

## **Chapter 8**

### **The End of (Wo)Man**

Although so far we have discussed large portions of the humanities, we have focused in particular on feminist theory. We have demonstrated how new materialism is being developed here, and how feminist theory allows us to rewrite the most common intellectual history in order to create concepts and produce insights that are less distortedly based on (gendered) hierarchies. Subsequently, these insights are less dependent on gaps between culture and nature, language and materiality, and body and mind—not by doing away with them, but by pushing them to the extreme. Due to the fact that “substance dualism” has been diagnosed as one of the most prominent ca(u)ses of gendering since Simone de Beauvoir’s seminal *The Second Sex* ([1949] 2010), feminist theory is one of the key sites of critical reflection upon substance dualism. Such reflection, if we can call it that, is also a key to the development of the new materialism. Yet feminist theory is not about critique, and therewith about reflection. As in many other parts of academia, one of the defining *creative* features of feminism in academia is its focus on theories of the subject (Braidotti 1991, 164). Albeit that this focus can easily be historically substantiated with a reference to women’s explicit exclusion from academic knowledge production until the late nineteenth century in most Western countries, the implied *anthropocentrism* does not suit new materialism’s metaphysics. It is even questionable whether substance dualism can be overcome epistemologically, because the defining feature of epistemology seems to be the presupposed hierarchical split between

the subject and the object, and therewith the split between epistemology (knowing) and ontology (being). How then can the main conceptual creation in feminist theory be defined so that a new materialism gets to be fully enfolded? In this chapter we will propose that not all (feminist) theories of the subject imply a human-subject-centered epistemology, as our interviewees in Part One have already shown us. Mapping a new materialism by re-writing *these* theories is key to this final chapter.

Sandra Harding's *The Science Question in Feminism* from 1986, which is the standard reference text in feminist epistemology, does perform an anthropocentrism. Notwithstanding the fact that Donna Haraway's famous response to Harding in "Situated Knowledges: *The Science Question in Feminism* and the Privilege of Partial Perspective" discussed its limits and offered us a new feminist materialism as early as 1988, via concepts such as the "material-semiotic actor" and the "apparatus of bodily production" (Haraway 1988, 595), feminist epistemology in general has always been structured by the desire to make clear that humanism is in fact an androcentrism in need of alternatives. "Feminist standpoint theory" and "feminist postmodernism" are both examples of this move. In the former case a specific "woman's way of knowing" was proposed, while in the latter, following a pluralization act, a plethora of women's ways of knowing was put to the fore in order to shift gross generalizations about the nature and culture of women (Harding 1986, 1991). The fact that even feminist postmodernism has not been able to shift such humanism owing to a dualist response to both androcentrism and feminist standpoint theory, and has confined itself to an anthropocentric linguisticism as a result, has been demonstrated by Claire Colebrook's "Postmodernism is a Humanism: Deleuze and Equivocity" from 2004, which was discussed in earlier chapters. The fundamental claim in that article is that

[o]ne must recognize oneself as this or that gendered identity in order to take part in what [Judith] Butler refers to as the heterosexual matrix; but, precisely because this matrix is constituted through speech, acts and performatives, it is also always capable of being rendered otherwise, of producing new relations (Colebrook 2004, 292–3)

This outlines the fact that linguisticism (language, and “the interstices of language” as they reveal themselves with language, to use Butler’s concepts) as well as anthropocentrism are equally reductive results owing to a dualist argumentation (cf. Kirby 1997, 2006, 2011). We have spent enough time in earlier chapters of this part of the book situating and re-writing any linguisticism and the way its practitioners consider materiality intrinsically semiotic (that is, in itself mute) the time has now come for a radical elimination of any anthropocentrism from our materialism.

Here we might hook up with an early and apt diagnosis of the anthropocentrism that manifests itself in the aforementioned dualist response to a supposedly inclusive but in fact profoundly androcentric humanism that can be found in Genevieve Lloyd’s “Preface to the Second Edition” of the seminal *The Man of Reason* (originally published in 1984). Following the methodological gesture of contrasting Cartesian dualism and Spinozist monism, Lloyd ([1984] 1993, xii-xiii; original emphasis) claims as follows:

What must be the relation between minds and bodies for it to be possible for the symbolic content of *man* and *woman* to feed into the formation of our sense of ourselves as male or female? [...] Spinoza’s *rapprochement* between reason and passion can [...] be seen as a point where the grip of male-female symbolism might have been broken. And his treatment of the mind as an idea of the body suggests a starting point, too, for a clearer understanding of how the meanings given to bodies can be both metaphorical and rightly experienced as ‘real’ differences.

Contrary to feminist (post)modernism, Lloyd thus asks how a gendered (dualist) organization and a linguisticism *emerge from* a monist multiplicity, just like Alphonso Lingis (1994), Arun Saldanha (2006), and Michael Hames-García (2008) ask how a racial linguisticism emerges from the same flux. Although in the present book we do not equate new materialism’s metaphysics with a Spinozism, *monism* has run like an electrical current through our conceptualization. It is monist metaphysics that truly shifts anthropocentrism, and which is at work in one way or another in the materialisms of the authors discussed in this final chapter.<sup>1</sup>

Recently, cultural theory's monist take on culture and nature, language and materiality, and body and mind has stirred an abundance of neologisms. These neologisms provide a first insight into the monist proposal, always in keeping with Lyotard's, Deleuze's, and Latour's rewriting of modernity (see Chapter 6 above), to provide a non-anthropocentric mapping of the morphogenetic changes of the real. Let us give two examples. Karen Barad in *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* from 2007 has coined the term "intra-action." Barad (2007, 33; cf. Barad 2010, 244) writes that "in contrast to the usual "interaction," which assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognizes that distinct agencies [...] emerge through, their intra-action." This process ontology shifts an atomist metaphysics of pre-existing entities, and suggests a world which Haraway (2003: 6), alluding to the work of Alfred North Whitehead, has been characterized as one in which "[b]eings do not preexist their relatings." Similar to Lloyd's, Lingis', Saldanha's and Hames-García's question after the emergence of a gendered/racialized (dualist) organization from a monist multiplicity, Barad (2010, 254) states explicitly "intra-actions necessarily entail constitutive exclusions, which constitute an irreducible openness," which is not only to say that dualism can only happen within monism, and not the other way around, but also that dualism is never fully fixed. This is why Barad, while reading Niels Bohr through Jacques Derrida, terms ontology a "hauntology." Barad frees Derrida from a possible linguisticist interpretation, just as Vicki Kirby (2011) does, since hauntology prefers neither the mind (or the immaterial, cultural, linguistic) nor the body (or the muted material, the natural). It is therefore non-anthropocentric, insofar it works with an ontology of "the world's radical aliveness" (Barad 2007, 33). Starting from the spectral and shadows that are "constitutive without belonging to" (Kochhar-Lindgren 2011, 25) the material, does not affirm the dualist desire to try to represent and thus the possibility of fully capturing the world while being radically separate from it. On the contrary, hauntology necessarily *includes* all of the unforeseen (un-human) radical powers.

A second example can be found in the work of Manuel DeLanda, whose "morphogenesis" from "The Geology of Morals: A Neo-Materialist

Interpretation” (1996) we borrowed in this book. In *A Thousand Years of Nonlinear History* DeLanda (1997, 32; original emphasis) speaks of “meshworks” in order to maintain a differentiation between “self-organized *meshworks* of diverse elements” and “*hierarchies* of uniform elements” which “not only coexist and intermingle, [but...] give rise to one another.” The creation of the concept of the meshwork, which equals the “collective” composed of “hybrids” coined in *We Have Never Been Modern* of Bruno Latour ([1991] 1993, 47), is part of a monist metaphysics. In *A New Philosophy of Society* DeLanda (2006, 6) says to focus on “the movement that in reality generates all these emergent wholes” in which “language plays an important but not a constitutive role” (ibid., 3). Furthermore, DeLanda makes clear that “the properties of a whole cannot be reduced to those of its parts [because] they are the result not of an aggregation of the components’ own properties but of the actual exercise of their capabilities” (ibid., 11). DeLanda (2002, 4) thus introduces a concept that not only “grants reality full autonomy from the human mind” but also one that comes very close to the neologisms put to work by Barad. DeLanda’s work demonstrates how Barad’s suggested *contrast* between inter- and intra-action is a methodological step. The dualism seemingly suggested is introduced in order to retain intra-action.

Apart from it being a rewriting, the introduction of neologisms does not aim at exchanging a seemingly “wrong” academic terminology for a terminology with which the world can be captured “better.” Such an epistemic stance would presuppose a subject independent of an object, and such a representationalist hierarchy or gap does not fit the proposed monist metaphysics. Combining Whitehead’s “event” and Deleuze’s “sense,” Mike Halewood (2009, 50) in “Language, Subjectivity and Individuality” states: “the world creates (or constructs) sense as an effect of the interrelation of singularities within the virtual. Given that all subjects are part of this world they are also created within such creativity.” Here we clearly see that the subject according to a monist metaphysics is a consequence rather than the full-fledged starting point of an epistemic experience. Albeit that Barad (2010, 247, 253) with “queer causality” warns us against any easy opposition to linear causality due to haunting, this departure from the prioritization of the subject breaks through anthropocentrism, and proposes

a non-anthropocentric take on what supposedly forms the core of what is human (language, and subjectivity). Deleuze's "The tree greens" (1990, 21 in Halewood 2009, 51) and Whitehead's "We enjoy the green foliage of the spring greenly" (1967, 251 in *ibid.*) propose that greenness itself is an active expression, and that we *prehend* the greenness of the tree. It is the state of affairs that enables language, and this language or expression is not just human. Whitehead in *Process and Reality* ([1929/1978] 1985, 52) states that he has "adopted the term 'prehension,' to express the activity whereby an actual entity effects its own concretion of other things" which shows once more that the metaphysics proposed here is not an anthropocentric linguisticism. First, the focus is on the activity, process, event, and, second, cause and effect have been "queered" vis-à-vis a dualist metaphysics.

Let us now fully immerse ourselves in the non-anthropocentric metaphysics of new materialism. Therefore we will read Michel Foucault's birth and death of the subject via a discussion of parts of his secondary thesis, recently published as *Introduction to Kant's Anthropology* from 2008 (though the thesis was submitted in 1961). Foucault addresses the question of how anthropocentrism has shaped dualism, and how it has in fact distorted our (representationalist) strategies of studying the real. Quentin Meillassoux, who, in *After Finitude* ([2006] 2008) re-reads Kant as well, offers us a different (yet equally non-humanist, non-anthropocentric) way out compared with Foucault's famous thesis, as we have already seen in our interview with him in the first part of this book (Chapter 4). Putting the (dis-) connection between Foucault and Meillassoux at center stage in order to show in what directions new materialism's anti-anthropocentrism leads us, we will then open up the notion of subjectivity by reading a mathematics in materialist thinking. Speculative materialism or realism, as it is being developed by Meillassoux, but also by Ray Brassier and Graham Harman (Bryant et al, eds. 2011), is then diffractively read with those new materialist scholars who are big in science studies today, several of whom have already been discussed in previous chapters of this book: DeLanda, Barad, Kirby, and Brian Massumi. By involving mathematics (set theory, geometry, topology) as a means of breaking open the Kantian definitions of epistemology and ontology, we are offered important new materialist claims that (implicitly) push those fundamental humanist oppositions—like (wo)

man—to the extreme. After all, science studies has been characterized as being an *anthropology* on/with objects (Mol 2002, 32), and thus has been implicitly criticized for an ongoing focus on the Kantian (subjectivist) problematic while trying to dualistically move away from epistemology as a representationalist practice (ibid., vii).

### The Birth of the Subject = The Death of the Subject

(Part of) Foucault's project has been to understand the coming into being of the sciences of man (Foucault [1966/1970] 1994). Immanuel Kant, that is, the anthropological turn in philosophy that started with Kant, is being rewritten in Foucault's work. For Foucault, the birth of the subject *equals* the death of the subject, or in a Nietzschean mode, the death of God equals the death of *man*. Foucault states in his *Introduction* that an unfinished and unpublished correspondence with Kant's (former) student Jakob Sigismund Beck in conjunction with the published version of the former's *Anthropology from a Pragmatic Point of View* from 1798 makes clear that Kant managed

[...] to define the space which an anthropology, in general, could occupy: a space in which self-observation bears not upon the subject as such, nor upon the pure 'I' of the synthesis, but upon "a 'I'" that is object and present *solely* in its *singular* phenomemal [sic] truth. But this "'I-object,'" [...] is no stranger to the determining subject; for it is ultimately nothing more than the subject as it is affected by itself. [The space of anthropology] is entirely taken over by the presence of a deaf, unbound, and often errant freedom which operates in the domain of originary passivity (Foucault 2008, 39; original emphasis).

Foucault notes that the Preface to the *Anthropology* states that Kant's object was "what man makes of himself—or can and should make of himself—as a free-acting being" (Foucault 2008, 44) thus making anthropology pragmatic. Anthropology deals with the balancing act in which "man is considered to be a "citizen of the world," as belonging, that is, to the realm of the concrete universal, in which the legal subject is determined by and submits to certain laws, but is at the same time a human being who, in his or her freedom, acts according to a universal moral code"

(ibid., 42). And it shows “how a juridical relationship of the order of a possession, which is to say a *jus rerum*, manages to preserve the moral kernel of a person construed as a free subject” (ibid.). Pragmatics then deals not with human nature or essence, but with “a movement where nature and freedom are bound up in the *Gebrauch*—one of the meanings of which is given in the word ‘usage’” (ibid., 51). To be more precise, “in *Anthropology*, man is neither a *homo natura*, nor a purely free subject; he is caught by the syntheses already operated by his relationship to the world” (ibid., 54–5). Studying a different set of concepts (*Gemüt* and *Geist*) allows Foucault to claim that in the *Anthropology* no space is given, however, to “being tied to the passivity of phenomenal determinations” (ibid., 63) since

The *Geist* is [...] the principle, in the *Gemüt*, of a de-dialecticized, nontranscendental dialectic oriented towards the domain of experience and playing an integral part in the play of phenomena itself. It is the *Geist* which offers the *Gemüt* the freedom of the possible, stripping it of its determinations, and providing it with a future which it owes to nothing but itself (ibid.).

On this basis, Foucault comes to claim that the “I”/Subject of the *Kritik* is wholly inverted in the *Anthropology*, in a way that is more complex than an exchange of cause and effect. Namely “it appears in the density of a becoming where its sudden emergence infallibly assumes the retrospectively constituted meaning of the already there” (ibid., 67).

In the introduction to the *Logik*, published in 1800 (nearly twenty years after his first *Kritik*) Kant famously summarizes his critical project in not three, but four questions. He summarized his three critiques by asking himself “what can I know?,” “what should I do?,” and “what may I hope for?.” He then added a fourth question to the list, namely: “what is man?” Only in his later notes (*Notes and Fragments* (2005)) he realizes that this sentence in fact captured his main contribution to thought. For whereas in those days it was still common to start thinking first and foremost from a thorough conceptualization of God, from which thoughts on nature and on the human being subsequently arose, Kant started his philosophy with the human being—or even better, with human thought and its relation

to nature. In other words, Kant turned (theological) metaphysics into transcendental anthropology. Kant's second Copernican revolution, as it revolves around concepts like the Subject, *Geist* and *Gemüt*, was by all means a humanist revolution, since it turned the relations between the three poles mentioned around. This is clearly noted by Foucault (2008, 78):

At last man emerges as universal synthesis, forming a real unity in which the personality of God and the objectivity of the world are rejoined, the sensible principle and the *supra* sensible; and man becomes the mediatory from which "*einer absoluter Ganze*" takes shape. It is from the starting point of man that the absolute can be thought.

Foucault claims that it is with Kant that man has not only turned into the origin of thought, but that both God and the world (nature) subsequently arise. Yet as "[...] man immediately defines himself as a citizen of the world, as '*Weltbewohner*': '*Der Mensch gehört zwar mit zur Welt.*' And completing the circle, all reflection on man involves reflection on the world" (ibid., 78–9), Foucault makes clear that this does not involve a naturalism ("where a science of man implies a knowledge of nature," ibid. 79) nor a determinism "on the level of the phenomena" (ibid.) but rather "it is the development of self-awareness and of the 'I am': the subject self-affecting by the movement in which he becomes aware of himself as an object" (ibid.). This affirmative rewriting of Kant, contrary to how Meillassoux reads Kant (as we will see later) boils down to what we could call, with Barad, an intra-action between (social) world and Subject. Foucault even states that "the world, as a whole (*Ganz*)" seems to be excluded from language, yet has structure or meaning (ibid., 80). The way in which he then explains the world comes close to DeLanda's immanent morphogenetic changes of the real, where the world is source, domain, and limit (ibid., 80–1). That is to say, the metaphysics according to which Foucault re-writes Kant is wholly monist: "the whole of existence defines what belongs to it necessarily and originally" (ibid., 84). The death of the Subject is encapsulated in its Kantian birth.

## Anthropocentrism (Un)Solved, or: Critiquing Critique

In *After Finitude*, Meillassoux takes on a similar project as Foucault, which we might summarize as a rewriting of Kantian paradigms that concern the human being (the Subject) and the object. Yet he does so by asking a different opening question. Foucault is interested in Kant from what we might call a post-Nietzschean perspective. For although a historian, Foucault's call for the End of Man is about a resistance against the Absolute powers from the pre-critical period, as they keep haunting man and the way in which man conceptualizes his newfound rationality. Foucault sets himself to a discovering of *empirical reason*, what Foucault earlier referred to as a pragmatics, and it is thus that he wants to push Kant's dualist thinking to the limit. Foucault already notices this emphasis on the empirical in Kant himself when Foucault (2008, 63) summarizes Kant's final steps: "The movement which, in the *Critique*, gave rise to the transcendental mirage is extended and prolonged in the *Anthropology* in the form of the empirical, concrete life of the *Gemüt*."

In the preface to *After Finitude*, Alain Badiou claims that Meillassoux's approach to the three questions that summarize Kant's *Critiques*, rather than re-reading their dynamics in the empirical, pushes them to the point of a "critique of Critique" (Badiou in Meillassoux [2006] 2008, vii) which is to say that Kantian anthropocentrism has not at all been "solved" by Foucault or his followers. For whereas the first and foremost Kantian question ("what can I know?") has been attacked primarily (by Foucault for instance) for its use of the "I am," or, the construction of Subjectivity (the "I think") which it entails, Meillassoux's critique of Critique focuses on the necessity of "knowledge" and the way Kant's notion of knowledge is built on an odd kind of dualism. Foucault (2008, 78) already noticed clearly that "it is from the starting point of man that the absolute can be thought" and it is this idea in particular that Meillassoux considers corrupt. Thus, without doing away with the subject and the object (he actually affirms it rigorously), the latter sets himself to a rethinking of how this opposition relates to one another in terms of knowledge.

In Kant, Meillassoux sees a metaphysics being developed which he refers to as "correlationism." He defines it as such: "Correlationism consists in disqualifying the claim that it is possible to consider the realms

of subjectivity and objectivity independently of one another” (Meillassoux [2006] 2008, 5). Meillassoux does not negate correlationism as such; later in his work it is in fact *through* “weak correlationism” that he sets up the necessity of his speculative materialism. But the way in which Kant introduced correlationism in his *Kritik der reinen Vernunft* in 1781 was, as Meillassoux ([2006] 2008, 124) calls it, a “catastrophe” for philosophy.

Crucial for Kant’s correlationism is the idea that the objects in the world consist in themselves, *independent* of any observation, and at the same time have subjective qualities that allow them to reveal themselves *in an observation* (ibid., 31). For a human being, then, the things in themselves are not knowable but we can think them; whereas we can get rational knowledge (about a thing) only in the observation, in how the object allows itself to be represented. It is thus that the world as a whole (*das Ganze*) subjectively comes into being, from the perspective of the “I am.” Meillassoux’s critique of this Kantian relation between subject and object is twofold. First, he questions the *limits* that Kant puts to rational knowledge. Why can’t the object itself be known? How can thought ever be given “limited access” to the object (which thus in the presentation allows itself to be thought but not to be known)? Secondly, he asks himself why Kant demands the object to be presented in order for it to be thought. This notion of givenness (the object has to be confronted with the subject in order to become part of the world) also sounds questionable because it is deeply anthropocentric.

In order to clarify his reservations, Meillassoux gives us the example of what he calls the “arche-fossil” (a life that has ceased to be before the human being and its thinking came into existence) or the question of the ancestral. He wonders whether it could be possible, as Kantian thinking seems to presuppose, that “Science can think a world wherein spatio-temporal givenness itself came into being within a time and a space which preceded every variety of givenness” (ibid., 22). Or, how is correlationism liable to interpret ancestral statements? The answer of course is that it (philosophically) cannot, which is a serious critique of Kant and of the anthropocentrism that he proposes. The paleobiologist confronted with the arche-fossil has a problem thinking ancestral space-time that never “appeared” to him and to which he thus has no access (since it does not take place). Meillassoux’s critique of Critical (correlationist) thinking is

a critique not of the *being* but of the *knowing* Subject. His alternative is a speculative metaphysics, which is not subjective, but rather demands that philosophy turn to objectivity again. The critique of Critique is thus a critique of epistemology as we know it.

Doing this he also comes back to God and the tripartite taxonomy of thought discussed earlier. Contrary to Foucault, whom we have called a post-Nietzschean, Meillassoux is by all means an *anti*-Nietzschean. For whereas Nietzsche, at the close of the nineteenth century claimed that the Age of Reason (introduced to us by Kant among others) has caused us to murder God, Meillassoux claims exactly the opposite. He states that Kantian thinking, in which the absolute has been closed off from thought for good, expelled from the metaphysical, has caused the remarkable *return* of religious fundamentalism today as it allowed for the absolute to be removed from knowing and thus to be revived in the form of believing (ibid., 45).

Both Foucault's and Nietzsche's comments are of course not correlationist, in Meillassoux's opinion. Rethinking the Kantian "I am" empirically, they push the whole subject-object opposition to the extreme, introducing us to a new kind of thinking that has been able to firmly rewrite correlationism. Meillassoux calls this thinking a "subjective metaphysics," which is all about absolutizing *the correlate itself*:

A metaphysics of this type may select from among various forms of subjectivity, but it is invariably characterized by the fact that it hypostatizes some mental, sentient, or vital term: representation in the Leibnizian monad; Schelling's Nature, or the objective subject-object; Hegelian Mind; Schopenhauer's Will; the Will (or *Wills*) to Power in Nietzsche; perception loaded with memory in Bergson; Deleuze's Life, etc. (ibid., 37).

Meillassoux goes on defining this subjective metaphysics, in a mode that resembles the oppositional logic that we have discussed in chapter 6 of this book, and which also characterizes Barad's reading of hauntology as affirmed through Bohr's complementarity (Barad 2010, 253):

Even in those cases where the vitalist hypostatization of the correlation (as in Nietzsche of Deleuze) is explicitly identified with a critique of 'the subject' or of 'metaphysics,' it shares

with speculative idealism the same twofold decision which ensures its irreducibility to naïve realism or some variant of transcendental idealism:

The concepts created by subjective metaphysics, as they are nowadays increasingly popular within cultural theory, create a metaphysics that we could also call a metaphysics of the event (referring to Whitehead). It has no eye for individual objects, or at least these individual objects do not exist in their entirety but only insofar as they are actualized in the event. And it is this actualization which in the end, as Leibniz put it, is the only possible world. Foucault can be accused in a sense of forgetting the object, but we will get back to this later.

It is important to understand that this twofold definition of subjective metaphysics makes any materialism *impossible*, as Meillassoux claims. Just before he confronts us with this definition of subjective metaphysics, which (as stated) cannot think the Epicurean atom, he says that Epicureanism is in fact the paradigm of all materialisms. In Epicureanism

[...] thought can access the absolute nature of all things through the notions of atoms and void, and which asserts that *this nature is not necessarily correlated with an act of thought*, since thought exists only in an aleatory manner, being immanent to contingent atomic compounds (for the gods themselves are decomposable), which are in-essential for the existence of elementary natures (ibid., 36; emphasis added).

The speculative materialism that Meillassoux proposes seems very different from the materialisms discussed so far, as indeed it does *not* seem to underpin the Spinozist monism which we have been developing up till now.

When stating that absolute reality consists of entities without thought, or even of entities that necessarily precede thought (we now see why he started his argument with the arche-fossil, which indeed turns into the perfect example of an event preceding human thought), he radically does away with Spinoza's pantheism. According to Meillassoux, Spinoza's claim that God equals nature (since both are unlimited, they must be one) is a subjective metaphysical definition of God as it creates a larger whole which equals the

absolute. Considering God as equivalent to nature also means that nature is rational (which, of course, paleobiologists also believe when they consider their readings of nature “real,” as in, the same as the objective materiality) and this too is an impossible anthropocentrism to Meillassoux. For him nature is contingent, especially because it precedes thought, or even better, because it precedes *any system of logic* that we could come up with (see his argument on “spatio-temporal givenness,” *ibid.*, 22). Again in contrast with Spinozism, Meillassoux claims there is no such thing as the Principle of Sufficient Reason; every cause can have an endless amount of consequences and these consequences are in no way “given” in thought. In the end he therefore feels much closer to David Hume than to Kant’s correlationism in which knowledge of any synthetic proposition can never be *a priori*. This manifest stability of chaos, Meillassoux argues, “[...] would allow us to penetrate much deeper into the nature of a temporality delivered from real necessity” (*ibid.*, 101).

Pushing Kant’s weak correlationism to the extreme, Meillassoux composes a speculative materialism that is quite different from Foucauldian and post-Nietzschean thought, but which is nevertheless of the greatest importance for the new materialist project. For although his fiercely argumentative rewriting of the history of philosophy comes up with quite a different cartography compared to the sketches we have produced in the previous chapters—his appreciation of Descartes is especially hard to combine with what has been said above—his moves away from anthropocentrism contribute a great deal to the project announced by Foucault.

Let us therefore take a closer look at the closing of his first chapter (and the start of the second) in which he discusses ancestry. Here Meillassoux introduces us to the two grand speculative materialist themes. First, there is a radical break between objects (matter) and the thoughts that follow. With this claim, however, he does not accept linear space-time (which the word “follow” might suggest); he does away with linear space-time by stating: “to inscribe these conditions in time is to turn them into objects and hence to anthropologize them” (*ibid.*, 23). The claim thus emphasizes the contingency of matter (nature, the object) and is interested in how thought is capable of accessing the uncorrelated, the world not-given.

Second, though it is not elaborated upon in *After Finitude* but employed as a recurring referent to speculative materialist futures, Meillassoux keeps stressing “mathematics’ ability to discourse about the great outdoors; to discourse about a past where both humanity and life are absent” (ibid., 26).

The two “propositions” refer us once more to Spinoza and actually reveal a more similar approach. For although the first part of the *Ethics* elaborates on the existence of only One substance (which is necessarily both the absolute infinite God and Nature), it is immediately added that it holds in it the attributes (for instance a human being), and is organized in different modes (for instance thought and extension). Concerning the human being, mind and body are “the same thing” since they are the essence of the individual (and make up one attribute of God). This is sometimes referred to as Spinoza’s parallelism (although the term comes from Leibniz), yet this term is probably a bit too “equivocal,” as it seems to suggest a sort of similarity that cannot be observed. An important argument for its univocity is that although Spinoza claims that all that is action in the body is also action in the mind, an idea (an action of the mind) is a consequence of its body. This does not mean that the body can determine the mind to think (as the mind also cannot determine the body to move) ([1677] 2001, E3P2), it does mean that the body (*res extensa*) is what Brian Massumi (2002, 8) would call *ontologically prior* to the mind, since bodies “[...] have ontological privilege in the sense that they constitute the field of the emergence.” Much as with Meillassoux, this is not a temporal distinction, and thus it refuses anthropocentrism.

This now requires a formal expressionism that, as Brian Rotman envisions, should push us “outside the domain of the sign.” Whereas Meillassoux claims that it is through *mathematics* that his philosophy is able to understand the object in itself (the absolute), the subtitle of Spinoza’s *Ethics* (*Ordine Geometrico Demonstrate*) shows that the latter makes use of *geometry* in order to achieve an understanding of the Absolute. Let us map the trajectories sketched.

## Mathematics, Geometry, Topology

The relation between mathematics (which includes geometry and topology) and the body is now at stake. Of course Spinoza and Meillassoux are not

reductive, nor do they practice a linguisticism. Yet “what mathematics can do” needs more thought.

Contrary to both Spinoza and Meillassoux, there are scholars who do not see how mathematics or a geometrical order would be able to make universal claims. George Lakoff and Rafael E. Núñez (2000, xvi) for instance claim that “[h]uman mathematics, the only kind of mathematics that human beings know, cannot be a subspecies of an abstract transcendental mathematics. Instead, it appears that mathematics as we know it arises from the nature of our brains and our embodied experience.” Their book entitled *Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being* intends to show that all thought, thus including mathematics, follows from our bodily motor existence (which they then presumably consider to be uniquely human). Their arguments are in line with Ricardo Nemirovsky and Francesca Ferrara who claim that “[t]hinking is not a process that takes place ‘behind’ or ‘underneath’ bodily activity, but is bodily activity itself” (in Rotman 2008, 33). Claims like these, since they seem to limit mathematics to a bodily interior, are obviously anthropocentric, since all forms of calculus, all formulas and geometrical figures (straight lines, curves, etc.) are then believed to be consequences of our bodily being. By suggesting that mathematical figures necessarily spring from a (human) body, it seems that the figures found outside of us are merely projections of our inside, which then indicates what Meillassoux would call a strong correlationism as it supports “the thesis of the essential inseparability of the act of thinking from its content. All we ever engage with is what is given-to-thought, never an entity subsisting by itself” (Meillassoux [2006] 2008, 36).

Read with Brian Rotman, however, this relation between mathematics and the human body seems to be less confined by the boundary of our skins. In *Becoming Beside Ourselves: The Alphabet, Ghosts, and Distributed Human Being* from 2008 Rotman introduces the concept of “gesture” in order to show how mathematics and the body are one non-linguistic materialist morphogenetic process, countering the general yet largely unacknowledged agreement that in mathematics “Platonism is the contemporary orthodoxy” (Rotman 1997, 18 in Kirby 2003, 422):

[...] gesture is outside the domain of the sign insofar as signs are coded and call for a hermeneutics, an interpretative apparatus separable from, and in place prior to, the act of signification. Rather, the mode of action of gesture is enactive, exterior to anything prior to its own performance: it works through bodily executed events, creating meaning and mathematical significance ‘before one knows it’ (2008, 36).

In line with Barad, DeLanda, Massumi, Lloyd, and Meillassoux as well, Rotman calls for mathematics as a key to the ontologically prior. And in contrast with the mathematical anthropocentrism suggested earlier, Rotman does not lock the argument into the body. A gesture always already suggests a kind of rhythm as it necessarily moves *with* the outside object (to come), and *with* the multiplicity in which it happens. Rotman thus proposes that what is at stake concerning a mathematical abstraction is “what it functions with” (Deleuze and Guattari [1980] 1987, 5) thus instead of opposing an abstraction’s (or a book’s) subject and object, the question is how “[i]t forms a rhizome with the world” (ibid., 11).<sup>2</sup>

Would this necessarily take us “beyond” language? In fact, Kirby in “Enumerating Language: ‘The Unreasonable Effectiveness of Mathematics’” from 2003, has a strong argument for approaching mathematics as a language. This does not automatically lead Kirby to a linguisticism and away from the ontological prior. Defining mathematics as a “system of relational configurations that refers to itself,” Kirby (2003, 418) alludes to her attempt at rewriting the deflated, representationalist concept of “language” as it features in much of cultural theory, while rewriting “mathematics [as] the language of Nature [...] divine[ly] author[ed]” (ibid., 419) along the way. Kirby thus also critiques Rotman in a manner similar to her and other new materialists’ critique of Butler (see Chapter 5 of the present book). Nevertheless, it is possible not to go along with Kirby’s negative reading of Rotman’s anthropocentrism, based on a simple reversal of a mathematics created by Nature/God (ibid., 426–427).

It is possible not to go along with Kirby’s negative reading of Rotman’s anthropocentrism, based on a simple reversal of a mathematics created by Nature/God (ibid., 426–7). That is, we can read the ontological prior into both Kirby and Rotman.

Famously, and counterintuitively via a Derridean detour, Kirby (2006, 84) states that “[f]or if ‘there is no outside of text,’ as Derrida suggests, then it is in ‘the nature of Nature’ to write, to read and to model.” “[M]atter” thus “appears *within* the horizon of our inquiry as a much more curious subject. And importantly, its appearance need not be veiled in substitute form as a cultural artefact” (ibid., 85; original emphasis). Echoing her rewriting of Ferdinand de Saussure in *Telling Flesh: The Substance of the Corporeal* (1997), Kirby states that Derrida’s “there is no outside of text” should be rewritten into “there is no outside of Nature” (Kirby 2008b, 229). Thus, in turn echoing Spinoza, Kirby proclaims a univocity (Colebrook 2004).<sup>3</sup> In this way Rotman’s gestural, ontologically prior stance is to be found in Kirby’s work when she, via Derrida, states that

[...] any “unit” is not so much a separate part of a larger whole to which it remains indebted, but rather a unique instantiation of the system’s own reinvention (or rewriting) of itself. Thus, every “instance” is “the whole,” and this imploded, holographic sense of identity confounds linearity as an unfolding sequence of separate, successive moments (Kirby 2003, 425; original emphasis).

We have encountered such theorizations many times in this book, starting with DeLanda’s work in the interview with him and in Chapter 5. According to Rotman’s “gesture,” “the exuberant bodily connectivities” are “mathematical practice” (ibid., 428). Kirby’s project of showing how “it is [...] in the nature of corporeality to mathematize, represent, or intelligently take measure of itself” (ibid., 434), of “think[ing] of biology as a “unified field” of operational differentiations, a *mathesis naturalis*” (ibid., 438) does exactly the same thing. In both cases, the bodily force is what is ontologically prior.

Then in keeping with how Kirby rewrites the notion of language warding off linguisticism, we should (with Rotman and Deleuze and Guattari, among others) rewrite mathematics warding off a “mathematicism.” A necessary breakdown of any mathematical anthropocentrism in favor of any sort of materialism would probably mean, first of all, a move away from set theory, so dominant in mathematics these days (as Fernando Zalamea

[forthcoming] also suggests). At least, this is a common move by those scholars interested in what we term a new materialism. Stengers (2000, 157) proposes two routes:

[...] René Thom pleads for a form of ‘nomadic’ mathematics, whose vocation would not be to reduce the multiplicity of sensible phenomena to the unity of a mathematical description that would subject them to the order of resemblance, but to construct the mathematical intelligibility of their qualitative difference. The fall of a leaf, then, would no longer be a very complicated case of a Galilean register, but would have to provoke its own mathematics. One could also cite Benoit Mandelbrot’s fractal mathematics. Here as well, to ‘understand’ means to create a language that opens up the possibility of ‘encountering’ different sensible forms, of reproducing them, without for all that subjugating them to a general law that would give them ‘reasons’ and allow them to be manipulated.

The first option Stengers proposes is interesting, because of its call to develop a “new materialist” mathematics, focusing on differing (see Chapter 7 of this book), as a worthy alternative to set theory. The second is interesting, because this route is actually the most commonly followed, including by Rotman, DeLanda, and Massumi. Following Mandelbrot’s non-Euclidean geometry, it is especially *topology* that is considered as a fruitful ground for a materialist mathematical metaphysics. Topology might even be considered the very opposite of set theory, practicing a radical “difference in degree” as opposed to set-theory’s “difference in kind.” Bearing this in mind, DeLanda (2002, 24; original emphasis) defines topology as: “[...] the *least differentiated* geometry, the one with the least number of distinct equivalence classes, the one in which many discontinuous forms have blended into one continuous one.” Massumi, in his 2002 *Parables for the Virtual: Movement, Affect, Sensation* explains very well how topology should be seen as the smoothest of the sciences, or as Elie Ayache (2010, 147) beautifully puts it: “Mathematics is a thought (and not just a calculus), and it is thought that asserts existence through

the orientation of its discourse.” Massumi (2002, 135), recalling Kirby, adds to this:

Topology is not a qualitative science. It is not empirical, if empirical investigation is meant as progressing from description to prediction. It has no predictive value. Incapable of directly referencing anything other than its own variations, it is more analogical than descriptive. It is not, however, an analog *of* anything in particular. It is not an analog in the everyday sense of a variation on a model. Here, there is no model. Only infolding and unfolding: self-referential transformation. The analog is process, self-referenced to its own variations.

Although Meillassoux, in *After Finitude*, seems to be most interested in physics, and sometimes seems to be seduced by set theoretical problems (following the way his teacher Badiou has always been keen on such mathematical models) such as Cantor’s theorem, his speculative materialism seems to be in need of a mathematics that actually comes very close to the speculative pragmatism that Massumi has been working on in past years, and notably to the role topology plays in this type of thinking. And vice versa, Meillassoux’s interest in the absolute, in searching for the transfinite, or the “unclosed pluralization of the infinite qualities” (Meillassoux [2006] 2008, 142) might be just what Massumi needs when exploring what topology can do. The notion of the virtual (as Massumi takes this from Bergson and Deleuze) especially seems to him of the greatest importance, as affirmed in Meillassoux’s “Potentiality and Virtuality” (2011). As Massumi (2002, 135) puts it:

A topological image center literally makes the virtual appear, in felt thought. It is more apparitional than empirical. Sensation, always on arrival a transformative feeling of the outside, a feeling of thought, is the being of the analog. It is matter in analog mode.

The smoothness of topology is nowadays mostly developed (in maths) in so-called “pointless topology,” continuing the traits of Peter T. Johnstone (1977), and mereotopology as it follows Whitehead ([1929/1978] 1985). Here we see most convincingly why Deleuze and Guattari considered

mathematics (together with music) capable of producing the smoothest of smooth spaces, and thus as most suitable for a rewriting of the dualisms that haunt us. Johnstone's concept of the "locales" for instance, as he opposes them to "frames," allow us to rethink morphology in terms of "continuous maps" (Johnstone 1982, 39) as he calls them. No longer related to objects, "locales" allow us to do pure morphology that always already includes a multiplicity of bodies *equaling* physical nature. Mathematics (pointless topology) is then our route (among many unforeseen routes) that allows us to get rid of our vectorial (homomorphic) status "in favor of a spreading out on the surface," as Cache (1995, 75) puts it. Our upright position, as the latter continues, would then only be a consequence of the morphologies at work on the continuous abstract map (or plane) that is realized.

To close with an example, we could think of how Massumi (2002, 75) re-reads Michel Serres' analysis of a soccer game, which concludes as follows: "The player's subjectivity is disconnected as he enters the field of potential in and as its sensation. For the play, the player *is* that sensation. The sensation is a channeling of field potential into local action, from which it is again transduced into a global reconfiguration of the field of potential. Sensation is the mode in which potential is present in the perceiving body." The manner in which Massumi does not take man as the starting point of analysis—or even of bodies—but rather the forces and surfaces that are being realized throughout the material practice, opens the way for a pointless topology similar to how Johnstone and contemporary Whiteheadians would have it. Massumi's case proves Johnstone right in introducing a concept like "continuous mapping" when emphasizing the morphogeneses taking place *with* the creation of surfaces. Freeing us from the point, the line and even from movement (which in the end makes up a correlationist argument, as Meillassoux would put it), the virtual absolute is actualized. Pointless topology is then one of the "infinity mechanisms" in which Henri Michaux ([1972] 2002, 70) finds himself: the one infinite mechanism that is all. It liberates a new materialism.

## Notes

1. Here it should be mentioned once again that French feminist theories, in contradistinction to the works reviewed and synthesized by Harding, have dealt with Lloyd's monist question, and that this minor tradition in feminist theory has been our main source of inspiration. When Braidotti (2011a) writes that "Colebrook (2000a) suggests that a younger feminist wave is looking at the question of sexual difference as not only or primarily a question that concerns the subject or the subject's body," she is referring precisely to the way in which a monism actually shifts anthropocentrism. Colebrook provocatively calls this new feminist materialism "a materialism without bodies." Colebrook used this term at the conference "What is the Matter with Materialism?" Utrecht University, October 25, 2010.
2. Rather than implicitly accepting a humanism or anthropocentrism, Rotman (and Deleuze and Guattari)'s mathematics of gesture seem(s) to engage with what Stengers has called a "cosmopolitical network" or what Latour refers to as "the Parliament of Things" (see also Lischka 2007: 40). In line with Rotman, Latour ([1991] 1993: 142) considers the sciences to be of interest (to politics) because of its intensities that are both human and non-human, both material and immaterial, indeed, that flow contingently:
 

[...] we continue to believe in the sciences, but instead of taking in their objectivity, their truth, their coldness, their extraterritoriality—qualities they never had, except after the arbitrary withdrawal of epistemology—we retain what has always been most interesting about them: their daring, their experimentation, their uncertainty, their warmth, their incongruous blend of hybrids, their crazy ability to reconstitute the social bond.
3. This goes beyond the claim found in *Telling Flesh*, which reads: "[...] we think of the referent as neither preceding nor following language because it is an immanence within it" (Kirby 1997: 19). Where the earlier Kirby seems to prioritise language—the referent being an immanence within language—the later Kirby comes to evoke a univocity that comes close to Deleuze and Guattari when they state in *A Thousand Plateaus*: "There are variables of expression that establish a relation between language and the outside, but precisely because they are immanent to language" (Deleuze and Guattari [1980] 1987: 82; original emphasis). Here, we do not look at language, but at immediate circumstantial expression and implied collective assemblages. Mathematics' "reference to itself" should be read in the latter manner.