The World of Attachment? 
The Post-humanist Challenge 
to Freedom and Necessity

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Abstract
In the ‘human’ world we believed that we could transform necessity into freedom through our own creativity and agency, understanding the laws of the external world and mastering them through the development of culture, science and technology. In the ‘post-human’ world, we are told by new materialists, actor-network theorists and post-humanists that creativity and agency still exist, but that they are not the property of humans alone; rather, they are a product of the assemblages, associations and relationships through which we are attached to the world. Rather than attempting to understand and act in the world on the basis of our separation from it – articulated in the constraining, alienating and resentment-filled modernist divides of human/nature, subject/object, culture/environment – we should develop our understandings of ‘attachment’ to the world. This article critically examines these claims and suggests that, on the contrary, we become less ‘attached’ and that the external word becomes increasingly alien and mysterious to us. In doing so, it mounts a defence of subject/object understandings and social constructions of freedom and necessity.

Keywords
Actor-network theory, Bruno Latour, new materialism, post-humanism, William Connolly

Introduction
New materialist, actor-network theory (ANT) and post-human approaches all claim to have a liberating and emancipatory ethic of freedom, democracy, inclusion and progress
through paying a renewed attention to agency in the world.\textsuperscript{1} The key understanding at stake is that of the new materialist deployment of a much broader, more connected, more social, understanding of causal ‘agency’ which involves the appreciation of relationality, fluidity and creativity as opposed to the fixity of structures in either the social or the natural world. This radicalised, more agential, materialism derives traction from its critique of liberal modernist conceptions of a binary world in which agency is seen to lie solely in the human subject, invested with ‘free will’ and subjectivity. Outside and external to this constructed world of the subject lay ‘nature’, the external or non-human world. This was conceived as a world of purely passive objects, mechanically destined to merely exist as causal intermediaries, with no agency of their own. This external world was contrasted to the world of human ‘freedom’ as a world of necessity, bound by law, regularity and repetition, waiting for the human subject to appropriate it as its object. In this binary understanding of Enlightenment or modernist frameworks, humans constituted themselves as ends and everything else – nature – as merely a means.\textsuperscript{2}

In the ‘human’ world, we were born free but everywhere were in chains. But the chains were of our own making, in our artificial separation of ourselves from nature: the separation between the human as subject and the world as object. It was this separation that, it is alleged, enabled our enslavement, whether it was by political states – which limited us on the basis that politics is merely about values and representations, doomed forever to be divisive, plural, multicultural and relativist – or by Western religions – which enslaved the human by asserting its free will and therefore its responsibility for the ‘original sin’ and all others subsequent to it.\textsuperscript{3} We had our human ‘freedom’ but only at the price of alienating ourselves from the world (as passive object) and ourselves (riven by value relativism).

For the French sociologist of science Bruno Latour, we were imprisoned between Scylla and Charybdis – between a mythical ‘world of transcendence’, based on anthropocentric hubris, with all the dangers of conflict, exclusion and environmental destruction implied within this, and the ‘world of immanence’ – the inevitable working out of the natural laws of regularity and cause and effect of Newtonian mechanical materialism.\textsuperscript{4} Discourses of two separate worlds, of ‘human’ freedom and of ‘natural’


\textsuperscript{2} As Latour vividly captures, in his analogy with the Platonic cave, there is held to be no interconnection between the world of subjects (in the cave of ignorance, values and subjective representations) and the world of objects (outside the cave, and only visible to experts and scientists, who re-enter the cave armed with ‘proofs’); see further Latour, \textit{Politics of Nature: How to Bring the Sciences into Democracy} (Cambridge, MA: Harvard University Press, 2004), 10–18.

\textsuperscript{3} See Connolly, \textit{A World of Becoming}.

necessity, operated to stabilise the liberal order of power: ‘the Old Regime enjoyed the advantages of a double transcendence: it could extricate itself from simple matters of fact by appealing to values, and it could always appeal against the outdated requirements of values and law, to the harsh reality of facts’.5

New materialist, ANT and post-human approaches promise us another type of freedom and emancipation as an alternative to the enslavement of modernist promises of human ‘freedom’. In this article, I wish to draw out that this new freedom also has a price: that we should govern on the basis of what in the modernist frameworks of Enlightenment understanding was called ‘blind necessity’.6 In fact, far from relying on simple binaries of separate worlds of (human) freedom and (natural) necessity, the modernist understanding of progress was based on the dialectic of transforming necessity into freedom, transforming chaos or complexity (blind necessity) into causal regularities amenable to understanding (necessity) and thus ‘humanising’ the world, making it amenable to human understanding.7 Latour, in fact, captures this process well in his understanding that ‘facts’ are not just ‘out there’ to be discovered but, in fact, take a huge amount of work to produce or to be ‘manufactured’ in laboratories.8 Latour’s empirical studies of the development of science are fascinating; the problems only start when conclusions are drawn for political philosophy. We are freed from the structures and laws of necessity (constitutive of human freedom) but only to be subordinated to the arbitrary and unknowable whims of blind necessity (to which only enslavement is possible).

New materialists set up the constructed binary of fixed (rather than dialectical) understandings of freedom and necessity as a straw man, to be rapidly knocked down. They argue that the advances in our understanding of the work of the natural sciences mean that the external world of objects/non-humans/nature is not, in fact, mechanically bound by fixed and timeless laws and regularities open to the discovery and control of humankind. Therefore, the external world is not passive or objective and lacking in creative agency. Ergo, humans are not the only agents or subjects in the world and – in a world where agency is spread more widely or thinly – humans now have the possibility of recognising, rejoining and re-embedding themselves in the world. The historic struggle for human mastery of necessity in the name of collective human freedom (as a ‘war’ against nature) is thereby

5. Ibid., 187.
6. It should be noted that not all theorists of complexity fall into this bind. The problem is not so much the recognition of complexity and contingency as the philosophical, ontological and ethico-political conclusions that we draw from this. For a very useful analysis of how the appreciation of complexity can enable us to develop modernist understandings of science, see Sandra D. Mitchell, Unsimple Truths: Science, Complexity and Policy (Chicago, IL: Chicago University Press, 2012), 11–18.
7. As Friedrich Engels wrote in Anti-Dühring: ‘Hegel was the first to state correctly the relation between freedom and necessity. To him, freedom is the insight into necessity (die Einsicht in die Notwendigkeit). “Necessity is blind only in so far as it is not understood [begriffen].” Freedom does not consist in any dreamt-of independence from natural laws, but in the knowledge of these laws, and in the possibility this gives of systematically making them work towards definite ends. This holds good in relation both to the laws of external nature and to those which govern the bodily and mental existence of men themselves.’ Engels, Anti-Dühring: Herr Eugen Dühring’s Revolution in Science (Moscow: Progress Publishers, 1947), Part I, Chapter XI: 6. Available at: http://www.marxists.org/archive/marx/works/1877/anti-duhring/
declared over. There is no longer an ‘outside’ to be conquered, there is ‘no more environment’, ‘no more nature’: ‘Political philosophy abruptly finds itself confronted with the obligation to internalize the environment that it had viewed up to now as another world.’

This article seeks to draw out the consequences of our perception of the end of the outside – the end of the artificial subject/object and society/nature binaries constituted by liberal modernity – and suggests that, rather than enabling us to become more connected or ‘at home’ in the world, these understandings reflect and rationalise our growing alienation and estrangement from the world. The argument is straightforward: if there is no longer necessity – no laws and regularities operating both in ‘nature’ and through social relations – then there can be no meaningfulness in the world and we would be entirely subject to what appear to us as external processes. Objects really would literally appear to rule over us, in a parallel fetish to that critiqued by Marx in *Capital: Volume One*, with regard to the fetishism of commodities, which in reality appear to dictate prices, wages and employment possibilities under capitalist social relations. Without the modernist constructions of subject/object, we could no longer aspire or strive to learn and develop as part of a goal-orientated process of engagement in the external world. Rather than necessity becoming the precondition for freedom, the critique of our hubristic belief in human freedom would lead us merely to humble ourselves before the altar of blind necessity.

**Governance, Adaptation and ‘Blind Necessity’**

Liberal discourses of government centred upon the conception of sovereign power, its constitution, its legitimisation and its limits; current discourses of governance work differently. Discourses of governance recognise a different set of limits to rule. These limits are not constituted in the frameworks of liberal binaries, which previously operated to fix the boundaries of sovereign power: the limits of the inside and outside (of law and anarchy) or the limits of the public and the private or the modernist divide between the formal sphere of politics and law and the informal sphere of the social and economic. Nor are these limits articulated in the liberal terms of natural rights and freedoms or of rationality, universalism and autonomy.

A new rationality of governing has been derived from a new understanding of limits, based upon understandings of the need to adapt to a complex, interconnected and globalised world of blind necessity: to inculcate resilience. The discursive rise of

11. These discourses can be understood to be post-liberal; see, for example, David Chandler, *International Statebuilding: The Rise of Post-liberal Governance* (London: Routledge, 2010).
‘necessity’ as a dominant cultural outlook in the West, and the crisis or decline of liberal framings of representation, can be understood as a product of the end of the Cold War or the end of the politics of ‘Left and Right’.\(^{13}\) Of course, ever since the Enlightenment, modernist ideas of human ‘exceptionalism’ and of the freedoms of the political and the certainties of the sciences have been critiqued and the ‘hubris of reason’ expounded upon.\(^{14}\) As long as the social struggle was at the forefront of ideologically contested understandings of politics and progress, from the French Revolution onwards, government and sovereign power were subject to liberal discourses of limits. However, in the post-political world, it appears that human concerns, contestations and interests are not enough to fill the political world and to give coherence to government programmes or legitimacy to elected regimes. Politics, without the clarifying frameworks of ideological social contestation, seems to confront a world of complexity and to call forth or elicit the ethico-political concerns so well articulated in the post-human extension of politics and understandings of democracy, agency and rights to non-human or non-organic actors – to the new ‘cosmopolitics’ of the cosmos, or the ‘political ecology’ of the earth.\(^{15}\)

Without social struggle and the social understandings it gave rise to, the modernist edifice is rapidly disappearing. The world appears to lack the imprint of human construction and therefore to be ‘post-human’. We are reborn or born-again in a world in which we appear to be without the signposts of modernity. Today’s sensibilities mean that we are much more likely to be drawn towards globalised understandings of complexity, captured well in physicist Ilya Prigogine’s view of complexity as ‘the irreversible succession of events’ where ‘the arrow of time’ ensures that circumstances are never stable for repeatable cause-and-effect relations, destabilising any possibility of acting on the basis of knowable eternal or fixed ‘natural’ laws.\(^{16}\)

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13. The appreciation of necessity is articulated clearly in the work of Anthony Giddens; for example, see Beyond Left and Right: The Future of Radical Politics (Cambridge: Polity Press, 1994) and The Third Way: The Renewal of Social Democracy (Cambridge: Polity, 1988). He advocates ‘third way’ approaches, which presuppose the end of the liberal modernist belief that developments in science and technology might enable the extension of humanity’s control over the external world (Beyond Left and Right, 3). The human/nature divide is dismissed, with modern risks and insecurities conceived in terms of ‘manufactured uncertainties’, which cannot be dealt with through Enlightenment prescriptions of ‘more knowledge, more control’ (ibid., 4): ‘Today we must break with providentialism, in whatever guise it might present itself. Not for us the idea that capitalism is pregnant with socialism. Not for us the idea that there is a historical agent – whether proletariat or any other – that will more or less automatically come to our rescue. Not for us the idea that “history” has any necessary direction at all. We must accept risk as risk, up to and including the most potentially cataclysmic of high-consequence risks; we must accept that there can be no way back to external risk from manufactured risk.’ Giddens, Beyond Left and Right, 249.


15. See, for example, Isabelle Stengers, Cosmopolitics I (Minneapolis: University of Minnesota Press, 2010), Cosmopolitics II (Minneapolis: University of Minnesota Press, 2011); Latour, Politics of Nature.

Currently, one of the most influential theorists of complexity appears to be Bruno Latour. Latour’s key attribute could well be being at the right place and the right time, in order to reintroduce the sceptical products of the philosophy of science into the social sciences, arguing that there is nothing to be ‘discovered’ under the surface of appearances:

To assert that underneath legitimate relationships there are forces invisible to the actors, forces that could be discerned only by specialists in the social sciences, amounts to using the same method [as] for the metaphysics of nature … it amounts to claiming that there exist primary qualities – society and its power relations – that form the essential furnishings of the social world, and secondary qualities, as deceitful as they are intensely experienced, that cover with their mantle the invisible forces one cannot see. … If the natural sciences have to be rejected when they employ that dichotomy, then we have to reject the social sciences all the more vigorously.18

If there is no (hidden) necessity – no laws or regularities to be discovered by social science – then there can be no freedom either. Freedom, in fact, could not have meaning without an appreciation of necessity. Latour, in his removal of structures, laws and regularities, consciously goes beyond the freedom/necessity problematic essential to the progressive thought of modernity. The foremost radical thinkers, such as Lenin, argued that mankind ‘must necessarily and inevitably adapt themselves to’ the necessity of natural laws. Lenin also understood the importance of ‘blind necessity’, of the operation of the external world unknown to us: of ‘unknown necessity’. The difference between this understanding of the world and that of today’s dominant framings is in the way in which freedom was understood in relation to necessity. For radical thought, human freedom depended upon a dialectical understanding of the relationship between freedom and necessity. The external world thereby constituted an ongoing and unlimited realm of possibilities for human freedom precisely because the external world could never be fully

17. There is little that is new in the attempts to question the hubris of reason through drawing on ‘developments’ in the philosophy of science to question the certainties of ‘mechanical’ materialism. From Darwin’s theory of evolution onwards, narrow mechanistic understandings have been subject to devastating critique. The early 20th century, in particular, saw discussions of the ‘crisis of the European sciences’ and the development of the phenomenological critiques of Edmund Husserl and others, which were to have such an influence on Heidegger and also on Friedrich Hayek. See, for example, Husserl, The Crisis of European Sciences and Transcendental Phenomenology (Evanston, IL: Northwestern University Press, 1970); Hayek, The Sensory Order: An Inquiry into the Foundations of Theoretical Psychology (Chicago, IL: University of Chicago Press, 1999). Exactly one hundred years before Latour, Connolly and other new materialists ‘discovered’ the limits of mechanical materialism, the Bolshevik party was riven by debates on the philosophy of science and the response to the crisis of Newtonian ‘mechanical’ understandings. See Vladimir I. Lenin, ‘Materialism and Empirio-Criticism: Critical Comments on a Reactionary Philosophy’, in his Collected Works, 14 (Moscow: Progress Publishers, 1972), 17–362, available at: http://www.marxists.org/archive/lenin/works/1908/mec/; Evald V. Ilyenkov, Leninist Dialectics and the Metaphysics of Positivism: Reflections on V. I. Lenin’s Book, ‘Materialism and Empirio-Criticism’ (London: New Park Publications, 1982).
20. Ibid.
known or understood: ‘the recognition of the objective reality of the external world and of the laws of external nature, and of the fact that this world and these laws are fully knowable to man but can never be known to him with finality’.21

The recognition of the attenuated subject/object distinction in an age of complexity radically alters or inverses modernist understandings of the relationship between freedom and necessity. The declaration of the end of the struggle to emancipate the human from external necessity is declared as genuine, post-human, emancipation. Emancipation in this case is a project of work on the human itself, rather than the external world, once we accept that the previous understanding of the linear liberal telos – of the ongoing war for domination, understanding and control – was in fact dehumanising and divisive. New materialism argues that we can emancipate ourselves once we throw off the shackles of humankind being endowed with divine purpose, reason or capacities for mastery. In recognising the limits of human capacities and appreciating the agency and effects of non-human others, we can then allegedly unleash our ‘inner’ human and become what we ‘are’, no longer alienated from each other and the world we inhabit.22

The new-found appreciation of blind necessity is therefore about the transformation of the human subject rather than the world. It is a message of a new politics and a new ethics, for some, the ethics of eco-politics, for others, of post-humanism, and for others, of vital materialism. This new ethics of the radical work on the self and of a greater sensitivity to others is often articulated as a significant break with previous theorising in International Relations. However, the new ethical politics of the post-human could also be understood as a radical extension of the cosmopolitanism critiques of the 1990s. The driver behind cosmopolitan discourses was also the critique of the limited and constrained subjectivity of political thinking, trapped inside the modernist politics of the nation state.

For theorists such as Andrew Linklater, the demand for cosmopolitan thinking was about transforming and radicalising political and ethical sensitivities through ‘expanding the realm of dialogic commitments’.23 In this way, the growing call for ‘cosmopolitics’ highlights the ethical imperatives uniting 1990s’ cosmopolitan theorising and the new materialism of those, like Isabelle Stengers and Bruno Latour, who also proffer a ‘cosmopolitics’ of greater ethical sensitivities (with William Connolly’s work straddling both worlds).24 The ethical inclusiveness expands further, extending from the human to the non-human as our ethical sensitivities see any exclusion as problematic, until we

21. Ibid., 3. The essential relation between the social construction of a linear or law-bound external world and the social construction of the human subject as capable of goal-determining freedom has been highlighted in some of the work of new materialist thinkers, although, of course, they are keen to debunk or deconstruct this type of ‘ontological dualism’, precisely for this ‘specifically modern attitude or ethos of subjectivist potency’. See, for example, Coole and Frost, ‘Introducing the New Materialisms’, in New Materialisms, eds Coole and Frost, 1–43, 8; Frost, ‘Fear and the Illusion of Autonomy’, in New Materialism, eds Coole and Frost, 158–77, 171.

22. Connolly, A World of Becoming, 114.


understand that even ‘the image of dead or thoroughly instrumentalized matter feeds human hubris and our earth-destroying fantasies of conquest and consumption’.25

**Distributive Agency: The Kingdom of ‘No Ends’**

Connolly, Jane Bennett and Latour all forward the argument that we need, on both ontological and ethico-political grounds, to reject the modernist subject/object divide of freely willed human agency, on the one hand, and the ‘world of objects governed by efficient causality or simple probability, on the other’.26 This is done through developing a distributive theory of agency, whereby ‘proto-agency’ – the capacity to create in ways that differ from mere ‘mechanical causation’ – is possessed by non-human and even non-organic forms of life.27 As Bennett argues, we need to take seriously ‘the capacity of things – edibles, commodities, storms, metals – not only to impede or block the will and designs of humans but also to act as quasi-agents or forces with trajectories, propensities, or tendencies of their own’.28

Connolly and Bennett consciously seek to extend the realm of agency and to challenge the anthropocentric link between consciousness and agency that is held to be problematic in its tendency ‘to reduce political agency to human agency’.29 Bennett argues that effective agency, the role an actant may play in an outcome, needs to be separated from moral understandings of agency, which imply some will or intention. In fact, theories of distributive agency do not start with subjects as the cause of an effect; actants merely influence outcomes but do not necessarily have intentions and purposes.30

Human agency is thereby continually limited by the ‘proto-agency of other systems’, in an understanding of the world as a complex web ‘of nodes and levels of agency’: it is this complex, multi-agential world of becoming which serves to ‘curtail the hubris expressed in the “anthropic exception” allocating agency purely to humans and blind causality to the non-human world’.31 Bennett seeks to strategically elide ‘what is commonly taken as distinctive or even unique about humans’.32 To the extent that she is willing to:

emphasize, even overemphasize, the agentic contributions of nonhuman forces (operating in nature, in the human body, and in human artifacts) in an attempt to counter the narcissistic reflex of human language and thought. We need to cultivate a bit of anthropomorphism – the idea that human agency has some echoes in nonhuman nature – to counter the narcissism of humans in charge of the world.33

It seems for Bennett that there is an ethico-political imperative driving attempts to distribute agency. She argues that the understanding of emergent causality of assemblages, rather

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27. Ibid., 24–5.
29. Ibid., xv; Connolly, *A World of Becoming*, 25.
33. Ibid., xvi.
than more modest understandings of efficient causality, is necessary ‘because the rubric of material agency is likely to be a stronger counter to human exceptionalism. … An assemblage owes its agentic capacity to the vitality of the materialities that constitute it.’

This ethico-political imperative is also clear in Latour’s assertion of the ‘kingdom of ends’:

The ecological crisis, as we have often noted, presents itself above all as a generalized revolt of means. Nothing and no one is willing any longer to agree to serve as a simple means to the exercise of any will whatsoever taken as an ultimate end. The tiniest maggot, the smallest rodent, the scantest river, the farthest star, the most humble of automatic machines – each demands to be taken also as an end.

The strength of the ethico-political argument of distributive agency is that it appears ontologically grounded in the complex and globalised world increasingly dominating our subjective experiences of ‘crisis’. It increasingly appears to us that we are, in fact, living in a ‘runaway world’, that science and technology are out of human control in a world of ‘manufactured risk’ and uncertainties, so clearly described in the work of Ulrich Beck. It is in this world, a world where science appears to have failed in its attempt to construct a knowable external world and where politics appears to have failed in its attempts to simulate communities of meaning on the basis of acting in this world, that Latour seems justified in asking ‘for just a tiny concession: that the question of democracy be extended to nonhumans’.

In focusing on the need to redistribute understandings of agency, post-humanist or ANT approaches have been criticised for removing power relations and reinforcing neoliberal understandings of individual responsibility. However, as Latour responds, ANT and new materialist approaches do not argue that actors have substantive equality or that they can shoulder the responsibilities of moral autonomy. In fact, this understanding of distributive agency is a far cry from dominant neoliberal framings of strong, capable and autonomous subjects. It could, in fact, be argued that the focus on the subject – as embedded in multiple assemblages, relations and associations – inverses liberal understandings. ‘Quasi-subjects’ or ‘actants’ with the power of shared agency cannot be understood or determined by analysis of the isolated or autonomous rational subject. While it is true that there are no hidden ‘structures’ and no fixed or hierarchical power relations, this

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34. Ibid., 34.
40. Latour, Reassembling the Social, 65.
is quite distinct from traditional liberal interpellations of the subject as a natural, rational or autonomous individual, which served to naturalise the social relations of the market. Here, the subject is transformed or inversed, lacking any natural, rational or autonomous existence and forever negotiating, experimenting and reflecting upon its imbrication within complex, fluid and overlapping networks and assemblages.

Rather than subjects themselves, it is these associations, assemblages and networks which are held to explain the contingencies and unknowability of the world, enabling asymmetries of power when they are least expected: ‘An infinitesimal cause can have vast effects; an insignificant actor becomes central; an immense cataclysm disappears as if by magic.’ The point is not so much that of the equality of responsibility but of the limits of reason and, with this, the limits of power. These limits can be understood only by expanding our understandings of the connectedness, embeddedness and attachment of human actors to the world – the attachments alleged to be missed by social theorising. It is these ‘missing actors’ (human and non-human) that are held to explain the superficiality of critical social theorising focused on social explanation of hidden structures. The post-humanist focus on the ‘missing masses’ brings to the fore the new ethics of awareness of attachment.

However, the price to be paid for our attachments is that we can never constitute our own ends. If we imagined that we could never possibly know in advance, or at the time, of our actions or decisions, however minor, what their final or ultimate ends or outcomes would be, we would become incapacitated or paralysed. We could not make free choices because we lacked the meaningful structures through which we could aspire to create our own ends. In a new materialist world, we no longer have the sense of a capacity to choose our own ends – a sense of freedom. Instead, we have merely a world of blind necessity, which appears to dictate to us how we should act in order to respond and adapt to our external environment. Politics then becomes merely a question of responsiveness – of ethical responsibility – not of freedom.

**Time’s Arrow and ‘Retro-politics’**

In this framework of complexity, contingency, agency and creativity, the causal relations can only be established and ‘known after rather than before the fact’. Instead, the world of becoming is ‘emergent’ through the complex actions and interactions of numerous agential assemblages. This, in effect, closes off the future as something that can be grasped as a calculative probability, a random chance or the hidden outcome of objective causal relations. There is agency everywhere but no fixed structures or necessary

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41. See, for example, Marx, *Capital: Volume One*, 81.
43. Latour, *Reassembling the Social*, 244–5. It should be noted that this focus on the power of agency through relational attachments was powerfully outlined much earlier by the American pragmatist philosopher John Dewey; see, for example, his classic statement *The Public and Its Problems* (Athens: Swallow Press, 1954).
regularities, the world is continually ‘becoming’, with all the risks and potential benefits of creative potential immanent to this process.

The potential outcomes always far exceed the final outcomes because the key to explanation is that of the processes of interaction between different agents or agencies. These outcomes cannot be determined by existing forms of knowledge, which apply to the constituent parts or the individual actors or agents themselves. We have a process of understanding and reasoning that can only work backwards from the complex contingent outcomes, whether these concern natural processes of evolution or social processes of human interaction or the human and non-human assemblages of events.

Time’s arrow can only ever go backwards, never forwards, because the separation of subject and object, which creates the condition of possibility for forward-looking intentional or instrumental actions, is exactly the target of critique. Rather than separating temporally the subject and object, new materialism argues that process overcomes and sublimes both sides of the liberal linear equation. As Bennett states: ‘an actant never really acts alone. Its efficacy or agency always depends on the collaboration, cooperation, or interactive interference of many bodies and forces.’ 45 There is no separation of subject and object from the process of interaction, or, in Bennett’s terms, the ‘agentic assemblage’. 46 It is this assemblage that, through self-organising emergence, distributes agency across an ‘ontologically heterogeneous field’. 47 For Bennett:

The event illuminates its own past, but it can never be deduced from it … its sources can only be revealed retroactively. These sources are necessarily multiple, made up of elements unaffiliated before the ‘crystallization’ process began. In fact, what makes the event happen is precisely the contingent coming together of a set of elements. 48

The formative drive of material vitality, for Bennett, ‘can be known only indirectly, only by examining its effects’. 49 She argues: ‘My vital materialism posits the causality of both inorganic and organic matter to be, to some extent, inscrutable to us.’ 50 While mechanical materialism is understood to constrain the future, making it a rerun of the past, the new materialism asserts that the future is open. But the future can only be ‘freed’ on the basis of removing structures of law and regularity, which held the promise of transcendence. Without the possibility of transcending our circumstances, we instead have to adapt: we have to become ‘authentic’ in the Heideggerian sense of taking ethico-political responsibility for our ‘being-in-the-world’; in Latour’s language we will be forced to create reflective and responsible communities in which ‘agreement is going to have to be reached’. 51

The fact that the future is closed off to us forces us to build political consensus on the basis of our ethical openness to the world. Nothing can be taken for granted or assumed.

46. Ibid.
47. Ibid., 23.
48. Ibid., 34.
49. Ibid., 67.
50. Ibid.
once the modernist foundations of scientific and political representation have been removed. While there may not be agential hierarchies, there is no assumption of equality either, merely interactions and associations of humans and non-humans within the complex assemblages of the world of becoming. As Latour argues:

The actors do not know what they are doing, still less the sociologists. What manipulates the actors is unknown to everyone, including researchers in the social sciences. This is even the reason there is a Republic, a common world still to come: we are unaware of the collective consequences of our actions.\textsuperscript{52}

The future is closed to us, but the processes of complex or emergent causality can be at least partially grasped, but only after the fact and only through the slow, laborious and complex work of tracing the associations of actors, or the assemblages at play in the production or emergence of a particular event. Latour suggests that the baggage of the social scientist needs to be removed to enable the actors to speak for themselves and for the mediating, transforming agency of the full range of human and non-human actants in the network or assemblage to be revealed.\textsuperscript{53} Explanation without subjects and without structures can have no analytical framework and by definition can only be descriptive. As Latour argues, there can be no analytical short-cuts of ‘explanation’, which assume fixed, causal relations, when the object of science is always the particular:

The danger is all the greater because this is the moment most often chosen by critical sociology, always lurking in the background, to take over social explanations and replace the objects to be accounted for with irrelevant, all-purpose ‘social forces’ [that actors] are too dumb to see or can’t stand to be revealed.\textsuperscript{54}

For ANT, in theory, with enough work and effort to trace the associations and connections, every given situation can be explained post hoc with the benefit of a concrete uniquely adequate account. Rather than theorising beneath the surface, Latour argues that ‘the name of the game is to get back to empiricism’.\textsuperscript{55} For actors to make a difference, for causality to emerge rather than be pre-existent, for the political-ethics of post-humanism, every event is necessarily unique. In Latour’s words, the alternative to the hierarchies of critical sociology, with structures which turn actors into dopes or puppets, is the liberatory project of critical self-awareness, of reflectivity upon the embedded connections, relations and affinities which enable the construction of humans finally increasingly attached to the world.\textsuperscript{56} The better attached and bonded we are, the more reflexive and reflective humans will be.

I beg to differ; the price we pay for our new bonds and attachments is far too high. And the prize on offer is a false one. These new ‘attachments’ are not with real, struggling, contesting people, colleagues or comrades but with unknowable, unseen, complex,
overlapping and interlinking processes. These processes create contingent and fleeting chains of causation that are not in themselves traceable as causal relations, that is, that precisely do not work through fixed structures of meaning. Our new attachments therefore mean that we can no longer act as subjects in the world. We can speak, have understandings and views – we can be taken, of course, very, very seriously as research subjects in ANT perspectives (as any laboratory subject would be; see, for example, Latour’s ‘dialogue’ with a student57) – but we can never be human subjects, collectively understanding, constituting and transforming our world.

**Being Is Everything**

While William Connolly argues that we live in a ‘world of becoming’, the key factor or agency in the frameworks of new materialism or post-humanism is being itself. For Connolly, the contingencies of becoming are translated into clashes or a coming together of ‘multiple zones of temporality’ or ‘temporal force-fields’ that intersect.58 In this framework, it is the connections or relations between different, distinct forms of ‘being’ which matter. The process of ‘becoming’ is a non-intentional, unplanned product of the clashes of ‘being’. In this way, the use of ‘becoming’ is rather misleading for the reader as it is not as if there was an ex nihilo cause, tendency or shift which can be traced in terms of transformation from one state to the next. The notion of ‘becoming’ suggests a certain development with a limited set of causal factors. In fact, the creativity of new material or post-human approaches stems from the attention to a greater range of ‘being’, enlarging the number of actors and actants and their traces, connections and mediations.59

The world of becoming is a world in which being – construed in terms of differing temporalities, actants, actors, agents, proto-subjects and proto-objects – is determinant through the medium of connecting and interconnected zones of temporality, assemblages, associations and relations. Beings (both organic and non-organic) are creative and differential in the accidental and contingent relations between differing modes of existence. It is the clash of being that creates contingent outcomes: the coming together of multiple different actants. Connolly is worth quoting to clarify that it is the agency of ‘being’ which is at work beneath the world of ‘becoming’. Each form of being has its own temporality:

> The bumpiness of time in an open universe is accentuated by the fact that several force-fields or tiers of chrono-time subsist – time measured by a clock. There is geological time, evolutionary time, neuronal time, civilizational time, the time of a specific state regime, the time of a human life, the time of a type of economic organization, and so on almost endlessly.50

These differing modes of being – differing time trajectories – clash in unpredictable ways: ‘A flock of geese, following one trajectory, might collide with a plane set on

57. Ibid., 141–56.
60. Connolly, *A World of Becoming*, 149.
another, creating havoc for both birds and humans.\footnote{61} However, what is key to the understanding of being at stake here is that it is not determinable beforehand, it is not isolatable as an inner essence, it is being that is determinate only in that particular assemblage or at the particular moment of intersection.

Connolly here relies on Whitehead and Prigogine to reinforce his argument regarding ‘the vitality of nonorganic elements whose modes of behaviour change as they become parts of larger assemblages even as they also continue to express a vitality or excessive-ness that is not entirely governed by the assemblage’.\footnote{62} In the example of the collision of the geese and the plane, the exact outcome will depend on the exact constellation of forces generated by the interaction, the directions involved, velocity, types of engine and so on. Merely knowing about the two distinct ‘force-fields’ of the plane and the flock of geese is not adequate to understand the contingent consequences of such a collision considering the multiple agencies involved.

Even though Connolly presents the problematic of contingency in terms of agency and of clashing temporalities, the underlying ontology is that of distinct and unknowable forms of being. There is a revival of a Kantian existential ‘unknowability’, except there is no assumption that it is the inner essence of ‘things-in-themselves’ which evades us; rather the contingent assemblage of emergent causality lacks an inner essence which can be determined in advance. It is the contingent clash of separate beings which creates the contingent outcome, through the transformation of being itself:

The idea of emergent causality does not apply well to micro or macroprocesses in contexts of relative stability. Efficient causality, or more richly, multi-causal intersections work rather well under those circumstances. Emergent causality is most pertinent when a previously stabilized force-field enters a period of heightened instability. Emergent causality is causal – rather than reducible to a mere web of definitional relations – in that a movement in one force-field helps to induce changes in others. But it is also emergent in that … some of the turbulence introduced into the second field is not always knowable in detail in itself before it arrives darkly through the effects that emerge.\footnote{63}

Emergent causality alleges that its ontological focus is being changing being – objects transforming objects – rather than subjects transforming objects. In relations of emergent causality there are therefore no subject–object relations as this positional divide is overcome through the understanding of process relations: ‘If efficient causality seeks to rank the actants involved, treating some as external causes and others as dependent effects, emergent causality places the focus on the process as itself an actant.’\footnote{64} It is the assemblage that has agency rather than the specific actors per se. As Bennett argues, worms may be small but humans would not exist without their constant labour on the soil enabling the ‘inauguration of human culture’.\footnote{65} Small agents in complex assemblages can have very

\footnotesize{\begin{itemize}
\item \footnote{61} Ibid.
\item \footnote{62} Ibid., 25 (original italics).
\item \footnote{63} Ibid., 171 (original italics).
\item \footnote{64} Bennett, \textit{Vibrant Matter}, 33.
\item \footnote{65} Ibid., 96.
\end{itemize}}
large accumulated effects. Worms may not have intended to enable human culture but nevertheless are actants in the human–non-human assemblage they are crucial to creating.66

Here, it is being which does all the work with no need for subjects at all. In fact, the world of becoming is a subject-less world – a world of complexity, of being, alone. The fact that it is being which does all the work in ‘becoming’ is clear once we understand that the ‘becoming’ of ‘emergent causality’ can only ever be based upon the world of appearances, a world which confronts the human only in terms of being itself. It is easy to read traces of Heidegger’s similar understanding of the human as ‘thrown’ into the world, where humanity is ‘delivered over’ to a total, all-encompassing ‘thereness’ and Dasein must occupy this presentness and take it up into its own existence.67 For Heidegger, the modernist form of knowing missed out on precisely the deeper ethico-political understandings raised by the post-humanist theorists:

But no sooner was the ‘phenomenon of knowing the world’ grasped than it got interpreted in a ‘superficial’, formal manner. The evidence for this is the procedure (still customary today) of setting up knowing as a ‘relation between subject and Object’ – a procedure in which there lurks as much ‘truth’ as vacuity. But subject and Object do not coincide with Dasein and the world.68

In this mode of understanding, ethical self-reflectivity, community, authenticity and post-human care or ‘concern’ can only take place on the basis of reconstructing a philosophy of being, which overcomes the subject/object division so central to modernity.69

Interpellating the Post-human

The world of the post-human liberates us from the relativist competition over ‘truth’. Without modernist certainties, there are no hierarchies of knowledge or, indeed, of power. There can be fixed understandings neither of ‘insides’ and ‘outsides’ or of ‘causes’ and ‘effects’, nor of ‘friends’ and ‘enemies’. Without our modernist understandings of the subject, it appears that the problems and conflicts of our world could be resolved. Problems do not disappear but they do open themselves or ‘appeal’ through the making of ‘propositions’, in the words of Latour,70 to different understandings and different responses. Problems thus (re)presented enable the new rationalities of governance, rather than government. I want to argue that these rationalities are the rationalities of blind necessity. The rationalities of distributive agency, of Prigogine’s time’s arrow, of being and becoming through ‘emergent causality’ are not the rationalities of liberal democratic or electoral representation or of the management of contesting collectivities in plural

66. Ibid.
69. See, for example, Latour, Reassembling the Social, 114.
systems of power. These rationalities do not presuppose the circulatory freedoms of the subject, describing the liberal limits and binaries of the artificial sphere of state-based public law and politics, theorised so well by Michel Foucault.\textsuperscript{71} Instead, I suggest, they articulate the shift towards post-liberal understandings of rule based on blind necessity.

The rise of the rule of blind necessity (especially in contrast to Foucault’s understanding of the promotion of circulatory freedoms) has been recognised by many diverse thinkers and articulated well by authors such as Giorgio Agamben. Agamben’s work is particularly adroit in flagging up the overcoming of the private/public divide and the reduction of the subject to ‘bare life’;\textsuperscript{72} unfortunately, this has been articulated in terms of sovereign power \textit{in extremis},\textsuperscript{73} rather than taking the route which would seem much more explicit in Foucault’s later work on biopolitical governance through working with, rather than against, ‘life itself’ in \textit{The History of Sexuality, Volume 1}.\textsuperscript{74}

I wish to argue that the rule of blind necessity removes the liberal political content of government practices – in effect, reducing the problematic of rule to the generic or ‘everyday’ problems of individual behaviour and practices and the institutional milieu (cultural and social values, identities, power asymmetries and information flows) which shapes these. As Foucault indicated, this shift away from sovereign and disciplinary power constituted ‘the population as a political problem’ and, within this, focused on the real lives or the everyday of individuals and communities ‘and their environment, the milieu in which they live … to the extent that it is not a natural environment, that it has been created by the population and therefore has effects on that population’.\textsuperscript{75} It is this ‘milieu’ which accounts ‘for action at a distance of one body on another’ and thereby ‘appears as a field of intervention’.\textsuperscript{76} In this framework, governance operates indirectly, through work on the informal level of societal life itself, rather than through the formal framework of public law in relation to individuals as citizens: ‘action is brought to bear on the rules of the game rather than on the players’, as Foucault states in \textit{The Birth of Biopolitics}.\textsuperscript{77}

The world of becoming thereby is an ontologically flat world without the traditional hierarchies of existence and a more shared conception of agency. For Bennett, therefore, ‘to begin to experience the relationship between persons and other materialities more horizontally, is to take a step toward a more ecological sensibility’.\textsuperscript{78} Here there is room for human agency but this agency involves a deeper understanding of and receptivity to

\textsuperscript{73} Giorgio Agamben, \textit{State of Exception} (Chicago, IL: University of Chicago Press, 2005).
\textsuperscript{75} Foucault, ‘Society Must Be Defended’, 245.
\textsuperscript{76} Foucault, \textit{Security, Territory, Population}, 20–1.
\textsuperscript{77} Foucault, \textit{The Birth of Biopolitics}, 260.
\textsuperscript{78} Bennett, \textit{Vibrant Matter}, 10.
the world of objects and object relations. Rather than the hubristic focus on transforming the external world, the ethico-political tasks are those of work on the self to erase hubristic liberal traces of subject-centric understandings, understood to merely create the dangers of existential resentment. Work on the self is the only route to changing the world. As Connolly states: ‘To embrace without deep resentment a world of becoming is to work to “become who you are”, so that the word “become” now modifies “are” more than the other way around.’ Becoming who you are involves the ‘microtactics of the self’, and work on the self can then extend into ‘micropolitics’ of more conscious and reflective choices and decisions and lifestyle choices leading to potentially higher levels of ethical self-reflectivity and responsibility.

Bennett argues that against the ‘narcissism’ of anthropomorphic understandings of domination of the external world, we need ‘some tactics for cultivating the experience of our selves as vibrant matter’. Rather than hubristically imagining that we can shape the world we live in, Bennett argues that: ‘Perhaps the ethical responsibility of an individual human now resides in one’s response to the assemblages in which one finds oneself participating.’ Such ethical tactics include reflecting more on our relationship to what we eat and considering the agentic powers of what we consume and enter into an assemblage with. In doing so, if ‘an image of inert matter helps animate our current practice of aggressively wasteful and planet-endangering consumption, then a materiality experienced as a lively force with agentic capacity could animate a more ecologically sustainable public’.

For new materialists, the object to be changed or transformed is the human – the human mindset. By changing the way we think about the world and the way we relate to it by including broader, more non-human or inorganic matter in our considerations, we will have overcome our modernist ‘attachment disorders’ and have more ethically aware approaches to our planet. In cultivating these new ethical sensibilities, the human can be remade with a new self and a ‘new self-interest’.

Conclusion

Bennett is right to argue that humans construct the external world in ways which enable them to live in it: ‘to live, humans need to interpret the world reductively as a series of fixed objects, a need reflected in the rhetorical role assigned to the word material … some stable or rock-bottom reality’. To argue that the world is full of flows, and that assumptions of fixity are false, neglects the important role that human constructions play.
As Bennett notes, even Henri Bergson recognised the necessity of fixed understandings in order for humans to act instrumentally and to survive in the world.  

We could, of course, choose to understand the human/nature divide as entirely fictional: from a biological perspective, we are made up of materials and their form and content continually change and pass through us. We could also choose to dismiss Kant’s problematic attempts to draw thick dividing lines between organic and non-organic matter or between humans and other organisms. 

Apparently we share 50 per cent of our DNA with bananas, 70 per cent with slugs and 90 per cent with pigs. Bennett questions: ‘Why are we so keen to distinguish the human self from the field? Is it because the assumption of a uniquely human agency is, to use Kantian language, a “necessary presupposition” of assertion as such?’ Bennett wages against its progressive necessity; setting the human on a pedestal is merely in the interests of religious mysticism or of mechanical materialist hubris: ‘I believe that encounters with lively matter can chasten my fantasies of human mastery, highlight the common materiality of all that is, expose a wider distribution of agency, and reshape the self and its interests.’

This wager of new materialists, post-humanists and ANT theorists is that the construction of an unknowable world of blind necessity would be a better ethico-political bet than the contestation of the world of truths and power. They assert that humans will be more attached and better able to adapt to the world once liberal certainties are removed. In fact, the opposite is the case: the world becomes entirely alien to us. Probably the theorist with the richest appreciation of the need to understand freedom within the social construction of meaningful structures of mediation, that is, of scientific, social, political, religious or natural laws, was Hannah Arendt. She echoed Engels and Lenin in her appreciation that the world extended only in so far as necessity was open to us to facilitate our understanding and development. The world which cannot be comprehended meaningfully by us, the world of post-human ‘freedom’ – of blind necessity – constitutes the end of our world, precisely because it is not amenable to our appropriation as a meaningful structure within which we can consciously engage (and, in the process, expand our meaningful world). As she stated:

All laws first create a space in which they are valid, and this space is the world in which we can move about in freedom. What lies outside this space is without law, and even more precisely, without world; as far as human community is concerned, it is a desert.

88. Ibid., 77. To clarify, in terms of philosophical ontology – see Patrick T. Jackson, The Conduct of Inquiry in International Relations: Philosophy of Science and Its Implications for the Study of World Politics (London: Routledge, 2011), 30–2 – there is nothing wrong with arguing that modernity, the human/world distinction and the subject/object divide are human social constructions; in fact, there is little new in asserting this position, see, for example, Friedrich Nietzsche, Human, All Too Human (London: Penguin Books, 1984); Foucault, The Order of Things (London: Routledge, 2002). What is distinctive in the new materialist position is the normative ethico-political conclusion that these constructions should be rejected, without fully reflecting on the philosophical, ontological and political stakes involved. It is this lack of reflection which I have drawn out here and will expand upon in the rest of this concluding section.

89. Ibid., 68.

90. I cannot vouch for the accuracy of this information, obtained from Wiki-Answers.com. Available at: http://wiki.answers.com/Q/How_much_dna_do_humans_share_with_a_earthworm

91. Bennett, Vibrant Matter, 121.

92. Ibid., 122.

Today, in Arendtian terms, ‘the desert’ is understood to be expanding as we place much more importance on the limits to our knowledge and understanding. In fact, it is the relations, associations and assemblages of the unknown and the unseen that are held to have real agency, rather than knowledgeable human subjects.\(^{94}\) While blind necessity need not be underrated, the post-human project needs to be understood as removing not just the centrality of the human, but also the meaningfulness of the world itself.

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