

THEORY AFTER 'THEORY'

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THE ARCHE-MATERIALITY OF TIME

Deconstruction, evolution and
speculative materialism

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The last decade of developments in 'theory' has been marked by a turn away from questions of language and discourse, in favour of a renewed interest in questions of the real, the material and the biological. If Ferdinand de Saussure and linguistics were once an obligatory reference point, Charles Darwin and evolutionary theory have increasingly come to occupy a similar position. Alongside this development, the status of deconstruction has been downgraded. Derrida's work is largely seen as mired in the linguistic turn or as mortgaged to an ethical and religious piety that leaves it without resources to engage the sciences and develop a materialist philosophy.

Such an assessment of deconstruction is, however, deeply misleading. One does not have to look farther than *Of Grammatology* to find Derrida articulating his key notion of 'the trace' in terms of not only linguistics and phenomenology but also natural science (Derrida 1976). Indeed, Derrida defines the trace in terms of a general co-implication of time and space: it designates the becoming-space of time and the becoming-time of space, which Derrida abbreviates as spacing (*espacement*). In my book *Radical Atheism: Derrida and the Time of Life*, I argue that the necessity of spacing can be deduced from the philosophical problem of succession (Hägglund 2008). Succession should here *not* be conflated with the chronology of linear time, but rather accounts for the constitutive delay and deferral of any event. Without succession nothing will have happened, whether retrospectively or prospectively, and Derrida analyzes this structure of the event in terms of a necessary spacing. Spacing is thus the condition for anything that is subject to succession, whether animate or inanimate, ideal or material.

It is important to underline, however, that Derrida does not generalize the trace structure by way of an assertion about the nature of being as such. The trace is not an ontological stipulation but a *logical structure* that makes explicit what is implicit in the concept of succession. To insist on the logical status of the trace is not to oppose it to ontology, epistemology or phenomenology, but to insist that the trace is a metatheoretical notion that elucidates what is entailed by a commitment to succession in either of these registers. The logical structure of the trace is expressive

of any concept of succession – regardless of whether succession is understood in terms of an ontological, epistemological or phenomenological account of time.

By the same token, one can make explicit that the structure of the trace is implicit in scientific accounts of how time is recorded in biological processes and material structures. For reasons that I will specify, the structure of the trace is implicit not only in the temporality of the living but also in the disintegration of inanimate matter (e.g. the ‘half-life’ of isotopes). The logic of the trace can thereby serve to elucidate philosophical stakes in the understanding of the relation between the living and the non-living that has been handed down to us by modern science.¹ I will here seek to develop this line of inquiry by demonstrating how the logic of the trace allows one to take into account the insights of Darwinism. Specifically, I will argue in favour of a conceptual distinction between life and non-living matter that nevertheless asserts a continuity between the two in terms of what I call the ‘arche-materiality’ of time.²

My point of departure is a critical engagement with the work of Quentin Meillassoux. The rapidly growing interest in Meillassoux after the English translation of his first book *After Finitude* (2008), and the announcement of the movement of ‘speculative realism’ in its wake, is perhaps the most striking instantiation of the turn from linguistic to ontological concerns in contemporary theory. Furthermore, the rationalist argumentative style of Meillassoux may seem to be at the furthest remove from the supposed literary excesses of Derridean deconstruction. For precisely this reason, however, it is instructive to confront the logic of Meillassoux’s arguments with the deconstructive logic of the trace that I seek to pursue, beyond any linguistic or pious version of Derrida’s thinking.

Meillassoux targets nothing less than the basic argument of Kant’s transcendental philosophy, which holds that we cannot have knowledge of the absolute. Against all forms of dogmatic metaphysics, which lay claim to prove the existence of the absolute, Kant argues that there can be no cognition without the forms of time and space that undercut any possible knowledge of the absolute. The absolute would have to be exempt from time and space, whereas all we can know is given through time and space as forms of intuition. As is well known, however, Kant delimits the possibility of knowledge in order to ‘make room for faith’. By making it impossible to prove the existence of the absolute Kant also makes it impossible to refute it and thus rehabilitates the absolute as an object of faith rather than knowledge.

In contrast, Meillassoux seeks to formulate a notion of the absolute that does not entail a return to the metaphysical and pre-critical idea of a necessary being. He endorses Kant’s critique of dogmatic metaphysics, but argues that we can develop a ‘speculative’ thinking of the absolute that does not succumb to positing a necessary being. According to Meillassoux,

it is absolutely necessary that every entity might not exist. This is indeed a speculative thesis, since we are thinking an absolute, but it is not metaphysical, since we are not thinking any *thing* (any entity) that would *be* absolute. The absolute is the absolute impossibility of a necessary being.

(Meillassoux 2008: 60)

The absolute in question is the power of *time*. Time makes it impossible for any entity to be necessary, since the condition of temporality entails that every entity can be destroyed. It is precisely this destructibility that Meillassoux holds to be absolute: ‘only the time that harbours the capacity to destroy every determinate reality, while obeying no determinate law – the time capable of destroying, without reason or law, both words and things – can be thought as an absolute’ (ibid.: 62). Armed with this notion of the absolute, Meillassoux takes contemporary philosophers to task for their concessions to religion. By renouncing knowledge of the absolute, thinkers of the ‘wholly other’ renounce the power to refute religion and give the latter free reign as long as it restricts itself to the realm of faith rather than knowledge. As Meillassoux puts it with an emphatic formulation: ‘*by forbidding reason any claim to the absolute, the end of metaphysics has taken the form of an exacerbated return of the religious*’ (ibid.: 45).

Although Meillassoux rarely mentions him by name, Derrida is clearly one of the intended targets for his attack on the idea of a ‘wholly other’ beyond the grasp of reason. As I demonstrate in *Radical Atheism*, however, Derrida’s thinking of alterity cannot be aligned with any religious conception of the absolute (Hägglund 2008). For Derrida, alterity is indissociable from the condition of temporality that exposes every instance to destruction. Consequently, Derrida’s notion of the ‘absolutely’ or ‘wholly’ other (*tout autre*) does not refer to the positive infinity of the divine but to the radical finitude of every other. Every finite other is absolutely other, not because it is absolutely in itself but, on the contrary, because it can never overcome the alterity of time and never be in itself. Far from consolidating a religious instance that would be exempt from the destruction of time, Derrida’s conception of absolute alterity spells out that the subjection to the violent passage of time is absolutely irreducible.

Nevertheless, there are central and decisive differences between the conception of time proposed by Meillassoux and Derrida respectively. For Meillassoux, the absolute contingency of time (the fact that anything can happen) has an ontological status which entails that the advent of the divine is possible and that life may emerge *ex nihilo*, independent of preceding material conditions.³ In contrast, I will show that the conception of time as dependent on the structure of the trace provides a better model for thinking temporality and contingency than the one proposed by Meillassoux. Contrary to what Meillassoux holds, time cannot be a virtual power to make anything happen, since it is dependent on a spatial, material support that restricts its possibilities. My argument proceeds by demonstrating how the structure of the trace can be deduced from the philosophical problem of succession. The structure of the trace entails the arche-materiality of time, which is crucial for thinking the relation between the animate and the inanimate, while undermining Meillassoux’s notion of the virtual power of time.

Articulating his conception of time, Meillassoux proceeds from the empirical phenomenon of what he calls *arche-fossils*, namely, objects that are older than life on Earth and whose duration it is possible to measure: ‘for example an isotope

whose rate of radioactive decay we know, or the luminous emission of a star that informs us as to the date of its formation' (2008: 10). Such arche-fossils enable scientists to date the origin of the universe to approximately 13.5 billion years ago and the origin of life on Earth to 3.5 billion years ago. According to Meillassoux, these 'ancestral' statements are incompatible with the basic presupposition of transcendental philosophy, which holds that the world cannot be described apart from how it is given to a thinking and/or living being. The ancestral statements of science describe a world in which *nothing was given* to a thinking or living being, since the physical conditions of the universe did not allow for the emergence of a life or consciousness to which the world could be given. The ensuing challenge to transcendental philosophy 'is not the empirical problem of the birth of living organisms, but the ontological problem of the coming into being of givenness as such' (ibid.: 21). Rather than being able to restrict time to a form of givenness for consciousness, we are confronted with an absolute time 'wherein *consciousness as well as conscious time have themselves emerged in time*' (ibid.: 21).

Meillassoux is well aware that he could here be accused of conflating the empirical with the transcendental. Empirical bodies emerge and perish in time, but the same cannot be said of transcendental conditions. The transcendental subject is not an empirical body existing in time and space, but a set of conditions through which knowledge of bodies in time and space is possible. Thus, a scientific discourse about empirical objects or the empirical universe cannot have purchase on the transcendental subject, since the latter provides the condition of possibility for scientific knowledge.

In response to such an objection, Meillassoux grants that the transcendental subject does not exist in the way an object exists, but insists that the notion of a transcendental subject nevertheless entails that it must *take place*, since it 'remains indissociable from the notion of a *point of view*' (ibid.: 25). The transcendental subject – as both Kant and Husserl maintain – is essentially *finite*, since it never has access to the world as a totality but is dependent on receptivity, horizon, perceptual adumbration and so on. It follows that although transcendental subjectivity is not reducible to an objectively existing body, it must be incarnated in a body in order to be what it is. Without the incarnation in a body there would be no receptivity, no limited perspective on the world, and hence no point of view. As Meillassoux puts it: 'That the transcendental subject has *this* or that body is an empirical matter, but that *it has* a body is a non-empirical condition of its taking place' (ibid.: 25). Consequently, when scientific discourse 'temporalizes and spatializes the emergence of living bodies' it also temporalizes and spatializes the basic condition for the taking place of the transcendental (ibid.: 25). Thus, Meillassoux argues that the problem of the ancestral 'cannot be thought from the transcendental viewpoint because it concerns the space-time in which transcendental subjects went from not-taking-place to taking-place – and hence concerns the space-time anterior to spatiotemporal forms of representation' (ibid.: 26). Far from confirming the transcendental relation between thinking and being as primordial, the ancestral discloses 'a temporality within which this relation is just one event among others,

inscribed in an order of succession in which it is merely a stage, rather than an origin' (ibid.: 10).

Despite highlighting the problem of succession, however, Meillassoux fails to think through its logical implications (2008: 71). Meillassoux argues that the principle of non-contradiction must be 'an absolute ontological truth' for temporal becoming to be possible. If a contradictory entity existed it could never become other than itself, since it can already contain its other within itself. If it is contradictory, it can never cease to be but would rather continue to be even in not-being. Consequently, the existence of a contradictory entity is incompatible with temporal becoming; it would eliminate 'the dimension of alterity required for the deployment of any process whatsoever, liquidating it in the formless being which must always already be what it is not' (ibid.: 70). This argument is correct as far as it goes, but it does not consider that the same problem arises if we posit the existence of a non-contradictory entity. A non-contradictory entity would be indivisibly present *in itself*. Thus, it would remove precisely the 'dimension of alterity' that is required for becoming. Contrary to what Meillassoux holds, the movement of becoming cannot consist in the movement from one discrete entity to another, so that 'things must be this, *then* other than this; they are, *then* they are not' (ibid.: 70). For one moment to be succeeded by another – which is the minimal condition for any becoming whatsoever – it cannot *first* be present in itself and *then* be affected by its own disappearance. A self-present, indivisible moment could never even begin to give way to another moment, since what is indivisible cannot be altered. The succession of time requires not only that each moment be superseded by another moment, but also that this alteration be at work from the beginning. Every moment must negate itself and pass away *in its very event*. If the moment did not negate itself there would be no time, only a presence forever remaining the same.

This argument – which I develop at length in *Radical Atheism* – does not entail that there is a contradictory entity that is able to contain its own non-being within itself. On the contrary, I argue that the constitution of time entails that there cannot be any entity (whether contradictory or non-contradictory) that contains itself within itself. The succession of time implies that nothing ever is *in itself*; it is rather always already subjected to the alteration and destruction that is involved in ceasing-to-be.

It follows that a temporal entity cannot be indivisible but depends on the structure of the trace. The trace is not itself an ontological entity but the logical structure that explains the becoming-space of time and the becoming-time of space. A compelling account of the trace therefore requires that we demonstrate the necessary co-implication of space and time. The classical distinction between space and time is the distinction between simultaneity and succession. The spatial can remain the same, since the simultaneity of space allows one point to co-exist with another. In contrast, the temporal can never remain the same, since the succession of time entails that every moment ceases to be as soon as it comes to be and thus negates itself. By the same token, however, it is clear that time is

impossible without space. Time is nothing but negation, so in order to be anything it has to be spatialized. There is no 'flow' of time that is independent of spatialization, since time has to be spatialized in order to flow in the first place. Thus, everything we say about time (that it is 'passing,' 'flowing,' 'in motion' and so on) is a spatial metaphor. This is not a failure of language to capture pure time but follows from an originary *becoming-space of time*. The very concept of duration presupposes that something remains across an interval of time and only that which is spatial can remain. Inversely, without temporalization it would be impossible for a point to *remain* the same as itself or to exist *at the same time* as another point. The simultaneity of space is itself a temporal notion. Accordingly, for one point to be simultaneous with another point there must be an originary *becoming-time of space* that relates them to one another.⁴ The structure of the trace – as the co-implication of time and space – is therefore the condition for everything that is temporal. Everything that is subjected to succession is subjected to the trace, whether it is alive or not.

The arche-materiality of time follows from the structure of the trace. Given that every temporal moment ceases to be as soon as it comes to be, it must be inscribed as a trace in order to be at all. The trace is necessarily spatial, since spatiality is characterized by the ability to persist in spite of temporal succession. Every temporal moment therefore depends on the material support of spatial inscription. Indeed, the material support of the trace is the condition for the synthesis of time, since it enables the past to be retained for the future. The material support of the trace, however, is itself temporal. Without temporalization a trace could not persist across time and relate the past to the future. Accordingly, the persistence of the trace cannot be the persistence of something that is exempt from the negativity of time. Rather, the trace is always left for an unpredictable future that gives it both the chance to live on and to be effaced.

Let me emphasize again, however, that the deconstructive notion of the trace is logical rather than ontological. Accordingly, my argument does not assume the form of an unconditional assertion ('being is spacing, hence arche-materiality') but rather the form of a conditional claim ('if your discourse commits you to a notion of succession, then you are committed to a notion of spacing and hence arche-materiality'). The discourse in question can then be ontological, epistemological, phenomenological or scientific – in all these cases the logic of the trace will have expressive power insofar as there is an implicit or explicit commitment to a notion of succession.

The logical implications of succession are directly relevant for the main argument in *After Finitude*, which seeks to establish the necessity of contingency. As Meillassoux formulates his guiding thesis: 'Everything is possible, anything can happen – except something that is necessary, because it is the contingency of the entity that is necessary, not the entity' (2008: 65). This notion of contingency presupposes succession, since there can be no contingency without the unpredictable passage from one moment to another. To establish the necessity of contingency, as Meillassoux seeks to do, is thus also to establish the necessity of succession.

Meillassoux himself, however, does not theorize the implications of succession, and this comes at a significant cost for his argument. In a recent essay, Aaron F. Hodges has suggested that Meillassoux's critique of the principle of sufficient reason is potentially damaging for my notion of radical destructibility, which holds that everything that comes into being must pass away (Hodges 2009: 102–3). In fact, however, it is rather my notion of radical destructibility that allows us to locate an inconsistency in Meillassoux's argument. Let me quote in full the passage from Meillassoux to which Hodges calls attention:

To assert . . . that everything must necessarily perish, would be to assert a proposition that is *still* metaphysical. Granted, this thesis of the precariousness of everything would no longer claim that a determinate entity is necessary, but it would continue to maintain that a determinate situation is necessary, viz., the destruction of this or that. But this is still to obey the injunction of the principle of reason, according to which there is a necessary reason why this is the case (the eventual destruction of X), rather than otherwise (the endless persistence of X). But we do not see by virtue of what there would be a reason necessitating the possibility of destruction as opposed to the possibility of persistence. The unequivocal relinquishment of the principle of reason requires us to insist that both the destruction and the perpetual preservation of a determinate entity must equally be able to occur for no reason. Contingency is such that anything might happen, even nothing at all, so that what is, remains as it is.

(Meillassoux 2008: 62–3)

While emphasizing that a necessary entity is impossible, Meillassoux maintains that it is possible for nothing to happen, so that the entity remains as it is. As soon as we take into account the intrinsic link between contingency and succession, however, we can see that the latter argument is untenable. If nothing happened and the entity remained as it is, there would be no succession, but by the same token there would be no contingency. An entity to which nothing happens is inseparable from a necessary entity. In order to be subjected to succession – which is to say: in order to be contingent – the entity must begin to pass away as soon as it comes to be and can never remain as it is. Consequently, there is a reason that necessitates destruction, but it does not re-import the metaphysical principle of reason. On the contrary, it only makes explicit what is implicit in the principle of unreason that Meillassoux calls the necessity of contingency. Contingency presupposes succession and there is no succession without destruction. If the moment were not destroyed in being succeeded by another moment, their relation would not be one of succession but of co-existence. Thus, to assert the necessity of contingency is to assert the necessity of destruction.

For the same reason, Meillassoux's opposition between destruction and persistence is misleading. Persistence itself presupposes an interval of time, which means that nothing can persist unscathed by succession. The destruction that is involved

in succession makes any persistence dependent on the *spacing* of time, which inscribes what happens as a spatial trace that remains, while exposing it to erasure in an unpredictable future. The erasure of the spatial trace is indeed a *possibility* that is not immediately actualized, but it already presupposes the *necessity* of destruction that is operative in succession. Given that nothing can persist without succession, destruction is therefore at work in persistence itself.

Meillassoux's response would presumably be that his notion of time does not depend on succession, but designates a 'virtual power' that may leave everything as it is or subject it to succession. To posit such a virtual power, however, is not to think the implications of time but to posit an instance that has power *over* time, since it may stop and start succession at will. In contrast, I argue that *time is nothing in itself*; it is nothing but the negativity that is intrinsic to succession. Time cannot, therefore, be a virtual power. Given that time is nothing but negativity, it does not have the power to *be* anything or *do* anything on its own. More precisely, according to my arche-materialist account, time cannot be anything or do anything without a spatialization that constrains the power of the virtual in making it dependent on material conditions.

We can clarify the stakes of this argument by considering the example of the emergence of life, which for Meillassoux is a 'paradigmatic example' of the virtual power of time (Meillassoux 2007: 73). His way of formulating the problem, however, already reveals an anti-materialist bias. According to Meillassoux, 'the same argumentative strategies are reproduced time and time again in philosophical polemics on the possibility of life emerging from inanimate matter':

Since life manifestly supposes, at least at a certain degree of its evolution, the existence of a set of affective and perceptive contents, either one decides that matter already contained such subjectivity in some manner, in too weak a degree for it to be detected, or that these affections of the living being did not pre-exist in any way within matter, thus finding oneself constrained to admit their irruption *ex nihilo* from that matter – which seems to lead to the acceptance of an intervention transcending the power of nature. Either a 'continuism,' a philosophy of immanence – a variant of hylozoism – which would have it that *all* matter is alive to some degree; or the belief in a transcendence exceeding the rational comprehension of natural processes.

(Ibid.: 79–80)

It is striking that a philosopher with Meillassoux's considerable knowledge of science would present such an inadequate description of the actual debates about the emergence of life. A materialist account of the emergence of life is by no means obliged to hold that all matter is alive to some degree. On the contrary, such vitalism has been thoroughly debunked by Darwinism and its most prominent philosophical proponents. For example, what Daniel Dennett analyzes as Darwin's dangerous idea is precisely the account of how life evolved out of non-living matter and of how even the most advanced intentionality or sensibility originates in

mindless repetition (Dennett 1995). Rather than vitalizing matter, philosophical Darwinism devitalizes life. For Meillassoux, however, life as subjective existence is something so special and unique that it requires an explanation that is refractory to materialist analysis.⁵ In Dennett's language, Meillassoux thus refuses the 'cranes' of physical and biological explanation in favour of the 'skyhook' of a virtual power that would allow for the emergence of life *ex nihilo*.

To be sure, Meillassoux tries to distinguish his notion of irruption *ex nihilo* from the theological notion of creation *ex nihilo*, by maintaining that the former does not invoke any transcendence that would exceed rational comprehension, but rather proceeds from the virtual power of contingency that Meillassoux seeks to formulate in rational terms (2007: 73). In both cases, however, there is the appeal to a power that is not limited by material constraints. Symptomatically, Meillassoux holds that 'life furnished with sensibility' emerges '*directly* from a matter within which one cannot, short of sheer fantasy, foresee the germs of this sensibility'. As Meillassoux should know, this is nonsense from a scientific point of view. Life furnished with sensibility does not emerge directly from inanimate matter, but evolves according to complex processes that are described in detail by evolutionary biology. If Meillassoux here disregards the evidence of science it is because he univocally privileges logical over material possibility.⁶ Contingency is for him the virtual power to make anything happen at any time, so that life furnished with sensibility can emerge without preceding material conditions that would make it possible. This idea of an irruption *ex nihilo* does not have any explanatory purchase on the temporality of evolution, however, since it eliminates time in favour of a punctual instant. Even if we limit the notion of irruption *ex nihilo* to a more modest claim, namely, that the beginning of the evolutionary process that led to sentient life was a contingent event that could not have been foreseen or predicted, there is still no need for Meillassoux's concept of contingency as an unlimited virtual power to explain this event. Consider, for example, Dennett's Darwinian argument concerning the origin of life:

We know as a matter of logic that there was at least one start that has us as its continuation, but there were probably many false starts that differed *in no interesting way at all* from the one that initiated the winning series. The title of Adam is, once again, a retrospective honour, and we make a fundamental mistake of reasoning if we ask, *In virtue of what essential difference* is this the beginning of life? There need be no difference at all between Adam and Badam, an atom-for-atom duplicate of Adam who just happened not to have founded anything of note.

(Dennett 1995: 201)

The beginning of life is here described as a contingent event, but notice that the contingency does not depend on a punctual event of irruption but on what happens successively. There is no virtual power that can determine an event to be the origin of life. On the contrary, which event will have been the origin of life is an

effect of the succession of time that can never be reduced to an instant. Consequently, there is no need for Meillassoux's skyhook of irruption *ex nihilo* to explain the emergence of life. The emergence of life is certainly a contingent event, but this contingency cannot be equated with a power to make anything happen at any time. Rather, the emergence is dependent both on preceding material conditions that restrict what is possible and on succeeding events that determine whether it will have been the emergence of anything at all.

Thus, I want to argue that the notion of time as *survival* – rather than as virtual power – is consistent with the insights of Darwinism. The logic of survival that I develop in *Radical Atheism* allows us to pursue the consequences of the arche-materiality of time, as well as the general co-implication of persistence and destruction. If something survives it is never present in itself; it is already marked by the destruction of a past that is no longer while persisting for a future that is not yet. In its most elementary form, this movement of survival does not hinge on the emergence of life. For example, the isotope that has a rate of radioactive decay across billions of years is *surviving* – since it remains and disintegrates over time – but it is not alive.

Consequently, one can make explicit a continuity between the non-living and the living in terms of the arche-materiality of time. The latter is implicit not only in our understanding of the temporality of living processes but also in our understanding of the disintegration of inanimate matter. On the one hand, the disintegration of matter answers to the *becoming-time of space*. The simultaneity of space in itself could never allow for the successive stages of a process of disintegration. For there to be successive disintegration, the negativity of time must be intrinsic to the positive existence of spatial matter. On the other hand, the disintegration of matter answers to the *becoming-space of time*. The succession of time could not even take place without material support, since it is nothing in itself and must be spatialized in order to *be* negative – that is, to negate anything – at all. The notion of arche-materiality thereby allows us to account for the minimal synthesis of time – namely, the minimal recording of temporal passage – without presupposing the advent or existence of life. The disintegration of matter records the passage of time without any animating principle, consciousness or soul.

Accordingly, there is an asymmetry between the animate and the inanimate in the arche-materiality of the trace. As soon as there is life there is death, so there can be no animation without the inanimate, but the inverse argument does not hold. If there were animation as soon as there is inanimate matter, we would be advocating a vitalist conception of the universe, where life is the potential force or the teleological goal of existence. The conception of life that follows from the arche-materiality of the trace is as far as one can get from such vitalism, since it accounts for the utter contingency and destructibility of life. As Henry Staten formulates it:

the strong naturalist view, from which Derrida does not deviate, holds that matter organized in the right way brings forth life, but denies that life is somehow hidden in matter and just waiting to manifest itself. . . . Life is a

possibility of materiality, not as a potential that it is 'normal' for materiality to bring forth, but as a vastly improbable possibility, by far the exception rather than the rule.

(Staten 2008: 34–5)

What difference is at stake, then, in the difference between the living and the non-living? The radioactive isotope is indeed surviving, since it decays across billions of years, but it is indifferent to its own survival, since it is not alive. A living being, on the other hand, cannot be indifferent to its own survival. Survival is an unconditional condition for everything that is temporal, but only for a living being is the *care* for survival unconditional, since only a living being cares about maintaining itself across an interval of time. The care in question has nothing to do with a vital force that would be exempt from material conditions. Rather, the care for survival is implicit in the scientific definition of life as a form of organization that of necessity is both open and closed. On the one hand, the survival of life requires an *open* system, since the life of a given entity must be able to take in new material and replenish itself to make up for the breakdown of its own macromolecular structures. On the other hand, the survival of life requires a certain *closure* of the system, since a given entity must draw a boundary between itself and others in order to sustain its own life. It follows that the care for survival is inextricable from the organization of life. Neither the openness to replenishment nor the closure of a boundary would have a function without the care to prevent a given life or reproductive line from being terminated.

The distinction between matter and life that I propose, however, is not meant to settle the empirical question of where to draw the line between the living and the non-living. Rather, it is meant to clarify a *conceptual* distinction between matter and life that speaks to the philosophical stakes of the distinction. With regard to the philosophical stakes of the relation between matter and life, then, the notion of arche-materiality can be said to have two major consequences.

First, the notion of arche-materiality undercuts all idealist or speculative attempts to privilege temporality over spatiality. The constitutive negativity of time immediately requires a spatial, material support that retains the past for the future. Contrary to what Meillassoux holds, the contingency of time cannot be a pure virtuality that has the power to make anything happen. The virtual possibilities of temporality are always already restricted by the very constitution of time, since the material support necessarily places conditions on what is possible. The spatiality of material support is the condition for there to be temporality – and hence the possibility of unpredictable events through the negation of the present – but it also closes off certain possibilities in favour of others.

Second, the notion of arche-materiality allows for a conceptual distinction between life and matter that takes into account the Darwinian explanation of how the living evolved out of the non-living, while asserting a distinguishing characteristic of life that does not make any concessions to vitalism. The care for survival that on my account is co-extensive with life does not have any power to finally

transcend material constraints but is itself a contingent and destructible fact. Without care everything would be a matter of indifference *and that is a possibility* – there is nothing that necessitates the existence of living beings that care. The fact that every object of care – as well as care itself – is destructible does not make it insignificant but is, on the contrary, what makes it significant in the first place. It is *because* things are destructible, because they have not always been and will not always be, that anyone or anything cares about them. Far from depriving us of the source of vitality, it is precisely the radical destructibility of life that makes it a matter of care.

Notes

- 1 I want to thank Joshua Andresen, Ray Brassier and Henry Staten for a set of incisive questions that forced me to clarify the status of 'the trace' in my argument. My understanding of the logical, rather than ontological, status of the trace is also indebted to conversations with Rocío Zambrana and to her work on Hegel's *Logic*. See Zambrana (2010).
- 2 Several respondents to *Radical Atheism* have pointed out that I equivocate between describing the structure of the trace as a general condition for everything that is temporal and as a general condition for *the living*. The precise relation between the temporality of the living and the temporality of non-living matter is thus left unclear in *Radical Atheism*. See Brown (2009), Egginton (2009), Haddad (2009) and Hodges (2009). I am grateful for these responses to my work, which have led me to elaborate how the relation between life and non-living matter should be understood in terms of the logic of the trace.
- 3 For a radical atheist critique of Meillassoux's 'divinology', see Hägglund (2010), where I further develop the implications of my arguments in this essay.
- 4 See Derrida's argument that 'simultaneity can appear *as such*, can be simultaneity, that is a *relating* of two points, only in a synthesis, a *complicity*: temporally. One cannot say that a point is *with* another point, there cannot be an *other* point with which, etc., without a temporalization' (Derrida 1982: 55).
- 5 See Meillassoux's lecture 'Temps et surgissement ex nihilo,' where he explicitly rejects Dennett's materialist analysis of the emergence of life. The lecture is available online at <http://www.diffusion.ens.fr/index.php?res=conf&idconf=701>
- 6 See also Peter Hallward's astute observation that Meillassoux tends to treat 'the logical and material domains as if they were effectively interchangeable' (Hallward 2008: 56).

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