



Five theses on energy politics

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The edited volume *Energy Worlds in Experiment* presents both a series of experiments in how we write about energy, and an exploration of energy infrastructures as experiments. Twenty scholars have collaborated across eight chapters ranging from electricity cables, to energy monitors, to the political potential of energy sites, be they swamps, estuaries, or smart cars. Mattering Press is publishing this pre-print version of one empirical chapter. The full edited collection will be published with Mattering Press in spring 2021. Please send an email to info@matteringpress.org to pre-order your copy, or if you want to review the final volume.

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Five theses on energy politics



By Brit Ross Winthereik,
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Introduction

In his work on carbon democracy, Timothy Mitchell (2011) raises a number of intriguing questions about the relation between fossil fuels and forms of governance. His main argument is that what he calls 'carbon democracies' are geared towards maintaining and developing particular, fossil-based, carbon-intensive modes of energy production and distribution. The close interrelation between modes of governing and modes of fuelling societies in their current political forms suggests there is little chance that there will be any interruption or transformation of energy infrastructures in the near future. (We speak here mostly of the US, but Mitchell's point has been extended to other contexts.)

Andrew Barry (2013) has also analysed what he calls material politics as emerging in response to a particular concern with material infrastructure and natural resources – an oil pipeline, for instance. In his work we see how the process of forming public opinion about energy is varied and complicated. In comparison to Mitchell, who argues that infrastructures make public controversy around energy invisible, Barry's (2016) point is almost the opposite: infrastructures are drivers of political dispute, and even nature itself can play this 'unsettling' role.

What these authors show us is that modes of fuelling and modes of governing society can no longer be easily separated. What interests us here is whether and how renewable energy sources play a role in relation to governance and democracy. Still, today carbon is not the only source of energy, and political negotiation, contestation and struggle revolve around both fossil and renewable sources of energy such as wind, sun, biomass and water in the form of steam, rivers, tides or waves. As energy figures prominently in discussions around political power, governance, modes of knowing and organising society, the question remains how the processes through which energy becomes a matter of public concern actually happen. How do people engage with and through energy? What might the relations between energy infrastructures and democratic possibilities and impossibilities be?

This chapter's five contributing authors attend to the political potential of particular energy sites. They show us how these respective energy sites afford very different forms of political potential, and have different effects on social and political gatherings. The question of whether an energy polity can be realised is the red thread that runs through the subsections of the chapter.

The chapter assembles stories of energy politics – emerging or fully formed social entities that draw political power directly from their engagement with environments where energy is at stake. The first section, by Stefan Helmreich addresses the question of sovereignty and the limits of political power at sites where nature and politics meet. Helmreich grapples with forces of arrogance and ignorance vis-à-vis natural forces and truth claims from democratic 'Others'. What results is a political battlefield as fraught with intensive force as the rising sea itself.

In the second section, Brit Ross Winthereik follows videos of wave energy technologies on social media. She asks whether the quantity of 'likes' and 'reshares' on these platforms signifies an emerging polity around wave energy, or inversely, whether this form of interest neutralises mobilisation around emerging energy technologies. Platform agency is conceptualised as anti-political due to its erasure of various forms of work and labour.

Section three, by Damian O'Doherty, takes the reader on a walk along a coastline estuary in England. The author and his fellow walkers contemplate if the clay from the landscape can be kindled into pottery, and reflect on the potential of this process as a storytelling mechanism that could provide an alternative, community-building map of this rich environment.

In contrast to the quiet contemplation during the estuary walking, Mónica Amador-Jiménez, in her section invites us to consider the violent history of an oil-filled Colombian swamp (*ciénaga*). Here she introduces us to different social groups living in and around the *ciénaga*. These groups are trying to non-antagonistically resist the lethality of the oil company and the paramilitary structures enveloping the *ciénaga*, as well as the state's abandonment of it. Amador highlights the bio-sociality of the swamp as an entanglement of forces whose ontological interstices the inhabitants continue to negotiate in ways that seem to transgress 'normal' Colombian politics of left and right.

The last section, by Marres, takes us back to sites where technologies are being tested for their environmental and other capacities. Marres focuses on infrastructures as a topic of public interest, and specifically on the ways in which infrastructures draw in other times and places. For Marres, this has a democratic inflection. The various ways that infrastructures draw in the not-immediately-present makes us face problematic engagements that our understanding of democracy may not yet be equipped for.

In the context of this volume – where we consider energy as part of experimental socio-material worlds – the experiment performed in this chapter is to condense each analysis into a thesis (akin to the propositions in Chapter 3, but shorter). The five theses are presented at the end of the chapter on a 'scroll' that can be cut out and distributed, or framed to remind other publics or emerging polities of the democratic potential of energy. The theses are thus 'experimental devices', suggestive of possible democratic energy futures; they are instruments for speculation, but also themselves materials to work with. Each thesis revolves around the possibility that a polity may occur in relation to a particular site where energy features as part of an assemblage of nature, people, technologies and politics: a coastline, an online platform, a swamp, an estuary and a test site for driving.

The theses were developed through the authors' shared interest in the democratic potential of energy, and have been guided by questions such as: What if we imagined the relations between material environments and emerging political formations as laden with possibility? What insights emerge when we zoom in on particular socio-material sites where energy infrastructures are controversial and politically contested? What if we took the 'unfinished' nature of such sites as an analytical opening (Ballesterio and Winthereik, 2021)?

The analytical site of intervention in our exploration is the family resemblance connecting a form of energy (carbon, for example) and a political form (democracy, for example). We want to defamiliarise this relation, as we see potential for change in reconsidering it. This potential is not to be considered some kind of promissory future, but rather a political form whose identity is not yet established. Described in our five theses are energy politics whose political action is under way, yet undecided. What follows is therefore a way of pondering multiple forms of political sociality in so-called post-carbon landscapes.

We hesitate to say post-carbon, because fossil fuels and renewable energy cannot be easily separated. Think about the oil and coal that goes into transporting giant wind turbines around the globe from production to installation. And consider political negotiations between actors that have come into being as an effect of, for example, installing wind turbines in a nature reserve. For us, the linkage of fossils and renewables speaks to an awareness of the many things that are configured together when we speak about the various forms politics might take at sites of energy.

In the tradition of philosophical thesis-writing (e.g. Marx's theses on Feuerbach, Benjamin's philosophical theses on history), the chapter strikes a critical-sceptical chord, a swan song for carbon-based societies. And the chapter shows that there is no carbon or post-carbon situation with 'natural', adjacent forms of political power. Instead, different situations embed different capacities for the formation of energy politics.

King Cnut and Donald Trump against the waves

Stefan Helmreich

In his *Historia Anglorum: The History of the English People*, penned in the twelfth century, Henry, Archdeacon of Huntingdon, included a homiletic narrative about the deeds of King Cnut the Great, a monarch (called 'Canute' in modern English) who in the early eleventh century had ruled over Denmark, Norway and England.¹ Henry's chronicle elaborated upon a legend in which King Cnut attempted to command the sea to cease its tides:

At the height of his ascendancy, he ordered his chair to be placed on the sea-shore as the tide was coming in. Then he said to the rising tide, 'You are subject to me, as the land on which I am sitting is mine, and no one has resisted my overlordship with impunity. I command you, therefore, not to rise on to my land, nor presume to wet the clothing or limbs of your master.' But the sea came up as usual, and disrespectfully drenched the king's feet and shins.

This story – sometimes known as 'Canute and the Waves' – has been employed by a range of commentators to describe the overreaching arrogance and ignorance of those in power, particularly when it comes to (under) estimating the forces of large-scale processes, including those considered 'nature' (Lord Raglan 1960). For example, in 2005 Louisiana lawyer Stacy Head slammed the New Orleans city council's feeble response to Hurricane Katrina by invoking Canute (Nolan 2009). Used in this way, the Cnut story is meant to point to the folly of seeking to control, in the realm of the 'political', energies that might rather belong to the domain of the natural (or, as we'll see in a moment, the supernatural). But according to University of Cambridge Professor of Anglo-Saxon,

1 See Henry, Archdeacon of Huntingdon, *Historia Anglorum* (D. Greenway ed., 1996).

Norse and Celtic, Simon Keynes, the story is ultimately about Canute's wisdom, for Henry's tale concludes:

So, jumping back, the king cried, "Let all the world know that the power of kings is empty and worthless, and there is no king worthy of the name save Him by whose will heaven, earth and sea obey eternal laws." (Westcott 2011)



Fig. 4.1 Canute rebukes his courtiers, by Alphonse-Marie-Adolphe de Neuville

Fast forward now to the early twenty-first century – to a world in which it is possible, to some extent, to control and command ocean waves; to build infrastructures that protect shorelines, that ‘harness’ wave energy. As historians of surfing Peter Westwick and Peter Neushul (2013) have demonstrated in their book, *The World in a Curl*, waves have been created and destroyed around the world, sculpted in response to changing coastal infrastructures. And, as members of the ‘Alien Energy’ working group have shown, waves – in the form of ‘wave energy’ – have been eagerly enrolled by corporate and national initiatives into possible energy markets and politics. As waves become part of environmental infrastructures, and subject to new genres of political economic power, relations among the natural, the energetic and the political can now be imagined as synergetic (Helmreich 2016).

In October 2016, an international non-profit coalition called ‘Save the Waves’ called attention to a particularly potent contemporary political economic attempt to control waves:

US President-Elect Donald Trump and his hotel company, Trump International Golf Links (TIGL), seek to build a massively controversial seawall on a public beach to protect his Trump Golf Resort in western Ireland.²

Here, Trump operates as the overreaching version of King Cnut, seeking to control the waves that might compromise an Irish golf course property he owns.

In the event, Save the Waves (which collected 100,000 signatures) successfully blocked the proposed wall, which was planned to ‘run 2.8 kilometers, reach 15 feet tall, and consist of 200,000 tons of rock dumped in a sensitive coastal sand dune system’. But beneath this story is a weird wrinkle. Trump has famously dismissed the reality of climate change, but his organisation operates with climate change as part of its calculations and accounting. The environmental impact statement that Trump’s people submitted in their original proposal for the Irish seawall read this way:

If the predictions of an increase in sea level rise as a result of global warming prove correct, however, it is likely that there will be a corresponding increase in coastal erosion rates not just in Doughmore Bay but around much of the coastline of Ireland. [...] The existing erosion rate will continue and worsen, due to sea level rise, in the next coming years, posing a real and immediate risk to most of the golf course frontage and assets. (Sherlock 2016; my italics)

This is not a shift to the wise and humble version of King Cnut, recognising the limits of human sovereignty. The theory of sovereignty here is, rather, cynical – opportunistically using legal and scientific language without regard to the truth of the claims made, but prioritising instead the momentary rhetorical obfuscation such claims can enable.

Online platforms as anti-polity machines

Brit Ross Winthereik

Above, Stefan Helmreich showed that an energy polity is made when NGOs form organised resistance to walls built on contradictory logics. But where else might energy polities take form? In cyberspace, perhaps?

Studies of the internet show that there was formerly much faith in cyberspace as a place for democratic deliberation and political mobilisation (Hague and Loader 1999; Jenkins and Thorburn 2003). One could argue that what this faith in technology expressed was a hope for polity, and for establishing liberating organisational structures. The imagined power of the internet was precisely its capacity to facilitate the formation of political entities beyond any physical territory (Flichy 2007).

² See www.savethewaves.org/stoptrumpsirishwall/.

Today, twenty years on, the internet is something entirely different, in the sense that it has become a locus for surveillance capitalism (Zuboff 2019). Despite disappointments and scandals, however, there is still widespread belief that clicks and likes can work as a measure of actual public interest. The thesis on energy polity that I propose is based on an analysis of videos featuring wave energy technologies that I came across on YouTube and Facebook as part of fieldwork among wave energy inventors in Denmark.



Wavestar Energy is a Danish company that produces structures for the harnessing of ocean energy. Between 2009 and 2016 this company developed and tested several different technologies and, despite the many other Danish companies active in this area, it attracted significant financial investment. Having developed and tested many different prototypes, the company attracted enough money to be able to scale up one of these prototypes. For five years, a 1:2-scale wave energy device sat on the shoreline of north-west Denmark, while its technologies and capacities, including its capacity to withstand the power of the ocean, were being tested. Many visitors took this prototype to be the material proof of a growing marine renewable industry in Denmark, with sister industries around the Atlantic. Royalty, politicians, school children, businesspeople and tourists walked the steel bridge connecting the large steel construction to the shore. From there they would watch two enormous pontoons generating electricity from the movement of the waves.

Standing on the steel bridge, you would get a sense that what was given, in return for the journey to the north, was a glimpse into a green energy future. But standing there also allowed visitors to see something else: the continual rusting of the machine, and the human effort involved in maintenance, repair and data collection.

Although Wavestar demolished the prototype in 2017, this wasn't before it had been made the subject of a short video by an international visitor. He published it on Facebook, along with a text that claimed this to be the future of energy production. The video locates the Wavestar prototype, not only in Denmark, but also in a possible near future reality where energy production will come from waves. The video introduces the Wavestar prototype as an engineering wonder, as the camera zooms in on the hydraulic system and cuts to a panoramic scene and a scaled-up version of the device, centrally located among offshore wind turbines stretching as far as the eye can see. It gives the impression of peeping into a brave new world in which wave energy has become the norm. This impression is fortified by the final section of the video, which features a coastline (not Denmark, perhaps Southern Europe or Norway) where waves batter a rocky shore and the voice-over makes a statement: 'If we could capture just 0.1% of the ocean's kinetic energy, we could satisfy the global energy demand over 5 times'.

The video went viral. Today it has 54 million views, 900,000 shares and 12, 000 comments.³ It would not be that far-fetched to consider 12,000 comments as the expression of an energy polity – an entity without territorial claims, but with some sort of identity or voice. It is not an altogether outrageous thought to believe that a fraction of this vast number of views, shares and comments would be able to mobilise some kind of financial, public or political support for the company and the cause.

To find out whether this was indeed the case I talked to the inventor who, along with his brother, was also the founder of the company that later developed the Wavestar 1:2 scale prototype. Over lunch at the annual meeting for wave energy inventors in Denmark, he told me how surprised he had been by the popularity of the video. He also explained how he saw the video as having taken on a life of its own, a life separated from anything he knew about wave energy in his world of prototypes and engineering.



I have no real way of knowing whether clicks, likes and views on a social media platform can mobilise a polity around energy, but it seems there will be obstacles, which is why I offer the notion of the anti-polity machine. As an environment for the making of political subjects and subjectivities, social media renders crucial dimensions of wave energy invisible. In my view these dimensions are necessary to ‘get’ this energy form, its organisations and politics.

The video by Facebook user Hashem Al-Ghaili, described above, renders two things invisible. Firstly, it leaves out the human labour involved in the harnessing of wave energy. There is not a single person in sight in the footage, and energy conversion appears to be a smooth and clean process. Secondly, it presents oceans as undifferentiated masses of water; the same, no matter where one is on the planet. The video expresses a hope and an expectation, but, more than that, it works as an ‘eraser’. Human labour is not present in the video, and, more than that, the forces of the ocean seem to have replaced human labour.

This is problematic for at least two reasons. Both waves and human labour must be considered as culturally, socially and technologically embedded for us to be able to understand the relation between humans and oceans (Helmreich 2014). The algorithmic production of wave energy on digital platforms codifies oceans while erasing any trace of the labour needed to realise this kind of renewable energy production. Not even millions and millions of views would be sufficient to summon up a polity around wave energy and a wave energy future. Social media algorithms are in place to ensure a seamless sharing of videos that are already popular. Analogous to James Fergusson’s famous point that World Bank reports work as anti-politics machines in politically charged aid environments (Ferguson 1990), I suggest we consider wheth-

3 See www.facebook.com/ScienceNaturePage/videos/818130261652567.

er social media sites work as anti-polity machines – that is, as machinic environments that don't know how to differentiate between forms of labour, oceanic or otherwise, or describe their interrelation.

Scrying hidden energies in the Dee estuary

Damian O'Doherty

How can we learn to hear the estuary speak? What does the estuarine landscape want to say? What is its business? These are the questions we are bouncing back and forth as we park up at Flint Castle car park on a bright and blustery spring morning in 2017. The castle was built in 1277 by Edward I, to facilitate the English military conquest of Wales. We read a sign from the Welsh tourist board that tells us that Flint castle was finally dismantled in 1652 and effectively 'buried in its own ruins' following the end of the English Civil War. These buried ruins loom large as we meet up with a group of local estuary artists we have arranged to follow for the day as they take a walk – or, as they call it a 'reccy' – around the tidal mudflats and the land which immediately borders the estuary. We have brought with us various recording and collection devices, including the ubiquitous ethnographer's bi-fold notebook and pencil, together with digital cameras and sound-recording equipment. Martin, Robin and Carl have brought a retinue of knapsacks and nets, waterproofs, waders and rubber boots, gloves, hats, binoculars and handheld GPS tracking devices. Against the backdrop of the ruins of Flint castle, we set off on our reccy, but only our equipment allows us to enter and navigate the treacherous and unstable territory where land meets sea in marshes and pools of brackish water left by the receding tide of the Irish Sea, pushed by the downstream egress of the River Dee.

We are immediately plunged into matter and movement, slipping, sliding, sinking, sucking, blowing, whistling air. We have to rely on our boots and the experience of the local artists as we pick our way across mudflats and sand, our hands and feet flailing for handholds and solid ground. As the tide recedes, wading birds are beginning to flock and gather on the exposed mudflats. Accompanied by an ambient soundtrack of shrill screeching, fluted whistles and liquid trills, we suddenly spot an oystercatcher flit across the skyline and land on a narrow spit of dark mud, the distinctive flash of its long bright orange beak deftly probing for food. Martin begins to sink his hands into what appears to be mud. But it is clay, we are told, as our hands explore its tacky wet-dry properties. It's a fine-grained mineral sponge made up in part of fibrous vegetable matter that squishes and stretches, sticks and rolls, holding its form while simultaneously shape-shifting with a plasticity that belies its appearance of slop.

A few moments later Carl comes to a halt and turns to approach the edge face of a low cliff wall. It is pock-marked and marbled with pebble-dashed ash-grey stone and coloured veins of burnished orange and cobalt blue, reminiscent of a Jackson Pollock 'action painting'. As Carl begins to explore the rock face, which in places reveals distinctive

stratigraph-like layers of material residue, Martin begins to tell us that these are strange materials, probably all kinds of metals that have been compounded as aggregate and settled to form a hard, compressed ‘rock’ face. Around us on the floor are all manner of rock-like metals, blasted chinks of schist, and unidentified lumps of irregular and gnarled matter. We realise that this cliff edge fronting the estuary waters is the exposed face of the dismantled Courtaulds chemical works, which was located less than 100 yards from where we are standing; the rubble and spoil of the works was razed and levelled and then pushed to the fringes of the estuary and ‘landscaped’ to form a ‘protective sea wall’. As we walk we become mindful that the ground beneath our feet is less solid than it might appear. We are walking on layers of time. Memories and stories begin to be shared amongst the walkers, of fathers who worked in the chemical works, of deep seam coal mining and subterranean gas pipelines still there below the surface. Martin begins to explore the clay again. The way in which the material resists is fascinating.

Looking up from the clay in my hands, I follow the contours of the land and wonder if the particulate matters in the clay carry residue of the materials and waste once used in the vast Courtaulds chemical works in the production of rayon, or ‘fake silk’ as Blanc (2016) has recently called it in his ‘lethal history of viscose rayon’. Martin begins to show an interest in how this clay might fire in his kiln oven, a process which can apparently produce all manner of unanticipated blotching or streaks of colour that lend distinctiveness and idiosyncrasy to each piece of finished pottery. He explains that pots thrown from clay collected at different points in the walk might reveal subtle gradations in the accumulation of chemical and material composition: heavy metals, polychlorinated biphenyls (PCBs), hydrocarbons and other organic chemicals, all known to have been discharged into the Dee over the years. But what of the chemicals and toxicities not yet known, confessed to or recorded?

Martin picks up the discussion and wonders if a collection of pottery produced in this way could provide an alternative way of ‘mapping’ the estuary, which one might also consider a practice that *makes visible* or makes speak. Could the practices of storytelling involved in the intricate alchemy of pottery and kiln-firing tell intergenerational stories? For environmental author Barry Lopez (1998), ‘kilns produce stories that emerge as part of a process’, a process which later ‘becomes visible in layers – layers of earth and fire, layers of emotion, ideas and change’. Most important for Lopez is what is found *between* these layers. It is this ‘between’ that demands most attention, but it is a between that lacks fixed ‘bookends’. In something resembling alchemy, all that we might consider ‘parts’ are in flux (without an obvious ‘whole’): the kiln and its materials, the potters and their ‘skill’, intentionality and design.⁴

For Lopez, the vibrations of these stories can be a resource for community building. Here, a collection of diverse potters (professional and amateur), children, backwoods-

4 The work of Strathern (1991) on fractals is suggestive here, as are recent references to the ‘mereological’ and mereology in and around the work of Latour, Stengers and Strathern. See for example Latour 2011.

men, artists, woodcutters, neighbours, the cussed and cockeyed hermits of the local wood, mix with the merely curious and passers-by. The kiln acts to stimulate the human community of potters into acts of generosity, sharing and humility. In another sense the kiln helps realise a recreational kiln-community, creating agency and proliferating relations in ways that give rise to new properties to which either the human or nonhuman might become attached.

But the shifting sands of the Dee estuary are a more ‘dissonant’ landscape, productive of ‘danger, liminality and uncertainty’ (Roberts 2016). In Martin’s hands the Dee clay is disruptive, provoking memories and associations that lead from chemical toxicity to a history of coal mining and towards a possible future storytelling where the authorship becomes shared between human and nonhuman. We can think of these relations between physical/chemical matters and human matters as storytellers that help co-produce or animate what otherwise might lie dormant: matters of concern for the individuals and communities of the estuary that lie buried like the former coal mines, and physical or chemical matters that might otherwise be left unseen or unnoticed. Nonhuman partners help animate the estuary so that human-landscape entanglements are given the chance to realise their becoming-otherwise. In our hands, the clay draws attention to and animates the ‘convulsive’ landscape, the shifting sands and tidal energies, the grit that is ‘between’ the corrosion and the blending of elements, all placed within a vast temporal and spatial ‘inhuman nature’ (Clark 2011). Martin imagines a set of kiln-fired pots that will draw readers into the landscape and draw readings out of the landscape. ‘How about we curate or put on display a set of Dee clay pottery?’ Robin suggests. Robin considers the possibility of opening a ‘pop-up’ gallery, one that gives voice to the storytelling capacities of kiln-fired pottery and which might draw people in from the local communities. As we trawl the marshes and wetlands that border the estuary, we appear to be conspiring to imagine a new business start-up venture, but one that is also likely to make a political intervention. We stumble across a crop of wild samphire. Might we offer authentic estuary samphire tea, served in Dee clay pottery that also reclaims and renders inert old dangerous metals and chemicals? Stories shared over samphire tea are likely to be painful, however, especially those which recall the deaths and drownings inflicted by the dangerous tides of the estuary: lost fishermen and people last seen making their way across concealed fords guided by ‘wayfinder’ and ‘ferryman’ who promise safe passage at low tide. In this way the community was also able to get rid of unwanted and troublesome elements, or so the myths tell us – debtors, adulterers or the unsuspecting Roman centurion or two coaxed away from Chester castle towards the Welsh border.

At some point we cross over the Welsh-English border – in fact we must have crossed back and forth several times. But a cartographic clue can be found in the observation made by Martin that he knows this land ‘like the back of his hand’. At some point of obscure and contested origins the landscape becomes indiscernible from the human bodies which in part help bring forth the landscape through acts of shaping, ploughing, digging, building and so on. As it is worked, the landscape also works on its human workers. The furrows and lines on the hand of the potter are impressions formed by the

furrows and lines of the clay taken from the landscape, but the landscape also takes back human bodies, which in turn help nourish and re-create landscape. Who is working who here? Who or what is the consumer/consumed?

Bodily forth in this space demands a form of narrative and description we are not used to in organisation studies. Ethnography offers perhaps our best chance; more specifically, it may be rewarding to develop the resources of this practice we have decided to call 'ethnogeomorphology'. With this concept we find ways of 'staying with the trouble' in Haraway's (2016) terms. Like Martin, tracking the land-water ways to find his way to the edge, we have to skirt carefully the language and concepts of the modern social sciences with which we have learned to make sense. Here, on the edge of the horizon, opposites meet and bleed into one another, but it is also where new divisions, distinctions and discriminations might be made. Things get put together differently here, opening up connections and relations that come prior to human, animal, sand, sea, samphire, zinc, polychlorinated biphenyls. This difference might demand a cultivation of what Derrida calls the 'chemical senses', which also seem to course through 'Bog', a remarkable 2018 essay by Mark Cocker. This essay draws on Seamus Heaney's understanding of a bog as a 'living, breathing organism'. Cocker asserts that Heaney's poetry 're-enacts the processes of transformation as body and bog coalesce' (Cocker 2018: 242). In Cocker's own writing he not only tells us that the 'dark juices' of the bog '[work] upon the imagination in increments' but the writing itself enacts or becomes a living-breathing primordially that takes on a life of its own for the reader (and, presumably, author): 'the breeze ... the low-breathing bog, my own heartbeat ... the songs of the birds swelled up to fill it and each of us was enlarged by the same creative process' (239). Land, bog, air, physico-chemical properties, sweat, breathing, writing – who is author-subject and what object? The narrative voice effects a separation of course, a distinction of sorts, but the sheer originality of the writing-bog has put the author together differently; the landscape allows 'new truths' to emerge for Cocker. Things are assembled here in ways that suggest the influence of an extended or liberated 'chemical sense' that is being turned to by a number of other writers as a way of harnessing existential transformation for the purposes of treating psychological ill-health such as anxiety and depression (Pollan 2019).

Amphibian politics in the *ciénaga*

Mónica Amador-Jiménez

An oil enclave is one of those places that we know exist, but are difficult to access for most people. Many of these enclaves are almost completely closed off to outsiders, while others are under a less restrictive access and security regime. Located far away from main cities, oil enclaves have become places of 'invisible' energopower that fuel societies (Boyer 2014). The oil enclave that is the focus of this paper, Velázquez oil

field, is located in Colombia's Middle Magdalena Valley, and operated by the Sino-Indian oil company Mansarovar. This particular enclave is accessible, and is, moreover, inhabited by hundreds of people who have been living there for decades.

The oil enclave was built on top of a wetland system called a *ciénaga*. From the 1940s, the *ciénaga* has been made accessible by roads constructed to develop the oil enclave after the arrival of transnational oil corporation Texaco Petroleum Company, and it was soon populated by landless peasants fleeing political violence in the north and south of Colombia.

In 1938, Texaco bought both the soil and subsoil of the territory where the enclave was established, based on a Royal Certification from the colonial Spanish crown. Therefore, this enclave formation must be understood not only as a residual effect of Spanish colonialism, but as the continuation of colonial power that persists in the forms of territorial organisation, land tenure and practices of social-racial organisation (Quijano 1992).

The *ciénaga* is located far away from Santa Fé de Bogotá, the capital of the Viceroyalty of Nueva Granada – as Colombia was called during colonialism – in a hot, flooded jungle. It was isolated until the eighteenth century, when the Spanish were able to access these territories. For two centuries, Maroons and Indigenous people encountered one other, and hiding together in the undergrowth they created a new world and a new ecology of practices that gave birth to a social group the Spaniards called *zambos*.

A zambo was the offspring from the union of an indigenous woman and a black African slave. This new-born was, therefore, a non-slave, as the progeny of indigenous people were considered to be free. However, for the Spanish colonisers, a zambo was something grotesque, a rebel being who emerged from the interstices where the colony could not control the social and biological order of the new world.

Zambos born inside the watery territories of the middle Magdalena river had the strength and knowledge to navigate those turbulent, deceptive, dark waters plagued by crocodiles, snakes and mosquitoes. And paradoxically, as a free labour force they became the engine that mobilised the colonial and republican economy of Colombia until the twentieth century. The *ciénaga* is a place that has been shaped by those resistant to colonialism, those with the impetus to carry on despite wars and oil extraction – and yet these people were also in a paradoxical alliance with their exploiters. Thus, in the Middle Magdalena River, the first oil workers' union was formed in Colombia. It was followed by other trade unions that consisted of oil enclave workers, but also of fisherfolk, peasants, women, artisans and rowers – a socio-political organisation that emerged from the environmental and historical context of their conditions of production and reproduction.

In the 1970s, the *ciénaga*, which had been an ideal place to hide and resist colonialism, became a key area for drug traffickers. These traffickers operated with the tacit

approval of Texaco, and formed paramilitary groups bent on minimising the effectiveness of the trade unions (Medina Gallego 1990; Molano 2009). These groups realised that the *ciénaga* was a strategically smart place to hide – fairly remote, yet at the same time a place where it was relatively easy to maintain logistical arrangements with sites where coca was cultivated and cocaine produced, with the Magdalena river providing a transport route connecting to the Caribbean Sea and onwards towards the United States.

The political ecology of drug trafficking has had severe effects on the surrounding area: the development of coca plantations, drug laboratories and money laundering schemes supported by illegal land purchases that transform forests into pastures for livestock. These combined elements create areas of parallel sovereignty. In this way, Texaco-extractivism and drug trafficking-paramilitarism have articulated in the low, hot lands of the *ciénaga* a particular type of moral topography. According to Taussig (2003), such places have been integral to Colombia from colonial times, since when the lowlands have always been considered brutal and savage, requiring illegality and violence to domesticate them, while the cold highlands are seen as civilised.

The period from the 1980s until the 2000s were particularly violent in the *ciénaga*. The paramilitary block of Puerto Boyacá turned the territory into a war laboratory that would become the ‘Puerto Boyacá Model of Paramilitarism.’⁵

Without much intervention by the state, the *ciénaga* was gradually suffocated by the contamination of the oil company, the pollution from cocaine production and increased nutrient loadings from the expanding agriculture, the latter causing eutrophication, algae bloom and higher fish mortality. At the same time, those who resisted the paramilitary order also found death, and their mutilated bodies were often found floating in the murky, muddy waters of the *ciénaga*. A form of necropolitics governed this territory, catalysing the *ciénaga* into a miasmatic space of death, fear and horror (Mbembe 2003).

Over the centuries, inhabitants endured and formed a kin-community around and with this waterbody. As one of them asked me: ‘where are we going to go when we have already been forcibly displaced’. The Colombian sociologist Orlando Fals Borda (1984) has stated that the inhabitants of the floodplains of Colombia are like amphibious beings who navigate the difficult climate, hiding during drought and re-emerging with the rains, moulding their lives according to the conditions. By their

5 This paramilitary model was developed during the 1970s–1990s in the municipality of Puerto Boyacá where *Ciénaga Palagua* is located. From here it was promoted, exported and adapted to other parts of country, financed by drug trafficking money. Peasants were voluntarily or forcibly recruited and trained by Israeli and British mercenaries. This new type of paramilitarism is a central explanatory factor behind the extreme violence that has been observed in Colombia during the last thirty years or so, in which not only guerilla movements have been targeted, but also peasants, human rights defenders, social leaders, labour union activists and journalists.

resilience in the face of environmental and socio-political hardship, these communities manifest an ontology of persistence.

With the inhabitants of the *ciénaga* I swam, sailed, washed my clothes, drank the water, ate the fish, immersed myself in the mud, felt the scorching sun on my skin, was bitten by the swarming mosquitoes. I was contaminated, but also free, which made me think of the *zambos*.⁶ The *ciénaga* impregnates the body of the inhabitants. It moulds them, inhabits them. The inhabitants make kin with the *ciénaga* in this watery land, which elicits an amphibious disposition (Haraway 2016).

Paramilitary demobilisation in Puerto Boyacá, the municipality where the *ciénaga* is located, began in 2003 and culminated in 2006. A total of 31,671 combatants were demobilised across the country, double the amount that the government and NGOs had expected. They had estimated that demobilisation would involve between 14,000 and 16,000 paramilitary personnel. Only 17,000 weapons were handed over to the government during demobilisation, the majority of them damaged or old. The former High Counsellor for Post-Conflict, Rafael Pardo, said, jokingly, that the paramilitary demobilisation was indeed a very peculiar demobilisation. Alvaro Villaraga has argued that it was not only full of contradictions and mistakes, but also that its lack of proper planning and follow-up made it inevitable that individuals and groups would rearm. Up to 20–30% of demobilised combatants had, after five years, re-enrolled in new paramilitary structures operating in the regions they had previously controlled. These emerging groups were under the command of middle-ranking paramilitaries who were not attracted by the benefits of demobilisation. These leaders established small and versatile military-criminal structures that incorporated demobilised paramilitaries who, for different reasons, had not participated in the demobilisation process, and gangs of young people from the slums, as temporarily contracted combatants.

But in spite of an incomplete demobilisation and recidivism, the dispersal of the paramilitaries nevertheless generated a space, temporary, physical and ontological, in which the paramilitary forces, the bosses, did not govern the life and death of the people. This interstitial transition allowed for the re-emergence of the inhabitants and their socio-political organisations.

In December 2013, the inhabitants joined forces with the main trade union of the oil workers, the *Union Sindical Obrera*, to stage a well-organised protest against the company. According to rumours, ranchers and local Bacrimis supported the protest by, amongst other things, donating meat (cows) to the protesters or by providing them with equipment and logistics to block the main road and access to the oil station where

⁶ Black African slaves who escaped slavery during Spanish colonialism in Colombia and hid in the jungles, where they formed communities called Palenques. For a discussion of 'ecology of practices' see Stengers 2005.

oil is stored before being sent to refineries by truck).⁷ As the protesters – the villagers, fisherfolk, oil workers and former paramilitaries – successfully blocked the compound offices, they literally paralysed the whole oilfield during the 15 days the protest lasted, generating economic losses for the company amounting to more than five million dollars. As Angela, the oil company's social worker recalled: 'They knew very well which were the weak points as they are all from here.'

The protesters had three main demands: 1) That the company respect the wage rates negotiated between the company and the trades union – an agreement that subcontractors customarily refused to adhere to; 2) That the company intensify the clean-up of the *ciénaga* and expand the fish repopulation scheme; 3) That the internal dirt road of the enclave should be paved, as the constant traffic of heavy equipment on the road produced dust in the dry seasons causing respiratory diseases among the children living along the road.

It was a tragic event that triggered the protests. Just before Christmas, a female security guard, who lived in the *ciénaga*, died in a dramatic traffic accident on her way to work. The inhabitants directly attributed the fatal accident to the negligence of the oil company. This tragic and personalised backdrop seemed to have made the protests more radical, as there had been no killings or dramatic deaths in the *ciénaga* since the official paramilitary demobilisation in 2004. This episode revived the pain of the past in a different situation, one in which inhabitants felt free to protest and express their sense of injustice – something unthinkable before the paramilitary demobilisation.

The struggle was long, and it was a struggle. It was explicit: mobilisations, stoppages, road blockades, speeches, protests. Families even blocked the trucks that took the oil to the refineries. The unthinkable had happened in the land of origin of the paramilitary model; people protested as if they were living in the 1950s when unions had been strong. The heterogeneous inhabitants, with their paradoxical alliances in this abandoned land, succeeded in getting the road paved.

I am going to summarise some of the features of this amphibious politics to delineate my thesis of the elicitation of politics from the *ciénaga*: that it is a type of non-antagonistic resistance. It was a strategy of entangling and navigating other world-making practices, by circumnavigating the lethality of the oil company, the paramilitary structures and the active abandonment of the state. Nevertheless, there were also moments of antagonistic response, but at specific historical conjunctures. Such a strategy articulates contradictory poles, around which 'normal' politics in Colombia are organised, namely those between left and right. This amphibious politics entangles the forces of paramilitary groups, the oil workers, and the oil company's internal contradictions in its relations with social organisations. Together, these generate an ontological interstice through which the inhabitants can continue navigating the *ciénaga* in its difficulties and potentialities. It makes use of the knowledge practices

7 Neo-paramilitary armed groups that are led by former paramilitary soldiers who were demobilised in 2004 or that never demobilised.

that are entangled with more hegemonic knowledge infrastructures – such as the oil extraction industry – as a way of expanding, validating and protecting itself. It is deeply connected to the materiality of the place: a muddy, watery land; a cyclical environment of floods, rains, aquatic plants, sun and fish, from which a kin has emerged both physically and emotionally. And this material relationality elicits a social and political ontological practice, a material relationality that is generated by the sedimented coupling of substances like the mud, water fish, aquatic plants and even toxic discharges from oil production, as well as the rhythms of the seasonal variations and the efforts of the inhabitants to adjust to and intervene in these variations. These amphibian dispositions have been efficient in sustaining reality-making in the *ciénaga* until today, even in the most adverse conditions of contamination, war and states of exception. The *ciénaga* and its inhabitants have persisted by expanding their dendritic networks, including through this text.

Why we must look for the determinations of our energy worlds beyond their limits

Noortje Marres

We may not experience our ignorance as such, but we are nonetheless ignorant.
Dorothy E. Smith (1987)

To point to infrastructure as a site for the formation of publics is to challenge prevailing understandings of political democracy. There are several reasons for this. One is that infrastructures – from transport to utilities and communication – today present favoured objects and sites of *privatisation* across the world. It may seem that this removes infrastructure from the realm of public politics, even if the effect in practice may be the opposite: when infrastructures are taken out of state ownership and put in private hands, they are likely to become the subject of public disputes, about anything from land rights to lack of accountability (Barry 2013). However, if infrastructure complicates ideals of political democracy, it is also because, *from the perspective of lived experience*, infrastructure highlights our dependence on arrangements beyond our control. This becomes forcefully clear in the event of environmental disasters such as floods, or consumer scandals – the withdrawal of products that have been poisoned somewhere along a supply chain we barely knew existed (Guggenheim 2014). In such cases, in which infrastructure becomes a topic of public interest, it becomes apparent that we are more dependent on – more constrained by – others and elsewhere than we realised or wished, and indeed, *more dependent on others and elsewhere than many of our understandings of democracy allow for*.

For many, at least in the West, to talk about democracy is to invoke ideals of self-asser-

tion. Here, to participate in publics is to express individual opinions and passions, to celebrate one's capacity for self-definition if not self-determination. Democracy, as feminists have long argued, has historically required the bracketing of material dependency; and the 'material production of everyday life' has been located in the private sphere, outside the domain of the public (Pateman 1989; Arendt 1958). However, those who have argued in favour of a more infrastructurally and materially aware understanding of the public have not necessarily managed to undo this habit of bracketing material dependencies and the material reproduction of everyday life in democratic thought, or even aimed to do so.

Historically, 'materialism' as a force in political thought and public mobilisation has favoured a select set of mostly industrial locations as sites where the politicisation of infrastructure is possible: for instance the factory, or the mine. In recent decades, a much broader range of sites of infrastructural politics has been studied by social researchers, including oil pipelines, urban transport, road building projects and recycling systems (Mitchell 2011; Tironi and Palacios 2016; Harvey and Knox 2015; Hawkins 2011).

These studies have highlighted how the building or transformation of a variety of infrastructures present an occasion for the political mobilisation of communities and the enactment of public controversy. Yet some of these studies uphold or reproduce the spatial biases of materialism, even if they have added environmental to industrial locations. They also tend to suggest that the requirements of the 'public-isation' of infrastructure can only be met in exceptional places, settings and environments – those equipped for scaling up the assembly of actors: the oil rig platform where unionised workers may attempt a strike, for instance, or the fracking location where a public encounter could be forced between critics and proponents of oil extraction operations. To be sure, this is in part an empirical matter. For instance, 'I' might think that a relevant site of infrastructural politics is the kitchen – a problematic site for the material reproduction of everyday life if ever there was one – but apparently this particular issue-complex is resistant to larger scale mobilisation under political banners. Still, shouldn't we ask what it is about our understanding of the public politics of infrastructure that leads us to re-produce gendered assumptions about the locations from which publics may be legitimately and effectively addressed?

This is partly why I have begun to study automotive technologies and their publics. Cars, and the car system, surely belong on the above list of prevailing societal infrastructures (such as transport, utilities). And in recent decades they have also been subject to public mobilisation and placed at the centre of a whole range of political controversies – from air pollution to consumerism, and from labour rights to surveillance in the case of so-called 'smart' cars.

But cars equally instantiate the 'other' type of material entanglement: they present mundane devices of dependency in a most literal sense – in countries with crumbling transport infrastructures, the car is the device that materialises one's obligations to dependents visibly (and shamefully?) – ones relations of dependence with the young and

the old who need transporting and can't transport themselves. As such, cars present sites of problematic entanglement, in the technical sense of the term so lucidly offered by the feminist sociologist Dorothy Smith:

The concept of problematic [...] directs attention to a possible set of questions that have yet to be posed or of puzzles that are not yet formulated as such but are latent in the actualities of our experienced worlds. [...] It responds to our actual ignorance of the determinations of our local world as long as we look for them within their limits. [...] An inquiry defined by such a problematic addresses a problem of how we are related to the worlds we live in. We may not experience our ignorance as such, but we are nonetheless ignorant. (Smith 1987)

Incidentally, it is this sense of problematic entanglement that I sorely miss when I hear public commentators and critics without any noticeable dependencies proclaim their critical judgements on 'the age of the car'. I am quite sure that, as long as environmentalism equates with the negation of the practical necessities by which most of us are bound, it will continue to be taken for the elitist concern that it today represents for too many. Could the formation of publics around cars be a way to explicate infrastructural dependency in its multiple senses; could these publics turn problematic entanglement into a public drama? As I have argued elsewhere, one of the features of problematic entanglements as a public and not a private form of association is that they jointly implicate relative strangers (Marres 2012). These material publics do not, as a matter of course, coincide with already existing social communities. Surely this places serious constraints on political mobilisation, although it also helps to clarify the problem with limiting material publics to a select set of industrial and environmental locations (the factory, the mine, or the transport network).

Could the idea that material publics only form in some exceptional locations – industrial, environmental – in part stem from a lack of interest in pursuing issue-associations that do not already map onto existing social and political relations (the community, the organisation)? Is it something to do with how we conceive of field studies of infrastructure, as requiring bounded situations? We may be beyond infrastructure denial, but many material publics remain bracketed all the same. Are we equipped to take seriously the possibility of infra-publics?

5 THESES ON ENERGY POLITIES

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THESIS 1

AN ENERGY POLITY *EMERGES* IN THE COMPLEX TRADING ZONE THAT ENROLS PHYSICAL FORCES, CONTESTED SOVEREIGNTIES OVER THOSE FORCES, AND COSMOPOLITICAL, ENVIRONMENTAL ACTIVISM.

THESIS 2

AN ENERGY POLITY *STRUGGLES* TO DEVELOP WHEN DIGITAL PLATFORMS DISPLACE THE LABOUR THAT IS NECESSARY TO GENERATE COMMITTED ENVIRONMENTAL RELATIONS.

THESIS 3

AN ENERGY POLITY *GESTATES* THROUGH CITIZEN-ARTIST COLLECTIVES THAT MAP WATER BODIES IN ARTISTIC FORM.

THESIS 4

AN ENERGY POLITY *CONGEALS* IN CONTESTED CARBON SATURATED BIO-SOCIAL SYSTEMS.

THESIS 5

AN ENERGY POLITY *NEEDS TO TRANSCEND* THE BOUNDARIES OF TRADITIONAL POLITICAL SPACES IF IT IS TO HARNESS THE POTENTIALS OF THE PUBLIC.



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