NC) licence. This means that anyone may distribute, adapt, and build upon the work for non-commercial purposes, subject to full attribution. If you wish to use this manuscript for commercial purposes, please contact permissions@emerald.com.

If you would like the version of record pdf of this paper – email: christian@softhook.com

Insurrection training for post-human politics

Christian Nold

Department of Geography, University College London, London, UK

Introduction

Academia often talks about wanting to have an impact on the world: from trying to influence policymaking (Sasse and Haddon, 2019; Webster, 2007) to trying to find metrics for impacts beyond academia (Ravenscroft et al., 2017). Yet, transformative impacts on the world often seem remote. Many authors claim that post-humanism in particular has a problem in translating its theory into supporting social movements and creating political impacts. Some theorists even suggest that post-humanism might actually be “undoing the possibility of a political project altogether” (Braidotti, 2019, p. 42). This text sets out to identify the tensions around the way post-humanist politics has been framed and find a new way of connecting the dots between post-human theory and direct and specific ways of intervening in the world. The paper maps out an anarchist-influenced post-humanism as proposed in Critical Animal Studies (CAS) and Cudworth and Hobden’s (2018) emancipatory post-human politics. The contribution of this paper is to show how the notion of ‘multiple ontologies’ (Mol, 2002) and ‘insurgent posthumanism’ (Papadopoulos, 2010, 2018) can be used to create a form of insurrection training for researchers to acquire an ‘ontological imagination’ (Nowak, 2013) that can support them in creating interventions in the world. Using an example of the landmark ‘Seeds of Hope East Timor Ploughshares action’ (1996), the case study identifies two key components of post-human politics: specificity of intervention and reflexive training practices. Finally, the paper proposes that post-humanist researchers can apply insurrection training in their daily lives to experience ontological difference, de-trivialise the everyday, connect to social movements, make post-human politics ‘doable’ and offer ‘direct’ change.

The Problem of Post-human Politics

To start, I present a sketch of post-humanism to identify the way it has been accused of dissipating political agency and how theorists have tried to address this. Post-humanism is an expansive field that encompasses different trajectories of thought that have in common a vision of the human as non-fixed and mutable. Francesca Ferrando identifies multiple post-humanisms and makes a distinction between transhumanism where people try to extend the body to become post-humans and contrasts this with a theoretical tradition that attempts to overcome the anthropocentric and dualistic bias of Western thought (Ferrando, 2013). In this text I will be focusing on this later approach to provide an overview of its political commitments. A key concept for post-humanism is the notion of the ‘actor’ who can be human or nonhuman and are “any element which bends space around itself, makes other elements dependent upon itself and translates their will into a language of its own” (Callon and Latour, 1981, p. 286). This decentering of the human as the sole locus of action is the core of post-humanism which theorists have articulated with different emphasis and commitments. Donna Haraway’s ‘cyborg manifesto’ (1991) focuses on hybrids between humans and nonhumans, while others argue for a continuum between humans and other animals (Massumi, 2014), the vitalism and liveliness of matter

(Barad, 1998), the 'more-than-human' (Whatmore, 2002), and the capacity of nonhumans to surprise (Bennet, 2010). A key benefit of these approaches has been the creation of a rich vocabulary of sensitising metaphors such as 'assemblages', 'hybrids', 'cosmologies' and 'entanglements' that have enabled nuanced narratives about how living and non-living things compose the world together. Often this is used to identify surprisingly humble actors such as plastic bags as active entities that stir politics (Hawkins, 2009).

Despite these key benefits, post-humanism has been criticised for a diffusion of agency and political responsibility, with its accounts becoming "a murder story with no murderer!" (Miller, 1997, p. 361). Or that they paint pictures of an "all-pervasive system whose general structure cannot be purposefully altered by some strategic intervention, let alone a social movement" (Fuller, 2000, p. 26). A key issue is that in de-centring people, post-humanism also side-lines foundational sociological categories such as race (Weheliye, 2014). The argument is that this approach pulls the rug from underneath political organising with researchers suggesting that it "offers no path back into social analysis, into questions of domination, exclusion, resistance and transformation - the stuff of politics" (Sterne and Leach, 2005, p. 192). The case made against post-humanism, is that its flat ontological position undoes the specificity of the human political subject and diffuses agency, making it impossible to tackle social justice and engage with emancipatory politics¹.

Many post-human researchers reject the argument of post humanism as anti-political and present different approaches to agency, community and subject formation (Zolkos, 2018). Rosi Braidotti proposes that a critical post-human perspective offers the possibility for alternative subjectivities and political collectives.

The task of critical theory consists in activating subjects to enter into new affective transversal assemblages, to co-create alternative ethical forces and political codes – in other words, to compose a missing people (2019, p. 49).

In a similar way, Brian Massumi offers a notion of 'animal politics' that focuses on play as creating 'subjectivities-without-a-subject' (2014), while Maurizio Lazzarato suggests a 'machinic animism' to re-enchant the nonhuman world (2014, p. 134). The main framing of post-human politics involves building a theoretical basis for new forms of subjectivity based on 'sensitising' towards nonhumans in order to constitute post-human collectives. The politics invoked, is one of an inclusion of otherness, where the nonhuman is assigned a place and rights within a liberal conception of representational politics. Bruno Latour sees the task as one of 'offering participants arenas in which to gather' (2004) to establish a 'parliament of things' (1993). In 'How to Think Like a State' (2007), Latour explicitly calls for the rediscovery of the liberal state in an attempt to rebuild governmental institutions based on post-human premises (2013, p. 482).

¹ An extended analysis of these critiques of post-humanist politics can be found in (Cudworth and Hobden, 2018).

While the critiques of post-humanism focus on a loss of agency, I suggest the issue is actually that the dominant strand of post-humanism has adopted a liberal conception of politics based on the inclusion of legitimate subjects and their representation in the state. Rossini and Toggweiler see the main challenge as one of how to maintain the liberal subject in the face of post-humanism.

How emancipatory goals of progressive social trans/formation and justice can be envisaged, let alone obtained, if we can no longer ground our theories and political practices in enlightened narratives of humanist progress and liberation (2017, pp. 5–6).

While post-humanism seeks to identify new nonhuman subjects, the political dynamics that these subjects are imagined in, is within an enlightenment conception of humanist politics where legitimacy rests on representing 'the people' (Braun and Wakefield, 2018). Rossini and Toggweiler firmly position their notion of post-human politics within the status quo of capitalism.

We do not believe, in fact, that it is possible – or even desirable – to leave the fast-speed train of postmillennial capitalism. Our choice is to stay on board (Rossini and Toggweiler, 2017, p. 6).

Thus a liberal post-human vision of constitutional politics invokes merely an expanded integration of who is represented, rather than an actual transformation of the structures of politics (Cudworth and Hobden, 2018, p. 70). An illustration of what this looks like is provided by Latour in a theatre performance from 2015 - called 'Make it Work - Théâtre des Négotiations' (Sciences Po, 2015). The event involved 200 students 'pre-enacting' the United Nations' Conference of Parties (COP) and entailed the students wearing suits and sitting in a semi-circle to make speeches. In contrast to the COP, the performance included representatives of nonhuman entities such as "oceans, soils, the atmosphere, forests, endangered species" (Wiame, 2015, p. 5), alongside corporations and nation states such as China and USA. Latour (2016) suggests that the performance is an example of speculative politics that allows nonhumans to speak on an even footing with established actors. Yet, I argue that the event merely ventriloquises nonhuman agendas while staying within a representational logic of 'compositionist diplomacy' (Latour et al., 2018), which doesn't reconfiguring the political machinery of the COP. In fact, other researchers have extended Latour's notion of parliamentary politics towards a nativist 'nation of things', where the role of nonhumans is to support "collective memory [...] exercised in a regulatory way, bringing people in a special state of consciousness [...] in following the effects of a life security pattern provided by the insurances elaborated in the perpetuation of a state" (Gheorghe, 2018, p. 221). The alarming concept of a 'nation of things' raises the spectre that there are some nonhuman 'things', such as nuclear reactors and surveillance systems, that require new political approaches to stop them from being 'included' into the nation state.

The universalism and reductionism of the category 'nonhuman' may be even more dubious than traditional humanist categorisations because it can easily be presented as a progressive move to include the hitherto expunged nonhuman others into human business (Papadopoulos, 2018, para. 95).

Merely arguing for the inclusion of nonhumans has the same problems as current inclusionary rhetoric in terms of flattening difference and displacing actual conflictual politics, while opening the door towards regressive statist agendas. Indeed, it is striking that liberal post-humanism as characterised by Latour has had little interest in alternative political manifestations that contest the destruction of the environment such as direct action and activism of anti-road, indigenous land, anti-globalisation and the Occupy protests (Latour et al., 2018). Nevertheless, my argument is that post-humanism does not have to be anti-political or disempowering. Many authors such as Donna Haraway are inspired by ecological struggles such as protests against the Dakota Access pipeline (2019). My suggestion is that the perception of post-human politics as distant from emancipatory politics is largely due to a sole focus on liberal politics and a lack of clarity about how to translate post-humanism into practice. Yet there is another form of post-humanism that takes inspiration from anarchist theory to offer a pragmatic and transformative post-human politics.

Anarchist post-humanism

Section 1 outlines the way anarchism has influenced post-humanism in the form of Critical Animal Studies (CAS) and theorists such as Cudworth and Hobden and Papadopoulos. My contribution is to connect anarchist post-humanism with the 'ontological turn' (Woolgar and Lezaun, 2013) from Science and Technology Studies (STS) and point to 'multiple ontologies' (Mol, 2002), as offering the potential for insurgent training of the self to support researchers to affect change in the world.

Anarchism is an anti-authoritarian approach that rejects hierarchies including the nation state and wants to replace them with decentralised structures. Anarchism includes many traditions and positions from individualism, collectivism, syndicalism and mutualism that are largely focused on building self-managed, cooperative associations. While anarchism has historically been associated with revolutionary politics, in the last decades it has become the inspiration for social movements around the globe (Süreyyya, 2011) and anarchist ideas have penetrated civic life in areas such as public planning and education (Ward, 1973). Anarchist politics is not aimed at utopian futures but at everyday processes of 'prefiguration' where the 'means' of achieving change have to match the ethical 'form' of the envisioned ends. This results in politics that highlights its performativity and reflexivity: "they are actions and statements that anticipate something to come as participants begin to experience - as they begin to live - what they are fighting for while they fight for it" (Arditi, 2012, p. 4). Anarchists usually do not engage with representational politics and bureaucratic processes that are seen as counter to an ethics of politics as a prefigurative process. Instead, the focus is on decentralising towards autonomous structures that are self-managed and struggles that take place outside of parliamentary processes as direct action.

Direct Action aims to achieve our goals through our own activity rather than through the actions of others. It is about people taking power for themselves. In this, it is distinguished from most other forms of political action such as voting, lobbying, attempting to exert political pressure through industrial action or through the media. All of these activities ... concede our power to existing institutions which work to prevent us from acting ourselves to change the status quo (Graeber, 2009, p. 202).

It is possible to see these ideas in Critical Animal Studies (CAS), which aims at the liberation of both humans and nonhumans (Best, 2009; Freeman, 2014; Nocella II et al., 2015; White, 2009). This form of post-humanism is opposed to liberal politics in the way it “does not seek reform, but transformative revolution and total liberation” (Nocella II et al., 2015, p. 9). Nocella and others argue that in contrast to liberal post-humanism, CAS is not jargon-heavy, elitist or pseudo-objectivist but “an engaged critical praxis (action interwoven) that promotes listening to, following, and working with the oppressed” (Nocella II et al., 2014, p. xxvii). The distinctive aspect of CAS is an intersectional approach where oppression of humans and other animals is seen as inter-dependent, leading to a need for ‘total liberation’ (Nocella II et al., 2014). Nekeisha Alayna Alexis uses this approach to build an argument against industrial farming based on gendered violence, where “artificial insemination in particular is a form of institutionalized sexual violence” (2015, p. 122). Her argument is different from a moral appeal about the suffering of the animals, but instead opens up the possibility of an intersectional politics that connects together multiple struggles around gendered violence. This approach has the potential to build new post-human solidarities and offers a repositioning of political struggle towards sites such as industrial infrastructure. CAS researchers place particular importance on being personally engaged ‘scholar-activists’, where the research acts as a form of political practice.

CAS is unique in its defence of direct action tactics, its willingness to engage and debate controversial issues such as anti-capitalism, academic repression, and the use of sabotage as a resistance tactic (Best, 2009, p. 13).

This personal engagement of the researcher extends into their everyday life with many adopting ethical veganism and being involved in civil disobedience and community organising.

In the book ‘The Emancipatory Project of Posthumanism’, Cudworth & Hobden examine a range of post-humanist concepts such as ‘enchantment’ (Bennet, 2010) and ‘attachment’ (Latour, 2005), but suggest that both are politically liberal and insufficiently transformational. In contrast, they propose a ‘creaturely politics’ that includes humans as embodied beings in vital networks with other entities. This “involves bodied experience in collective spaces and where we think (and hope) new ways of getting along together might be forged” (Cudworth and Hobden, 2018, p. 134) and “requires a shrinking of the idea of ‘the human’ as we know it, and a transition to a more embodied ‘animal’ condition in which we humans share vulnerabilities with other creatures and living things” (ibid, 137). Their concept is that creaturely politics will allow post-human micro-communities to emerge beyond liberal governance and institutions where new kinds of politics might form. Cudworth & Hobden provide a down to earth example of dog walking in public spaces, which they describe as post-human encounters where “relations change the ways in which both humans and dogs engage with other beings” (ibid, 152). Framing dog walking as a site of post-human collectivity and potential politics offers a counterpoint to Latour’s procedural notion of a parliament of things. The kinds of collective practices that might emerge from dog walking are informal, pragmatic and non-representational. It is worth thinking of possible historical parallels such as the 18th century French Revolution where protests started as heterogenous public gatherings outside of bakeries due to the price of bread (Hobsbawm, 2003). In this way, CAS and Cudworth & Hobden offer an anarchist post-humanism that distinguishes itself

from a liberal notion in its focus on engaged researchers, intersectional solidarities and taking place outside of representational political settings.

Section 2 extends anarchist post-humanism using the notion of multiple ontologies from Science and Technology Studies (STS). In STS the concept of 'ontology' is not used as a strict philosophical construct but something that is empirically observable.

Ontology is not given in the order of things, but that, instead, ontologies are brought into being, sustained, or allowed to wither away in common, day-to-day, sociomaterial practices (Mol, 2002, p. 6).

This use of ontology is not as a stable assertion about reality, but something that is empirically observable within everyday socio-material practices where humans and nonhumans interact. In contrast to the post-human ontology I examined earlier which argues for a static relationship between humans and nonhumans, this concept proposes practice-based ontologies that are continuously being made and unmade by humans in conjunction with nonhumans. Annemarie Mol observes this in ethnographic research of hospitals, where medical instruments and techniques make reality differently: "here it is being cut into with a Scalpel; there it is being bombarded with ultrasound; and somewhere else, a little further along the way, it is being put on a scale in order to be weighed" (1999, p. 77). She argues that reality is multiple and can be actively made and unmade through socio-material instruments and practices. This opening of realities while others are prohibited is an 'ontological politics' (Mol, 1999). To engage with ontological politics raises pragmatic questions such as "where are the options? What is at stake? Are there really options? How should we choose?" (Mol, 1999, p. 79). John Law has extended this argument towards 'ontological interference' where academic researchers are invited to deliberately "make some realities realer, others less so" (Law, 2004a, p. 67). What is productive about multiple ontologies and ontological interventions is that they offer a holistic notion of making and unmaking 'realities' which includes a broad variety of semiotic, technical and material elements. This presents an expansive concept of post-human political practice that can extend beyond human and other animal relations as seen in CAS. Furthermore, this approach offers a situated specificity that identifies leverage points where realities are 'made' as seen in Mol's ethnographic accounts where she highlights the role that different medical instruments play in making realities.

Unfortunately, existing case studies of ontological interventions focus mainly on theoretical discussions but provide little detail of what they look like in practice and the impacts they create. Part of the issue is that case studies from STS of 'museum mummies' (Munk and Abrahamsson, 2012) and 'bin bags' (Woolgar and Lezaun, 2013) are largely rhetorical with little politically at stake. Descriptions of artistic intervention such as Christoph Schlingensiefel's 'Container project' where the public are invited to participate in deporting migrants (Beyes and Steyaert, 2011, p. 108), show the disruptive potential of such projects. Yet, these accounts provide little detail about the political impacts of the intervention. The most wideranging examples are provided by Dimitris Papadopoulos' book-length survey of ontological practices of AIDS activists, hackerspaces, migrant and indigenous movements (Papadopoulos, 2018). As an example, he describes the Zapatista response to

genetically modified crops as an 'alterontological' intervention, where the Zapatistas combined Mayan ontologies of human flesh made of corn, with building alternative networks of corn production and distribution. For Papadopoulos, ontological interventions can be readily combined with existing social movements to form 'ontological alliances' to achieve 'thick justice', meaning political justice that is 'done' with matter rather than mere discourse (Papadopoulos, 2018).

However, what is missing from these accounts are practical details on how to 'do' ontological intervention. This lack of detail makes it hard to know why some interventions succeed and others fail, or how they might be best replicated. Furthermore, in these accounts the researcher is mainly an external observer of ontological practices and not the initiator. So while John Law has called for researchers to carry out ontological interference (2004b), there is little detail on how researchers can shift into this role. In fact, some researchers remark on their confusion about how to intervene at an ontological level (Munk and Abrahamsson, 2012). To address this, Andrzej W. Nowak suggests that researchers need to develop an 'ontological imagination' to become engaged intellectuals that can actively participate in the problems of the world. He argues that "contrary to Latour, I believe there is no easy transition from ontological analysis ('how many are we') to a political-ethical articulation ('can we live together')" (2013, p. 173). Nowak argues that ontological analysis by itself does not provide the personal sensitivity for making politico-ethical choices. What is needed is a bringing together of 'fire and water' and deliberately mixing post-human ontological approaches with human-centred ethical and political imperatives. As an example, Nowak asks how researchers should engage with anti-vaccination activists; should they challenge them, or form an alliance with their critiques of the medical establishment? He argues: "such a decision cannot be merely academic, it requires prudent decisions made in 'real time', in the here and now of the social life" (2013, p. 175). This analysis suggests that in order to carry out ontological interventions requires the development of personal sensitivity and engagement. Verran & Christie argue that ontological difference is first felt at an emotional level before it becomes intellectualised.

Reflecting on these bodily felt disconcerting moments as ontological disconcertment we can no longer see ourselves as a step away from the action, judging observers of a world 'out there'. We ourselves change, as do the settings where we work, and the practices of ethnography (Verran and Christie, 2013, p. 56).

From an ontological anarchist perspective, Saul Newman reframes the notion of 'insurgency' from political overthrow to an ontological transformation of the world and the self. He describes insurrection as a form of practice that involves a "micro-political transformation of the self in its relation to power, such that we are able to extricate ourselves from systems of power and our dependency on them, even our desire for them" (2016, p. 37). Newman's idea suggests that dissolving power must be experienced and practiced in everyday life for oneself. The 'self' that Newman invokes is different from slogans such as 'the personal being political' in that it does not frame the 'self' as an individual human, but as collective post-human 'singularities' that are co-constituted with other entities. Strikingly, Newman argues that insurrection practices have an inventive ontological character that creates new realities. He talks about observing glimpses of this during the Occupy movement where participants had transformed themselves as well as public space to create new practices of living in the streets. A useful parallel is the 'Clandestine Insurgent Rebel Clown Army' (CIRCA), an activist

group who used clowning and street theatre as part of protest events. People who wanted to become clowns needed to take part in structured training workshops.

We developed a series of trainings that encouraged activists to reprogram their bodies, to develop their intuition and to 'find their clown' - a childlike state of generosity and spontaneity. Rebel clown trainings attempted to peel off the activist armor and find the vulnerable human within (Jordan, 2012, para. 3).

This training involved a "methodology that helped to transform and sustain the inner emotional life of the activists involved as well as being an effective technique for taking direct action" (Routledge, 2009, p. 87). In this example, political training is both inward and outward directed, where politics takes place within the emotional space of the individual and involves building a collective 'sensual solidarity' (Routledge, 2012).

Taking inspiration from the CIRCA example, my proposal is for 'insurrection training' as a structured method for enabling academic researchers to become sensitive to ontological difference and acquire an ontological imagination. This requires a transformation of the researcher from an observer to becoming emotionally and ethically engaged in order to make normative choices between realities. In this way an anarchist-influenced post-humanism is complimented by the STS notion of multiple ontologies to become a prefigurative post-human 'thick justice' via material means. To provide more detail of what ontological intervention and insurrection training look like in practice, I turn to a landmark case study of direct action.

Insurrection Training in Practice

The 'Seeds of Hope East Timor Ploughshares action' (1996) involved a group of ten women breaking into a UK airbase and disarming a Hawk fighter-jet that was being sold to the Indonesian regime for use against civilians in East Timor. The activist action is one of a history of civil disobedience from the Ploughshares movement where civilians target military installations in order to cause physical damage to the weapons themselves. The reason for focusing on this case study is that it is a landmark example of a highly successful political intervention, which I argue, has nevertheless been misrepresented. There have been a number of accounts of this case in the mainstream press, campaign literature as well as academic literature (Nepstad and Vinthagen, 2008; Simpson, 2004; Zelter, 2004) where the focus is on property damage, peace activism, international relations and human rights. Yet, my suggestion is that the ontological aspects of the action have been overlooked. To foreground these features, I rely on the book 'Hammer Blow: How 10 women disarmed a warplane' (Needham, 2016), written by one of the activists who broke into the airbase. The book is significant for the way it highlights the personal details of activist preparation and training from an insider perspective. My argument is not that this example of direct action is unique, but rather that the book offers rare insights into the details of how the personal, ontological and nonhuman are interwoven, and thus valuable for showing how insurrection training functions in practice.

Andrea Needham's book recounts how the direct action was the culmination of many years of campaigning against the UK weapon sales policy that enabled the export of the fighter jets, which

included letter writing to politicians, public protests and symbolic stunts. It was only the failure of these institutionally legitimated methods that led to the direct action of four women breaking into the airbase to disarm the aircraft before finally being arrested. During the subsequent trial, the women were charged with causing £2M of criminal damage, but remarkably, the jury found the women not guilty. In particular, the jury were convinced that by disarming the aircraft, the women had prevented an act of genocide taking place in East Timor. A key reason for their acquittal was a video recording the women had left in the damaged aircraft cockpit. It showed footage of Hawk jets being used in East Timor on civilians which dismantled the government's argument that the direct action was mere criminal damage (Nepstad and Vinthagen, 2008). Instead, the court case became a media spectacle that placed a focus on the behaviour of the weapons manufacturer and UK government, exposing their callousness and questioning the legality of the export licences. The ultimate effect of the action was to postpone the export of the aircraft, while the trial became a key component of an international campaign that ultimately led to an arms embargo on the Indonesian regime.

Needham's book is remarkable for the way it concentrates on the details of physical and emotional preparation and training for the action which took a year and was all-consuming for the women. The account describes moments of high drama as the group spend many nights covertly observing the base to identify the specific aircraft bound for Indonesia via their serial numbers, before breaking into the base to disarm them. Yet, most of the book is a gentle account that highlights the preparation and training process as well as the role of the support group that handled media relations and prisoner support. Getting ready for the action, the ten women spent weekends in long meetings that involved working through a list of 36 discussion points (included in the book). Topics focused on the practicalities of breaking into the airbase, their fears of prison, as well as role-play where the women prepared themselves psychologically for the anticipated aggression from airbase guards and police officers. The book highlights small details from these meetings.

We each chose a codename for us in the minutes of our meetings. 'Gorilla'. 'wombat', 'spider', 'cat', 'virus': looking at the minutes now, almost twenty years later, I can no longer remember who was who, apart from Emily's baby son Arkady, who was Bee (Needham, 2016, p. 66).

The quote relates the surreal tension of life as an activist that involves carrying on with childcare, whilst being spied on by the government. In a similar vein, Needham mentions that just before the action, she defrosted her fridge and had a meal with the leftovers, because she anticipated they were going to prison for a long time. In these deadpan observations there is a bitter-sweet humour that points to both the proximity and distance of the women's activist reality from most people's lives. Despite the East Timor genocide being geographically far away, the women's political commitment was not removed from daily life but integrated in a material way that created an ontologically different way of living from most people.



Fig 1. Andrea Needham's hammer used to disarm the Hawk jet bound for Indonesia (reproduced with author's permission).

The visual, political and psychological core of the book are the hammers used by the women to disarm the aircraft.

Finally after some readings, drumming, singing and silence, we had a blessing ceremony for the hammers. Lotta and I already had ours, but Angie and Jo were presented with theirs for the first time, beautifully carved by Rowan and Ricarda. Sitting there holding my hammer, thinking about what we were planning to do and the likely consequences, the action suddenly felt much closer. I had spent months coming to terms with my fears, and now I was ready to go ahead (Needham, 2016, para. 76).

The hammers were clearly more than mere practical tools for damaging the aircraft, but training objects that connected the goal of stopping genocide with the symbolic notion of turning 'Swords into Ploughshares', as well as being reflexive devices for channelling personal feelings. Breaking into the airbase was not a sudden flush of frustration but required a deliberate process of emotional self-training in the group. The hammers were more-than-material in the way they physically enabled the political, ethical possibility of beating a military weapon into a peaceful object. Yet at the same time, they were also more-than-human in that the women used different hammer shapes to represent themselves and decorated them with political slogans that allowed the hammers to 'speak' for themselves, see Fig 1. Needham's book quotes Molly Rush, a Ploughshares activist who used a hammer to disarm the nose cones of nuclear warheads.

One thing I hadn't realised until I was actually hammering on those things was the mystique I had personally put on those weapons. I had really assumed they would be impervious and I can hammer as much as I wanted and nothing would happen. I had this wild idea that, since

they could travel beyond the atmosphere and could come back and withstand the temperature, how in the world could my hammer do any harm? It was important to me to see the dents right there on the warhead. It gave me a much clearer sense of the reality of the weapons (Rush, 1988, pp. 57–58).

As the quote highlights, hammering on the warheads was an ontological intervention that managed to transform the 'reality of the weapons'. The hammer functioned as an ontological agent that exposed the hidden fragility of nuclear warheads and showed that individuals can disarm them through their own action. In this way the hammer acted as a politico-ethical 'apparatus' (Agamben, 2009) that wields a destitutive agency (Agamben, 2014) to break the symbolic power of nuclear weapons and create a new reality for the wielder as well as a broader public.

One of the beautiful things about Ploughshares actions is that anyone can do them. You don't need to be a technical genius or an engineer [...] All you need is a hammer and a functioning arm (Needham, 2016, para. 92).

As Needham suggests, a hammer is not just a tool for an individual activist, but in its simplicity, it is a proposition and appeal to the public, for other people to pick up hammers and participate in creating 'thick justice'. The hammer while incredibly simple, is a way for anyone to intervene into the complex socio-technical system of the global arms trade.

As I argued in the introduction, the ontological aspects of direct action have often been overlooked in an effort to frame them within human rights discourses. Yet, I suggest that reading this action as an ontological intervention that involved insurgent training, has much to offer in terms of understanding why it was successful.

Specificity of intervention

There is something shocking about the directness and specificity with which the women tackled the genocide in East Timor by breaking into an air force base. Having given up on liberal policymaking to govern the aircraft, the women chose to intervene at the physical level of the fighter jet that was going to drop bombs onto civilians. The action functioned at a material level to stop the aircraft being exported, as well as at an ontological level to intervene into the international arms trade. The action required a sophisticated analysis of governmental regulations and military procedures to identify the UK airbase as the weak point where the intervention could take place to prevent genocide. In this way the women went beyond academic descriptions of the actor-network of a fighter jet (Law, 2002) to actually transform its reality. The impact of the hammers was local in denting the jet fuselage, yet its reverberations acted globally to function in court rooms, governmental arms policy meetings and the Indonesian international solidarity movement. This illustrates that ontological interventions are neither local nor global, but rather that they target the specific ontological leverage points where realities bifurcate. In this way, the case study demonstrates a valuable distinction from the way direct action is often portrayed within activist literature as 'direct' due to its local impacts that avoid all forms of mediation or translation (Graeber, 2009). Indeed, the action illustrates that the genocide took place not just in a faraway land but also in the UK where the jets were built and export licences

granted. By physically disarming the aircraft, the women brought democratic accountability for genocide back to the UK. Furthermore, by prefiguratively intervening without asking for permission, the group demonstrated an ontology of citizen-led justice where representational tactics had clearly failed.

Needham's book includes a fascinating discussion about 'real' versus 'symbolic' damage. Should the group concentrate on trying to cause as much physical damage to the aircraft as possible, or merely cause symbolic damage; perhaps just a single hammer strike, to demonstrate the wielder's moral and political commitment? There was disagreement amongst the group, which they resolved by agreeing to cause a 'medium' amount of damage to the aircraft. I suggest this compromise captures a truth about ontological intervention and direct action in that they need to tread a pragmatic middle road of socio-material translation between a material act and a communicative action. The video was key for the jury and public to understand the damage to the aircraft, while producing a video without causing any damage would have been impotent. The combination created a translation between pictures of Indonesia and brought the violence of the fighter jets back home.

The uniqueness of the ontological approach is that it does not rely on claims of human exceptionalism or human rights but provides a sociotechnical specificity of where to intervene. Critics of post-humanism have suggested that political agency is dissipated leaving only 'objects transforming objects – rather than subjects transforming objects' (Chandler, 2013, p. 529). However, this case study shows how the women and hammers functioned together as an entangled 'ontological alliance' which blurred distinctions between objects and subjects and successfully brought politics down to a material level.

Reflexive training practices

This case study demonstrates the immersive personal and collective training required for such an action. This training was not just physical but also a reflexive self-analysis of emotions and fears. Needham's book highlights 'emotional disconcertments' (Verran and Christie, 2013) where a daily life of childcare and cloak and dagger realities interfere and become bitter-sweet humour. On the evening when the women disarmed the aircraft, they sat together in a restaurant surrounded by diners eating pizza, while the women's rucksacks were full of heavy tools for cutting the airbase fence. These kinds of disjuncts allowed the women to experience ontological difference and became a way to collectively comprehend the enormity of the action they were planning. Hand-carving the hammers and using them in a ritual way functioned as a key part of this training, with the hammers acting as reflexive devices that made their plans tangible, built confidence and created a collective bond. Insurrection training is thus a performative and embodied practice that negotiates the personal, material and political and develops an ontological imagination that integrates matter and thought, physical and discursive action.

Discussion

While post-humanism has often been criticised for not offering any potential for emancipatory politics, this paper set out to find new avenues for post-human researchers to directly transform the world. The

first part of the paper analysed a series of post-humanisms, whose lack of a tangible politics can be traced to their focus on sensitisation towards nonhumans and inclusion within constitutional liberal politics. Instead, the paper has sought new roots for a post-human politics that combines anarchist ideas of prefiguration and the STS concept of multiple ontologies. The paper identified the importance of training academic researchers to move beyond descriptions and develop an ontological imagination. To do this it has proposed the notion of 'insurrection training' as sensitising the researcher to ontological difference and supporting them to make ontological interventions. The contribution of insurrection training is that it combines the prefigurative impulse from anarchism with the sensitivity to multiple ontologies from STS. The paper examined a landmark example of direct action and used it to describe what ontological intervention and insurgent training look like in practice.

Are we convinced by the notion of 'insurrection training' as offering a useful approach for post-human researchers? Talking about insurrection is not intended to drag up arguments from radical history, contest the limits of citizenship or moralise researchers into becoming activists. Instead the goal is to highlight a liberal bias to the way post-human ideas have been framed and instead offer a pragmatic trajectory that post-human politics can follow to become an 'everyday reality-making device'. In this way, the notion of 'insurrection' is intended to build on Mol's ethico-pragmatic call to search for "where are the options? What is at stake? Are there really options? How should we choose?" (Mol, 1999, p. 79). The idea is to encourage researchers to answer such questions in their case studies and use them to transform the world. While Papadopoulos' book 'Experimental Practice: Technoscience, Alterontologies, and More-Than-Social Movements' (2018), is inspiring in providing a global overview of ontological practices, it does not provide pragmatic details on how to 'do' ontological interventions. The goal of insurgent training is to support this translation into the everyday.

Experience ontological difference

Adopting insurrection training can allow researchers to make ontological politics part of their lives, and like the activists from the Ploughshare action, experience what ontological difference feels like. These are first felt as 'emotional disconcertments' (Verran and Christie, 2013) between multiple realities that create performative and surreal humour and build collective 'sensual solidarity' (Routledge, 2012). Experiencing and dealing with multiple realities creates an imperative for intervention (Law, 2004b), and offers a way to make disjuncts politically meaningful in one's life. In effect this generates a post-human politics that is not abstract or remote but resolved within the everyday. This involves a shift in the role of the researcher from creating descriptions to becoming an actor that is prepared to enact ontological interventions. The concept of an 'ontological imagination' (Nowak, 2013) contributes to the CAS notion of the 'scholar-activist' by further shifting away from humanist moral imperatives towards a focus on socio-material objects as having the potential to sensitise and enact ontological politics. Combining the commitment of 'scholar-activists' with a focus on multiple ontologies may generate new kinds of engaged socio-technical practices.

De-trivialise the everyday

A focus on everyday insurrection training, places importance on small acts of refusal and transformation that might otherwise be missed and left out of academic accounts. Particularly important for this are reflective devices such as the hammers from the case study which reinforced

and rearticulated ontological difference for the activists. In my own life I have used a similar form of self-training when I was first politicised by taking part in street protests. I wanted to hold onto my feelings and realised that listening to audio recordings from the protest while at work allowed me to maintain an embodied connection to these events. Daily listening to these recordings allowed me to reflect on the ontological difference between the workplace where I felt trapped, and the street protests where I had felt fully realised. The effect of this sensorial self-training was transformative enough for me to shape the experience into a book which included an audio CD, so that others might use the audio to train themselves (Nold, 2001). Identifying one's own reflexive tools, can enable researchers to maintain insurrection training in their daily life and appreciate the value of small acts of refusal as material transformations of the world.

Connect to social movements

An ontological approach provides the potential for new intersectional alliances with actors using radically different framings. As the case study shows, it is possible to create a long-term empathic connection across oceans with remote conflicts without resorting to a rhetoric of human rights. Needham's book doesn't use academic terms such as 'neoliberal capitalism' but offers a personal vocabulary for describing political practices that connect histories of peace activism and social movements. Seeing a shared link through parallel forms of ontological practice and struggle provides the basis for intersectional solidarity and the possibility for new associations with unlikely entities. This may allow researchers to draw inspiration from a variety of campaigns and 'more-than-social movements' (Papadopoulos, 2018). Creating such associations is crucial for a post-human politics to become part of a broader movement for collective change.

Make post-human politics 'doable'

This paper has shown how post-human politics can move beyond liberal metaphors of parliaments and become a prefigurative political practice. A crucial aspect of this has been treating ontology as something that is empirically observable and transformable (Mol, 2002). In combination with an anarchist prefigurative imperative this enabled a pragmatic practice of making new worlds. In the author's own work, this has enabled practice-based ontological design that has involved the building of a noise sensing network to support local communities impacted by Heathrow airport in London. The sensors were designed to stack multiple ontologies of noise as legally defined pollutant, as well as audible sound, on top of each other (Nold, 2018). This kind of ontological design would not have been possible without translating post-human theory into a pragmatically applicable form that can create real world interventions. In particular, the Ploughshares case study offers an example of ontological intervention in practice that dispels some of the ambiguity about the term 'ontology' within post-human theory (Van Heur et al., 2012).

Offer 'direct' change

The Ploughshares action showed that ordinary people can act in a direct and specific way to have extraordinary global impacts that prevent genocide and hold governments to account. Focusing on the prefigurative aspects of post-human research means that it becomes possible to tackle urgent issues where representational politics and 'sitting in the policy room' (Webster, 2007) have failed. Post-humanism has been fantastic at finding political battlegrounds where we would not suspect

them. Insurrection training offers the potential for researchers to target these surprising sites using highly specific ontological interventions in order to create transformational impacts in the world.

Conclusion

The paper addresses discussions that claim post-humanism is disabling political agency and undoing the potential of emancipatory social movements. It argues that this misapprehension is caused by a liberal framing that positions post-humanism merely as the inclusion of nonhuman entities into a representational politics without reimagining the mechanisms and nature of the political. Instead, the paper presents an anarchist post-humanism that involves engaged researchers, intersectional solidarities and takes place outside of representational political settings. The contribution of the paper is to demonstrate a pragmatic way of creating transformative impacts in the world via an ontological anarchist post-humanism that is focused on the way multiple realities can be made and unmade through day-to-day, socio-material practices. The Ploughshares case study illustrates how humans and nonhumans can function together as an entangled ontological alliance that blurs distinctions between objects and subjects to bring politics down to a material level and prevent genocidal state practices. These kinds of ontological alliances are common amongst activism and further studies of ontological interventions and nonhuman relations might help dispel dominant anthropocentric accounts of political change. The paper proposes that for researchers to create their own transformative impacts in the world requires the adoption of insurrection training as a performative and embodied practice that negotiates the personal, material and political to develop an ontological imagination that integrates matter and thought, physical and discursive action. Insurrection training offers an approach for post-humanist researchers to experience ontological difference, de-trivialise the everyday, connect to social movements, make post-human politics 'doable' and offer 'direct' change.

Bibliography

- Agamben, G. (2009), "What is an apparatus?", *What Is an Apparatus? And Other Essays*, Stanford University Press, Stanford, CA, pp. 1–24.
- Agamben, G. (2014), "What is a destituent power?", *Environment and Planning D: Society and Space*, Vol. 32 No. 1, pp. 65–74.
- Alexis, N.A. (2015), "Beyond Suffering: Resisting Patriarchy and Reproductive Control", in Nocella II, A.J., White, R.J. and Cudworth, E. (Eds.), *Anarchism and Animal Liberation*, pp. 108–125.
- Arditi, B. (2012), "Insurgencies don't have a plan – they are the plan: Political performatives and vanishing mediators in 2011", *JOMEC Journal Journalism, Media and Cultural Studies*, Vol. 0 No. 1, pp. 1–16.
- Barad, K. (1998), "Getting Real: Technoscientific Practices and the Materialization of Reality", *Differences: A Journal of Feminist Cultural Studies*, Vol. 10 No. 2, pp. 87–128.
- Bennet, J. (2010), *Vibrant Matter: A Political Ecology of Things*, Duke University Press Books, Durham, NC.
- Best, S. (2009), "The rise of critical animal studies: Putting theory into action and animal liberation into higher education", *Journal for Critical Animal Studies*, Vol. 7 No. 1, pp. 9–52.
- Beyes, T. and Steyaert, C. (2011), "The ontological politics of artistic interventions: Implications for performing action research", *Action Research*, Vol. 9, pp. 100–115.
- Braidotti, R. (2019), "Framework for the Critical Posthumanities", *Theory, Culture & Society*, Vol. 36 No. 6, pp. 31–61.

- Braun, B. and Wakefield, S. (2018), "Destituent power and common use: reading Agamben in the Anthropocene", in Coleman, M. and Agnew, J. (Eds.), *Handbook on the Geographies of Power*, Edward Elgar Publishing Limited, Cheltenham, pp. 259–272.
- Callon, M. and Latour, B. (1981), "Unscrewing the big Leviathan: how actors macro-structure reality and how sociologists help them to do so", in Knorr-Cetina, K.D. and Cicourel, A. V. (Eds.), *Advances in Social Theory and Methodology: Toward an Integration of Micro- and Macro-Sociologies*, Routledge, New York, pp. 277–303.
- Chandler, D. (2013), "The World of Attachment? The Post-humanist Challenge to Freedom and Necessity", *Millennium: Journal of International Studies*, Vol. 41 No. 3, pp. 516–534.
- Cudworth, E. and Hobden, S. (2018), *The Emancipatory Project of Posthumanism*, Routledge, London and New York.
- Ferrando, F. (2013), "Posthumanism, Transhumanism, Antihumanism, Metahumanism and New Materialisms: Differences and Relations", *Existenz*, Vol. 8 No. 2, pp. 26–32.
- Freeman, C.P. (2014), *Framing Farming: Communication Strategies for Animal Rights*, Rodopi, Amsterdam & New York.
- Fuller, S. (2000), "Why Science Studies Has Never Been Critical of Science: Some Recent Lessons on How to Be a Helpful Nuisance and a Harmless Radical", *Philosophy of the Social Sciences*, Vol. 30 No. 1, pp. 5–32.
- Gheorghe, C. (2018), "Things Activism. A Political Aesthetics of Things in a Posthuman World", *Analele Universității Din București—Seria Filosofie*, Vol. 67 No. 1, pp. 205–225.
- Graeber, D. (2009), *Direct Action: An Ethnography*, AK Press, Oakland, CA and Edinburgh.
- Haraway, D. (1991), "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century", *Simians, Cyborgs and Women: The Reinvention of Nature*, Routledge, New York, pp. 149–181.
- Haraway, D. (2019), "A Giant Bumptious Litter: Donna Haraway on Truth, Technology, and Resisting Extinction", *Logic Magazine*, available at: <https://logicmag.io/nature> (accessed 7 February 2019).
- Hawkins, G. (2009), "More-than-Human Politics: The Case of Plastic Bags", *Australian Humanities Review*, No. 46, pp. 43–55.
- Van Heur, B., Leydesdorff, L. and Wyatt, S. (2012), "Turning to ontology in STS? Turning to STS through 'ontology'", *Social Studies of Science*, Vol. 43 No. 3, pp. 341–362.
- Hobsbawm, E. (2003), *The Age of Revolution 1789-1848*, Time Warner Books, London.
- Jordan, J. (2012), "Clandestine Insurgent Rebel Clown Army", *Beautiful Trouble*, available at: <https://beautifultrouble.org/case/clandestine-insurgent-rebel-clown-army> (accessed 9 March 2020).
- Latour, B. (1993), *We Have Never Been Modern*, Harvard University Press, Cambridge.
- Latour, B. (2004), "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern", *Critical Inquiry*, Vol. 30 No. 2, pp. 225–248.
- Latour, B. (2005), *Reassembling the Social: An Introduction to Actor-Network-Theory*, *Comparative Sociology*, Oxford University Press, New York.
- Latour, B. (2007), "How to Think Like a State", in Donk, W. van de (Ed.), *The Thinking State*, Scientific Council for Government Policy, The Hague, pp. 19–32.
- Latour, B. (2013), *An Inquiry into Modes of Existence: An Anthropology of the Moderns*, Harvard University Press, Cambridge & London.
- Latour, B. (2016), "Bruno Latour | On Not Joining the Dots || Radcliffe Institute", *Harvard University*, available at: <https://www.youtube.com/watch?v=wTvbK10ABPI> (accessed 5 September 2019).
- Latour, B., Milstein, D., Marrero-Guillamón, I. and Rodríguez-Giralt, I. (2018), "Down to earth social movements: an interview with Bruno Latour", *Social Movement Studies*, Routledge, Vol. 17 No. 3, pp. 353–361.
- Law, J. (2002), *Aircraft Stories: Decentering the Object in Technoscience*, Duke University Press, Durham and London.
- Law, J. (2004a), "Matter-ing: Or How Might STS Contribute?", *Does STS Mean Business*, The Open university, Milton Keynes.
- Law, J. (2004b), *After Method: Mess in Social Science Research*, Routledge, London and New York.
- Lazzarato, M. (2014), *Signs and Machines*, Semiotext(e), Los Angeles.
- Massumi, B. (2014), *What Animals Teach Us about Politics*, Duke University Press, Durham, NC.
- Miller, P. (1997), "The Multiplying Machine", *Accounting, Organizations and Society*, Vol. 22 No. 3–4, pp. 355–364.
- Mol, A. (1999), "Ontological politics. A word and some questions", in Law, J. and Hassard, J. (Eds.), *Actor Network Theory and After*, Blackwell Publishers, Oxford and Malden, MA, pp. 74–89.
- Mol, A. (2002), *The Body Multiple: Ontology in Medical Practice*, Duke University Press, Durham and

London.

- Munk, A.K. and Abrahamsson, S. (2012), "Empiricist Interventions: Strategy and Tactics on the Ontopolitical Battlefield", *Science Studies*, Vol. 25 No. 1, pp. 52–70.
- Needham, A. (2016), *The Hammer Blow: How 10 Women Disarmed a Warplane*, Peace News Press, London.
- Nepstad, S.E. and Vinthagen, S. (2008), "Strategic Changes and Cultural Adaptions: Explaining Differential Outcomes in the International Plowshares Movement", *International Journal of Peace Studies*, Vol. 13 No. 1, pp. 15–42.
- Newman, S. (2016), *Post Anarchism*, Polity Press, Cambridge and Malden, MA.
- Nocella II, A.J., Sorenson, J., Socha, K. and Matsuoka, A. (2014), "Introduction: The Emergence of Critical Animal Studies: The Rise of Intersectional Animal Liberation", *Counterpoints*, Vol. 448, pp. xix–xxvi.
- Nocella II, A.J., White, R.J. and Cudworth, E. (2015), *Anarchism and Animal Liberation*, McFarland & Company, Jefferson, NC.
- Nold, C. (2001), *Mobile Vulgus*, Bookworks, London.
- Nold, C. (2018), "Turning Controversies into Questions of Design: Prototyping Alternative Metrics for Heathrow Airport", in Marres, N., Guggenheim, M. and Wilkie, A. (Eds.), *Inventing the Social*, Mattering Press, Manchester, pp. 94–124.
- Nowak, A.W. (2013), "Ontological imagination: Transcending methodological solipsism and the promise of interdisciplinary studies", *Avant*, Vol. 4 No. 2, pp. 169–193.
- Papadopoulos, D. (2010), "Insurgent posthumanism*", *Ephemera*, Vol. 10 No. 2, pp. 134–151.
- Papadopoulos, D. (2018), *Experimental Practice: Technoscience, Alterontologies, and More-Than-Social Movements*, Duke University Press, Durham and London.
- Ravenscroft, J., Liakata, M., Clare, A. and Duma, D. (2017), "Measuring scientific impact beyond academia: An assessment of existing impact metrics and proposed improvements", *PLoS ONE*, Vol. 12 No. 3, pp. 1–21.
- Rossini, M. and Toggweiler, M. (2017), "Editorial: Posthuman Temporalities", *New Formations: A Journal of Culture/Theory/Politics*, Vol. Autumn No. 92, pp. 5–15.
- Routledge, P. (2009), "Toward a relational ethics of struggle: Embodiment, affinity, and affect", in Amster, R., Deleon, A., Fernandez, L.A., Nocella, A.J. and Shannon, D. (Eds.), *Contemporary Anarchist Studies: An Anthology of Anarchy in the Academy*, Routledge, London and New York, pp. 82–92.
- Routledge, P. (2012), "Sensuous Solidarities: Emotion, Politics and Performance in the Clandestine Insurgent Rebel Clown Army", *Antipode*, Vol. 44 No. 2, pp. 428–452.
- Rush, M. (1988), "Testament With Reason", in Mason, D. and Robinson, C. (Eds.), *Challenge to the New God: The Resistance to Nuclear Weapons*, Gooday Publishers, East Wittering.
- Sasse, T. and Haddon, C. (2019), *How Academia Can Work with Government*, London.
- Sciences Po. (2015), *Paris Climate 2015: 'The Theater of Negotiations'*, Paris.
- Simpson, B. (2004), "Solidarity in an Age of Globalization: The Transnational Movement for East Timor and U.S. Foreign Policy", *Peace & Change*, Vol. 29 No. 3–4, pp. 453–482.
- Sterne, J. and Leach, J. (2005), "The Point of Social Construction and the Purpose of Social Critique", *Social Epistemology*, Vol. 19 No. 2–3, pp. 189–198.
- Süreyyya, E. (2011), "How New Anarchism Changed the World (of Opposition) after Seattle and Gave Birth Birth to Post Anarchism", in Rousselle, D. and Evren, S. (Eds.), *Post-Anarchism: A Reader*, Pluto Press, London & New York.
- Verran, H. and Christie, M. (2013), "The generative role of narrative in ethnographies of disconcertment: Social scientists participating in the public problems of North Australia", *Learning Communities: International Journal of Learning in Social Contexts*, No. 12, pp. 51–57.
- Ward, C. (1973), *Streetwork: The Exploding School, Library*, Routledge & Kegan Paul, London and Boston.
- Webster, A. (2007), "Cross Boundaries: Social Science in the Policy Room", *Science, Technology, & Human Values*, Vol. 32 No. 4, pp. 458–478.
- Weheliye, A.G. (2014), *Habeas Viscus: Racializing Assemblages, Biopolitics, and Black Feminist Theories of the Human*, Duke University Press, Durham and London.
- Whatmore, S. (2002), *Hybrid Geographies: Natures Cultures Spaces*, SAGE Publications, London.
- White, R.J. (2009), "Introduction", *Journal for Critical Animal Studies*, Vol. VII No. 1, pp. 4–8.
- Wiame, A. (2015), *Ecologizing Thought: Latour's Theatre of Negotiations and Speculative (Pre)Enactments*, Berlin.
- Woolgar, S. and Lezaun, J. (2013), "The wrong bin bag: A turn to ontology in science and technology studies?", *Social Studies of Science*, Vol. 43 No. 3, pp. 321–340.

- Zelter, A. (2004), "Civil Society and Global Responsibility: the Arms Trade and East Timor", *International Relations*, Vol. 18 No. 1, pp. 125–140.
- Zolkos, M. (2018), "Life as a Political Problem: The Post-Human Turn in Political Theory", *Political Studies Review*, Vol. 16 No. 3, pp. 192–204.