

## FORUM: NEW MATERIALISM

# New Materialism as Media Theory: Medianatures and Dirty Matter

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In the midst of theoretical debates and traditions concerning “materialism” (also *new*), “realism” (*speculative*) and “objects” (*object-oriented* philosophy), one of the most important things to realize is that a lot of the discourses stem from what could be called “mediatic” phenomena. This does not mean we need to reduce the richness of the theoretical approaches concerned—whether they come from directions of Deleuze, Whitehead, Spinoza, Latour, material feminisms, science studies or radical empiricism—to “media” or “technology,” but such an emphasis is one way to entangle ontological debates concerning new materialism with historical media approaches. Such perspectives mixing philosophy with media theory offer an insight to why we are so interested in non-human bodies and objects, processes that escape direct and conscious human perception, intensity of matter of technological and biological kinds. In short, it goes something like this: New materialism is not only about intensities of bodies and their capacities such as voice or dance, of movement and relationality, of fleshyness, of ontological monism and alternative epistemologies of generative matter, and active meaning-making of objects themselves non-reducible to signification. New materialism is already present in the way technical media transmits and processes “culture,” and

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engages in its own version of the continuum of *natureculture* (to use Donna Haraway's term) or in this case, *medianatures*. Instead of philosophical traditions, let us read modern physics, engineering, and communications technology as mapping the terrain of new materialism: the basis for signal-processing, use of electromagnetic fields for communication, and the various non-human temporalities of vibrations and rhythmic—of for instance, computing and networks—are based in non-solids. Writing theory in the midst of such a situation, we have to come up with elaborated ways to understand how perception, action, politics, meanings (and, well, non-meanings) are embedded not only in human and animal bodies, but also in much more ephemeral, but as real, *things*—even non-solid things. Such real but weird materialities that do not necessarily bend to human eyes and ears are not only touchable objects, but also modulations of electrical, magnetic, and light energies, in which also power is nowadays embedded.<sup>1</sup>

In a way, one could claim that in the wake of Friedrich Kittler's pioneering work, "German media theory" offers exactly these kinds of perspectives.<sup>2</sup> By "upgrading" Michel Foucault and other critical arts and humanities theoretical approaches to be equipped to tackle technical media culture, such approaches have insisted on technical specificity in terms of how we talk about culture and communications in the age of scientifically based technical media apparatuses. This brand of theory has included provocations and distancing from cultural studies (in the Anglo-American sense) who "know higher mathematics only from hearsay,"<sup>3</sup> as Kittler claimed and is well expressed in Wolfgang Hagen's idea that media technologies retain in themselves traces of the material *scientific* conditions, principles, and genealogical descent that contributed to their birth.<sup>4</sup> Indeed, in such institutional settings of *medienwissenschaft* in Germany, programming languages, mathematics, and thinking about culture from the point of view of its concrete circuits became integrated as part of the teaching curriculum, and as such, a part of the humanities tradition in ways that demanded a new connection from cultural theory and philosophy to science.<sup>5</sup> Whereas Digital Humanities is now branded as a new "discovery" of computing in Anglophone media and humanities departments, we can rethink such claims in the light of earlier media theorists—or, for that matter, the interdisciplinary circles of cybernetics—whether in the United States or in the United Kingdom.<sup>6</sup>

What was often left out of such techno-materialist methodologies was the more political side of thinking through these new materialities. Indeed, whereas the demand for specificity (not just "hearsay") in any analysis of contemporary culture and media might be useful in order to develop a better understanding of *what exactly is the mediatic and the material* in these analyses—even down to the hard core of analyzing technologies, scientific principles, components, programming languages, hardware constellations—perhaps as important is the need to be specific about what we mean by "specificity." Indeed, technological specificity or physics specificity is perhaps only one possible avenue for such "new materialist" media analyses, and could be easily complemented with a range of other materialities: materialities of cultural practice (for instance affective labor<sup>7</sup>); materialities of relations and sensations (a wide range of work from radical empiricism to art-driven approaches<sup>8</sup>);

as flagged above, materialities of technologies;<sup>9</sup> but also, as I want to suggest, *materialities of materials*.<sup>10</sup>

The last suggestion from that far-from-exhaustive list is what sounds most tautological, but deserves a close focus. Picking up inspiration from Sean Cubitt,<sup>11</sup> we can approach media cultures through the various materials, components, long networks, and genealogies in which media technologies are being produced. Media history is one big story of experimenting with different materials from glass plates to chemicals, from selenium to coltan, from dilute sulphuric acid to shellac silk and gutta percha, to processes such as crystallization, ionization, and so forth. What is more, the materials have their aftereffects, nowadays most visible in the amount of e-waste our electronic culture leaves behind, which presents one further “materiality” for our investigation. As such, medianatures is one term that could make sense of this continuum between mediatic apparatuses and their material contexts in the exploitation of nature. This level of media analysis—and materiality—is increasingly important and resonates with recent years of debates about media ecology,<sup>12</sup> electronic waste,<sup>13</sup> and even media archaeology.<sup>14</sup> It starts to develop both an intensive look inside the machines (an under-the-hood methodology that characterizes some of the German media theory directions too) and at the networks in which machines are being compiled—and discarded.

It is a shame from a new materialist point of view that even such pioneering thinkers as Michel Serres miss this point concerning the *weird materialities* of contemporary technological culture—weird in the sense that they remain irreducible to either their “hard” contexts and pollution (CO<sub>2</sub>, toxic materials, minerals, and other component parts) or their “soft” bits (signs, meanings, attractions, desires). In *Malfaisance*,<sup>15</sup> these are the two levels Serres proposes as crucial from an environmental point of view, but he ignores the *continuum* between the two. And yet, signs are transmitted as signals, through cables, in hardware, in a mesh of various components from heavy metals to PVC coatings.

So, in short: Continua all the way down (and up again); soft to hard, hardware to signs. In software studies,<sup>16</sup> the continuous relation from the symbol functions on higher levels of coding practices to voltage differences as a “lower hardware level” has been recognized: assembly language needs to be compiled, binary is what the computer “reads,” and yet such binaries take effect only through circuits; and if we really want to be hardcore, we just insist that in the end, it comes back to voltage differences.<sup>17</sup> Such is the methodology of “descent” that Foucault introduced as genealogy, but that German media theory takes as a call to open up the machine physically and methodologically to its physics—and which leads into a range of artistic methodologies too, from computer forensics to data carvery.<sup>18</sup> In other words, recognizing the way abstraction works in technical media from voltages and components to the more symbolic levels allows us to track back, as well, from the world of meanings and symbols—but also a-signification—to the level of dirty matter.

This is the stuff that can contribute to one particular possibility of “new” materialism—the perspective of minerals sedimented for millions of years before

being mined by cheap labor in developing countries for use in information technology factories. After that short use-period of some years, they become part of the materiality of e-waste leaking toxins into nature after river-dumping or incarceration, making them into toxic vapors that attach to the nervous systems of cheap labor in China, India, Ghana, etc.<sup>19</sup>

So new materialism as media theory, in sum, can be seen as the intensive excavation of where (and *when*) actually is the materiality of media—and it should refuse preset answers. There is a fair amount of Gilles Deleuze and Félix Guattari involved in saying materialism has to be invented continuously anew—not just discovered for instance in technological specificity or scientific contexts. Hence, we are also forced to think the media theoretical contexts of new materialism in a slightly more fluid, novel way than just assuming that specificity concerning the technological and the scientific underpinnings of media culture is automatically material. Indeed, materiality is not just machines—nor is it just solids, and things, or even objects. Materiality leaks in many directions—also concretely (e-waste).

One of the biggest challenges for new materialism is to develop a media theory of *things*—and yet not only thing-powers, but process-power. It is very relevant how Jane Bennett talks about “thing-power” and points towards the various vibrant energies that push our understandings of objects towards their operability—that things *do* stuff, make a difference, and “become the decisive force catalyzing an event.”<sup>20</sup> And yet, I want to emphasize especially the vibrant bit in her characterization as otherwise we are going to miss a lot of the material ephemerality of technical media cultures as well as the long, messy networks in which one materiality is transformed into another one (which perhaps is exactly the point about decisiveness that Bennett calls for). For example, how a mineral, itself born as part of the activity of matter some hundreds of millions of years ago, participates in an assemblage of information technologies, which are themselves embedded in various levels of catalyzing forces—global trade, human labor, standardization processes, manufacturing—the multiple circulations of desire that frame electronic media devices as part of post-Fordist capitalism, the a-signifying operations from magnetic stripes<sup>21</sup> to software code, parts of the abstraction levels of computers and networks. Think about the perverse, complex ecology of it all: A specific design solution concerning a screen or computer component has an effect on its becoming obsolescent sooner than “necessary” while the product itself is embedded in a capitalist discourse emphasizing newness as a key refrain and fetishistic value driving the purchase decisions. And, after being abandoned for another device, what is often called “recycling” is actually waste-trade, wherein old electronic media is shipped, for instance, to India, to be dismantled with very rudimentary—and dangerous—processes that attach toxins to the lungs and nervous systems of the poor workers.<sup>22</sup>

So the matter of technical media is not only in their object-nature—even if that would help us think beyond representation, signification, or a correlationist predisposition. Furthermore, despite the obviously positive side of discovering “matter” and hence finding this traditionally neglected, fleshy, and non-human side of existence, not all matter can be seen as liberating. There is a need for a cultural

analysis of dirty matter, too. The materiality of waste is one concrete way to think about “new materialism” not only as a “good” agency of matter. There is a whole *materialism of dirt and bad matter* too, which is not only about “thing-power” but about things de-powering in a Spinozian way—bad encounters that reduce the vitalities of material assemblages in such encounters.

Hence, I propose a multiplicity of materialisms, and the task of new materialism is to address how to think materialisms in a multiplicity in such a methodological way that enables a grounded analysis of contemporary culture. Such methodologies and vocabularies need to be able to talk not only of objects, but also as much about non-solids and the processual—the weird materiality inherent in the mode of abstraction of technical media—so we can understand what might be the specificity of this brand of materialism that we encounter (but do not always perceive) in contemporary media culture.

## Notes

- [1] I am here referring to artist Mark Napier’s statement, quoted in Bodil Marie Stavning Thomsen, “The Haptic Interface: On Signal Transmissions and Events,” in *Interface Criticism: Aesthetics Beyond Buttons*, ed. Christian Ulrik Andersen and Søren Bro Pold (Aarhus, Denmark: Aarhus University Press, 2011), 57–8.
- [2] Friedrich A. Kittler, *Discourse Networks 1800/1900*, trans. Michael Metteer, with Chris Cullens (Stanford, CA: Stanford University Press, 1990); *Gramophone, Film, Typewriter*, trans. Geoffrey Winthrop-Young and Michael Wutz (Stanford, CA: Stanford University Press, 1999); *Optical Media: Berlin Lectures 1999*, trans. Anthony Enns (Cambridge: Polity Press, 2010). The term “German Media Theory” itself is quite unsuccessful as it suggest a too homonegeous and unified national media theoretical discourse.
- [3] Kittler, quoted in Geoffrey Winthrop-Young and Michael Wutz, “Introduction,” in Kittler, *Gramophone, Film, Typewriter*, xiv.
- [4] Wolfgang Hagen, *Das Radio: Zur Geschichte und Theorie des Hörfunks in Deutschland und der USA* (Munich: Fink, 2005), xvii.
- [5] Besides an institutional link, such writers often elaborate on the ontological and epistemological ground that physics and aesthetics share in the age of technical media. A good example is Bernard Siegert, who elaborates what we here could call a grounding of new materialism of the aesthetico-technical of new materialism: “Like physics, aesthetics is a science whose primary object is signals, the physical materiality of signs.” “Cacography or Communication? Cultural Techniques in German Media Studies,” trans. Geoffrey Winthrop-Young, *Grey Room* 29 (Fall 2007): 40.
- [6] For a recent elaboration of the different cybernetic traditions in the United Kingdom, see Andrew Pickering, *The Cybernetic Brain: Sketches of Another Future* (Chicago: Chicago University Press, 2010).
- [7] See, for instance, Tiziana Terranova, *Network Culture: Politics for the Information Age* (London: Pluto, 2004).
- [8] Adrian Mackenzie, *Wirelessness: Radical Empiricism in Network Culture* (Cambridge, MA: The MIT Press, 2010); Brian Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Durham, NC: Duke University Press, 2002); Erin Manning, *Relationcapes: Movement, Art, Philosophy* (Cambridge, MA: The MIT Press, 2009); Barbara Bolt and Estelle Barrett, ed., *Carnal Knowledge: Towards a “New Materialism” through the Arts* (London: IB Tauris, forthcoming 2011); and Milla Tiainen, “Corporeal Forces, Sexual Differentiations: New

- Materialist Perspectives on Music, Singing, and Subjectivity,” in *Sonic Interventions*, ed. Sylvia Mieszkowski, Joy Smith, and Marijke de Valck (Amsterdam: Rodopi, 2008), 147–67.
- [9] In addition to the already-mentioned Kittler’s works, see for instance, Wolfgang Ernst, *Archives, Media and Diagrammatics of Cultural Memory*, ed. Jussi Parikka (Minneapolis: University of Minnesota Press, forthcoming 2012).
- [10] Speculative realism and object-oriented philosophy also address similar themes concerning matter but, curiously, that discussion has not overlapped much with material feminisms of, for instance, Elizabeth Grosz and Rosi Braidotti. See Levi Bryant, Nick Srnicek, and Graham Harman, ed., *The Speculative Turn: Continental Materialism and Realism* (Melbourne: re.press, 2011). On some general epistemological points concerning new materialism, see Iris van der Tuin and Rick Dolphijn, “The Transversality of New Materialism,” *Women: A Cultural Review* 21, no. 2 (2010): 167–85.
- [11] Sean Cubitt, “The Raster Screen and Database Economy” (lecture, *Trust, Identity Privacy and Security in Digital Culture* conference, Anglia Ruskin University, Cambridge and Chelmsford, UK, September 10, 2009), [http://barney.inspire.anglia.ac.uk/inspire\\_j/ds1.html](http://barney.inspire.anglia.ac.uk/inspire_j/ds1.html) (accessed September 18, 2011).
- [12] Matthew Fuller, *Media Ecologies: Materialist Energies in Art and Technoculture* (Cambridge, MA: The MIT Press, 2006); see also Michael Goddard and Jussi Parikka, ed., *Media Ecology special issue, Fibreculture* 17 (2011), <http://seventeen.fibreculturejournal.org/>.
- [13] Jennifer Gabrys, *Digital Rubbish: A Natural History of Electronics* (Ann Arbor: University of Michigan Press, 2010).
- [14] Garnet Hertz and Jussi Parikka, “Zombie Media: Circuit Bending Media Archaeology into an Art Method,” *Leonardo* 45 (forthcoming 2012).
- [15] Michel Serres, *Malfeasance: Appropriation Through Pollution?* trans. Anne-Marie Feenberg-Dibon (Stanford, CA: Stanford University Press 2011).
- [16] David M. Berry, *The Philosophy of Software: Code and Mediation in the Digital Age* (Basingstoke, UK: Palgrave Macmillan 2011), 95–6.
- [17] Friedrich A. Kittler, “There is No Software,” in *Literature, Media, Information Systems*, ed. John Johnston (Amsterdam: G + B Arts, 1997), 147–55.
- [18] Martin Howse (MicroResearchlab) performed live “data carvery” as a form of digital archaeology in a radio performance on the Berlin Reboot-station. Martin Howse, Danja Vassiliev, and Gordo Savicic, “Substrat Radio #2 Data Carvery,” *reboot.fm*, August 14, 2011, <http://reboot.fm/2011/08/14/substrat-radio-2-data-carvery/> (accessed September 5, 2011). In terms of academic and cultural heritage methodologies, see Matthew G. Kirschenbaum, *Mechanisms: New Media and the Forensic Imagination* (Cambridge, MA: The MIT Press, 2008).
- [19] Ned Rossiter, “Translating the Indifference of Communication: Electronic Waste, Migrant Labour and the Informational Sovereignty of Logistics in China,” *International Review of Information Ethics*, 11 (October 2009): 36–44, <http://www.i-r-i-e.net/inhalt/011/011-full.pdf> (accessed September 18, 2011).
- [20] Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010), 9. Mark B. N. Hansen has referred to the need to develop a more process-based media studies orientation, instead of the so far emphasized object-based media studies. “Delimitation of Life—Affective Bodies and Biomedicine,” (keynote conversation, transmediale.11 Conference, Berlin, 6 February 2011).
- [21] See Gary Genosko, *Félix Guattari: A Critical Introduction* (London: Pluto, 2009), 95–9.
- [22] In a related manner, YoHa (Matsuko Yokokoji and Graham Harwood) address—in their artistic project, *Coal Fired Computing* (UK: 2010, <http://yoha.co.uk/cfc>)—fossil-reliant energy production and especially computer power, as well as the health impacts for coal miners.