FOUCAULT STUDIES

REVIEW ESSAY

Foucault's New Materialism: An extended review essay of Thomas Lemke's *The Government of Things*

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ABSTRACT. This article constitutes an extended review essay of Thomas Lemke's book *Foucault and the Government of Things: Foucault and the New Materialisms* published by New York University Press in 2021. A shorter version of this article was published as a book review in *Social Forces* (http://doi.org/10.1093/soac037, 22nd April 2022). This longer extended version is being published here with the permission of Oxford University Press, who publish *Social Forces*. In performing this review, the article seeks to outline and assess Lemke's thesis to incorporate Foucault as a part of the new materialist approach to the social and physical sciences. As my own work has located Foucault as a materialist since the 1990s, I relate Lemke's endeavour to my own and conclude that my approach has distinct advantages that his lacks. At the same time, however, his account presents some novel and insightful dimensions which can profitably be added to mine, strengthening the case for Foucault's materialism overall.

Keywords: New materialism, Michel Foucault, Thomas Lemke, Mark Olssen, Graham Harman, Jane Bennett, Karen Barad, complexity theory.

INTRODUCTION

I first wrote on Foucault as a complexity materialist in the 1990s with the publication of the article, 'Michael Foucault's Historical Materialism: an account and assessment' in 1996, and later with my book *Michel Foucault: Materialism and Education*, initially published by Bergin & Garvey, New York, in 1999, and as an updated version by Paradigm Publishers in 2006. These were followed by papers such as 'Foucault as Complexity Theorist: overcoming the problems of classical philosophical analysis' in 2008 and 'Exploring Complexity Through Literature: Reframing Foucault's research project with hindsight' in 2017. More recently, in my book *Constructing Foucault's Ethics: A Poststructuralist Moral Theory for the 21st Century*, published in hardback in June 2021, the introductory chapter recaps Foucault as a complexity materialist as necessary background for a consideration of ethics.

When I started advocating the thesis of Foucault as materialist, with a few exceptions, notably the book on Foucault by Gilles Deleuze,[1] the common interpretations of Foucault frequently represented him as some sort of 'discursive' idealist.

In as much as Thomas Lemke's new book *The Government of Things: Foucault and the New Materialisms* supports my own view for a materialist reading of Foucault, it constitutes a welcome addition to the literature on the topic on several fronts. Firstly, it seeks to locate Foucault in relation to the existing literature on the new materialisms. Secondly, it assesses several of Foucault's major concepts in terms of how they both contribute to a materialist understanding of Foucault as well as resolve and surpass the difficulties and shortfalls that Lemke identifies in the existing approaches.

On the new materialisms, Lemke outlines and critiques three approaches: that of Graham Harman's 'Object Orientated Ontology' (OOO); that of Jane Bennett's 'Vital Materialism'; and finally of Karen Barad's proposal of 'agential realism'. All these approaches share a concern to take into account "the productivity and dynamism of matter."[2] As Lemke states:

> [t]hey propose to take a critical distance from the Cartesian-Newtonian understanding of ontology and to reconceptualise agency beyond the human subject. This 'ontological reorientation'[3] … promises to transcend the modernist dualism of nature and culture, affirming the inventiveness and indeterminacy of matter."[4]

In relation to epistemology, the new materialisms propose to base their analyses on the models of the natural sciences but also "to understand biology and nature as historical and contingent rather than governed by eternal and deterministic laws."[5] A third common feature "connects the rethinking of materiality to the matter of politics, seeking to develop a new form of analyzing power relations beyond the sphere of the human."[6]. Lemke goes on to note how these 'new materialists' seek to distinguish themselves from the 'old materialists' in relation to their emphases on such postulates as the "'dynamism of matter' … 'novelty', 'breakthroughs', and 'originality'."[7] Lemke documents his general 'unease' with the new approaches; firstly, the repetitive nature of the message and, secondly, the abandonment by some of the idea of critique which they see as somehow outdated. Here he mentions the work of Bruno Latour.[8]

Harman's approach stands as distinct from the others in many senses. OOO postulates discrete and bounded objects which are separate and isolated from human subjects. As

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[1] Gilles Deleuze, *Foucault*, trans. Seán Hand (1988).

[2] Thomas Lemke, *The Government of Things: Foucault and the New Materialisms* (2021), 4.

[3] Lemke cites this phrase from Coole, Diana and Samantha Frost, "Introducing the New Materialisms," (2010), 6-7.

[4] Lemke, *The Government of Things*, 4.

[5] Ibid.

[6] Ibid.

[7] Ibid., 5-6.

[8] See Bruno Latour, "On Actor Network Theory: A Few Clarifications," *Soziale Welt* 47:4 (1966), 369-81.

such, OOO constitutes an "explicit essentialism."[9] In contrast, Bennett and Barad "are concerned with 'things' and 'phenomena' respectively"[10] in relation to their "processes of 'becoming' rather than states of 'being'."[11] As Lemke continues, "[t]hey focus on hybrid assemblages and relational entanglements in which the subject is 'already part of the substances, systems, and becomings of the world'."[12]

Lemke's more specific criticisms of each of these approaches are also insightful, and indeed his critique of these existing approaches is one of the strengths of his book. Putting aside for a moment each of these authors' criticisms of Foucault, and Lemke's defence of Foucault in turn, OOO is seen as inadequate in relation to its inability to offer any cogent theoretical justification as to how human and nonhuman objects are related, how objects are established and become meaningful, and for representing nonhuman objects in isolation – as variously weird, unpredictable, unknowable, etc. – thus translating, according to Lemke, into "an extreme form of subjectivism"[13] which is also an "essentialism"[14] and which is incapable of resolving the "theoretical tension between relationalism and foundationalism,"[15] thus resulting in "a serious lack of conceptual clarity."[16] Jane Bennett's perspective on the 'vibrancy of matter' is also seen as unsatisfactory. While Bennett puts forward her thesis on the vibrancy of matter to undermine traditional empiricist ontologies concerning matter and contributes toward the important theoretical innovation of a posthumanist ontological and political theory, she is criticised by Lemke for failing to account for "negative processes and destructive patterns that obstruct and hinder the progressive politics she envisions."[17] More specifically, and, I think, more to the point, Bennett is harangued for failing to theoretically articulate the precise ways in which matter is 'vibrant' or 'active.'[18] This especially relates to what Bennett refers to as 'thing-power', especially relating to 'nonhuman things', and to the 'force of things.'[19] It has always been unclear to me whether such a 'force' as Bennett identifies is postulated as internal to 'things' or as emerging from contingent relations in historically engendered configurations. In that Bennett conveys by the concept of 'vibrancy' a new form of dynamism which defies determinism and predictability, it is far from clear how such a label can describe

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[9] Lemke, *The Government of Things*, 8.

[10] Ibid.

[11] Ibid.

[12] Lemke, ibid., citing Stacy Alaimo, "Thinking as the Stuff of the World," *O – Zone: A Journal of Object – Orientated Studies* (2014), 14.

[13] Lemke, ibid., 14.

[14] Ibid., 8.

[15] Ibid.

[16] Ibid., 14.

[17] Ibid., 15.

[18] See Lemke, Chap. 2.

[19] Jane Bennett, "The Force of Things: Steps Toward an Ecology of Matter," *Political Theory* 32 (3) (2004), 347–72. Lemke lists many who have criticised Bennet on this or related issues, notably Ben Anderson, "Review of *Vibrant Matter: A Political Ecology of Things* by Jane Bennett" (2011), 395; Bruce Braun, "Review of Vibrant Matter: A Political Ecology of Things, by Jane Bennett," (2011); and Andrew Berry, *Material Politics: Disputes along the Pipeline*, (2013).

'forces' in the nonhuman world of 'things', i.e., as being integral to 'things', without causing justifiable pandemonium and incredulity in the natural sciences. As Lemke puts it, "Bennett goes beyond organic concepts of life and claims that 'everything is, in a sense, alive'."[20] For me, this comes uncomfortably close to traditional notions of 'vitalism' now applied to both the human and nonhuman world of animals, plants and 'things', without seemingly understanding the difficulties of such a thesis. While Bennett's work thus marks a major contribution in the development of new materialist scholarship by identifying several important tropes, Lemke is right to identify serious conceptual confusions within her approach, including more than a hint of residual essentialism that lies buried but active. Lemke continues to show how such ambiguities in turn affect her concept of agency as well as limit the efficacy of politics and ethics within her work.

Similarly, Barad's 'diffractive materialism' is deficient. Termed by Barad as 'agential realism', this strand of new materialism differs significantly from the other two approaches by rejecting the idea of isolated objects, conceptualising them instead in terms of entanglements between bodies of different kinds and conceiving vibrancy of matter solely in terms of a relational ontology. In line with the quantum revolution, things continue to operate deterministically as per the Newtonian world, but things also 'always' interact relationally in terms of entanglements, and it is in this second sense that vibrancy emerges to defy deterministic and predictable trajectories. Barad, in my view, thus marks a serious advance over the works of Harman and Bennett. Based on this clearcut formulation in which both the Newtonian and quantum have they respective place, Barad adheres to a commitment to the physicist Niels Bohr, supplementing it with elements of "poststructuralist theory and feminist technoscience studies."[21] Breaking with "the concept of matter as a passive substance that exists independently of epistemic practices [Barad puts forward] …the idea that 'matter plays an agentive role in its iterative materialization."[22] Centrally important here is Barad's contention that "the central lesson to be learned from Bohr is that '*we are part of the nature that we seek to understand*'."[23] Also important for Bohr is that 'uncertainty' is not simply epistemological, or methodological, as it was for Heisenberg, but ontologically exists in reality itself. Hence, in terms of the new world of 'relations', uncertainty becomes a guiding ontological principle, and determinism and predictability are correspondingly defeated. Such a perspective underpins Barad's view on 'representationalism', which in her view grounds a correspondence theory of truth; the idea of traditional scientific positivism which depicts mind-independent reality as having a "fixed and stable nature"[24] and presupposes a binary "opposition between words and things, nature and society, represented and representation."[25] In

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[20] Jane Bennett, *Vibrant Matter: A Political Ecology of Things,* (2010), 117; cited in Lemke, *The Government of Things*, 49.

[21] Lemke, *The Government of Things*, 57.

[22] Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (2007), 177; cited in Lemke, *The Government of Things*, 57.

[23] Barad, ibid., 26, cited in Lemke, *The Government of Things*, 58 [emphasis in Barad's original])

[24] Lemke, *The Government of Things*, 59.

[25] Ibid.

contrast to representationalism and positivism, Barad advances a 'proto-performative' conception, which she takes from Bohr,[26] and asserts that the "practices of knowing and being are not isolatable: they are mutually implicated."[27] As Lemke notes, "the critique of representationalism cannot be separated from the method of diffractive reading."[28] Diffraction amounts to an indirect form of 'relational' reading incorporating "deviance and difference" as opposed to 'representation', 'mediation', "mirroring and sameness."[29] The key point for Barad is that, in the world that we are a part of, we always provide an "active ongoing articulation of the world in its differential mattering."[30]

This is an important perspective, and Lemke is to be credited with a clear and relevant summary of Barad's perspective and shortcomings. While crediting Barad for her insightful analysis and utilisation of the concept of 'apparatus' as a part of her new 'ontoepistemological framework', Lemke then goes on to criticise Barad's exclusive dependence on Bohr, while at the same time admitting the relevance of many of her points for Foucault. Although Lemke grasps many of the pertinent criticisms of Barad's work here, in my view there is a need for greater precision or clarity on what is amiss with Barad's viewpoint. Lemke grasps the general problem that in seeking to assert relational ontology as all pervasive and accounting for all materialisations, including those pertaining to both human and nonhuman world, Barad inadvertently, perhaps, reinstates both a form of foundationalism simultaneously with a relational ontology which claims to deny it. Lemke terms this as a "residual foundationalism" in Barad's work; a "simultaneous focus on radical relationality and stress on a quasi-fundamental role of matter give Barad's critique of social constructivism and poststructuralism its particular strength."[31] Lemke notes various other writers who make similar criticisms of Barad.[32] Lemke relates this criticism to Barad's caricatured view of poststructuralism as solely concerned with the social and not with matter, as well as her reification of Niels Bohr as "the final analytic key."[33] For Barad, the quantum mechanics of Bohr is "the correct key of nature that applies to all scales."[34] Yet, as Lemke points out, not only were there arguments and inconsistencies between the quantum theorists but Bohr is reified out of context as applying everywhere, in all times and places, giving his work a "quasi-foundational role in agentic realism"[35] which "tends to marginalize or exclude other important contributors to quantum mechanics."[36] A related effect of this is that the 'agentic realist' view of 'intra-actions' and 'diffractive

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[26] Barad, *Meeting the Universe Halfway*, 31.

[27] Ibid., 185; cited Lemke, *The Government of Things*, 60.

[28] Lemke, *The Government of Things*, 60.

[29] Barad, *Meeting the Universe Halfway*, 71; cited Lemke, *The Government of Things*, 60.

[30] Barad, *Meeting the Universe Halfway*, 381; cited Lemke, *The Government of Things*, 61.

[31] Lemke, *The Government of Things*, 75.

[32] See Dennis Bruining, "A Somatechnics of Moralism: New Materialism or Material Foundationalism," *Somatechnics* 3:1 (2013), 151.

[33] Lemke, *The Government of Things*, 74.

[34] Barad, *Meeting the Universe Halfway*, 85; cited Lemke, *The Government of Things*, 74.

[35] Lemke, *The Government of Things*, 73.

[36] Ibid.

patterns' apply to all matter. For Barad, as Lemke notes, interactions are now conceptualized as "nonarbitrary, nondeterministic causal enactments … *temporality and spatiality are produced and interactively reconfigured in the materialization of phenomena.*"[37] Barad uses the term "spacetimematter" to capture this idea, but this may be questioned to the extent that it is generally asserted without a detailed review of the possibilities of its denial, how traditional physicists might react, with counter-instances, as well as the oversimplified interpretation of the phenomenological view she attributes to Bohr ('that we are a part of the reality that we investigate') that she quite possibly misinterprets or oversimplifies.

Lemke suggests that to focus on Bohr alone is to neglect other important influences in the quantum movement. This is an important insight, and some of my own research could be used profitably to augment Lemke's point here. One person that I think is of central relevance is Erwin Schrödinger, who identified some aspects of Bohr's thesis that are not acceptable, and who also constitutes a possible counterweight to Barad's argument in the paragraph above. While Schrödinger accepts the theses of indeterminism, uncertainty and non-linear causality as constituting key strengths of the Copenhagen interpretation, he was opposed, as was Einstein, to Bohr's non-realism over objects, i.e., the view promulgated by Bohr that objects in the world do not actually exist until after or simultaneous with their observation or measurement; a view which both Schrödinger and Einstein regarded as idealist nonsense.[38] Such a view would also run counter to Foucault, who saw a world of non-discursive material objects behind or below the world of discourse as fundamental to his 'new' materialist approach.[39]

We might also add here various others who came afterwards whom I refer to as 'post-quantum'. This is why I see Ilya Prigogine as one significant thinker in my own writing.[40] Although he cannot be accepted in his entirety, Prigogine,[41] perhaps with the perspective

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[37] Lemke, *The Government of Things*, 68, citing Barad, *Meeting the Universe Halfway*, 179 (original emphasis).

[38] Schrödinger's cat paradox was aimed at demonstrating the incongruity of such a view. For an explanation of Schrödinger's and Einstein's objections to Bohr's view concerning objects, see Barry Parker, *Quantum Legacy: The Discovery that Changed Our Universe,* (2002), 138ff.

[39] This view is expressed by Michel Foucault in *The Archaeology of Knowledge* (1972), chap. 6 especially.

[40] See my previous writings: Mark Olssen, "Learning in a complex World," in *The Routledge International Handbook of Learning,* ed. Peter Jarvis (2012), 376–392; Mark Olssen, "Discourse, Complexity, Normativity: Tracing the elaboration of Foucault's materialist concept of discourse," (2015); Mark Olssen, "Ascertaining the Normative Implications of Complexity for Politics: Beyond Agent-Based Modeling," in *World Politics at the Edge of Chaos: Reflections on Complexity and Global Life,* ed. Emilian Kavalski (2015); Mark Olssen, "Exploring Complexity Through Literature: Reframing Foucault's Research Project with Hindsight," *Linguistic and Philosophical Investigations* 16 (2017); Mark Olssen, "Complexity and Learning: Implications for teacher education," in *Companion to Research in Teacher Education*, ed. Michael A. Peters, Bronwen Cowie, Ian Menter (2017); Mark Olssen and Will Mace, "British Idealism, Complexity Theory and Society: The Political Usefulness of T. H. Green in a Revised Conception of Social Democracy," *Linguistic and Philosophical Investigations* 20 (2021); Mark Olssen, "The Rehabilitation of the Concept of Public Good: Reappraising the Attacks from Liberalism and Neo-Liberalism from a Poststructuralist Perspective," *Review of Contemporary Philosophy* 20 (2021); and Mark Olssen, *Constructing Foucault's Ethics: A Poststructuralist Moral Theory for the 21st century* (2021).

[41] See Ilya Prigogine, *From Being to Becoming* (1980); Ilya Prigogine and Irene Stengers, *Order Out of Chaos* (1984); Ilya Prigogine and Gregoire Nicolis, *Exploring Complexity* (1989); Ilya Prigogine, *Time, Chaos and the Laws of Chaos* (1994); Ilya Prigogine, *The End of Certainty* (1997); and Ilya Prigogine, *Is Future Given* (2003).

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of hindsight, generally makes more sensible and plausible judgments regarding the overall contributions of the quantum revolution; not by getting rid of linear causal trajectories and the relevance of mechanism in every particular context but by suggesting that what the quantum revolution did was introduce relationalism *in addition* and also *simultaneously*, i.e., acting variously at the same time. What was problematic about the traditional physics of the Newtonian world was its ontological individualism, the exclusivity by which it excluded relationalism, as well as its failure to see, to use Barad's terminology, that matter was 'entangled', that is, it interacted in unpredictable ways, thereby implicating a different ontoepistemology (of relationalism) characterised by nonlinear causal sequences, novelty, uncertainty, nonpredictability, and indeterminism. Prigogine was influenced by A. N. Whitehead's 'process-relational' philosophy, as well as by Martin Heidegger's 'historical ontology,' and is frequently represented as "the 'grandfather' of chaos theory."[42] The quantum revolution introduced a 'relational' or 'systems' 'turn' to science, supplementing mechanism, deterministic trajectories, and predictability with a more holistic, relational type of analysis sensitive to configurations, open systems, serendipity, chance, and the emergence of unique events. Adapted to conform with Foucault, mechanism can only be retained as an explanatory model if it can be freed from any association with essentialism, insofar as matter, even if it does conform to, and on occasions be best explained in terms of the mechanical model, can still be conceptualized as being constituted in history through a process of evolution in time which gives an historical 'fixity' to its boundaries and the way it acts under different conditions. What the quantum revolution did unleash, then, is to allow for the development of a new philosophy of science based upon the relational possibilities of open systems, novelty, indeterminism, and chance. Although Lemke does not appeal to Prigogine, he is nevertheless alert to the inadequacies of Barad's analysis in confining her theoretical insights to Bohr in her claims to represent all of matter as 'intra-active becoming.'[43]

The point of summarizing Barad, as well as Bennett and Harman, is to set the basis for his book and claim that Michel Foucault can appropriately resolve the problems of these existing 'new materialist' approaches, thereby providing for a materialist ontoepistemology that can take account of matter generally, that is, both *the human and the nonhuman world*. In this respect, Lemke also criticizes Barad's criticism that Foucault "restricts the productivity of power to the limited domain of the social."[44] As Lemke continues, "[t]he

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[42] American Institute of Physics, "Prigogine," aip.org. https://history.aip.org/phn/11807013.html (accessed February 20, 2022). A better case can be maintained for Henri Poincaré, whose resolution of the 'three-body problem' at the close of the nineteenth century established the philosophical basis for indeterminism and the absence of predictability. Along with Prigogine and Bohr, Poincaré would also need to be considered as important in establishing how Foucault's historical ontology can be comprehended as a form of dynamic materialism. For more on this, see Henri Poincaré, "Sur le problème des trois corps et les équations de la dynamique," (1890) as well as Henri Poincaré, "Le problème des trois corps," (1891). Also see my article, Mark Olssen, "The Rehabilitation of the Concept of Public Good," and my recent book, Mark Olssen, *Constructing Foucault's Ethics*.

[43] Karen Barad, "Posthumanist Performativity: Towards an Understanding of How Matter comes to Matter," *Signs: Journal of Woman in Culture and Society* 28:3, (2003), 882.

[44] Karen Barad, 'Posthumanist Performativity,' 810.

conceptual privilege Foucault attributes to the social precludes – according to this reading – engaging with matter in a substantive way, since he regards 'matter merely as an end product rather than as an active factor in further materializations'."[45] Other charges that Barad levels at Foucault concern a persistent anthropocentrism in that Foucault's analysis "focusses on the production of human bodies, to the exclusion of nonhuman bodies whose constitution he takes for granted."[46] A third charge concerns "Foucault's flawed account of the 'precise nature of the relationship between discursive practices and material phenomena'."[47] Lemke then proceeds to respond to such views and claims that an answer can be gained "in revisiting and revising" Foucault's conceptual proposal of 'a government of things.'[48] While acknowledging that his account "builds on elements in Foucault's writings that [Foucault] … himself never coherently discussed or further developed,"[49] he maintains that Foucault can be used to provide for a more coherent 'new materialist' approach.

Lemke then proceeds to analyse three concepts: *dispositif* (which he prefers to call 'dispositive'); *technology*, and *milieu*. The analysis of these three concepts enables a refutation to Barad's three criticisms of Foucault: *dispositive* answers Barad's charge that "the relationship between discursive practices and material phenomena remains unsatisfactory,"[50] and Lemke claims to show that "Foucault's notion of the *dispositif* is informed by a material-discursive understanding of government as 'arranging things.'[51] In this sense, says Lemke, "Foucault's distinctive use of 'dispositive' is that it assembles discursive and non-discursive elements …."[52] Secondly, through the concept of *technology*, Lemke argues against Barad's claim that Foucault limits the productivity of power to the social. Thirdly, against Barad's claim concerning Foucault confining analysis to human bodies, Lemke shows that the concept of *milieu* renders Barad's argument invalid. Although he concedes that "Foucault never directly inquired into the nature of matter or investigated the specifics of human-nonhuman relations,"[53] through observing the lines of the "trails to be followed,"[54] Foucault "invited scholars to selectively take up, adapt, and transform his ideas and concepts in approaching issues and questions that Foucault himself did not address or that remained marginal to his historical and philosophical agenda."[55] Citing Brian

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[45] Lemke, *The Government of Things*, 62; citing Barad, "Posthumanist Performativity," 810.

[46] Lemke, *The Government of Things*, 10, citing Barad, Karen, *Meeting the Universe Halfway,* 169.

[47] Lemke, *The Government of Things*, 10, citing Barad, Karen, *Meeting the Universe Halfway,* 200.

[48] Michel Foucault, *Security, Territory, Population* (2007), 97.

[49] Lemke, *The Government of Things*, 11.

[50] Ibid., 11.

[51] Ibid.

[52] Ibid.

[53] Ibid.

[54] Ibid., citing Michel Foucault, *Society Must Be Defended* (2003), 4.

[55] Ibid.

Massumi, Lemke says that it is a case of "working from Foucault after Foucault"[56] "to revise and update his 'toolbox' for addressing contemporary problems."[57]

One could cite other passages from Foucault to support Lemke's response to Barad here. In one of my own articles,[58] I cite Foucault's comments on the apparatus as a multiple articulation between both discursive and non-discursive material forms. As Foucault observes: "the episteme is a specifically discursive apparatus, whereas the apparatus in its general form is both discursive and non-discursive, its elements being much more heterogenous."[59] Foucault allows for a duality of articulation between discursive and non-discursive material forms. The point is noted by Deleuze, who says: "Foucault's general principle is that every form is a compound of relations between forces. Given these forces, our first question is with what forces from outside enter into a relation, and then what form is created as a result."[60] In *Discipline and Punish*, for instance, Foucault observes how punishment cannot be derived solely from the force of the discourse, for torture, machines and dungeons are material and have meaning because of the discourse of punishment. What is important to note is that the social forms of discipline and punishment represent a synthetic and relatively autonomous compound of knowledge and technique and material objects or things. So, the developments of the prison, the clinic, and the mental asylum are the outcomes of a multiple articulation.[61] This view supports Lemke's assertion that Barad has seriously misfired in her views on Foucault.

Lemke's analysis of the three concepts constitutes an important contribution to Foucauldian studies. It is through his analysis of these concepts that Lemke seeks to rebuff Barad's claim that Foucault lacks a dynamic concept of the material that can explain both human and nonhuman bodies. Lemke notes how others also shared this view, and he cites Paul Rutherford, who claimed that Foucault's concept of biopower could not explain "*both* people and *things*,"[62] and Nigel Thrift, who expressed the view that Foucault's writings are "curiously devoid of thingness."[63] Acknowledging that "Foucault rarely pursued this line of research,"[64] the quotes I have included in the paragraph above reveal that he was nevertheless aware of the issue and clearly saw his research as interrogating the nexus between discourse and things, power and knowledge. While Lemke equivocates with the view that Foucault "tended to underestimate the relevance of the natural sciences for a

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[56] Foucault, *Society Must Be Defended*, 12, citing Brian Massumi, "National Enterprise Emergency: Steps Towards an Ecology of Powers," *Theory, Culture, Society* 26:6 (2009), 158.

[57] Ibid., 12.

[58] Olssen, "Structuralism, Post-Structuralism, Neo-Liberalism,"

[59] Michel Foucault, "The Confession of the Flesh," in *Power/Knowledge: Selected Interviews and Other Writings 1972-1977*, ed. Colin Gordon (1980), 197.

[60] Deleuze, *Foucault*, 124.

[61] See my article, "Structuralism, Post-Structuralism, Neo-Liberalism" (2003), 194.

[62] Paul Rutherford, "The Entry of Life into History", in *Discourses of the Environment*, ed. Eric Darier (1999), 44.

[63] Thrift, Nigel, "Overcome by Space: Reworking Foucault," in *Space, Knowledge and Power: Foucault and Geography*, ed. Jeremy W. Crampton and Stuart Elden (2007), 56.

[64] Lemke, *The Government of Things*, 79.

genealogy of power,"[65] he claims that "it is possible to discern conceptual tools in Foucault's work to address [Barads] … concerns."[66] To this extent, the first concept assessed is the *dispositive*, which for Lemke "successfully grasps the complexities of material-discursive entanglements."[67] The second concept of *technology* also "exceeds the domain of the social," while the third concept of *milieu* "schematically takes into account more-than-human practices."[68]

These three concepts form the lynchpin of Lemke's attempt to establish the case for Foucault as materialist. The concept of *milieu* defines a spatial constellation and "reconfigures existing temporalities."[69] Lemke draws mainly from Foucault's lectures at the Collège de France of 1977-78, published in English as *Security, Territory, Population*.[70] Indeed, this is the only significant place where Foucault discusses the concept of 'milieu' in a theoretically distinctive sense, as far as I am aware.[71] Although a great deal is made of Foucault's drawing on Canguilhem's use of the concept in biology, it is noteworthy that in the 'Introduction' to the English language edition of *The Normal and the Pathological*,[72] which Foucault contributed, it is the concept of 'environment,' not 'milieu,' that appears throughout. Indeed, the English word used in both 'Life: Experience and Science'[73] and the 'Introduction' to the English translation of Canguilhem's *The Normal and the Pathological*[74] is 'environment.'[75] The concept 'milieu' does not appear at all in either of the two English sources for Foucault's article listed above. Although Lemke makes the acknowledgment "translation modified" after citing a quotation from Foucault's introduction to Canguilhem's book, he replaces the original word "environment" with "milieu."[76] While Lemke would no doubt claim that this is necessary to restore Foucault's original intentions, one may also conjecture that he is exaggerating the significance of the concept of 'milieu' in Foucault's project overall.[77]

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[65] Ibid., 80.

[66] Lemke, *The Government of Things*, 80.

[67] Ibid.

[68] Ibid.

[69] Ibid., 128, 131.

[70] Foucault, *Security, Territory, Population*.

[71] If the word 'milieu' does appear, as it does in *Society Must Be Defended*, in both the French original as well as the English translation, it is simply as equivalent to the word 'environment', which Foucault says constitutes "the milieu in which [human beings] live" (See *Society Must Be Defended*, 245.

[72] See Michel Foucault, "Introduction", in *The Normal and the Pathological*, ed. Georges Canguilhem (1991), 7-24.

[73] Michel Foucault, "Life: Experience and Science," in *Aesthetics, Method and Epistemology: Essential Works of Foucault, 1954 – 1984, Vol. II.*, ed. James D. Faubion (1998), 475.

[74] Foucault, "Introduction", 7-24.

[75] Ibid., 19.

[76] Lemke, *The Government of Things*, 127.

[77] Lemke quotes from "Life: Experience, Science," the slightly modified version of the introduction to Canguilhem's book published in Foucault's *Aesthetics, Method and Epistemology* (1998). The extract quoted by Lemke includes the passage: "Forming concepts is a way living and not a way of killing life […] it is to show, among those millions of living beings that inform their milieu and inform themselves on the basis of it…." The actual passage reads: "Forming concepts is a way of living and not a way of killing life […] it is to show,

Another instance of Lemke replacing the concept of 'environment' with the concept of 'milieu' occurs later in his book[78] when he quotes Foucault from *Society Must Be Defended*, again replacing the word 'environment', which appears in the English language translation of Foucault's text, with the word 'milieu' on two occasions.[79] While again Lemke would claim that he is restoring the use of 'milieu' as used in the French original editions by Foucault, it is noteworthy here that the translators of Foucault's texts have not seen the concepts of 'environment' and 'milieu' as theoretically distinct in the way Lemke is seeking to maintain but more in the sense of being interchangeable. And this in turn is based on the fact that Foucault never gave them any reasons or grounds to make such a distinction. My view here is that Lemke is seeking to convey the impression that Foucault was more concerned with the concept 'milieu' than in fact he was. Further, there would appear to be little evidence to suggest that Foucault had any continuous interest in the concept of milieu throughout his writing career.

Lemke's reasons for modifying the English language translations of Foucault's works in the passages referred to above is reinforced a few pages later when he seeks to establish the distinctiveness of the concept of 'milieu' in Foucault's writings. Here Lemke claims that *milieu* has a significance that words like 'environment', 'background' or 'surrounding' do not.[80] *Milieu*, he says, "is an interactive space, a relational network that constitutes the elements of which it consists as much as it is itself their endpoint or outcome."[81] It is at this point that one is forced to object that there is nothing intrinsic to a concept such as *milieu* that entails these meanings and which differentiates it from other concepts such as 'environment', 'surrounding', 'the social conditions of existence', 'background' or 'social context.' A Foucauldian surely cannot claim that words that appear like synonyms have fixed and unequivocal meanings. The complex metonymy that inflects all of Foucault's concepts is not integral to the words themselves but resides rather in the ontoepistemological choices that render Foucault's approach as distinctive in particular contexts. In this sense, the concept of *milieu* will certainly bear the qualities that Lemke discerns, yet so will other Foucauldian concepts not discussed in this book, such as 'environment', 'context', 'event', 'the outside', 'exteriority', 'problematization', 'history', 'genealogy', 'Herkunft' (descent), 'Entstehung' (emergence), 'discourse', 'episteme', 'archive', 'error', etcetera. In 'Nietzsche, Genealogy, History,' Foucault utilizes the concepts of *Herkunft* to represent an 'outside' or 'exteriority' that 'inscribes' the body: "The body is the inscribed

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among those billions of living beings that inform their environment and inform themselves on the basis of it…" (1998, 475).

[78] Lemke, *The Government of Things*, 169.

[79] See Foucault, *Society Must Be Defended* (2003), 245. The English translation which Lemke cites reads: "the problem of the environment to the extent that it is not a natural environment" (2003, 245). Lemke cites this passage and writes: "the problem of the milieu to the extent that it is not a natural milieu" (Foucault 2003, 245; translation modified) (Lemke, *The Government of Things*, 169).

[80] Lemke, *The Government of Things*, 130.

[81] Ibid.

surface of events."[82] Foucault says that "[t]he body and everything that touches it: diet, climate, and soil – is the domain of *Herkunft*."[83] *Entstehung* (or emergence) is also theorised in terms of a complex non-linear conception[84] to represent the "moment of arising"[85] and to "the emergence of a species (animal or human)."[86] Emergence is characterized by Foucault in terms of 'shifts in the meaning of words', substitutions', displacements', 'disguised conquests' and 'systematic reversals.'[87] History itself is opposed to the 'Platonic modalities' and should aim at 'dissolving identities' and critiquing existing 'knowledge' and 'truths'. By weighing and calculating Foucault's overall approach, his use of different concepts, and the common elements to his analyses, it is possible to *fathom*, if one can excuse the analogy, through fitting the pieces of the 'jig-saw' together, the precise form of complex materialism that Foucault subscribes to.

Lemke's account of the concept of *milieu*, as utilized by Foucault, notwithstanding his reification of the concept as of more importance to Foucault than in fact it was, is nonetheless insightful, for he proceeds to imbue it with the central characteristics of a complex ontoepistemological approach. Faithful to Foucault's complexity approach, Lemke applies a complex systems analysis to the concept representing it as being a 'relational network,' as exhibiting 'self-regulating capacities,' as defined by "an intersection between a multiplicity of living individuals."[88] The concept has its specificity for Foucault in the sense that, as Foucault defines it, "it is therefore the medium of an action and the element in which it circulates."[89] In this sense, the milieu defines "an intersection between a multiplicity of living individuals."[90] It is a mechanism for "governing the aleatory"[91] which constitutes an alternative to Newton's mechanical account in order to understand it as a "dynamic force."[92] Lemke represents it as shaping the individuals who inhabit it who in turn re-shape the milieu. In Foucault's hands, it provides non-mechanistic "algorithms of the living world"[93] which shift from a "metaphysics of life" to representing life in terms of 'information theory', that is, in terms of a 'program' or 'code' which breaks down and dispenses with traditional distinctions between the organic/inorganic, nature/nurture, discursive/material, and conventional/natural.[94] This analysis accurately portrays Foucault's complex materialism in relation to his use of a single concept. My point is that the

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[82] Foucault, "Nietzsche, Genealogy, History," in *Language, Counter-Memory, Practice: Selected Essays and Interviews*, ed. Donald F. Bouchard (1977), 148.

[83] Foucualt, "Nietzsche, Genealogy, History," 148.

[84] Ibid., 139. Here Foucault admonishes Paul Rée for representing the history of morality as characterized by Nietzsche in linear terms.

[85] Ibid, 148.

[86] Ibid, 149.

[87] Ibid, 151.

[88] Lemke, *The Government of Things*, 130-131.

[89] Foucault, *Security, Territory, Population*, (2007), 20-21; cited Lemke, *The Government of Things*, 128.

[90] Lemke, *The Government of Things*, 130-131.

[91] Ibid., 129.

[92] Ibid., 128.

[93] Ibid., 122.

[94] Ibid., 122-123.

concept of milieu is but one concept that maintains the orientating function of a complex logic, and that many others could contribute further to the laudable task of representing Foucault's form of new materialist thinking.

Lemke links these concepts to what he claims is Foucault's work from the mid-1970s by which he "provides the conceptual tools for a material-discursive understanding of government that goes beyond practices of guiding human subjects."[95] He links this to the notion of a 'government of things', which first emerged, says Lemke,[96] in Foucault's lectures at the Collêge de France of 1977-78. It is this conceptual proposal of a 'government of things' that can explain both the human and non-human worlds that make a relational account of agency and ontology possible, says Lemke.[97] Although Foucault "never actively pursued …a more-than-human analytics of government,"[98] the tools necessary are present within his work. This is especially so in that government concerns a relation between people and things. 'Things' cover both discursive and nondiscursive entities.[99] As Lemke points out, 'humans' and 'things' are not two separate spheres but are co-constituted in a context where everything – humans included – are governed as 'things.'[100] This notion of a 'government of things' links further to Foucault's discussion of 'economic government,'[101] and to the idea of the 'administration of things', which, says Lemke[102] is captured in the notion of *dispositif*.

In discussing the concept of *dispositif* [*dispositive*, for Lemke], Lemke seeks to differentiate it from the concepts of *archive, episteme, apparatus* and *assemblage*. *Dispositif* expresses the idea of a "relational and performative understanding of assembling and arranging complexes of humans and things", says Lemke.[103] Noting various definitions of the concept, such as: "'deployment', 'apparatus', 'device', 'system', 'organization', 'mechanism', and 'construct,'"[104] Lemke opts for referring to it in terms of the English word, 'dispositive' "as a better way of grasping the semantic richness and conceptual specificity of *dispositif*."[105] Noting that Foucault utilized the concept first in his lectures on *Psychiatric Power* in 1973-74, to describe disciplinary power, Lemke cites Foucault to outline its methodological functions as, firstly, pertaining to both discursive and extra-discursive objects; secondly, to the historical contingency and variability of its usages; and, thirdly, of its variable functions or purposes at different times and situations.[106] "*Ontologically*, the dispositive is a 'network' (*réseau*)", says Lemke.[107] "It is a composite of things that seems to

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[95] Lemke, *The Government of Things*, 82.

[96] Ibid.

[97] Ibid.

[98] Ibid., 141.

[99] Ibid., 83.

[100] Ibid.

[101] Foucault, *Security, Territory, Population*, 33-34.

[102] Lemke, *The Government of Things*, 82.

[103] Ibid., 90.

[104] Ibid.

[105] Ibid.

[106] Ibid., 91. Here Lemke quotes Foucault from "The Confession of the Flesh," 194 -195.

[107] Ibid., 92, citing "The Confession of the Flesh," 196.

include virtually anything from discourses and institutions to bodies and buildings."[108] Citing Foucault, "the dispositive assembles the elements it consists of and is itself the result of this process of 'formation.'"[109] In this, says Lemke, "[t]he dispositive enacts a double movement,"[110] both mobilizing things and rendering them disposable.[111] Here it is *technological* in that it is characterized by its "onto-creative aspect."[112] Thus, dispositive expresses the idea of "a permanent recombination and rearticulation of heterogeneous elements within a relational network."[113] In differentiating the concept of 'dispositive' from that of 'apparatus', Lemke is also insightful, and such distinctions are important to keep in mind, especially when encountering Foucault's varied usages and descriptions in his different works. Despite the fact that Lemke himself notes how in his earlier texts Foucault's meanings of the term dispositive "is sometimes close to the technical meaning of mechanism or apparatus,"[114] we can also accept Lemke's argument that apparatus is a "more limited and circumscribed concept"[115] than dispositive, which refers more to "the static collection of instruments, machines, tools, parts, or other equipment of a given order of things."[116] Dispositive in this sense denotes more of an arrangement or network.[117]

Lemke also seeks to distinguish the concept of dispositive from that of *assemblage*, as used initially by Deleuze and Guattari. While Lemke accepts that the concept of assemblage places the accent on ontological composition and creativity and rejects anthropocentric accounts of agency, he also maintains that important dimensions of dispositive are not addressed by the concept of assemblage. The differences are difficult to discern, however. Assemblage, we are told, is concerned with 'ontological heterogeneity', whereby "a diversity of entities … [gives] rise to new collectives and unknown configurations of space and time."[118] He then concedes that there is 'a sense' in which "dispositives could be 'considered a type of assemblage, but one more prone to … re-territorialisation, striation, scaling and governing'."[119] I am not myself convinced that precise distinctions can be maintained here. While Lemke says that "[w]hile an assemblage indiscriminately includes non-humans as well as humans, the notion of the dispositive takes into account the differential boundaries between these heterogeneous elements."[120] He summarizes the point by citing Ben Anderson, who says that the dispositive, in contrast to the assemblage, "gives more

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[108] Ibid., 92.

[109] Foucault, "*The Confession of the Flesh,*" 195; cited Lemke, *The Government of Things*, 92.

[110] Lemke, *The Government of Things*, 92.

[111] Ibid., 92-93.

[112] The term belongs to Jeffrey Bussolini, "What is a Dispositive?" *Foucault Studies* 10 (2010), 100; cited Lemke, *The Government of Things*, 93.

[113] Ibid., 94.

[114] Ibid., 98-99.

[115] Ibid., 99.

[116] Ibid., 99-100.

[117] Ibid., 100.

[118] Ibid., 101.

[119] Ibid. Here Lemke cites Stephan Legg, "Assemblage/Apparatus: Using Deleuze and Foucault," *Area* 43:2 (2011), 131.

[120] Lemke, *The Government of Things*, 101.

of a sense of the ongoing *integration* of a differential field of multiple elements."[121] This seems to me dubious considering that the nuances of meaning shifted for Foucault according to the specific topic of analysis. Foucault also showed disdain for being overly precise in analytic terms, rejecting the idea that words maintain fixed meanings in all contexts.[122] Lemke's attempt to set up a solid distinction here seems somewhat strained in this sense. A second difference is that assemblage "is mostly associated with emergence, innovation, and creation,"[123] whereas dispositive "places the emphasis on the movements of stabilization that tend to put heterogenous elements into order."[124] Accepting this distinction, it is not a big or major difference, and both concepts, depending on the context of writing, and the subject matter being discussed, are clearly useful.

Lemke's real interest in differentiating 'dispositive' from 'apparatus' and 'assemblage' is to articulate dispositive as having a 'strategic concern', thereby being able to address the problem of 'ontological politics' and paving the way for a more materialist approach to government.[125] To this end, Lemke characterizes 'dispositive' as having a "strategic objective"[126] in that "dispositives exist insofar as they address a specific demand or 'urgency'."[127] It is here, however, where I take issue with Lemke, for the purpose of associating dispositive with a strategic concern is, in turn, intricately linked to the conceptual proposal of a 'government of things' which Lemke contends can ground a Foucauldian materialist approach capable of explaining both human and nonhuman matter. One should note at the outset that no such analytics informed Foucault's writings on governmentality in the 1970s[128] or the secondary literature on governmentality published in the 1990s.[129] While I can accept the notion of 'strategies without strategists' in relation to the world of politics or society, I would rather speak of the 'dispositive' or 'assemblage' in less explicitly political terms and more in the sense of having 'productive' or 'positive' potentials; not just as concerns the human world but also in relation to the world of inert matter or 'things.' Matter on its own can be seen as forming specific configurations or entities through processes of emergence, the phenomenon of life itself being one of these. But to

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[121] Anderson, "Review of Vibrant Matter," 35.

[122] See for instance "Nietzsche, Genealogy, History," 139, where Foucault says that words do not have fixed meanings across time, and he attributes this observation to Paul Rée.

[123] Lemke, *The Government of Things*, 101.

[124] Ibid., citing Laura Silva-Castañeda and Nathalie Trussart, 'Sustainability Standards and Certification: Looking through the Lens of Foucault's Dispositive,' *Global Networks* 16:4 (2016), 495.

[125] Lemke, *The Government of Things*, 102.

[126] Ibid., 94.

[127] Ibid.

[128] This included Foucault's famous paper, "Governmentality," which was given initially as a lecture at the Collège de France in February 1978 and was published in September-December 1978 in the Italian journal, *Aut Aut,* 167-168, translated and edited by Pasquale Pasquino.

[129] See Graham Burchell, "Translator's Note," in *Michel Foucault, Psychiatric Power: Lectures at the Collège de France 1973 – 1974*, ed. Jacques Lagrange (2006) and Andrew Barry, Thomas Osborne and Nikolas Rose, eds., *Foucault and Political Reason: Liberalism, Neoliberalism and Rationalities of Government,* (1996). This point is noted by Lemke (*The Government of Things*, 141), which makes his interest, that of *creating* a materialist theory for Foucault, anchored by the conceptual proposal of a 'government of things'.

represent the nonhuman world in terms of a 'government of things' I find problematic in the sense that 'government' implies a form of agency that is not present in the nonhuman world of things or in evolutionary processes. This is to say, I fundamentally disagree that the concept of governmentality in Foucault can be used to conceptually anchor a new materialism which can explain both the human and nonhuman world of matter and its constitution. While in my own writings I have maintained that a Foucauldian approach that is materialistic is possible, it is best expressed and constructed as a form of complexity or dynamic materialism building on the quantum revolution from the start of the twentieth century and the later formulations and refinements of the post-quantum complexity scientists later in the century. Lemke is correct that to focus solely on Bohr is unjustified. By taking the whole range of quantum and post-quantum writing over the twentieth century, however, an approach which 'fits' Foucault can be 'assembled', and his own particular statements, concepts, and formulations can be used as 'tests' for its coherence. Consistent with the broad thrust of the quantum movement, Foucault articulates a relational ontoepistemology that focusses on open systems with novel unintended effects (*dispositifs*, *assemblages*). Once one accepts this, then all of Foucault's concepts and analyses can be seen to manifest complex, dynamic potentials. The insight can be applied to the world of physics and matter as well as government. I think it can be shown that Foucault's analyses from early works to his death in 1984 is compatible with a form of dynamic materialism of the sort that Lemke describes, utilizing insights from thinkers as diverse as Nietzsche, Heidegger, Bohr, Poincarè, Prigogine, Deleuze, and others.

The difficulty with the concept of government, or of a 'government of things', manifests itself in the obvious sense that government for Foucault encapsulates an active, human-centred behaviour concerned to govern people's conduct through 'positive' means. For Foucault, in his famous article 'Governmentality,'[130] government refers to the activity meant to shape or guide or affect the conduct of people. As Foucault puts it, "[t]he art of government … is essentially concerned with answering the question of how to introduce *economy* – that is to say the correct manner of managing individuals, goods and wealth."[131] While he also saw it as pertaining to activity aimed by the self on oneself, it seems difficult to me to represent the entanglements of the nonhuman world (e.g., the development of crystals or plants) in terms of the conceptual proposal that Lemke tries to make. Although Foucault acknowledges that government concerns "a complex composed of men and things,"[132] it is first and foremost concerned with "how to be ruled, by whom, to what end, by what authority, etc."[133] By utilizing the concept of governmentality, Foucault is not being anthropocentric in this, for his interest here is to explain the actions and conduct of humans as concerns the issue of *rule* (of souls, of the self, of children, of populations, of the state) in the context of an uncertain and unpredictable environment. Government

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[130] Foucault, "Governmentality," in *The Foucault Effect: Studies in Governmentality*, ed. G. Burchell, C. Gordon and P. Miller, 1991.

[131] Ibid., 92.

[132] Ibid., 93.

[133] Ibid., 88.

therefore cannot itself ground Foucault's materialistic approach, as Lemke tries to do, but can be explained in terms of it. What Lemke does, by seeing governmentality as accounting for both the human and the non-human, is inject an anthropocentrism into Foucault that Foucault himself managed to avoid. I find this move by Lemke puzzling indeed.

The seeds of a more all-encompassing ontoepistemological framework which can explain human and nonhuman, organic and non-organic processes, in their material development lies scattered but articulated in fragments within Foucault's oeuvre as a whole. By his social and historical constructivism, his rejection of essentialism, his genealogical conception of *descent* (*Herkunft*) and emergence (*Entstehung*) by which he postulates all phenomena as historical, as well as his writings on governmentality, and much else, the essential core of a 'new' post-quantum materialist approach can be elaborated in Foucault. Lemke has indeed detected it, and his interesting and insightful analyses of concepts such as 'dispositive', 'milieu', and 'technology', as well as his analyses in Foucault's writings of thinkers such as Canguilhem and Jacob, contribute to understanding Foucault as a complexity materialist who articulates a relational ontology. The problem for me, then, does not relate to the detailed analysis of concepts, where Lemke contributes, but rather one of neglecting other concepts which are possibly better contenders to explain Foucault's approach, such as *genealogy*, with its complex materialist approach to history. The problem of seeking to ground a conceptual proposal for a new materialist analysis in terms of the 'government of things' is that even for Foucault the nondiscursive world of matter does not possess 'purposes' and 'intentions' - not at least of the sort that the concept of 'government' suggests. Concepts such as 'emergence' or 'eventalization,' which although mentioned by Lemke, but not given serious consideration within his thesis, are to my mind more compatible with notions of 'dispositive' and 'assemblage' in that new configurations construct new realities. The concept of 'emergence' (*Entstehung*) is elaborated as part of Foucault's approach to history as genealogy in detail in his classic article, 'Nietzsche, Genealogy, History'[134] and suggests a complex articulation consistent with Nietzsche's view of history. In that article, it is *history* that forms the 'outside' and 'inscribes' the body in a way parallel but different to the use of *milieu* in *Security, Territory, Population*. This would seem to suggest that Foucault changed his language and concepts depending on the time he was writing, as well as what he was writing about, a fact which suggests we remain nominalistic about his use of specific words, guard against reifying certain concepts, and seek to locate his complex ontology in the general approach he is taking. It is for these reasons that the concept of 'milieu' cannot really be differentiated from those of 'environment', 'context', 'surrounding' or others, for in Foucault's hands all concepts have a *dynamic* or *complex* potential. Using a range of concepts, Foucault's relational ontology suggests a materialism that can be used to account for both the human and nonhuman world, including the emergence of entities such as 'life' itself, as well as 'intelligence', 'cognition', 'the brain', 'societies', etc., which can be productively considered in relation to the concepts of 'dispositives' or 'assemlages', i.e., as historically constituted or evolved phenomena with historically (or cosmologically) positioned boundaries which give the

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[134] See Foucault, "Nietzsche, Genealogy, History," especially pages 139-144, 148-152, 159.

appearance of 'solidity,' 'fixity,' 'form,' and 'boundary'. All of this can be rendered quite compatible with Foucault as materialist.

Although 'government' cannot anchor or guide Foucault's materialist analysis, it can be accounted for in terms of it, and, indeed, governmentality conforms to and illuminates Foucault's distinctive materialist approach. In this sense, much of Lemke's summary and analysis of government policy and its take-up in scholarship is insightful. In Chapter 7, he turns his attention to Science and Technology Studies (STS), Actor Network Theory (ANT) as well as feminist and postcolonial technoscience as illustrating a relational materialism in the domain of governmental and policy studies. Here Lemke offers interesting insights concerning the possibility of extending a Foucauldian approach to the nonhuman world. He draws on the work of John Law and Annemarie Mol,[135] who discuss and resolve the 'chicken and egg' problem that many of the quantum theorists considered as to which came first: *material parts/elements* or their *relations*. Drawing on and summarising Law and Mol, Lemke argues that "'materials' … do not pre-exist their relations but are interactively (or intra-actively) constituted."[136] Lemke continues "that 'materials' acquire their properties and attributes by engaging with other materials."[137] He attributes the insights to Law,[138] Haraway,[139] and Latour[140] in terms of the concepts 'material semiotics' (Law) or 'a semiotics of things' (Latour). He then seeks to reconcile these views with his materialist Foucault comprising four dimensions: "the empirical investigation of ontologies, the analytic focus on practices, the normative proposition of a more-than-posthuman account, and the critical preference for an experimental approach to science and politics."[141] Instead of focussing upon "individual actors and their capacities," a Foucauldian materialism concerns itself with the "conditions of emergence and modes of doing."[142] At this level, while explaining how Foucault's ontology of becoming is homologous with a complexity materialism, Lemke is at his strongest. Foucault, he says, "proposes a distinctive 'choice of method' … to analytically grasp how dynamic ensembles of matter and meaning emerge" (p. 146). Of especial interest to me is the insight attributed to Mol (2013, p. 381) that practices embody norms internal to them.[143] In Chapter 8, Lemke shows how "the notion of environmentality captures a new dispositive of 'governing things'."[144] Lemke proceeds to demonstrate how the 'resilient biopolitics of neocybernetics,' as articulated

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[135] John Law, *Organizing Modernity*, (1994); John Law, "After ANT: Complexity, Naming and Topology," *The Sociological Review* 47:1, (1999); John Law and Annemarie Mol, "Notes on Materiality and Sociality," *The Sociological Review* 43 (1995); Annemarie Mol, "Mind Your Plate! The Ontonorms of Dutch Dieting," *Social Studies of Science* 43:3 (2013).

[136] Lemke, *The Government of Things*, 141.

[137] Ibid., 142.

[138] John Law, *After Method: Mess in Social Science Research* (2004).

[139] Donna Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (1991).

[140] Latour, "On Actor Network Theory: A Few Clarifications".

[141] Lemke, *The Government of Things*, 144.

[142] Ibid., 149.

[143] In Chapter 1 of my recent book, *Constructing Foucault's Ethics*, I maintain the same thesis using other sources.

[144] Lemke, *The Government of Things*, 169.

by Crawford Holling[145] and others, has come to dominate both scientific disciplines and policy arenas. To the extent that Lemke is arguing that a Foucauldian materialism *can explain* politics and policy, in addition to everything else, the final chapters reveal new and interesting analyses.

Finally, to recap, Lemke's study contributes to revealing Foucault as a materialist through the analysis of several important concepts in Foucault's lexicon. This he does with admirable skill despite the deficiencies noted above. That it is important not to *reify* certain concepts at the expense of others is important for it risks giving them a solidity within Foucault's oeuvre that they possibly do not deserve. As stated above, in my view Lemke 'over-eggs' the concept of 'milieu' and its importance in Foucault's oeuvre overall. But putting that aside, his analysis of the concepts *dispositive*, *technology* and *milieu* is insightful. My own view departs from Lemke in that I believe that understanding Foucault's approach as a form of complexity materialism, continuous in general terms with the quantum and post-quantum revolutions in complexity materialism, offers a more plausible approach to understanding how a Foucauldian approach can account for both the human and nonhuman worlds. It is with respect to the nonhuman and also inorganic worlds that worries me most in terms of a conceptual approach of a 'government of things.' Although Foucault's concern with government *can be explained* by his materialist approach, government *cannot easily constitute the axis or framework which itself orientates such an approach*, especially if such an approach is to be concerned with explaining both the human and nonhuman, organic and inorganic worlds.

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[145] See Crawford Holling, "Resilience and Stability of Ecological Systems," *Annual Review of Ecology and Systematics* 4:1, (1973).

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