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## Science and Ideology Revisited: Necessity, Contingency and the Critique of Ideologies in Meillassoux and Malabou

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### *Abstract*

Political thought influenced by post-structuralism rarely invokes ideology critique as a meaningful category of analysis, criticising the structuralist attribution of contingency and necessity to, respectively, ideology and science. This article will challenge this position utilising recent philosophical considerations of necessity and contingency that rehabilitate ideology critique. Drawing on scientific materials, both Quentin Meillassoux and Catherine Malabou develop a form of necessity inhabited by contingency. It will be argued that this work allows a reconsideration of the usefulness of science for ideology critique in a manner that doesn't rely on an attribution of scientific necessity to the politics of the critic.

Keywords: Ideology; Critique; Quentin Meillassoux; Catherine Malabou; New Materialism; Speculative Realism.

## Science and Ideology Revisited: Necessity, Contingency and the Critique of Ideologies in Meillassoux and Malabou

In political thought influenced by post-structuralism it is rare to see the concept of ideology, or the practice of ideology critique, invoked as meaningful categories of analysis.<sup>1</sup> This reticence towards the Marxist conception of ideology, understood as the deliberate mystification and obscuring of a set of necessary political conditions, revolved around a rejection of the scientific ambitions of structuralism and its attempt to distinguish between contingent surfaces and deep, a-historical structures.<sup>2</sup> Quintessential to this separation was the attribution of contingency and necessity to, respectively, ideology and science. Ideology critique was seen to purge politics of contingent ideological positions, making it fertile for historical materialism's scientific analysis of the necessary movement of history. Contrastingly, for the post-structuralists, political action rested not on a necessity determined by science but on the unpredictable and contingent character of both politics and history. In the cases where ideology is appealed to by thinkers influenced by post-structuralist thought, particularly those considered under the label of post-Marxism, it is untethered from notions of necessity and reduced to an arbitrary attempt at *naming* or *totalising* an otherwise contingent set of social relations in a manner which prevents this contingency from being recognised.<sup>3</sup>

Critics of this influence of post-structuralism upon post-Marxist politics and theories of ideology have argued that the flight from scientific materialism prevents an understanding of the concrete conditions of politics and of how ideology operates.<sup>4</sup> As a result, the rarefication or weakening of the concept of ideology in post-structuralism appears to be a result of this chasm between those that stress the contingency of politics and those that insist upon the scientific necessity of materialist analysis. Such a strict division between the positions of necessity and contingency leads to an impasse, however. For while the

dissolution of the problem of ideology within the concepts of discourse and power moves politics beyond teleological and determinist historicism, within this theoretical purview it is difficult, if not impossible, to disqualify false or misleading political beliefs and positions that nevertheless emerge from the productive conditions that post-structuralism tries to account for. How can one truly question deceptive political claims without at least a modicum of necessity upon which to ground such challenges?

A solution to this problem can be found within the adoption of resources from science and the formulation of naturalistic positions by contemporary European philosophy.<sup>5</sup> Political theorists who have been influenced by this turn to science can be divided into two camps. The first, often referred to as New Materialism, attempts to support post-structuralist ontological claims regarding the post-foundational character of being and the centrality of becoming by way of scientific materials.<sup>6</sup> The second camp attempts to move away from these ontological claims in order to construct realist, speculative, and materialist positions that rehabilitate questions of necessity.<sup>7</sup> This article will focus on the latter turn, in order to claim that the use of scientific materials in the work of Quentin Meillassoux and Catherine Malabou is significant for the concept of ideology.<sup>8</sup> In particular, it will be argued that their work shows how a form of scientific necessity within ideology critique can be reconciled with post-structuralism's endorsement of political contingency.<sup>9</sup> Their understandings of the relationship between necessity and contingency make considerable contributions towards a rehabilitation of both science and necessity as categories of political and ideological analysis, in a manner that is compatible with the crux of the post-structuralist critique of necessity in favour of contingency. The importance of these positions lies in the identification and criticism of illusory beliefs in a manner that the abandonment of ideology is incapable of, through an appeal to an underlying reality that is simultaneously necessary yet *non-essentialising*, due to its contingency.

This claim that necessity and contingency are not so much opposed but are, in fact, compatible is central to the work of Meillassoux<sup>10</sup> and Malabou.<sup>11</sup> They both claim that contingency is *necessary* and that necessity can only be thought through *contingency*. Crucial to their respective efforts to develop this point is the use of scientific materials, in the form of transfinite mathematics and contemporary neuroscience, in a manner that rejects the political romanticism behind the post-structuralist reticence towards necessity. By doing so, their work restores the ability of ideology critique to appeal to the language of science in order to cut through the dross of ideological abstraction, while refusing to make the ground which one reveals absolutely necessary, thus avoiding the consequence that the post-structuralists were wary of. The argument presented here will, therefore, not focus on the general political arguments of both thinkers.<sup>12</sup> Instead, it will demonstrate the significance of their work for the concept of ideology, insofar as they both suggest that the claims of science can be utilised in a form of political and ideological critique *without* the essentialist politics that post-structuralism criticised. Instead, scientific evidence is seen to be both necessary, hence its ability to disable ideological claims, but contingent, insofar as the real that this evidence describes is open to change and transformation.

This claim will be unfolded across four sections. The first will set the scene of the encounter between post-structuralism and ideology critique. Here, Louis Althusser will be taken to represent the attempt to characterise historical materialism as a scientific necessity underpinning the political contingency represented by ideology, before presenting the epistemological and ontological dimensions of the post-structuralist rejection of this claim. Sections two and three will present Meillassoux and Malabou's reconfiguration of the character of ideology critique through their use of science. The account of Meillassoux will focus upon his use of mathematics to critique what he sees as philosophy's replacement of objectivity with a proliferation of ideological beliefs based on faith alone. In the account of

Malabou we will see how she attempts to use the concept of neuronal plasticity to debunk the specific ideological adoption of neuroscience in the promotion of flexible working practices. In the fourth section, it will be concluded that in order to resist repeating the sins that the post-structuralists associated with necessity, neither approach can be taken in isolation. By tempering the individual claims of Meillassoux and Malabou to having found the correct approach to science, it will be argued that the contribution their work can make to the study of ideology is only significant when taken together. That is, if one conjoins necessity with contingency, a plurality of approaches to scientific modes of critique must be accommodated to best adapt to the different forms that ideology takes.

***The Post-Structuralist Rejection of Scientific Necessity Underneath Ideological Contingency***

It is important to note that ideology will not be understood as the neutral variation of political beliefs, but as a tool for the unmasking of deception and the distortion of reality.<sup>13</sup> This critical conception of ideology is first found in Marx, who adds a distinction between ideological surface and scientific depth to the science of ideas developed by Destutt de Tracy. This can be seen clearly in *The German Ideology*:

Consciousness can never be anything else than conscious existence, and the existence of men is their actual life-process. If in all ideology men and their circumstances appear upside-down as in a *camera obscura*, this phenomenon arises just as much from their historical life-process as the inversion of objects on the retina does from their physical life-process.<sup>14</sup>

Combining the materialist connection between sensation and ideas of de Tracy with the inversion effected by the *camera obscura*, Marx conjoins the study of the source of consciousness with the need for critical scrutiny. Contingency and necessity are both implicated here. However, in contrast to the metaphysical or ontological conjoining of

contingency and necessity that we will see in Meillassoux and Malabou, Marx distinguishes between a *political contingency* and a *philosophical-scientific necessity*. Ideology is contingent insofar as it represents a political position that arises only ‘[a]fter conditions have developed sufficiently to produce it’.<sup>15</sup> By situating ideology within history, Marx demands its contingency; it will not survive the travails of the passage of time as it *emerged* in time. Nevertheless, this claim is accompanied by the materialist study of the *necessary* aspects of historical development that led to the emergence of these contingent political positions. Marx’s critique of Hegel’s *Philosophy of Right* is instructive here, insofar as the ideology of the state takes it to be ‘created by the actual idea,’ whereas Marx conceives it as a contingent political concept that emerges from a set of material conditions that make it possible.<sup>16</sup> Thus, as Nathan Coombs suggests, historical materialism attempts to maintain the contingency of abstract, political concepts without abdicating the role of explaining the concrete relations necessary for their emergence.<sup>17</sup> Ideological mystification must be replaced by the analysis of the real, necessary conditions within which ideological consciousness is produced.

Althusser is perhaps the major proponent of such an understanding of ideology in the twentieth century. By invoking the ‘actual life-process’ of humans in *The German Ideology*, which becomes the analysis of modes of production in *Capital*, ‘Marx opened up the “continent of history” to scientific knowledge’.<sup>18</sup> Reading the Marx of these two texts together lays the ground for a properly scientific conception of how contingent ideologies transform across the passage of time.<sup>19</sup> Three points of Althusser’s reading are pertinent here. First, ideology constitutes both an *illusion* with regards to material existence while also being based *within* it.<sup>20</sup> Ideology is contingent with regards to reality, given its illusory nature, but is generated from a mode of production that can be thought scientifically. Second, given that both are products of material conditions, there is no subjectivity formed outside of ideology and its associated rituals, institutions and practices.<sup>21</sup> By materialising the source of

ideological illusion, one can reconstruct the emergence of these contingencies through the scientific method of historical materialism. Third, while all subjectivity is related to a contingent ideological viewpoint, Marxist historical materialism is capable of acting as an ideology informed by the necessity of history:

Revolutionary Marxist-Leninist political ideology is of course distinguished by the fact, without historical precedent, that it is an ideology which has been heavily 'reworked', and thus transformed, by a science, the Marxist science of history.<sup>22</sup>

Althusser attributed contingency to ideological formations by showing, scientifically, how they can be reduced to the necessary development of the materialist interpretation of history. Ideology critique is thus situated within the unique position of the Marxist-Leninist critic with regards to contingency and necessity, insofar as its own contingency as a political position is tempered by knowledge of scientific necessity.

The problem that arises from the Althusserian transformation of the Marxist project is that it attributes a *contingent* political position with the status of a *necessary* principle. A key founding principle of post-structuralism was a rejection of this apportioning of necessity and contingency, which François Dosse characterises as an 'ideological detergent in the name of science' that endowed 'political commitment with a truly scientific exigency that, in its purity, resembled a metaphysical desire for an absolute'.<sup>23</sup> It is the absolute, abstract and metaphysical character of this scientific necessity underlying contingent ideological articulations, and therefore the political position that one should adopt, that caught in the throat of post-structuralist thinkers.<sup>24</sup> The attribution of scientific necessity to the structures underlying ideological contingency was questioned in two ways. First, through an epistemological claim that the division between science and ideology impairs the analysis of the real operations of power. Second, by staking an ontological position that sees the division



between ideological contingency and materialist necessity as an incorrect view on the character of reality.

Both of these claims are present in the work of Michel Foucault. He refuses a-historical concepts in a manner that positions the attribution of scientific necessity to Marxist ideology critique as an instance of theorists attempting to play the 'role of referee, judge and universal witness'.<sup>25</sup> Foucault gives three reasons for this which form the epistemological and an ontological rejections of Marxist ideology critique.<sup>26</sup> The first two clearly highlight the epistemological problem. First, the duality between science and ideology rests too heavily on a-historical categories of true and false that his genealogical method problematised, which, second, assumes the existence of an a-historical subject that would be subjected to the operations of ideology. By forming genealogies of the emergence of concepts and practices which resisted their reduction to clear origins, Foucault challenged both, in Michèle Barrett's words, the "realist" epistemology on which the ideology/science distinction...has been founded,' and the existence of a trans-historical subject that would engage in the critique of ideologies.<sup>27</sup> Foucault's third criticism expresses the ontological problem with the division between science and ideology, in that it reduces the question of ideology to a system of economic and material structures that play a repressive function with regards to individuals. This obscures the ontological role of power, insofar as it is not something that is wielded repressively so much as a set of relations that produce *both* ideological structures and the scientific 'truths' which underlie them. Rather than a distinction between contingent ideological surface and necessary scientific depth, the post-structuralist position on ideology, shared with Gilles Deleuze and Félix Guattari, is that the truth underling ideological illusion is as much a contingent product of power as the mystification itself.<sup>28</sup>

The reticence towards the concept of ideology, therefore, rests on the claim that it makes the investigation of power and its operations difficult, as it invokes a-historical

conceptions of truth, the subject, and determining structure in its postulation of scientific necessity. For Foucault, Deleuze and Guattari dualistic divisions between science and ideology cannot account for the real conditions that produce political problems without attributing necessity to the politics held by the critic. This is not an exhaustive account of the post-structuralist position with regards to ideology, nor the connected questions of power, domination and control that ideology critique addresses. What it is intended to present, however, is a particular historical and theoretical moment in which contingency was mobilised *against* the power of necessity in politics, a casualty of which was the efficacy of the concept of ideology. It is to this historical moment, and its re-apportioning of the importance of contingency and necessity, that the work of Meillassoux and Malabou can be seen to respond.

### ***Meillassoux's Rehabilitation of Necessity Against Ideological Fideism***

The crux of this post-structuralist criticism of Marxist ideology critique is a rejection of its key metaphysical commitments, particularly the attribution of teleological inevitability to the processes studied by historical materialism.<sup>29</sup> If we define metaphysics as the idea that some entities exist *necessarily*, then the post-structuralist claim is, at its core, a criticism of the metaphysical necessity implied by the political position that articulates a scientific critique of ideological contingency. Such is how Meillassoux defines metaphysics, as the attempt discover a necessary reason or entity that *must* exist (*AF* p. 33). He would also, however, class the post-structuralists discussed above as metaphysicians in this traditional sense, insofar as the position that is taken against the science/ideology division relies upon the *necessity* of a commitment to a particular conception of power, a flat ontology, and a principle of becoming that would replace dialectical materialism's distinction between surface and depth (*AF* p. 37).<sup>30</sup> Meillassoux would *not* consider Foucault, Deleuze and

Guattari as anti-metaphysicians precisely because this would require them rejecting any necessary entity or law, represented for him by the metaphysical postulate of becoming or the productivity of power.<sup>31</sup>

This wrangling over the definition of metaphysics is politically important, as it puts the critique of ideology in an advantageous position with regards to its post-structuralist critics. If we consider the critique of metaphysics as the critique of the postulation of necessary entities, it must also be a critique of ideology, insofar as ideology posits the necessary existence of particular political claims. Hence, for Meillassoux the critique of ideology ‘always consists in demonstrating that a social situation which is presented as inevitable is actually contingent’ and ‘is essentially indissociable from the critique of metaphysics, the latter being understood as the illusory manufacturing of necessary entities’ (*AF*, p. 34). The political position of the post-structuralist anti-ideologists is turned on its head: if one is to truly critique traditional metaphysics, then this must also be a critique of ideology. Accordingly, it is possible to develop a critique of ideology tied to a critique of necessary entities, and thus untethered from the false necessity that the post-structuralists perceived in the scientific model of critique. Meillassoux wants, therefore, to return to a broadly Marxist conception of ideology as the distortion of real conditions, but while tying the necessity of these conditions to contingency.<sup>32</sup>

Such a rethinking of the notion of necessity is one of the central motivations of Meillassoux’s re-orientation of the stakes of European philosophy that leads to the ideological and political ramifications we will derive from his work. The distinction between Meillassoux’s rejection of necessity and that of the post-structuralists is that he seeks to reconcile the absolute with such a critique. His primary target in this project, rather than ideology, is what he sees as the major philosophical commitment organising philosophy since Immanuel Kant, which he terms *correlationism*.<sup>33</sup> For Meillassoux, Kant claimed that it is

only by way of the correlation between thought and being that philosophy can access reality, ruling out any objective proof of the existence of necessary entities. Despite being formative of the critique of metaphysics—and thus ideology critique in a Marxist key—this cancelling out of any postulation of necessity leads to the political problem that Meillassoux refers to as fideism. This is the proliferation of ideologies not based on any claim to objectivity, but instead on fanaticism and naïve faith, precisely because there is no absolute metaphysical principle with which one can adjudicate between beliefs and political positions.<sup>34</sup> A renewed critique of necessity must be accompanied by a form of the absolute that prevents the legitimization of ideological fideism. The contagion of unjustified political belief is what Meillassoux challenges, and what he sees as the stakes of a theory of ideology elaborated *after* its post-structuralist critique.

Such a view requires the defence of the apparently paradoxical attempt to simultaneously uphold a rejection of necessity and an embrace of the absolute. It is in Meillassoux's solution to this problem that the justification for his diagnosis of the present as a time of political fanaticism and the return of the religious is to be found, a claim which rests heavily on his characterisation of correlationism. This position, which typifies the majority of post-Kantian philosophy for Meillassoux, 'consists in disqualifying the claim that it is possible to consider the realms of subjectivity and objectivity independently of one another' (*AF*, p. 5). The two major aspects of this position are the correlationist circle and the correlationist two step. Indicating a paradox whereby we cannot escape the correlate to think the real in-itself, the correlationist circle claims that whenever we try to think the real objectively we are always doing this from within thought, rather than by way of direct access to objects themselves. Correlationists close this circle with a 'two-step' whereby subject and object are not only inconceivable outside of thought, but they are seen to be co-given or co-constituted. These moves prohibit the possibility of any verification or objectivity as they

occur within thought, and consequently they make impossible any absolute form of objectivity outside of its subjective apprehension.

Meillassoux's challenge to correlationism arises from what he calls the ancestral. Referring to events occurring anterior to the existence of *any* consciousness, such as the big-bang or the fossil record, ancestrality poses the problem of knowing a reality prior to the correlate between thinking and being. This presents us with the notion that '[t]o think ancestrality is to think a world without thought—a world without the givenness of the world', and that to produce statements that refer to the ancestral '[i]t is therefore incumbent upon us to break with the ontological requisite of the moderns, according to which to be is to be a correlate' (*AF*, p. 28). Scientific validity with regards to the ancestral is at stake here, for the difficulty correlation presents, according to Meillassoux, is that the de-absolutisation of philosophy replaces verification with belief. How can we scientifically validate phenomena that occurred *before* the emergence of the correlate between thought and being? Significantly for those of us interested less in the study of physics or geology and more in political phenomena, not only does this critique apply to those things considered as ancestral, but also to statements about reality in general, social and political phenomena included. Without a foothold outside of consciousness or intentionality it is impossible for the correlationist to discern between true and false claims. We are thus led into a blind alley with regards to truth, where one cannot rule out any belief regarding the character of reality on account of our inability to escape the correlation. Politics, therefore, is hampered by the inability to rule out illegitimate, false, or misled ideological claims by appeal to some objectivity that persists beyond their contingent positions.

Meillassoux thus situates both the founding of ideology critique *and* the proliferation of ideologies in the replacement of necessity with belief in the Kantian challenge of dogmatic metaphysics. On the one hand, correlationism 'undermines reason's claim to be able to

disqualify a belief on the grounds that its content is unthinkable' (*AF*, p. 40). One cannot disqualify an ideology with reference to a necessary ground because access to necessity is barred by the correlate. On the other hand, 'this trajectory culminates in the disappearance of the pretension to *think* any absolutes, *but not in the disappearance of absolutes*' (*AF*, p. 44). Ideology critique can no longer identify the necessity beneath contingency, and as such this void is filled by a proliferation of absolute beliefs without justification. This return of absolutes means that '[t]he victorious critique of ideologies has been transformed into a renewed argument for blind faith' (*AF*, p. 49). Faith, whether regarding explicitly religious themes or in the secular promise of the nation or the people, may not be able ground itself in necessity but nevertheless projects itself as doing so.

Meillassoux's attempt to dissolve this problem does not simply return to a pre-Kantian position that states the necessity of a particular entity. To do so would be to return to the privileging of a single political position so cogently critiqued by post-structuralism. Instead, what makes Meillassoux's argument compelling is his attempt to reconcile necessity with contingency. There are two steps of this argument that are pertinent for us here. The first is the development of the principle of factuality. Correlationism rests upon the principle of facticity, that we cannot propose necessary entities because this takes place within thought. Absent of a direct connection to reality, whatever appears within thinking is always possessed by the possibility that it is actually other than it is merely thought to be. Meillassoux's move is to claim that this is not so much a characteristic of *thought* so much as a characteristic of *reality* (*AF*, p. 53). He claims that we must conceive of this 'capacity-to-be-other' as a character of a reality independent and indifferent to human thought because the capacity for change attributed to thought harbours the possibility of *thought itself* disappearing (*AF*, p. 57). Facticity cannot account for contingency because that which thinks the contingent could disappear as a result of contingency, whereas factuality transfers this

capacity to things in themselves and can, therefore, account for the possibility of thought's disappearance.

To prevent this ability to become other from postulating a necessary principle for such an occurrence, the absolute contingency of all things replaces the principle of reason with a principle of unreason. Unreason refers to the fact that for Meillassoux there is no reason that the character of the natural laws that govern the world would not change at any particular moment. Crucially, this is distinct from the contingency attributed to probability, for the latter operates within the bounds of existing natural laws. This applies just as much to the alternate metaphysical and ontological principles advocated by post-structuralists that, while asserting the contingency of the state of things, ground this capacity within a necessary ontological principle.<sup>35</sup> Contingency is not the becoming of laws so much as the possibility for their abrupt transformation at any instant, as 'far from guaranteeing order it guarantees only the possible destruction of every order' (*AF*, p. 64). Ideology is thus the obscuring or denial that *all* things have the condition to be otherwise than they are.

One objection to this argument is that if natural laws are contingent, then why do they not change continuously and as such demonstrate at least a degree of stability? Consequently, the second part of Meillassoux's step beyond correlationism accounts for this problem through a mathematising of the absolute which is able to account for the possibility of the co-existence of the necessity of contingency and the stability of the laws of nature that currently exist.<sup>36</sup> Meillassoux utilises the mathematics of the transfinite in order to deepen the distinction between probability and absolute contingency. Transfinite mathematics rests on the detotalisation of number, which claims that it is impossible to totalise the thinkable (*AF*, p. 103). The basic point here is intuitive; the totalisation of number is impossible precisely because that totalisation would itself require a set or series within which it is encompassed, which leads to an infinite regress of totalisations. Being is contingent precisely because it is

impossible to totalise the absolute. The argument that the stability of natural laws contravenes the necessity of contingency fails, according to Meillassoux, because it rests on a conception of probability that the transfinite rules out. Reasoning through probability, the critic of necessary contingency argues that in the face of an infinite number of possibilities it is highly improbable that the laws of nature would not change (*AF*, p. 99). Contrarily, Meillassoux claims that thinking contingency through such probability requires the *a priori* possibility of totalisation that the transfinite denies. Stability is not more probable or improbable than instability, putting contingency beyond the bounds of the thinkable.<sup>37</sup>

This claim regarding probability leads us to the point at which the use of a scientific discourse, transfinite mathematics, justifies Meillassoux's reconsideration of ideology. Mathematics is weaponised against the proliferation of ideological faith precisely because it allows him to bring the absolute back into play, demonstrating the necessity of contingency. Such a thought is provided by mathematisation, as the transfinite allows one to situate mathematical theorems within a particular totality without asserting the *necessity* of that totality. Hence, necessary contingency can be utilised within a critique of fideism by providing the grounds for the rejection of unwarranted ideological beliefs by reconciling necessity and contingency. Such necessity makes it possible to ground ideological critique in a scientific and mathematic conception of the real as necessary and contingent *at the same time*. This rehabilitates the critique of ideology, for the claim of a realm *outside* of political and subjective contestation that we can use to adjudicate between these beliefs is given credence.<sup>38</sup> Thinking the outside of ideology is made possible by linking science to ideology through mathematics, absolutising nothing but contingency.



***Biological Contingency, Plastic Necessity and Neuronal Ideology***

Mathematics is pivotal for Meillassoux's account of the necessary contingency of the absolute, and his version of the reconnection between science and ideology critique. Conversely, Malabou challenges this gesture in order to articulate her own counter-claim that it is a biological account of thought that can better account for the necessary contingency of nature. For her:

the concept of a possible variability or modifiability in the laws of nature is not attained via a mathematical reading deprived of phenomenal proofs, but is based instead on the biological theory of heritage...contingency derives not from an axiom—whose origin is obviously always *a priori*—but instead from the idea of a constitution of the *a priori* itself by experience and adaption (*BT*, p. 149).

Malabou makes this comparison between her own understanding of contingency and Meillassoux's in the context of her re-reading of the conditions of thought according to Kant in terms of neuro-biology. She shares Meillassoux's goal of bringing contingency beyond 'the dice throw' of probability, but rather than mathematising the absolute contingency of the laws of nature she develops an '*epigenetic structure of the real*' that rests upon 'the adaptive pliability of the world' (*BT*, p. 151). We will see what epigenesis means in this context shortly, but the claim she articulates is that there is a necessary structure that determines the understanding, but that this is generated through the contingencies of history. Ideology critique can appeal to necessary *a priori* criteria for determining the truth or falsity of belief, but on the condition that these are open to change.

Malabou thus attempts to reconcile necessity and contingency, but from the perspective of a biological explanation of the emergence of the workings of the mind. Her own framing of the problem she addresses is remarkably similar to Meillassoux's: '*The*

*question that life asks thought is about necessity defined as transcendental contingency'* (BT, p. 172). This statement rests on a condensation of Malabou's engagement with several concepts, most notably the project which the majority of her philosophical career has revolved around: the reconciliation of a philosophical notion of plasticity with the understanding of plasticity developed within neuroscience. Ideology features here not only because her characterisation of plasticity is invoked in her critique of its ideological deployment by contemporary capitalism. Significantly, her turn to science underpins a more general re-conception of the relationship between necessity and contingency of the kind that this argument suggests supersedes the political critique of the concept of ideology articulated by post-structuralism. In other words, she makes it possible to reconcile ideology critique with science by making the necessity revealed by the latter a contingent structure upon which the former operates.

For Malabou, plasticity refers to the mutable, transformable and destructive character of reality. Behind all her engagements with both philosophy and neuroscience is an attempt to elaborate 'the differentiated structure of all form and hence the formal or figurative unity of all difference and articulation'.<sup>39</sup> She develops an understanding of plasticity as, on the one hand, the capacity of all form to be subject to transformation, and on the other, the necessity of persistent structures as the site of any transformation. This is significant for two reasons. First, because it rejects the primacy of heterogeneity and difference upheld by post-structuralism, putting contingent transformation and the necessity of structure on a level footing. Second, because this return to the notion of form echoes Meillassoux's call for a return to necessity, while subjecting that necessity to contingency. The necessity of structure is the result of a set of plastic transformations, but such structures are necessary for any contingent alteration of their reality. A clear definition of plasticity runs as follows:

Plasticity refers to an equilibrium between the receiving and giving of form. It is understood as a sort of natural sculpting that forms our identity, an identity modelled by experience and that makes us subjects of a history, a singular, recognizable, identifiable history, with all its events, gaps, and future.<sup>40</sup>

Malabou's project, therefore, is to think the mutability of structures such as the transcendental, and thus the contingency of the necessary forms that govern our lives.

Significantly, for Malabou plasticity is not just the positive production and alteration of these forms; it is caught within a dialectic that oscillates between production and destruction. Destructive plasticity refers to the annihilation of any form involved in plastic transformation. Plasticity is not simply a reversible transition between stable forms, but instead incorporates destruction and irreversibility into the very capacity to receive form. Plasticity's powers of formation are reliant on the destruction of what has come before, and the contingency of destructive plasticity haunts any apparently necessary form. Malabou's reading of Darwin in terms of destructive plasticity is telling on this point. She writes that:

The plastic condition—otherwise called the motor of evolution itself—therefore hinges on plasticity, understood as the fluidity of structures on the one hand and the selection of viable, durable forms likely to constitute a legacy or lineage on the other.<sup>41</sup>

Natural selection acts as an apt demonstration of this necessity of destruction through the eradication of traits and individuals that occurs in the formation of the positive characteristics of species. Plasticity is not just a positive agent of change but a harbinger of destruction that incorporates contingency with the structure of reality.

Malabou's further innovation lies in her sustained attempt to draw on neuroscience to substantiate her claims with regards to plasticity. Two particular aspects of this engagement are of major importance for her relevance to the concept of ideology. The first is developed early in Malabou's use of research regarding the plastic formation of the brain. Developments

in neuroscience, which are fast becoming commonly held, suggest that the brain is not possessed of any linear process of development, but has the capacity to form itself according to a principle of plasticity. It gives form in the process of its development, modulates the formation of synapses according to individual experience, and has the capacity to repair lesions to its physical structure.<sup>42</sup> Not only does the brain develop according to a principle of plasticity in its capacity for form and repair, but its formation is implicated in its environment and is not purely genetically determined.<sup>43</sup> There is, as a result, always some form of plastic contingency involved in the formation of the brain.

This reference to the environment moves us to the second of Malabou's engagements with contemporary neuroscience. In more recent work, she has developed her focus on plasticity in terms of the historical development of the structure of rationality by rooting it within the science of epigenetics. Simply, epigenetics resists the strict determinism implied by the genetic paradigm, replacing it with a view where the evolution of life is implicated with environmental and individual factors that influence the unfolding and transformation of the genetic program. This development constitutes 'a break with innatism' whereby the stakes are the dissolution of the philosophical problem of rationality within a biological explanation (*BT*, p. 11). Malabou, however, resists this conclusion. Through a dense tracing of the meanings of the metaphor of epigenesis in the work of Kant, she builds a bridge between biological development and the transcendental structure of reason. In Ian James' words, for Malabou 'the *a priori* structure of thought must be understood as being folded into the temporal and material becoming of epigenetic development'.<sup>44</sup> Reason exists but is without reason; it has form but no necessity, and is necessary but contingent.

This elaboration of neuronal plasticity lends itself to ideology critique in two ways, both different from the sense in which ideological concerns arise in the work of Meillassoux. The first regards a specific ideological target, the tendency of contemporary capitalism to

produce flexible subjects and a labour market that adapts spontaneously to its needs. Malabou distinguishes flexibility from plasticity, as the former concerns the ability to *receive* rather than *give* form.<sup>45</sup> From this distinction, she derives three consequences of the false echoing of neuronal plasticity by this focus on flexibility within contemporary economic practices.<sup>46</sup> First, an emphasis on networked production and management resonates with the networks of neuronal connections produced by the plastic brain. Nevertheless, the potential to form and reform these networks is not distributed among them, and a central model of control is retained. Second, this entails a delocalisation of work. Where neurons are multifunctional in the model of plasticity, employees are expected to be part of a process of constant refunctionalisation and relocation to fit the needs of the networked business while retaining the capacity to return to the previous state that flexibility demands. Third, these two characteristics rely on the principle of adaption. Like the ability of the brain to adapt ‘plastically’ to its environment and experience, the employee must be able to adapt in order to offer something to their employers in response to a constantly changing workplace. Malabou identifies these three principles with what she sees as the ideological misrepresentation of plasticity as flexibility, wherein ‘it is no longer possible to distinguish rigorously on an ideological level between "popularly" accessible neuroscientific studies and the literature of management’.<sup>47</sup> It is through her adoption of scientific materials that Malabou is able to assert the falsity of this particular ideological misrepresentation.

Important here is not just the content of this critique but Malabou’s turn to *science* for its elaboration. The specific claim made in the differentiation of plasticity from flexibility is that ‘any vision of the brain is necessarily political’.<sup>48</sup> The key to debunking the contingency of one specific, contemporary ideology lies in the more general adoption of the necessity of the scientific investigation of the plastic structure of the brain for this critique. By making this link, we can see that the second consequence for the concept of ideology is implied rather

than explicit, and lies in Malabou's arguments regarding the relationship of necessity to contingency. Malabou conjoins the necessary structure of reason with the potential for change according to the principles of plasticity and epigenetics (*BT*, p. 174). The critique of the contingent ideology of flexibility reveals the necessary truth of plasticity, but one that has only come into being on the basis of an epigenetic process. Hence, the very categories and concepts by which we articulate such an ideological critique are themselves subject to contingency while also possessing a scientific status. Thus, while Malabou articulates a specific critique of the ideology of flexibility, she makes it possible to conceive of a scientific critique of ideology in general, wherein what lies beneath the ideological surface is only necessary insofar as it is contingently formed.

***One or Many Paths to Utilising Science in Ideology Critique?***

It is worth pausing to clarify the forms of contingency at stake here. We began with the distinction between political contingency and scientific ideology as expressed by Marx and Althusser, which Foucault criticised in the name of the contingency of *both* politics and science. In order to restore necessity to the critique of ideology, we saw how it is confined within a form of contingency by both Meillassoux and Malabou. As a result of this account of their work, we might suggest that Meillassoux asserts the *necessity* of contingency whereas Malabou asserts the *contingency* of necessity. While this may seem like a minor quibble over emphasis, this difference points to the opposing paths that Meillassoux and Malabou take towards the re-unification of ideology critique and scientific materials. Meillassoux, on the one hand, aligns ideology critique with his renewed anti-metaphysical project grounded in transfinite mathematics and its necessary axiom of contingency. Contingency is mobilised as a path to rethinking the absolute and unchanging principles ordering reality, which turn out to be nothing but infinite changeability. Malabou, on the other hand, asserts the contingency of

any necessity by way of plasticity and epigenetic mutability. By integrating neuroscience and philosophy, she attempts to account for the contingent emergence of a necessary transcendental structure. For Meillassoux, contingency is a singular, necessary principle that is unaffected by history, whereas for Malabou many necessary principles are subject to the contingent movements of history.

Additional clarity can be gained here by noting the apparent proximity of the above distinction between Meillassoux and Malabou, as endorsing the *necessity* of contingency and the *contingency* of necessity respectively, to Meillassoux's own distinction between himself and the work of Alain Badiou.<sup>49</sup> Badiou is seen, by Meillassoux, to assert the contingent emergence of necessary truths, whereas Meillassoux would *reject* the necessity of these truths.<sup>50</sup> Despite her similar advocacy of the contingency of necessity, Malabou's work cannot be reduced to Badiou's position for two reasons. First, with respect to Badiou alone, her position rejects the necessity of axiomatic truths that consist beyond and come to *interrupt* history.<sup>51</sup> Instead, necessity is formed *within* the contingencies of history. Second, while Meillassoux distinguishes between himself and Badiou, both are opposed to Malabou insofar as she endorses biological contingency over mathematical necessity. The difference at stake between Malabou and Meillassoux, therefore, is the distinction between an axiomatic, mathematical necessity of contingency and a transcendental necessity that is explained by its emergence, modification, and possible disappearance, within history.<sup>52</sup>

This articulation of the difference between their projects is sustained by Meillassoux and Malabou themselves, insofar as both claim that their positions are mutually exclusive. Meillassoux rejects the use of biology in his speculative project while Malabou denies mathematics the capacity to think the contingent. This oppositional posturing moves both close to expressing ideology rather than critiquing it, and they veer dangerously near to falling back into naïve ideological positions by militating for their particular conception of

science. The political consequence for both thinkers would be to move back to the conjunction of necessity and politics that post-structuralism highlighted as the danger of the concept of ideology. If this is the case, their metaphysical considerations of the relationship between necessity and contingency appear close to the differentiation of political contingency from historical-materialist scientific necessity seen in Marx and Althusser. For Coombs, Althusser's distinction between science and ideology rests on circular reasoning as it provides no justification, beyond asserting the authority of the theoretician, for its conception of what is conceived of as science, a sin that he claims is also committed by Badiou and Meillassoux.<sup>53</sup> From our perspective, this circularity is repeated by both Meillassoux and Malabou insofar as their adjudication on what counts as the valid scientific derivation of contingency rests solely on philosophical authority. Again, science appears to be just as contingent as the political positions that Marx and Althusser categorised as ideological, as suggested by Foucault.

If their interventions in the name of science are, therefore, political, we might direct at Meillassoux and Malabou a question that Georges Canguilhem posed to Althusser. This is whether it is 'possible to apply the name of "science" to a type of theoretical production in which politics is ultimately determining.'<sup>54</sup> To what extent do political and philosophical commitments take precedence over scientific ones? Such militancy can be expanded upon by comparing their positions to what Canguilhem referred to as 'scientific ideology'. He defined scientific ideologies using three characteristics:

- a. Scientific ideologies are explanatory systems that stray beyond their own borrowed norms of scientificity.
- b. In every domain scientific ideology precedes the institution of science. Similarly, every ideology is preceded by a science in an adjunct domain that falls obliquely within the ideology's field of view.



c. Scientific ideology is not to be confused with false science, magic, or religion. Like them, it derives its impetus from an unconscious need for direct access to the totality of being, but it is a belief that squints at an already instituted science whose prestige it recognizes and whose style it seeks to imitate.<sup>55</sup>

We will take Meillassoux and Malabou's positions in turn to see how they conform to these principles, in order to suggest in conclusion that neither provides an independent, and hence a-political, way to connect science and ideology in a way that solves the concerns of the post-structuralists. It will be suggested that in order to do so, they must be taken *together* to maintain distance between their respective approaches to ideology and the political consequences of ideology critique that were highlighted by post-structuralism.

First, as Adrian Johnston notes, the epistemic ramifications of Meillassoux's use of mathematics have little bearing on the *actual practice of science*.<sup>56</sup> While he might begin from axioms established by transfinite mathematics, these do not impact upon the toil of actual scientific practice that is unaffected by the discovery of the absolute nature of contingency. It is in this sense that Meillassoux could be said to stray beyond the established norms of the science he is working with, by assuming a broader set of ramifications from his philosophical use of mathematics than those that would concern scientific practice. Second, we might ask to what extent there is an ideology of the transfinite that precedes and taints Meillassoux's adoption of mathematics. Johnston also suggests that Meillassoux's abstraction of quantification from any material history or account of the techniques that formed it constitutes an a-historical and ideological view of the transfinite, putting science in Meillassoux's view 'obliquely,' to use Canguilhem's term.<sup>57</sup> By ignoring the material history within which transfinite mathematics emerged, does Meillassoux not view it from within the *camera obscura* that Marx describes? Even more damningly, it would appear that for

Meillassoux's argument to hold, the logical laws by which he derives the necessity of contingency would need to be immune from a sudden transformation as a result of the whims of contingency.<sup>58</sup> His use of mathematics becomes ideological in that it appears untethered from history and exempt from the necessity of contingency that it describes. Lastly, Meillassoux's project of re-absolutising philosophy aims precisely at the totality of being that Canguilhem describes in his third condition for scientific ideology. By deploying mathematics in his attempt to reach this absolute, one might question the philosophical demonstrability of the *totalising* conclusions he paradoxically draws from the *non-totalisable* transfinite.<sup>59</sup>

On the face of it, Malabou's work seems better positioned to resist the label of scientific ideology, particularly because she tries to deal directly with the popular, ideological image of plasticity. Nevertheless, her rejection of non-biological concepts of contingency suggest a fanaticism of plasticity. If Canguilhem's first criterion for defining scientific ideology refers to the pushing of scientific findings beyond their validity, then one might pose the question as to whether Malabou's transposition of *neuronal* plasticity to *ontological* plasticity does precisely this. While she may refer to different registers of plasticity, and thus of contingency and necessity, the equivalence she establishes between these realms is a claim that neuroscientists would be reticent to make. In other words, is plasticity a convenient metaphor that in Malabou's system is presented as indefatigable scientific truth? Second, and similarly, while Malabou critiques the ideological representation of neuronal plasticity, her work is missing a critical analysis of the social conditions within which the science of plasticity emerged, particularly given that these are precisely the same capitalist conditions that she critiques. By assuming the mirroring of the brain by contemporary capitalist economics, as Alberto Toscano has claimed, she gives too much and not enough to the conditions of capitalism.<sup>60</sup> On the one hand, she assumes that capitalism, if the use of that

noun in the singular is not enough of a giveaway, articulates a monolithic ideological deception with regards to the brain. On the other, she does not analyse the historical conditions, that have largely been subsumed by the various histories of capitalism, in which neuronal plasticity emerged as a concept. Thus, Malabou does not devote much time to this ideological history, and holds neuroscience in her view obliquely due to this contextual omission. Third, as a result it would appear that Malabou, in some sense, ‘squints’ at the totality of being by imitating plasticity. In the same way that Meillassoux’s attempt to produce an absolutism via a non-totalising scientific method, Malabou takes a regional ontological discourse and applies it to being in general. It is this shuttling between general and local ontological claims that unsettles Malabou’s aim to escape the ideological presentation of plasticity.

As such, aligning a renewed philosophy of necessary contingency or contingent necessity with either mathematics or biology alone runs the risk of sectarianising and reifying such positions in precisely the manner that Canguilhem describes. By tethering ideology critique to the yoke of either mathematics or biology, we arrive back at precisely the political problem that the post-structuralists identified with the structuralist version of the dichotomy between science and ideology given by Althusser. Necessity is attributed to one particular form of criticism, and therefore one form of politics, over the false contingency of ideological abstraction. Initially, it would seem that this problem vindicates the post-structuralist rejection of ideology critique in the name of contingency, and the uptake of this position in the post-Marxist version of ideology. Ideology is conceived of as the ongoing attempt to totalise a particular set of social relations precisely because there is no ‘objective’ standpoint from which the contestation of the political can be viewed.<sup>61</sup> From this position, and from the position elaborated above by way of Canguilhem, the claims of Meillassoux and Malabou

appear to be ideological in their very nature, due to their positing of an objective political position by which other ideologies can be judged.

To move beyond this problem, it is necessary to overcome the strict dichotomy between Meillassoux and Malabou. Communication between the differences in their articulation of the relationships between science and ideology and necessity and contingency is central to recognising the materials that science can provide for ideology critique in the present. The first difference concerns the position of science with regards to their respective arguments. Meillassoux aims at a rehabilitation of science through the establishment of the scientific status of mathematics by way of a philosophical rehabilitation of necessity, whereas Malabou seeks to demonstrate the necessity of a renewed relationship between continental philosophy and science. One seeks to use philosophy to re-invigorate scientific claims to truth through the necessity of contingency, while the other uses the truth claims of science to articulate the contingency of their necessity. These two strategies are not mutually exclusive. Attention to *both* the philosophical conditions of scientific claims and the way in which those claims have ramifications for philosophical and political investigation can enlighten each other considerably. For the ideology critic, utilising both of these approaches can help consider the conditions of the scientific evidence mobilised against the political positions of particular ideologies, and the way in which that evidence may have a recursive impact upon the conceptualisation of their conditions, and so on. The relationship between science and ideology would not take on the attribution of a necessity underlying contingency as the post-structuralists identified, but an interplay between the necessity established by scientific conditions, the philosophically elaborated contingency of those conditions, and the political analysis of the ideologies that arise from them.

Second, this has ramifications for the sectarianism that both Meillassoux and Malabou take towards the scientific traditions that they do not adopt. Meillassoux is reticent towards

biological contingency, while Malabou adopts the same attitude towards mathematics. Their commitment to the veridical character of the scientific claims they mobilise is precisely what Foucault, Deleuze and Guattari were wary of in the concept of ideology, precisely because it has the danger of homogenising the political response adopted in the face of ideological distortion. This situation can be reversed, however, if one takes these scientific claims to enlighten one another in terms of the particular problems that they can address. Rather than returning us to the relativism of fideism that Meillassoux takes issue with, this allows one to ground the critique of contingent ideologies through an open, rather than sectarian, approach to science. The dichotomy between science and ideology does not have to lead to militancy but an articulation of necessity that pays heed to the contingency of its particular version of truth.

In turn, the mathematics of the transfinite and the biological claims of neuroscience can play distinct and complementary roles with regards to debunking, respectively, fideism and the capitalist exploitation of neuroplasticity. Seeing them as such aids the development of a new relationship between ideology and science because it rejects the two problems that post-structuralism identified; on the one hand, a single scientific necessity underlying ideology, and, on the other, the reification of a monolithic ideological edifice that obscures the real operations of power. Meillassoux's critique of fideism's dissemination of ideological belief complements Malabou's critique of the flexible image of the human subject; the slipperiness of facts accompanies the adoption of the malleability of the human brain in capitalist management and control. Fideism is supported by the ideological character of flexibility that does not treat the plurality of belief as part of a positive project of inclusion, but a multiplicity to be exploited as so many markets for the extraction of profit, and to be and disciplined into manageable employment practices. But, these constellations do not form a tight fit; fideism's return to the religious clashes with the technocratic scientism of flexible

management. While fideism and flexibility are complementary ideological bedfellows, they represent two ideological abstractions with varying relations to science. In the case of fideism, Meillassoux claims that mathematic objectivity is necessary for the ruling out of unwarranted ideological faith. Contrastingly, Malabou draws on a specific set of scientific materials to critique their ideological subversion. Different scientific materials, therefore, are necessary for their respective critiques.

In this light, Meillassoux and Malabou's respective understandings of necessity and contingency, and the relationship between science and ideology that can be extrapolated from their views, are complementary rather than mutually exclusive. Each thinker, drawing on different materials, highlights the reciprocally re-enforcing aspects of one of these ideological formations. Critiques of flexibility and fideism require distinctive scientific materials precisely because they relate to science differently. Decisively, the regional character of these critiques reveals the disjunction between them. Ideology is not so much a contingent, totalising system to be debunked by the necessary truths of science. Rather, there are differing forms of ideological abstraction that relate to science in different manners, altering the relation between contingency and necessity with respect to those scientific materials. What both Malabou and Meillassoux demonstrate is that thinking ideology critique in this way requires a form of contingency that inhabits necessity, in order to give credence to a form of scientific truth mobilised against ideological distortion. But, to prevent either position from falling into a scientific ideology—either that described by Canguilhem or the postulation of a strict necessity underlying contingency critiqued by post-structuralism—it is necessary to take their work together. If this path is taken, a multiplicity of tools drawn from science can be used to demonstrate the regional and mutable character of ideology's fields of operation, showing how the conditions they arise from form the grounds for their critique. Necessity and contingency are internal to this understanding of the critique of ideology

precisely because such a view requires an acceptance of the mutable yet formative role that science has in pitting truth against false abstraction.

*Notes*

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<sup>1</sup> As discussed in Jan Rehmann, *Theories of Ideology: The Powers of Alienation and Subjection* (Leiden: Brill, 2013), 195–215. For exceptions, see Siniša Malešević and Iain Mackenzie, *Ideology after Poststructuralism* (London: Pluto Press, 2002); Robert Porter, “From Clichés to Slogans: Towards a Deleuze–Guattarian Critique of Ideology,” *Social Semiotics* 20, no. 3 (2010): 233–45.

<sup>2</sup> Simon Choat, *Marx Through Post-Structuralism: Lyotard, Derrida, Foucault, Deleuze* (London: Continuum, 2010), 15.

<sup>3</sup> Most clearly in the work of Ernesto Laclau. See Ernesto Laclau, “Ideology and Post-Marxism,” *Journal of Political Ideologies* 11, no. 2 (2006): 103–14; Lasse Thomassen, “Antagonism, Hegemony and Ideology after Heterogeneity,” *Journal of Political Ideologies* 10, no. 3 (2005): 289–309.

<sup>4</sup> In the work of, for example, Norman Geras, Ellen Meiksins-Wood, and more recently Lois McNay. See Norman Geras, “Post-Marxism?,” *New Left Review* 163 (1987): 40–82; Ellen Meiksins Wood, *The Retreat from Class: A New “True” Socialism* (London: Verso, 1998), 47–92; Lois McNay, *The Misguided Search for the Political* (Cambridge: Polity, 2014).

<sup>5</sup> Useful overviews of this turn in European philosophy are given by Ian James and John Mullarkey. See Ian James, *The New French Philosophy* (Cambridge: Polity, 2012); John Mullarkey, *Post-Continental Philosophy: An Outline* (London: Continuum, 2006).

<sup>6</sup> Represented by, among others, the work of Jane Bennett, William Connolly, and Samantha Frost. For key texts, overviews and criticisms of New Materialism, see Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press, 2010); William

Connolly, *Neuropolitics: Thinking, Culture, Speed* (Minneapolis: University of Minnesota Press, 2002); Diana Coole, “Agentic Capacities and Capacious Historical Materialism: Thinking with New Materialisms in the Political Sciences,” *Millenium: Journal of International Studies* 41, no. 3 (2013): 451–69; Diana Coole and Samantha Frost, eds., *New Materialisms: Ontology, Agency, and Politics* (Durham: Duke University Press, 2010); Sarah Ellenzweig and John H. Zammito, eds., *The New Politics of Materialism: History, Philosophy, Science* (London: Routledge, 2017); Samantha Frost, *Biocultural Creatures: Towards a New Theory of the Human* (Durham: Duke University Press, 2016); Paul Rekrret, “A Critique of New Materialism: Ethics and Ontology,” *Subjectivity* 9, no. 3 (2016): 225–45.

<sup>7</sup> Often referred to as speculative realism, however this term is not universally adopted by thinkers such as Ray Brassier and Quentin Meillassoux. Regardless of the label attached, these thinkers display a commitment to either Meillassoux’s analysis of post-Kantian philosophy that will be detailed in this article, or the construction of a naturalist and realist philosophical position. For key contributions, overviews and readings of this turn, see: Ray Brassier, Iain Hamilton Grant, Graham Harman, and Quentin Meillassoux, ‘Speculative Realism,’ *Collapse* 3 (2007): 306–449; Ray Brassier, *Nihil Unbound: Enlightenment and Extinction* (London: Routledge, 2007); Paul J. Ennis, *Continental Realism* (Winchester: Zero, 2011); Peter Gratton, *Speculative Realism: Problems and Prospects* (London: Bloomsbury, 2014); Louis Morelle, “Speculative Realism: After Finitude; and Beyond?,” *Speculations* 3 (2012): 241–72.

<sup>8</sup> Malabou occupies an interesting position with regard to the two turns described above, as she could be situated within either camp, being both a student of Derrida and a thinker committed to the scientific naturalism of speculative realism. For our purposes, Malabou will be seen to be closer to the speculative rather than New Materialist position due to her formulation of a naturalistic and biological explanation of transcendental subjectivity. See



Michael O'Neill Burns, "Vitality or Weakness? On the Place of Nature in Recent Materialist Philosophy," *Angelaki* 21, no. 4 (2016): 11–22.

<sup>9</sup> The argument put forward here builds upon on existing work regarding the specific ideological targets of Meillassoux and Malabou by situating their approaches with regards to science more broadly. For these relatively brief arguments regarding Meillassoux and Malabou on ideology see, respectively Iain Mackenzie, "Events and the Critique of Ideology," *Ricoeur Studies* 3, no. 1 (2012): 105–8; Michael O'Neill Burns, "Prolegomena To a Materialist Humanism," *Angelaki* 19, no. 1 (2014): 107–8.

<sup>10</sup> Quentin Meillassoux, *After Finitude: An Essay on the Necessity of Contingency*, trans. Ray Brassier (London: Continuum, 2008). Henceforth cited in-text as *AF*.

<sup>11</sup> Catherine Malabou, *Before Tomorrow: Epigenesis and Rationality*, trans. Carolyn Shread (Cambridge: Polity, 2016). Henceforth cited in-text as *BT*.

<sup>12</sup> Overviews of broader political themes in both thinkers can be found in Nathan Coombs, *History and Event: From Marxism to Contemporary French Theory* (Edinburgh: Edinburgh University Press, 2015), 140-159; Peter Gratton, "Meillassoux's Speculative Politics: Time and the Divinity to Come," *Analecta Hermeneutica* 4 (2012): 1–14; Inna Viriasova, "Speculative Political Theory: Quentin Meillassoux and 'the Great Outdoors' of Politics," *Theory & Event* 20, no. 3 (2017): 629–52; Brenna Bhandar and Jonathan Goldberg-Hiller, eds., *Plastic Materialities: Politics, Legality, and Metamorphosis in the Work of Catherine Malabou* (Durham: Duke University Press, 2015).

<sup>13</sup> For an example of the concept of ideology as variation in political beliefs rather than the distortion of the real, see Michael Freeden, *Ideologies and Political Theory: A Conceptual Approach* (Oxford: Clarendon Press, 2008). For the distinction between the neutral and critical approaches to ideology, see Ben Turner, "Ideology and Post-structuralism after Bernard Stiegler," *Journal of Political Ideologies* 22, no. 1 (2017): 92–94.

<sup>14</sup> Karl Marx, “The German Ideology,” in *Karl Marx: Selected Writings*, ed. David McLellan (Oxford: Oxford University Press, 2000), 181.

<sup>15</sup> *Ibid.*, 201.

<sup>16</sup> Karl Marx, “Critique of Hegel’s ‘Philosophy of Right,’” in *Karl Marx: Selected Writings*, 33.

<sup>17</sup> Coombs, *History and Event*, 46.

<sup>18</sup> Louis Althusser, *On the Reproduction of Capitalism: Ideology and Ideological State Apparatuses*, trans. G M Goshigaran (London: Verso, 2014), 18.

<sup>19</sup> As is well known, Althusser argues that the properly scientific period of Marx’s work arises after *The German Ideology*. Importantly for our sketch of the distinction between science and ideology, there is no extended direct discussion of ideology in *Capital*, and thus Althusser’s contribution here involves combining the insights of the non-scientific and scientific Marx.

<sup>20</sup> *Ibid.*, 181.

<sup>21</sup> *Ibid.*, 190.

<sup>22</sup> *Ibid.*, 196.

<sup>23</sup> François Dosse, *History of Structuralism: The Rising Sign, 1945-1966*, trans. Deborah Glassman (Minneapolis: University of Minnesota Press, 1997), 308.

<sup>24</sup> Rehmann, *Theories of Ideology*, 164-65.

<sup>25</sup> Michel Foucault, *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977*, trans. Colin Gordon (New York: Pantheon Books, 1980), 65.

<sup>26</sup> *Ibid.*, 118.

<sup>27</sup> Michèle Barrett, *The Politics of Truth: From Marx to Foucault* (Stanford: Stanford University Press, 1991), 138.

<sup>28</sup> Most clearly in their first two co-authored works: Gilles Deleuze and Félix Guattari, *Anti-Oedipus*, trans. Robert Hurley, Mark Seem, and Helen R. Lane (Minneapolis: University of Minnesota Press, 1983), 239; Gilles Deleuze and Félix Guattari, *A Thousand Plateaus*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 90.

<sup>29</sup> Choat, *Marx Through Post-Structuralism*, 14–15.

<sup>30</sup> See also Quentin Meillassoux, *Time without Becoming* (Milan: Mimesis International, 2014), 26.

<sup>31</sup> It is worth noting that Meillassoux's characterisation of these thinkers as metaphysicians would not necessarily be rejected—Deleuze in particular referred to himself as a metaphysical thinker. The difference lies in the meaning of this term. For Deleuze, metaphysics is compatible with the critique of necessity, whereas for Meillassoux it is impossible to reject necessity while postulating a set of ontological or metaphysical laws, in this case that of becoming. For various takes on Deleuze's identification with metaphysics, see Alain Beaulieu, Edward Kazarian, and Julia Sushytska, eds., *Gilles Deleuze and Metaphysics* (Lanham: Lexington Books, 2014).

<sup>32</sup> Mackenzie, “Events and the Critique of Ideology,” 106.

<sup>33</sup> For more extensive overviews of Meillassoux's work, see Gratton, *Speculative Realism: Problems and Prospects*, 39–84; Graham Harman, *Quentin Meillassoux: Philosophy in the Making* (Edinburgh: Edinburgh University Press, 2015).

<sup>34</sup> Mackenzie, “Events and the Critique of Ideology,” 107.

<sup>35</sup> Quentin Meillassoux, “Potentiality and Virtuality,” in Levi Bryant, Nick Srnicek, and Graham Harman, eds., *The Speculative Turn: Continental Materialism and Realism* (Melbourne: Re.Press, 2011), 233.

<sup>36</sup> Quentin Meillassoux, “The Contingency of the Laws of Nature,” *Environment and Planning D: Society and Space* 30, no. 2 (2012): 330.

<sup>37</sup> Quentin Meillassoux, “The Immanence of the World Beyond,” in Conor Cunningham and Peter Candler, eds., *The Grandeur of Reason: Religion, Tradition and Universalism* (London: SCM Press, 2010), 448–49.

<sup>38</sup> For an exposition of the notion of the outside of politics in Meillassoux, see: Viriasova, “Speculative Political Theory.”

<sup>39</sup> Catherine Malabou, *Plasticity at the Dusk of Writing: Dialectic, Destruction, Deconstruction*, trans. Carolyn Shread (New York: Columbia University Press, 2010), 2.

<sup>40</sup> Catherine Malabou, *The Ontology of the Accident*, trans. Carolyn Shread (Cambridge: Polity, 2012), 3.

<sup>41</sup> Catherine Malabou, “Whither Materialism? Althusser/Darwin,” in Brenna Bhandar and Jonathan Goldberg-Hiller, eds., *Plastic Materialities: Politics, Legality, and Metamorphosis in the Work of Catherine Malabou* (Durham: Duke University Press, 2015), 51.

<sup>42</sup> Catherine Malabou, *What Should We Do With Our Brain?*, trans. Sebastian Rand (New York: Fordham University Press, 2008), 5–7.

<sup>43</sup> *Ibid.*, 9.

<sup>44</sup> Ian James, “(Neuro)plasticity, Epigenesis and the Void,” *Parrhesia* 25 (2016): 11.

<sup>45</sup> Malabou, *What Should We Do With Our Brain?*, 12–13.

<sup>46</sup> *Ibid.*, 40–46.

<sup>47</sup> *Ibid.*, 52.

<sup>48</sup> *Ibid.*

<sup>49</sup> I thank an anonymous reviewer for highlighting this similarity.

<sup>50</sup> One staging ground for this difference is Badiou and Meillassoux’s respective interpretations of Stéphane Mallarmé. Where Meillassoux prioritises the undecidability present in Mallarmé’s poetry for its own sake, Badiou takes this as a model for thinking the contingent and unpredictable emergence of nonetheless necessary and ‘indubitable’ truths.

Quentin Meillassoux, “Badiou and Mallarmé: The Event and the Perhaps,” *Parrhesia* 26 (2013), 40.

<sup>51</sup> For example, in Badiou’s allocation of characteristics to the various truth procedures that he describes, political truths are universal *by necessity*. See Alain Badiou, *Metapolitics*, (London: Verso, 2005), 141-43.

<sup>52</sup> This possibility of the modification and the disappearance of the transcendental is made evident by Malabou’s reflections on how the Anthropocene forces us to consider its integration into a broader environment and ecology. Catherine Malabou, “The Brain of History, or, The Mentality of the Anthropocene,” *The South Atlantic Quarterly* 116:1 (2017), 51-2.

<sup>53</sup> For these claims regarding Althusser, Badiou and Meillassoux respectively, see Coombs, *History and Event*, 109, 137-38, 155-156.

<sup>54</sup> Georges Canguilhem, *Ideology and Rationality in the History of the Life Sciences*, trans. Arthur Goldhammer (Cambridge: MIT Press, 1998), 17.

<sup>55</sup> *Ibid.*, 38.

<sup>56</sup> Adrian Johnston, *Prolegomena to Any Future Materialism Volume 1: The Outcome of Contemporary French Philosophy* (Evanston: Northwestern University Press, 2013), 159.

<sup>57</sup> *Ibid.*, 146–47.

<sup>58</sup> *Ibid.*, 156–57; Christopher Watkin, *French Philosophy Today: New Figures of the Human in Badiou, Meillassoux, Malabou, Serres and Latour* (Edinburgh: Edinburgh University Press, 2016), 75.

<sup>59</sup> Christopher Watkin, *Difficult Atheism: Post-Theological Thinking in Alain Badiou, Jean-Luc Nancy and Quentin Meillassoux* (Edinburgh: Edinburgh University Press, 2011), 157.

<sup>60</sup> Alberto Toscano, “Plasticity, Capital, and the Dialectic,” in Brenna Bhandar and Jonathan Goldberg-Hiller, eds., *Plastic Materialities: Politics, Legality, and Metamorphosis in the Work of Catherine Malabou* (Durham: Duke University Press, 2015), 103–5.

<sup>61</sup> Laclau, “Ideology and Post-Marxism,” 104.