Questioning New Materialisms

In their *New Materialisms*, Diana Coole and Samantha Frost put together a sustained and coherent theory around a number of vitalist and materialist studies that were emerging as novel ways of thinking about matter. Driven by scientific and technological advances they sought to rehabilitate matter from the oubliettes of history, and to reinstate insights from the great materialists of the nineteenth century (Marx, Nietzsche and Freud), fusing these two areas together to form this *new materialism* (Coole and Frost, 2010: 5). An inspiration for, and a contributor to the volume, Jane Bennett (2010) has since vastly expanded on the work of Coole and Frost, drawing from a vast and varied literature, going back to Lucretius and Spinoza as sources of inspiration for a vitalist theory of materialism for the twenty-first century. Her work has been particularly influential, and is cited across disciplinary boundaries in the humanities and social sciences. Straight off the bat, Coole, Frost, and Bennett's materialisms were engaged and critical forms of materialism, interested not only in understanding the interaction between matter and the social world, but also in shaping it and critiquing its abuses. Climate change and global capital flows are just as much part of this theory as advances in biotechnologies and quantum mechanics. A form of radical politics thus emerges from Coole, Frost, and Bennett's work, and is a theme that continues in the present special section. To paraphrase Marx's thesis eleven on Feuerbach, the point is not only to understand theories of matter, but to use them to bring about change.

This re-enacted form of materialism is supposed to celebrate the transfiguration of debates between vitalism and materialism that had long taken place not only in French philosophy, between philosophies of life and philosophies of the concept, but in all theories giving priority to agents others to structures. Far from being a consensus — or even a virtuality — new materialism should be carefully interrogated in the now famous question-form: what is the name of materialism? Instead of canonising and setting up new signifiers, we have opted here for an intensification and a

multiplying of materialism. “How many materialisms: one or many?” is the recurring and increasingly emerging question of this special section. This question should be understood as performative, in the same way the judge proclaims that the session “open”. In the same way that new materialism is said to be new scientific and social accounts of the performative nature of matter, and its consequences for the human species, we would like to multiply materialism, to find in the plurality not a last refuge but through the performativity of the letter new possibilities for further inquiries. The quarrel of materialisms is not a singularity that is supposed to go beyond the fetishised and over-branded movements, deconstruction, poststructuralism, Marxism and critical theory, but a putting forth of problems. In the following sections, we do six things: first we set the scene for the rise of new materialisms, by linking the movement developments in the sciences, and by showing how these developments have affected social and political theory, particularly through the work of Diana Coole, Samantha Frost and Jane Bennett. Second, we establish criteria for inclusion and exclusion for this ‘new materialist’ literature which will be used throughout this special section. Third, fourth, fifth, and sixth, we introduce four key themes from the investigation to come, and critically appraise them: the historical, posthumanist, technological and emancipatory facets of the new materialisms, each posing a question that sets the scene for the *problématique* of the special section. We show that there are numerous areas of expansion for the study of materialisms, and that the quarrel between its various forms is productive of a critical approach to matter in general. By foregrounding the four concepts of history, posthumanism, technology, and emancipation, we highlight how the research by the four authors of this special section, Arianne Conty, Paul Rekret, Dorothy Kwek and Alexander Wilson, each contribute to the appraisal of new materialism claims, assumptions, and debates, and help us further our understanding of this important intellectual movement.

First, it is essential to set boundaries for what counts as "new materialism", and to establish some problems that help guide this special section (Bühlmann, Colman and van der Tuin, 2017). Though Coole, Frost and Bennett are all political theorists, the new materialisms are not limited to their work. Bruno Latour, a significant influence for many theories of the agency of things, as we shall see, is himself both a philosopher and anthropologist by training, has published extensively in the fields of sociology, history, law, and media studies. There is no discipline in the humanities and social sciences that has not had some engagement with these new materialisms, and some engagement in the sciences has also been important; hence a complete survey of the scope of the new materialism is beyond the scope of what can be done here. Nevertheless, we can establish three criteria that guide our analysis of the quarrel of materialisms presented here. First, there is an emphasis on the novelty of the theory. Second, there is an ontological claim that is made (either explicitly or implicitly) about the nature of matter and how it impacts our lives. And finally, there are methodical implications of taking material objects seriously in our academic practices. Each of these three criteria poses its own challenges, which we will now take in turn, but to qualify as a "new materialist" theory, a work must meet all three at least to some extent.

The first criterion of novelty is problematic for obvious reasons, in that is often obfuscates the indebtedness of "new" materialisms to their older versions. It also implies that a break with the past of materialism is needed, often without providing sufficient justifications for such a break. As we will see in what follows, the novelty criterion is often more a rhetorical devise, designed to answer demands by publishers, editorial boards, and anonymous referees for originality, breakthroughs in knowledge, and new arguments. A common marketing ploy, the emphasis on novelty is required by the standards of our industry, but it often overemphasises the part of the "new" in these works. At the same time, there is something lazy and dismissive in claiming that nothing is truly new and it has been done (or said) before. We will see that three of the main authors of the new materialisms (Coole, Frost, and Bennett), are conscious of this limitation, and go to significant lengths to address it, each of them pointing out historical precedents for their own

theories. In this special section, Kwek will also argue that older materialisms can be rescued from often neglected corners of history and speak to us today in important ways. The emphasis will be placed on understanding new materialisms not as entirely novel, but rather as ways of engaging older forms of materialism with present concerns. Yet this raises more structural questions directly related to materialism. Why is it that there is a need for a clean break with the past for our topic in particular? It may be that the spectre of Marxism looms large over theories of materialism, and that it has become difficult (particularly in the United States) to use Marxism in a critical and engaged manner. It is certainly evident that Coole, Frost, and Bennett have all been influenced in part by Marx and Marxism more generally, but are reluctant to bring this connection to the fore of their work. Rekret, in this special section, will draw out a political critique of this tendency, and show the limitations of seeking novelty without adding a more substantive economic critique to the field of materialism.

The second criterion is that new materialisms, as was the case with old materialisms, foreground the primacy of matter of other aspects of human life. Historically, as we will see, this took of the form as arguing that bodies can think, as in the work of La Mettrie, that thinking is not located in the immaterial soul but rather in the material brain. Today, many new materialisms have radicalised this view and accepted the claim of Actor Network Theory (ANT) that agency is not limited to human beings, or even to sentient beings, but that material things can in fact act in meaningful ways. This 'turn' towards object-oriented ontology has provided a set of justifications for the primacy of material objects in fields as varied as legal theory (Mussawir and Parsley, 2017) or art (Bennett, 2015). Conty, in the present special section, complicates this interpretation of Latour's work within various materialist theories, by delving on the ontological claims on two sides of the new materialism. Others have also drawn from speculative philosophy to build their materialism, notably through the work of Quentin Meillassoux (2006). Taken seriously by Dolphijn and van der Tuin (2012: 168), Meillassoux's ontology is based on a critique of correlationalism, of the direct connection between facts in the world and human access to those facts. An alternative to Latour's

ontology, it also proposes a model of agency that refuses to place the human at the centre of Being, and draws on Badiou's mathematical axioms as foundations for its theory. Though largely ignored by Coole, Frost and Bennett, Meillassoux's influence is growing in the field, and both Rekret and Wilson draw on his work in a critical manner in this special section, and engage with his ontology to foreground the implications of a speculative materialism.

Finally, there are methodical implications of this new materialism. For the authors of this introduction, the most important methodical implication is that there is no unique version of the new materialism. Rather, it is better to think of it as a plural assemblage of materialisms, a cross-fertilisation of various theories that often have similar influences, but with different inflections and implications. Seeking unity is not the goal here, but drawing from a rich and fruitful engagement with materialisms, old and new, ontologically and culturally diverse, allows for new methods of engagement with our disciplines, and importantly across disciplinary boundaries. Because many authors coming from very different fields share similar outlooks on the importance of material objects on our lives and experiences, they can draw on different traditions and debates for inspiration. The methodical implications are inevitably plural in the sense that they refuse a unifying methodology, under one *logos* or Reason, but adopt various methods from varied areas of knowledge that can inform other disciplines. Thus, a political scientist can learn from a religious text, a cartographer from anthropology, or a philosopher from physics. The beauty of a plural materialism is that it provides a thin common ontological frame to understand varied phenomena otherwise difficult to consider jointly. Pluralism is here a strength, and leads to encounters that would not have been possible without the wide appeal of the "new materialisms". This includes, importantly, not only an openness to interdisciplinarity in the humanities and social sciences, but a fundamental quest for incorporating developments in the hard sciences (neuroscience, quantum mechanics, relativistic physics) and the technological developments that come out of these fields into our social and political theories. By engaging with the work of Stiegler in this introduction, as Conty does in her

article in this special section, we also aim to make put this technological question at the forefront of new materialist agendas, something that remains a lacuna of much of the literature.

Four main themes emerge from the literature on new materialisms, themes that remain important for us here. In the first instance, the new materialisms is as much a continuation and reinterpretation of the old as it is purely novel, second it is posited as a posthumanist theory, third its political implementation is understood in terms of biopolitics and biotechnologies, and finally its study is, as we have just seen, critical and engaged, in a political sense. Let us take these in turn, and critically appraise their potency as theoretical constructs.

In the first instance, the precise novelty of these new materialisms remained a point of contention of the present authors. As Coole and Frost are acutely aware themselves, *old* materialisms (such as that of Spinoza, or more recently that of Deleuze and Guattari), had made similar challenges to the Cartesian-Newtonian-Euclidian model. Bennett similarly identifies a number of historical authors as sources of inspiration for her vitalist account of materialism: among which Thoreau (2004: 348) or La Mettrie (Coole and Frost: 2010: 47). Let us focus on two historical materialist sources (La Mettrie and *Zhuangzi*) that have influenced the new materialisms in order to critically engage with their contribution to knowledge. In 1748, Julien Offray de La Mettrie published a ground-shaking book entitled *L'Homme Machine* – Man a Machine. In the book, La Mettrie argues that the Cartesian conception of animals as automata should be extended to human beings. There is no good reason, he argues, for excluding human beings from the animal real, and man is thus no more than a machine, comprised of materials differently modified from the one substance that unites us all (Thomson, 1996). The treatise, a blasphemous work even by the standard of the tolerant Netherlands where he lived at the time, forced La Mettrie to another exile in Berlin at the court of Frederick the Great. His soulless philosophy, following the ontology previously established by Spinoza, formulated a challenge to conceptions of agency that the *new materialisms* have merely

repeated. La Mettrie's thesis was that there is agency in all modifications of matter, whether they are in the form of electricity, in animal form, or in the shape of a human being. Jane Bennett's ascription of agency to power blackouts (2010: 47), and her critique of the theory of the uniqueness of human agency as a theological concept (2010: 59) are both indebted to La Mettrie. Almost half a century ago, Karl Popper had noted this indebtedness of contemporary thinkers to La Mettrie, when he claimed that after quantum theory, La Mettrie's "doctrine that man is a machine has today perhaps more defenders than ever before among physicists, biologists, and philosophers" (1972: 224). Frost, who has written extensively on Hobbes (2008), also acknowledges that the *new* is often heavily indebted to the old when it comes to theories of materialism, and Bennett openly cites him as an inspiration for her own work.

In her article in this special section, "The Importance of Being Useless: A Cross-Cultural Contribution to the New Materialisms from *Zhuangzi*", Dorothy Kwek proposes an engagement with an "old materialism", the ancient proto-Daoist text, *Zhuangzi.* Placing this ancient tradition in the realm of the ontological turn occasioned by Latour, Bennett, and Descola, Kwek introduces us to the oneiric character of the text through the story of the "useless tree". The interaction between a carpenter and this "useless" tree in a dream reveals a set of affinities between this supposed inanimate matter and us, not merely by questioning the definition of uselessness (the tree's uselessness for humans is certainly of use to its own survival), but by providing access to an otherworldly quality present in the tree by contrast to the cold rationality of the "mastery" of the carpenter. Applying lessons from the useless tree of the *Zhuangzi* to contemporary technological questions, Kwek further illustrates the interplay between old and new forms of materialisms. Through a series of encounters – with the planned obsolescence of mass production and the utility of broken things – the precise uselessness of a thing becomes its own strength and character, changing other actants' interaction with it to new creative heights. This exploration into the technological question raised above then allows Kwek to place the *Zhuangzi* into conversation with other cosmologies, notably Spinoza's *Ethics* and works inspired by it. This first critical appraisal led us

to formulate the following question: *which historical forms of materialism can be salvaged from the forgotten corners of history, and actualised to help us better understand the challenge that matter poses for critical social and political thought today*?

Secondly, Coole and Frost posit the new ontology of their materialism as one that seeks to move past the Cartesian-Newtonian-Euclidian straightjacket. For these scientific models, in contrast to the later relativistic and quantum models, "material objects are identifiably discrete", moving only "upon an encounter with an external force or agent", "according to a linear logic of cause and effect" (2010: 7). This model, based on a simplistic model of agency, where matter is merely a "thing" to be dominated by the otherwise-acting human subject, conceives of matter as dead rather than acting, and the human soul as the source of all movement, having been granted its power by God. In contrast to this model of matter-as-inert, the ontology of Spinoza (among others) is put to the fore. The material world need not be conceived as inert, but rather as the source of all movement, including our own. Matter is conceived as the determinant of all action, including human action, but also as the source of agency, creativity, and as a generative power. Building on Bennett's "enchantment" theory, which perceives our attachments to the material world as sites of opportunity rather than as sites of dry determination (Bennett, 2001), Coole and Frost attempt to rethink the "modern" edifice of causality, agency, time and space (2010: 9). In their stead, they propose a model where linear causality is replaced with bifurcations, agency conceived as both determined and free, and opened up to non-humans (including material objects), and where time and space are given their relativistic existence a thorough consideration, as William Connolly had pointed out in previous work (2002).

The challenge to traditional conceptions of modernity owes much to the work of Bruno Latour (Elam 1999; Jensen and Blok, 2013; Hornborg, 2014; Latour 2017) as well as Donna Harraway (Harraway and Wolfe 2016). In his *We Have Never Been Modern*, Latour (1993: 10-12) challenges the

anthropological expression of the 'Great Divide', which creates a dichotomy between the us, as westerns, the Them, as anything other. In its stead, Latour proposes to understand relations between culture, nonhuman nature, and their respective intersections as hybrid networks, where *actants* include not only those traditionally considered in modernity, but also material and living nonhuman forces, acting in hybrid networks. What has become known as Actor-Network Theory foregrounds a form of "flat ontology" where all actants are placed on a similar plane. This type of ontology is crucial to the analyses of all contributors to the present special section, as the challenge to conceptions of agency cannot be undone altogether. Latour's own conception of the Great Divide has become hegemonic in new materialist literature, and some critics have rightly questioned its political implications (Neyrat 2016a; Neyrat 2016b; Dillet 2017; Luisetti 2017). Indeed, by arguing that everything constructible and celebrating the (conceptual) end of nature, is this not re-affirming positions inherited from modernity (Descartes, Bacon) or even more problematically is this not providing philosophical arguments compatible with geo-engineering projects? Much like Rekret, another important critique of Latour has recently been put forward by Alf Hornborg (2017) and Andreas Malm (2018): for them, it is politically dangerous to give an ontological priority to matter over human action, inanimate matter cannot be said to have as much agency as humans. Against neo-materialists, Malm (2018: 93) notes that some authors have dissipated human responsibility from climate change by arguing that 'coal itself bears responsibility' since '[it] shaped the humans who used it far more than humans shaped coal' (LeCain 2015: 21). Coal or oil do not have intentionality or a political agenda of their own, our 'warming condition' is not posthuman but 'hyperhuman' since it is characterised by 'repercussions of human history' (Malm 2018: 115). Thus, new materialists have provided some new conceptual tools to make the Anthropocene as a 'hyperobject' more understandable and yet its Latourian strand has failed to provide a programmatic perspective.

For Rekret and Wilson, Latour's work raises important questions regarding the turn to ontology which acts as a precursor to the new materialisms discussed herein, and potentially a

source of conflict with more traditional material interests in social relations. For Kwek, the impact of Latour's work on Bennett is seen as central, allowing for research projects to spring forth in various directions, including her focus on the *Zhuangzi* and its ecological implications. Latour's ontological stance was further expanded upon by Graham Harman, whose *Quadruple Object* (2011) summarises and builds on his earlier work on object-oriented ontology. Rejecting both the undermining and *overmining* of objects, Harman argues for an equal standing for all being. The focus on the human subject has lost its justification altogether, and the result of both actor-network theory and object-oriented ontology is that material objects are given a much more prominent, active, and central part in new philosophies of materialism.

In her article in this special section, "The Politics of Nature: New Materialist Responses to the Anthropocene", Arianne Conty focuses on the ways New Materialist approaches build upon the work of Bruno Latour, taking his notion of shared agency in two different directions. First, toward a flat ontology that treats all agency equally, exemplified in Jane Bennett, which ends up reifying technological artefacts as separate from human agency. Second, toward a new dichotomy between the animate and the inanimate, exemplified in the work of anthropologists like Tim Ingold and Eduardo Kohn. In order to develop an adequate response to the Anthropocene, Conty prefers the second option, and uses Kohn's development of thinking selves to include not only animals but ecosystems in order to move beyond the limitations of Latour's representational democratic model to embrace a politics of nature that allows the non-human selves that share our world to be heard. Engaging with the second question cited above, regarding the emancipatory potential of technology, Conty argues that both technological and human *actants* should be conceived as "techno-human hybrids", thus avoiding the more luddite conceptions of technology. Finally, Conty argues that our very political structures would benefit from a more thorough engagement with new materialist ontologies. If *actants* extend beyond human beings, no political theory is complete without an engagement with non-human *actants*, and our current representative models are incomplete if they allow for ignoring these other *actants*' interests.

The third pillar of Coole and Frost's theory rests on a thorough engagement with biology, biopolitics, and biotechnologies and their material concerns. Advances in technologies of life are said to have had so much of an impact as to redefine our conceptions of humanity. The mapping of the human genome and progress in genetically modified organisms are two important consequences of these developments. Based on a "Promethean" conception of our mastery over nature, the old adage that these new technologies will lead to human improvement are put under the microscope of the social theorist. The biopolitical consequences of these advances, stemming from the works of Foucault (Lemke, 2015) and Agamben (1998), are all-too-clear: these new techniques can as easily become elements of control and discipline as they can form part of an emancipatory politics. One can imagine a number of paths open for the future: one where increasing control over biological processes leads to the eradication of famine, higher life expectancy, and a strengthening of the earth's ecosystem; or one where these services are commodified, sold to the highest bidder, used with disregard for economic externalities, and contribute to a further degradation of our already-fragile ecosystems. The task for a critical appraisal of these new biopolitical practices becomes all-the-more important, to prevent the latter scenario from materialising itself.

This concern for understanding radical theories of matter is not entirely new nor is it limited to the biological sciences. In 1905, Albert Einstein published a series of four papers in the *Annalen der Physik* that he had been researching while working in the Bern patent office before he found his first academic post. These papers quickly revolutionised the discipline of physics, and introduced, among other insights, Einstein's famous formula: $E = mc^2$, rather less poetically transcribed then as $M = L/V^2$ (Einstein, 1905: 641). This simple equation challenged how we conceive of matter. Any material object (m = mass) is comprised of energy (E = energy), and indeed a previously inconceivable amount of energy (c^2 = the speed of light squared). The best illustration of this

potential energy is witnessed in nuclear fission or fusion, where the splitting or combining of atoms releases part of this energy contained in matter, with spectacular effects. This *Annus Mirabilis* of physics has yet to find its equivalent in other sciences, yet to a lesser extent, the revival of a novel theory of materialisms have pushed the boundaries of social and political thought to take seriously advances in the natural sciences to better formulate theories of culture and society (Barad, 2007).

Yet the question of technology remains peripheral to the new materialist agenda, an important lack in the analysis of how matter influences our lives. More often than not, new technologies are perceived more as a threat to existing freedoms, to privacy, or to the fragility of Nature rather than being re-thought in critical and emancipatory ways. Bernard Stiegler, on the other hand, had proposed just such a thinking about technics, where the technical object is posited not merely as a human creation, but as an "exteriorization" of memory (1998: 152). Thus, contrary to Latour for whom a politics of nature is about welcoming nonhumans into the public sphere, for Stiegler, the human and the technical object cannot be separated entirely, inasmuch as human beings are technical beings that always already exist as tool-users. This is explained through the Greek myth of Epimetheus, the counter-part to Prometheus, and an alternative to the model which posits human as dominating Nature. Epimetheus, set with the task of giving creatures their suitable powers, forgets to give one to humans, who are left weak and unprotected compared with others creatures. Prometheus, seeing his brother's mistake, gives humans the ability to make fire to redress this injustice (1998: 187-8). For Stiegler, however, Epimetheus' fault is the most important part of the puzzle. Human beings "will have been nothing at the origin but the fault, a fault that is nothing but the de-fault of origin or the origin as de-fault [*le défaut d'origine ou l'origine comme défaut*]" (1998: 188). Having a default of origin, human beings have developed technical objects to help them fill this lack, but simultaneously endow these objects as part mechanical, part biological. Technical objects, in other words, are neither purely inorganic nor organic, they are material objects that straddle the divide – being made from inorganic matter by organic beings. If technical objects are extensions of our very nature as human beings, there is no avoiding the question of technology. By

introducing the concept of the *pharmakon*, Stiegler hopes to convey the dual-potential of technical objects. They have the ability to emancipate and kill, to heal and to poison. The choice is between technical objects as healing objects, that enable humanity to develop itself, or technical objects used for their destructive potential. The crisis of modern times, Stiegler concludes, is all-the-more pressing in that it requires important decisions (*Krisis,* in Greek, means decision), in order for us to take care of ourselves and to favour healing over destruction (2013: 4-5). As Ben Turner (2016) notes, Stiegler's theory is deeply indebted to the relation between human and non-human so dear to new materialists. Though Stiegler derives his new materialism from Derrida rather than Latour, it has the added advantage of placing the notion of technology at the forefront of a politics of *différance*.

In this special section, Alexander Wilson's "Beyond the Neomaterialist Divide: Negotiating Between Eliminative and Vital Materialism with Integrated Information Theory" argues that there are certain conceptual problems in the new materialists' conception of matter. Notwithstanding these, he argues that the quantum physical construal of the *integrated information theory* of consciousness can provide a way out of some of these issues. Wilson highlights that there are at least two contradictory branches of the new materialisms: the rationalist and the vitalist conceptions (Lash, 2006). The rational conception, embodied in the work of Quentin Meillassoux (2006), is confronted with the vitalist conception of Bruno Latour. The impasse is between two incommensurable conceptions of matter: one that sees matter as dead and inert, but ontologically prior to consciousness, and the other that sees matter as alive and acting, with no claim to primacy by either the human or the non-human possible. What the integrated information theory can achieve is to provide a set of guidelines to help the new materialists with claims to agency and sentience of non-human beings. The theory's appeal is that it suggests a way to distinguish between sentient and non-sentient matter without falling prey to the "combination problem", and thus potentially allows us to get beyond one of the primary theoretical dilemmas faced by the new materialisms. It certainly allows us to bridge the divide between different forms of materialism, and

to help us with the technological questions raised by these new theories in a novel and consistent manner. Relating these theoretical insights to questions of sentience in technology, Wilson further makes a valuable contribution to the questions raised above concerning the new materialisms' technological *problématique*. The article's unorthodox importing of a neuroscientific theory helps us to bridge the divide between different forms of materialism, and to help us with the technological questions raised by these new theories in a novel and consistent manner. The question that arises for the new materialism is thus: *under which conditions can technological advances become emancipatory rather than disciplinary, and which social and political theory would enable this healing pharmacological dimension to emerge?*

Fourth comes the question of formulating a critical and politically engaged new materialism. It is doubtless that the materialist gap left by Marx is difficult to fill, and yet it has provided much inspiration for theories of new materialism. A political economy of matter is ever needed, as it is apparent that the brief period of liberal consensus following the fall of the Berlin wall and the collapse of the Soviet Union has not led to emancipation for the human species as a whole. Coole, Frost, and Bennett are very well aware of this tension between the discredit of Marx (or more precisely, of certain forms of Marxism), and the need for an engaged and political-active materialist theory. They propose a form of materialism that is not against Marx, but rather which revives the radical message made by Marx himself: that "things which seem natural and thus unassailable – such as markets, the bourgeois family, the liberal state, or the free, autonomous self" are shaped by material, social, and collective forces (Coole and Frost, 2010: 26; Bennett 2001: 119). The point is to keep this orientation alive, without falling into dogmatic or subservient theorising. Instead, a methodological and ontological pluralism is advocated, motivated by a desire to keep many emancipatory approaches under the umbrella of a progressive new materialism, including the theories of Bourdieu, Lefebvre, de Certeau, de Beauvoir, Merleau-Ponty, and Althusser. Similarly,

Bennett argues that the world can be re-enchanted even with commodities, such as the power of commercial art to resist the iron system of capital (Bennett 2001: 122). She draws on the work of Adorno and Horkheimer, as well as Kant's third *Critique*, Nietzsche's Yea Saying, and the Deleuzian imaginary to formulate an emancipatory theory of artistic engagement.

This pluralism is welcome, yet it raises questions with regards to the coherence of "new materialisms". Recent works have further expanded on this field of enquiry. For example, Maria Fannin, Julie MacLeavy, Wendy Larner, and Wenfei Winnie Wang have contributed to a reconceptualisation of new materialist conceptions of feminism (Fannin et al., 2014) building on van der Tuin's work (2011), while Andrea Doucet has discussed the new materialism of fathering (Doucet, 2013). Stacy Alaimo (2012) has recently explored the consequences of new materialisms for issues of sustainability, climate change, and ecology. Tom Lundborg and Nick Vaughan-Williams have applied the new materialisms to the method of discourse analysis in International Relations, a method that has been increasingly careful of including material agents as part of what constitutes "discourse" (Lundborg and Vaughan-Williams, 2015). Elizabeth St. Pierre, Alecia Jackson, and Lisa Mazzei have explored the methodological consequences of new materialisms to bring about a novel form of empiricism conscious of the dangers of naïve (read Cartesian) images of thought (St. Pierre et al., 2016). Finally, Francesca Ferrando has explored the advances in bio- and nano-technologies pushing towards the posthuman and the cyborg (Ferrando 2013). Although all of these (among many other works building on the new materialist literature) address important social issues, it is difficult to see how commensurable they are. Whether it is the issues of breast-feeding provisions in the affordable care act, the conservation of sea microbes and jellyfish, the emotional connection between a stay-at-home father and his child, whether international discourses have forgotten material objects such as pipelines and tanks, what the "new" means for Deleuze and Guattari, or whether and how we are to become cyborgs – the above articles provide in-roads for new materialisms that do not exactly match the radical, post-Marxist aspirations of its early defenders.

The question for us thus became: *to what extent can a pluralism of new materialisms be compatible with the radical and emancipatory agenda of its founding theorists?*

In this special section, Paul Rekret's "The Head, The Hand, and Matter: New Materialism and the Politics of Knowledge" takes a decisively critical turn with regards to claims made by new materialists to provide a strong *political* framing for their theory. Drawing on heterodox figures in the historical materialist tradition, Rekret shows that the very autonomy of human mental capacities over the material world can be understood as a material process, one that is inseparable from the history of divisions of labour and from capitalism in particular. On this view, Rekret argues that what is missing from new materialists' works, taking Meillassoux (2006), Bennett, and Barad (2007) as examples, is a grounding of these new materialist doctrines in their own material conditions. Rekret goes on to argue that this lacuna leads all three authors to draw a voluntarist conception of political agency, one that leads us to a slippery slope where various phenomena are assigned independent agency instead of being critiqued and combatted in political terms. Rejecting new materialist ontologies as politically quietist, Rekret concludes that a materialist theory with emancipatory objectives would need to begin by locating the conditions for its own concepts in social relations. In the current context, this would also involve understanding changes to the mind's relation to the world given technological changes in recent decades.

In conclusion, there are still many areas of lacuna in the new materialism literature, and we have argued that is better to conceive of these debates as ongoing sides of a productive debate, rather than as fatal flaws for the emerging field. In particular, we drew attention to the rather understudied historical dimension of the new materialism. It is not to say that specific authors are not aware of this dimension, but there is a clear over-emphasis on novelty as opposed to a continuation of an existing debate. Whether it is through the influence of the materialisms of Hobbes, Spinoza, or La Mettrie, we cannot ignore that the new is indebted to the old, and that these debates matter. It is

the hope of this special section to encourage historians to contribute to this debate on the new materialisms. We have also brought attention to issues emerging from the posthumanist dimension of new materialisms, particularly when it comes to the shaping of our political structures. Though the precise form these may take in a world where both human and nonhuman *actants* are given important weight is decision-making is still vague, the field remains open for novel and important contributions to be made to this debate, building on the work of Latour and others. Third, the question of technology has been brought to the forefront of new materialist debates, as it becomes apparent that technics is not a concept that can be side-stepped altogether. Building on the work of Stiegler, we have argued that taking the pharmacological nature of technics seriously, that is treating as both as a potential cure but also as a potential poison, is a productive way to move the debate forward for new materialisms. Finally, we have shown that emancipation remains an important commitment for materialism. Though the posthumanist and technological dimensions are clearly important, one needs to be remain eternally vigilant of the consequences these might have for emancipation of all species given our intertwined environment. This emancipation can only be conceived in differential terms given our climate histories.

Bibliography:

Agamben Giorgio (1998) *Homo Sacer. Sovereign Power and Bare Life.* Stanford: Stanford University Press.

Alaimo Stacy (2012) 'Sustainable This, Sustainable That: New Materialisms, Posthumanism, and Unknown Futures', PMLA, 127(3), 558-564.

Barad Karen (2007) *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham, NC: Duke University Press.

Bennett Jane (2001) *The Enchantment of Modern Life. Attachments, Crossings, and Ethics.* Princeton: Princeton University Press.

Bennett Jane (2002) *Thoreau's Nature: Ethics, Politics, and the Wild*. Landham: Rowman & Littlefield.

Bennett Jane (2004) 'The Force of Things. Steps Towards an Ecology of Matter', *Political Theory*, 32 (3), 347-372.

Bennett Jane (2010) *Vibrant Matter. A Political Ecology of Things*. Durham and London: Duke University Press.

Bennett Jane (2015) 'Encounters with an Art-thing', *Eventual Aesthetics,* 3 (3), 91-110.

Bühlmann Vera, Colman Felicity, and van der Tuin Iris (2017) 'Introduction to New Materialist Genealogies. New Materialisms, Novel Mentalities, Quantum Literacy', *Minnesota Review* 88 47-58.

Connolly William (2002) *Neuropolitics: Thinking, Culture, Speed*. Minneapolis: University of Minnesota Press.

Coole Diana and Frost Samantha, eds. (2010) *New Materialisms. Ontology, Agency, and Politics.* Durham and London: Duke University Press.

Dillet, Benoît (2017) 'Geopower: A Strato-Analysis of the Anthropocene', *La Deleuziana* 4, 1-10.

Dolphijn Rick and van der Tuin Iris (2012) *New Materialism: Interviews & Cartographies*. Michigan: Open Humanities Press.

Doucet Andrea (2013) 'A "Choreography of Becoming": Fathering, Embodied Care, and New Materialisms', *Canadian Sociological Association/ La Société canadienne de sociologie*, 50 (3) 284-305.

Einstein A (1905) 'Ist die Trägheit eines Körpers von seinem Energieinhalt abhängig?' *Annalen der Physik*, 323 (13), 639-641.

Elam Mark (1999) 'Living Dangerously with Bruno Latour in a Hybrid World', *Theory, Culture & Society,* 16(4) 1-24.

Fannin Maria, MacLeavy Julie, Larner Wendy and Wenfei Winnie Wang (2014) 'Work, life, bodies: New materialisms and feminism', *Feminist Theory*, Vol. 15(3) 261–268.

Ferrando Francesca (2013) 'Posthumanism, Transhumanism, Antihumanism, Metahumanism, and New Materialisms', *Existenz. An International Journal in Philosophy, Religion, Politics, and the Arts*. 8 (2) 26-62.

Frost Samantha (2008) *Lessons from a Materialist Thinker. Hobbesian Reflections on Ethics and Politics*. Stanford: Stanford University Press.

Harman Graham (2011) *The Quadruple Object*. Reprint edition. Winchester: Zero Books.

Harraway, Donna and Wolfe, Cary (2016) *Manifestly Haraway*. Minneapolis: University of Minnesota Press.

Hornborg Alf (2014) 'Technology as Fetish: Marx, Latour, and the Cultural Foundations of Capitalism', *Theory, Culture & Society* 31(4) 119-140.

Hornborg Alf (2017) 'Artifacts have consequences, not agency: Toward a critical theory of global environmental history', *European Journal of Social Theory* 20(1) 95–110.

Jensen Casper Bruun and Blok Anders (2013) 'Techno-animism in Japan: Shinto Cosmograms, Actor-Network Theory, and the Enabling Powers of Non-human Agencies', *Theory, Culture & Society* 30(2) 84-115.

Lash Scott (2006) 'Life (Vitalism)', *Theory, Culture & Society* 23(2-3) 324-328.

Latour Bruno (1993) *We Have Never Been Modern.* Cambridge, Mass.: Harvard University Press.

Latour Bruno (2012) *Enquête sur les modes d'existence: une anthropologie des modernes*. Paris: La Découverte.

Latour Bruno (2017) 'Why Gaia is not a God of Totality', *Theory, Culture & Society* 34(2-3) 61-81.

Luisetti Federico (2017) 'Decolonizing Gaia. Or, Why the Savages Shall Fear Bruno Latour's Political Animism', *Azimuth: Philosophical Coordinates in Modern and Contemporary Age*, Vol. 9, 61-70.

Lemke Thomas (2015) 'New Materialisms: Foucault and the "Government of Things"', *Theory, Culture & Society*, 32(4) 3-25.

Lundborg Tom and Vaughan-Williams Nick (2015) 'New Materialisms, discourse analysis, and International Relations: a radical intertextual approach', *Review of International Studies* 41, 3-23.

Malm Andreas (2018) *The Progress of this Storm: Nature and Society in a Warming World*, London: Verso.

Meillassoux Quentin (2006) *Après la finitude: Essai sur la nécessité de la contingence*. Paris: Seuil.

Mussawir Edward and Parsley Connal (2017) 'The law of persons today: at the margins of jurisprudence', *Law and Humanities,* 11 (1), 44-63.

Neyrat Frédéric (2016a) *La Part inconstructible de la terre: Critique du géo-constructivisme*. Paris: Le Seuil.

Neyrat Frédéric (2016b) 'Returning from afar: Returns in slight delay on *La part inconstructible de la Terre*'. *La Deleuziana* 4, 11-18.

Popper Karl (1972) *Objective Knowledge: An Evolutionary Approach*. Oxford: Oxford University Press.

St. Pierre Elizabeth, Jackson Alecia and Mazzei Lisa (2016) 'New Empiricisms and New Materialisms: Conditions for New Inquiry', *Cultural Studies ↔ Critical Methodologies* 16(2) 99-110.

Stiegler Bernard (1998) *Technics and Time, 1. The Fault of Epimetheus.* Stanford: Stanford University Press.

Stiegler Bernard (2013) *What Makes Life Worth Living. On Pharmacology*. Cambridge: Polity Press.

Thomson Ann, ed. (1996) *La Mettrie: Machine Man and Other Writings*. Cambridge: Cambridge University Press.

Turner Ben (2016) 'Life and the Technical Transformation of *Différance*: Stiegler and the Noopolitics of Becoming Non-Inhuman', *Derrida Today*, 9 (2) 177-198.

van der Tuin Iris (2011) 'New feminist materialisms', *Women's Studies International Forum* 34, 271–277.

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