

Die Geschichtsschrift – On Formalising History¹

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...cette différence marquée entre deux notations...reste purement graphique: elle s'écrit ou se lit...

– Jacques Derrida

Any theory of historicity requires, commands, entails an encounter between thinking and its history. What we witness here, we might say, is the *chance* of historicity. For it is in this encounter with its history that thinking is offered the prospect of its own historical comprehension. Yet, the very achievement of historicity also coincides with an inherent danger. For the concept of historicity portends its immanent ruination and collapse. Because when this thinking becomes 'for itself', it is opened to the risk of its self-unification. Such a thinking would thus resume and (re) appropriate its history – and therefore reappropriate itself. That is to say, it would live and breathe in absolute self-community, in an interpenetrating self-consciousness. Both in-itself and for-itself. By comprehending its own history, thought would therefore culminate in the comprehension of a totality. Here, an outside, a transcendent Other, is appropriated and re-appropriated to figure a whole where *no* Other figures outside this entirety. The history of thought would be conceived according to an absolute *presence* of thought to itself. History thus features as entirely *present* to thinking. Thus, thinking would be *without historicity*. Since the concept of historicity seems to produce and induce a thorough privilege of the present, history, as Parmenides held, must be thought under the species of that which remains and persists, proximal and *disponible*. Such is the drama of historicity: its self-dissolution, the cancellation of its dialectic where the "two fuses into One"². Idealism.

This scandal is precisely what Alain Badiou's *Marque et manque: à propos du zéro* seeks to remedy. Certainly, Badiou's endeavour in this text is not at all an apology for idealism, but rather a rehabilitation of the concept of historicity. The *problématique* confronting this endeavour is how to think, how to conceptualise, how to formulate historicity while *at the same time* resisting idealism. Confronting us is a twofold problem. On the one hand, we must maintain the chance (or prospect) of historicity. On the other hand, we must do so in a manner that avoids this tendency of totalisation. As we will show, this is overcome by Badiou's attempt to *formalise* this historicity. What this entails, however, is not a unilateral formalisation, but a *formalisation of the history of formalisation*. To defend this claim, we will proceed by following four main steps. First, in order to appreciate the full stakes of historicity as a concept, we will develop a close reading of the first sentence of Badiou's text. Only then can we (secondly) fully appreciate the function of the formal side of *Marque et manque*. We will then be equipped to address the text's critique of

Jacques-Allain Miller. Finally, we will come to what Badiou's text allows us to address; a new possibility for philosophy to think historicity (by formalisation), and more specifically historical time.

Accordingly, let us read:

“Epistemology disjoins itself from ideological reprise, where all science comes to figure its reflection, insofar as it excludes the institutional operator of this reprise: the notion of the Truth, and proceeds according to the concept of a mechanism of production, from which we anticipate, by contrast, the theory of its structure takes account of its effect.”³

This sentence figures not only one key concept of history, but three. They are:

Science
Epistemology
Ideology

While this sentence is indeed dense (and in places enigmatic), it can be quite soberly read by traversing the relation(s) between these three terms.

The enigma presented by this sentence is perhaps best characterise by the very absence of definition it provides. Most striking of all is the word initiating the text as a whole: namely, *epistemology*. If we only read *Marque et manque* in isolation, ‘epistemology’ does not receive any real explicit definition. However, once we situate the term within a (slightly) broader context, we are equipped to address its meaning. In *The (Re) commencement of Dialectical Materialism* (published in the same year that *Marque et manque* was written), Badiou provides us with a sparse yet instructive definition of epistemology: “the theory of the history of the theoretical”⁴. The object of epistemology is thus understood here as something historical. Returning to the first sentence of *Marque et manque*, we can appreciate with further specification the historical object in question. As Badiou states rather clearly, “Epistemology disjoins itself from ideological reprise, where *all science* comes to figure its reflection.”⁵ Understood in this light, it is quite clear that the object of epistemology is none other than the historicity of *science*. Or, as François Regnault rightly clarifies, it is *epistemology* which *pronounces* and marks the existence of a historical discontinuity established by a science⁶. In this regard, the concept of the epistemological cut is not proper to the practice of science itself but rather internal to the *discourse* which identifies the *existence* of the cut. The concept of the epistemological cut is thereby internal to epistemology and not to science itself.

As the epistemological *cut* installs a form of discontinuity, *from what* does this cut mark a distance? As Badiou makes clear, the cut characterises the “relation” between *science* and *ideology* – although this “relation” is much closer to something like a distance without measure⁷. Under the ideological horizon (for example that of empiricism⁸), the object of ideology is understood to be a pre-given referent. Any reference to this given object is thus evaluated on the basis of its proximity to the given, and any ‘theory’ of this object is reduced (as Jan Phillippe Weise aptly put it) to a “re-cognition”⁹ of the given object. Or, in other words, ideology operates according to a logic of repetition with respect to the given. “Ideology produces an effect of recognition and not of knowledge.”¹⁰

If this is how we are to understand ideology, what delivers us from the ideo-logic of repetition? Badiou answers forthrightly that in contrast to ideology, science constructs an object that is *produced* and therefore historical¹¹. The object of science is not a donation to “consciousness” but rather yielded by “the regulated *production* of an object that is essentially different from the given object.”¹² Considering that it is *produced*, the object of science is thus historically rendered, artificial, and *unnatural*. “We thus understand that far from marking a continuity between the systems of representation which precede a science and this science itself, it takes care to mark a cut or rupture. As it is epistemology which pronounces this cut, *it* calls it epistemological.”¹³ Therefore, science establishes a *cut* from ideology, and it is within the discourse called epistemology (and not science itself) that the cut is pronounced.

Certainly, while there is no formulatable ‘relation’ between the two terms, it would be naïve to suggest that science and ideology are entirely external to one another. Not only is such a strong distinction all too easy, but it would repeat a vulgar enlightenment demarcation between myth and reason¹⁴. Taking a slightly closer look, we can notice that ideology indicates the *existence* of the object that science takes as its point of departure. Or, “science produces the knowledge of an object of which a determinate region of ideology indicates the existence.”¹⁵ While the object of ideology seems to give the appearance of knowledge it is nothing but a repetition – a repetition interrupted by the *production* of science. The object of ideology is thus the point from which science begins its process of production: *science is the science of ideology*¹⁶. Indeed, the history of science is shot through and fraught with a degree of impurity¹⁷.

As we have already intimated, the pronouncement of the existence of the epistemological cut does not occur within science itself, but rather within the discourse *on* science. A discourse on science and science as such are not at all the same thing. As Badiou states, “science is...a demonstrative discourse that is related, as far as the order of succession of the concepts are concerned, to a systematic combination that hierarchises them ‘vertically’”¹⁸. The apodictic system of science is, in order words, organised according to a system that is manifest

as a network *irreducible* to a discursive unfolding of these concepts. According to its systematic organisation, the concepts of science are articulated synchronically. It is only, as Badiou notes, the presentation of these concepts in their *epistemological articulation* that ‘subordinates’¹⁹ this system to the “horizontal” regime of a *discourse on science*.

Now, with these remarks in mind, we notice that the opening of *Marque et manque* does not simply address the difference between science and ideology, but concerns the relationship between *science and epistemology*. As we said, the difference between science and ideology can be identified by epistemology because science produces a historical object of knowledge (in contrast to the naturalised object of ideology). But if Badiou remarks that it is “[e]pistemology” that “disjoins itself from *ideological* reprise, where all science comes to figure its reflection”²⁰, this means that he detects an *ideological tendency within epistemology itself*. What could be ideological about the epistemology? As we already pointed out, ideology treats its object as a natural given and obeys a logic of *repetition*. An ideological reprise of science would mean that epistemology regards science as *if science itself is a given*. To that extent, epistemology would also be considered to be the ideologico-discursive *repetition of science*. Science, treated ideologically, is not taken to be a *production* of knowledge but rather something natural.

The first sentence of *Marque et manque* (as well as the text as a whole) thus establishes two distinct levels (and it is by maintaining this distinction that we come to comprehend the architecture of the text – not to mention its *raison d’être*). On one level, there is the relationship between science and ideology, where the discerning factor between the two is the (historical) *productive* function of science. On the second level, we have epistemology’s discursive reprise, re-presentation, of science. The danger identified on the second level is the potentially ideological manner in which a *discourse on science* accounts for science; an account of science that would enslave the synchronic apodicticity of its system to the diachronic regime of discourse (and thus transcendently identify the conditions of discourse with science in-itself²¹). Such would be tantamount to the importation of the discourse *on science* to science itself. Ideological epistemology, in other words, would thus amount to the dissolution of the difference between science and epistemology (and therefore the difference between science and ideology).

Epistemology is (for the time being) scandalised; the very discourse which sought to articulate the very difference between science and ideology finds itself corrupted by ideology itself. Symptomatic that such an ideological re-presentation of science has taken place (for Badiou) is indexed by “the institutional operator of this reprise: the notion of the Truth”²². If we are to consider (with Badiou) what an ideological epistemology might look like, we notice that “[t]he representation of this discipline in the network of its *ideological indicators* shows it

to us as estranged from the real, a discourse presupposing, not the construction of an object, but the *position* of the Truth.”²³ The ideological representation of science thus consists in situating *the Truth* as the ultimate referent of science. Indeed, such a representation implies that there is *the one-Truth*. If the one-Truth is taken to be the ultimate referent of “all science”²⁴, then we assume that *there is only one-science*²⁵. Science is hence taken to be One, and therefore understood to be without variation. In other words, *ahistorical*. Deploying the concept of Truth (in this specific regard) amounts to a suffocation of the productive, that is to say the *historical*, function of science. – And if we are to dispose science of its historically productive function, if we are to deprive it of any *chance* of an epistemological cut, this means that an ideological representation of science amounts to its exhaustive totalisation. Science, enslaved by ideological epistemology, suffers divestment at the hand of an encyclopaedic totality.

How, then, are we to understand the moment wherein “[e]pistemology disjoins itself from ideological reprise”²⁶? To what do we owe this disjunction? What delivers epistemology from its ideological tendency. How to maintain an epistemology that does not colonise this region of scientific practice under the aegis of its discursive regime? Brutally put, what remains of *philosophy*²⁷?

We find an answer towards the end of Badiou’s first sentence: “Epistemology disjoins itself from ideological reprise, where all science comes to figure its reflection, insofar as it *excludes* the institutional operator of this reprise: the notion of the Truth, and proceeds according to *the concept of a mechanism of production*, from which we anticipate, by contrast, *the theory of its structure takes account of its effect*.”²⁸. An epistemology that evades the ideological enslavement of science is one which would account for, take stock of, and behave as an on-looker²⁹ with respect to the historical process of science; thereby giving science its space to breath. An epistemology disjoint from an ideological reprise would thus admit to the “purely tautological” character of science, “because each science produces the criteria of its own truth”³⁰. Epistemology, in this regard, is distinct from ideology insofar as the “referent” of epistemology is the *historical* by-product of a process of production rather than a given.

This disjunction takes the form of a certain prudency (not modesty) on the part of philosophy. Indeed, if epistemology takes the result of the process of science as its referent, this does not simply mean that epistemology refers itself to some historical object. (While this is true, it is a rather thin solution.) If epistemology takes the historical product of science as its referent, this also implies that science *cannot* be exhausted by its discursive re-presentation. As we said, science produces a new object. The object of science thus constitutively exceeds its ideological reprise. To take the concept of the epistemological cut seriously thus

implies the prohibition of one-science, one-history, and one-cut. This is what a true thinking of the epistemological cut must amount to. This is what we seek to demonstrate in what follows.

Philosophy must thereby abdicate its pretention for totality – and this is exactly how it achieves a true thought of history. Philosophy, in other words, must acknowledge its impotence; it must learn to fail (better). It is only once this impotence has been intra-philosophically acknowledged that it can think historicity proper.

Philosophy must endure its torture.

To highlight the productive side to science with the precision it deserves, we will have to traverse Badiou's own demonstration of this production.

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We are now in a position to read the second sentence of *Marque et manque*.

Following what has just been said, we have now developed a certain sensitivity for Badiou's terminology. So, when Badiou writes "[w]hat about an *epistemology of logic*?"³¹, we can now appreciate the sobriety with which "epistemology" is deployed here. Considering that Badiou enquires into an 'epistemology of logic', this sentence signifies a desire to account for the relationship between a discourse on logic (in this instance a science) and logic as such. Given everything that has just been said, we must situate epistemology as that which *takes account of* something *produced* by logical writing. The *product* of logical writing must therefore be subject to examination.

Accordingly, what animates the relationship between a discourse on logic and the product of logic itself? As Badiou says quite clearly "[t]he theory of logic *relates itself to the mode of production* of a division in linear writing; perhaps the dichotomy of a structured set of statements introduced in the last mechanism under the title of raw material"³². The product in question is, as we can see, a *tear* or *division* in the very texture of logical writing itself; and it is precisely this tear that figures as the "object" of epistemology. In order to account for this product of logical writing, and moreover the relationship between epistemology and this tear, "the unique requisite to which the function must obey is that something might be in effect *cut*."³³ Following this requirement, there must be some partition of the written dispositive into two disjoint classes³⁴.

Those classes in question are termed "derivable statements" and "non-derivable statements"³⁵. Either a statement is derivable or it is not. If a system is consistent, as Badiou reminds us, there exists *at least one* statement that is non-derivable in the system. This one non-derivable statement *is* the product of logic, a statement which amounts to an

irreconcilable division within the written dispositive. To dissimulate³⁶ this division also curtails the *productive* process of logical writing and thereby stifles a thinking of its historicity. Thus, the undecidable statement will serve as the 'object' of the following analysis.

In order to arrive at this division in logical writing, we must first take care to address the other mechanisms (of production) at work in Badiou's text. This is simply because "this final division implicates the successive operation of three ordered mechanisms."³⁷ These mechanisms are *concatenation*, *formation*, and *derivation*. As Badiou is quick to point out (while explaining the mechanism of concatenation), "the absolutely raw material of the logical process is furnished by a particular sphere of the technical production, writing. It is a question, in effect, of a stock of graphic marks, separable and undecomposable, forming a finite ensemble (or at most denumerable) that we call the alphabet."³⁸ Concatenation is the process of receiving the written mark and "composing some finite series (linear juxtapositions with eventual repetitions)."³⁹ Concatenation is thus not writing itself but the grouping together of written marks to form a series.

The second mechanism (*formation*) is exactly as it sounds. This mechanism operates on the results of the first mechanism (concatenation) and *forms* this series of marks into a certain *format*. This means that the written marks grouped together in the first mechanism are configured or ordered in a *specific* manner. By way of this ordering, only certain writings can be accepted in the logical system under construction. For example, when we want to write certain predicates of identity, only certain configurations can be allowed to figure in the system. In this case, $I(x, x)$ is the writing for 'x is identical to x' and $\sim I(x, x)$ is the writing for 'x is non-identical to itself'. According to formation, we establish a sharp distinction between statements that are "well formed" and statements that are "poorly formed". To follow the above example, the configurations $I(x, x)$ and $\sim I(x, x)$ are both well-formed statements, whereas the writing $x(I, x)$ is poorly formed. Thus, within a logical system, the well-formed statements are accepted, and the poorly formed statements are rejected. In some regard, we are faced with "[t]he set of rules of formation [which] constitute syntax."⁴⁰

The third mechanism at work in Badiou's text is called *derivation*. What this mechanism operates on (as one might expect) are the results of formation. That is, it operates on the set of well-formed expressions produced by the second mechanism. What derivation produces is a strong dichotomy between derivable and non-derivable statements. These are what Badiou terms Theses (derivable) and Non-Theses (non-derivable)⁴¹. In Badiou's words, "it is true that all of these mechanisms separate the well-formed expressions into derivable and non-derivable *without remainder*"⁴². Thus, either a statement is localised to the *moitié* of Theses or it is localised to the Non-Theses. Without remainder.

Furthermore, what derivation establishes (perhaps most crucially of all) is a relationship between the two *moitiés*. In order to illustrate this idea consider the following example. Let us localise a statement t to the side of the Theses. We write this as tT , which can straightforwardly be read as “ t belongs to the *moitié* of Theses”. Thanks to the third mechanism, we can then *derive* the negation of t . Accordingly, the negation of t can subsequently be regionalised to the *moitié* of the Non-Theses. We write this as $\sim tNT$ or “ $\sim t$ belongs to the *moitié* of Non-Theses”. We see this third mechanism in action by observing that it establishes a relationship between both of the *moitiés*. As Badiou himself notes, “if a statement belongs to one *moitié*...the statement obtained by applying to it the operator, let it be \sim , is in the other *moitié*”⁴³. In this example, both $\sim t$ and t are traversed by the mechanism of derivation.

There are, however, some undecidable statements; an insight that is owed not to Badiou but to Gödel. Let us add a word of caution at this point: the existence of an undecidable statement is *dependent* on the existence of a *consistent* system, such that *either* a statement is localised to T or to NT . Thus, an undecidable statement (or a “Gödel statement”), is *not* such that neither it nor its negation are demonstrable⁴⁴. Badiou is very clear to point out that “the centre of Gödel’s proof is, on the contrary, attained when we show that this statement *is not demonstrable*. It is thus properly assigned to one of the two *moitiés*.”⁴⁵ Accordingly, an undecidable statement is one where neither the statement nor its negation can be *derived* – meaning that both the statement and its negation are localised in the *same moitié*. In the case of an undecidable, it can thus be written as: $t NT$ and $\sim t NT$. It can thus be *demonstrate* very clearly that such and such a statement is localised to *one of the moitiés*: and it is exactly at this moment that Gödel’s proof obtains.

To achieve the localisation of a Gödel statement to NT thus coincides with a certain degree of myth busting. A statement is undecidable to the precise extent that neither it nor its negation can be derived, and hence both a statement and its negation are relegated to NT . When navigating this problem, we must maintain the utmost vigilance regarding the terrain before us. There are only two *moitiés* available to us according to Badiou’s text – without remainder. Without compromise. Concerning an undecidable statement, we cannot import the (metaphysical) intuition that it can be localised to some third domain “leftover” from the division of T and NT . An undecidable statement does not correspond to some territory uncharted by logic. On the contrary, an undecidable statement is unambiguously localised to the domain of Non-Theses.

It is precisely due to this stringent localisation of the undecidable that we come to appreciate its force. If we recall the mechanism of derivation, we were able to establish a correspondence between the two *moitiés* where each term bore a trace of the other. That is, derivation established a “rapport of reversibility between the *moitiés*.”⁴⁶ Yet if we

are to localise the undecidable statement to the domain of NT, this means that the indefinite reversibility between T and NT has come to a *stopping point*. Since both a statement and its negation are on the side of NT, we *cannot derive either* in T. Consequently, the trace of the other cannot be indefinitely (re)produced: “that in certain places, the trace is effaced; that a strong mechanism imposes a complete division in the rejection that it makes, in each of its parts, of certain marks of the old Whole.”⁴⁷ We witness here not an ineptitude of logic but rather a “tear in structure”⁴⁸. A cut. The undecidable thus instals a dis-relation, a non-relation, a thorough separation, between the two *moitiés*. The undecidable institutes “a distance without concept”⁴⁹ between T and NT.

The undecidable is localised to *only one* of the two *moitiés*, and thereby resulting in the interruption to an indefinite reversibility between T and NT. Consequently, this means that we do not have a “piece” of writing in T that would *mark* the existence of such a statement (since it cannot be derived). According to this sketch, a Gödel statement is *without a mark* in the region of T. We have here “the foreclosure of that which lacks”⁵⁰ a mark.

It is not that these foreclosed logical writings (in NT) are situated beyond logical comprehension, but are *produced by logical writing* itself. These logical statements are not *lacking* from logical writing; on the contrary, they are simply localised to the region of NT; and this is what signifies the *scientific product* of logical writing.

While this discussion is indeed technical, it is worth reminding ourselves of the discursive point of view from which this exegesis is deployed. Because when Badiou begins this section on the “Triple articulation of the logical process”⁵¹, he is not simply conducting this demonstration as a scientist (or a ‘working logician’). Rather, the entire framing of this discussion is from an epistemological point of view. It is a question of *how* “the theory of logic *relates itself to* the modes of production of a division in logical writing.”⁵²

Thus, what is at stake is *how* an epistemology of logic “treats” the product of logic. This is the decisive point determining the ideological status of epistemology.

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The paradigmatic case of an ideological epistemology is Jacques-Allain Miller’s *Suture: éléments de la logique du signifiant*. (This famous text was delivered as an intervention in Lacan’s Seminar XII in 1965 and later published in 1966⁵³).

Before we dive into the “debate” between Miller’s and Badiou’s texts, we should take a moment to understand the precise nature of this famous exchange. Often, when this encounter is reconstructed by

commentators, it is usually assumed that Miller has a certain vision of what logic is and that Badiou has another. If we are to present things under this horizon, we characterise both texts as if they are gliding over surface of the “Truth of logic”. What such reconstructions thus presuppose is that *there is* some eternal, ahistorical, “Truth of logic” in the first place. The difference between the two is hence reduced to their relative proximity to this “Truth”. The stakes of this debate are thus often minimised to the vulgar ranks of differing opinions.

The stakes are far greater than mere disagreement. Indeed, *both* thinkers, both texts, are attempts to *formalise* history. Yet when it comes to Miller’s venture, his very attempt to formalise history has *the effect of a dehistoricisation of history itself*. In other words, Miller achieves a total subordination of science to the discourse on it. To that precise extent, we can say that Miller’s practice of formalisation is therefore *ideological*. So, Badiou’s assessment of Miller is not simply that he is “wrong about logic” but that the entire framework, the entire context, his entire *perspective* on logic is what leads to the petrification of history (and the history of formal writing).

As one can see quite early in Miller’s contribution, the ambition motivating this text is to formally articulate the “logic of the origin of logic”⁵⁴. Miller’s desire to formalise the historicity of logic is thus overtly declared. Indicated by the title of the text, what satisfies this desire is “the logic of the signifier”. This is because the logic of the signifier ‘describes’ a constitutive repression, a falling away, an exclusion of something which *coincides* with the emergence of logic itself; and what is repressed, what falls away, what suffers exclusion, is what Miller understands by the subject of the unconscious. *Lack* therefore functions here as the index of history. The logic of the signifier here describes the history of logic *by* articulating this *suture* between the subject and logic. “Suture names the relation of the subject to the chain of its discourse; we will see that it figures as an element which lacks, under the species of a placeholder.”⁵⁵

Certainly, if we say that something falls beyond the purview of logic, the very act of making this proposition itself seems to jeopardise its own validity: in declaring that there is something outside of logic in the first place, such a claim seems to employ a meta-language. Saying that there is an ‘outside’ with respect to logic should make *this* very proposition impossible (since it is pronounced from a logical point of view). By all accounts, Miller seems to overstep the very boundary he himself has drawn.

Miller’s *problématique* throughout *Suture*, however, is exactly what we have just highlighted. To account for the repression of the subject (and thereby the constitution of logic) Miller must *induce the emergence* of an “impossible object”⁵⁶ which would retroactively authorise him to claim *that* something has been repressed in the first instance. In so doing, Miller would thus achieve a formalisation of the coincidental repression of

the subject and the emergence of logic. Miller thus seems to effectively formalise the *historicity* of logic itself.

Suture achieves this formalisation of history by following a path set out by Frege's *Foundations of Arithmetic*. To let the cat out of the bag, Miller identifies *zero* as the inscription of this impossible object. Once we formalise *zero*, it can serve as the indexation, the transmission, of the history of logic. In slightly different terms, if the subject of the unconscious is *lacking* from the perspective of logic, *zero* thus functions as the *mark of a lack*. As we will see, Miller proposes the *non-identical* as an avatar for what must be constitutively repressed in order to constitute logic's emergence. Thus, under this horizon, to formalise the non-identical by *zero* is also to formalise the mark of history.

In order to arrive at *zero*, Miller follows Frege in outlining a system consisting of three concepts and two relations. The concepts are: *object*, *concept*, and *number*. The two relations are *subsumption* and *assignation*. *Subsumption* characterises the relation between concept and object; *assignation* characterises the relation between concept and number; concepts are *assigned* a number.

Following this schematic, we notice a strong interdependence between *concept* and *object*. For something to be considered a concept at all, Miller contends, it must be a concept *of* an object. Reciprocally, an object can *only* be considered an object if it is subsumed *by* a concept. "The logical specificity of this system lies in that each concept is only defined and only exists by the relation that it enters into as subsuming with the subsumed. In the same manner, an object only comes to its existence insofar as it falls under a concept, no other logical determination contributes to its logical existence".⁵⁷ In other words, there is a *unity* between concept and object.

It is this *unity* that enables us to count the concept/object couple as a *unit*. Due to the interdependence between the two, a number can be assigned to the *unity* concept/object by counting it as one. We should note, however, that this operation of counting already involves another "redoubled concept: *the concept of the identity to a concept*."⁵⁸ When we describe the unity between concept/object, we smuggle in another concept that allows us to make the claim *that* a concept and object are identified with one another. It is thus only once we have deployed *the concept of the identity to a concept* that the concept/object becomes countable as a unit.

The object has therefore acquired a unity, an identity, on the basis of its integration into the domain of the concept. This means that 'before' the object has been understood in conceptual terms, we could not really speak of an object at all. At this juncture, Miller introduces another category: namely, the *thing*. The *thing*, for Miller, is the object 'prior' to its conceptual appropriation, meaning that we cannot account for it in conceptual terms. "The thing integrated, by its spatio-temporal localisation, to the real."⁵⁹ A difference between object and thing is thus

inaugurated by the concept. For the object, its identity is grounded on its integration into a conceptual network; for the thing, by contrast, it only has itself as the support for its *own* identity. We have therefore two levels of unity between object and thing.

The sleight of hand that Miller conducts here (as a result of these conceptual manoeuvres) is to propose the following; because the thing is granted the dignity of being identical to itself, and the object also has *its* identity (by virtue of the redoubled concept), we can reasonably say that the *object is a substitution for the thing* – all the while safeguarding the Truth of this substitution itself.

What is most instrumental about this insight (for Miller) is not only the idea of substitution, but rather “what it takes for granted”⁶⁰. Namely, the condition that a relation of substitution can effectively operate at all demands that what is substituted (thing) must be self-identical. If we are to posit that some-*thing* is *not* identical to itself then we cannot sustain the operation of substitution *and* maintain the Truth of the operation.

What is *necessarily repressed* by this operation is therefore the *non-identical*. “But that a thing might not be identical to itself subverts the domain of the truth, ruins it and abolishes it. You can see how the safeguarding of the truth is interested in this identity to self which connotes the passage from the thing to the object. The identical to itself is essentially what might save the Truth. *The Truth is. Each thing is identical to itself.*”⁶¹ The condition of upholding the Truth of the thing/object relation is therefore the repression of the non-identical.

Accordingly, if a thing is non-identical to itself, this would render the substitution relation inoperative. We could not account for an object that would be a True substitution for the non-identical simply because, as we have shown, the category of the “object” always implies a *unity* through its subsumption by a concept. Thus, an object that functions as a substitution for the non-identical is necessarily false according to this schema.

It is thanks to this manoeuvre that Miller achieves his desire to formalise zero. “In effect, there may be the concept “non-identical to itself”. This concept, being a concept, has an extension, subsumes an object. *Which? None.* Since the Truth is, no object comes to the place of the subsumed of this concept, and the number that qualifies its extension is *zero.*”⁶² What this sequence of moves *induces* is therefore the possibility of thinking the non-identical – only to subsequently insist on its necessary repression. The non-identical is evoked only to justify its revocation in a shimmering double movement.

In this regard, Miller has thus fully satisfied his desire to formalise the non-identical; and thereby the history of logic.

Why, then, is Miller’s formalisation ideological? Ultimately, this is because Miller represses the non-identical and *thereby* represses the historical product of science (qua logic). In order to account for the weight of this accusation, we must briefly revisit how the non-identical could be

considered a product science. Otherwise put, how can non-identity be localised to NT?

Everything hinges, therefore, on how we understand the concept of non-identity. More specifically, how we understand *what* the writing of identity or non-identity pertains to. Let us take the writing $l(x, x)$ as a starting point. Indeed, it is very easy to read this inscription as “the foundational self-identity of any mark whatsoever.”⁶³ As Badiou makes quite clear, this is an erroneous reading. Instead, we should approach $l(x, x)$ as an articulation the self-identity of a *variable* to itself. Against this background, we are now provided with the appropriate reading technique to address the writing of non-identity: $\sim l(x, x)$. Since this writing is to be read as “the variable x is non-identical to itself”, this is equivalent to saying “the variable x is not the variable x ”. Since the variable x cannot be anything *but* the variable that it is, this writing $\sim l(x, x)$ amounts to a contradiction within logical writing. We must thereby posit that $\sim l(x, x)$ is “false”⁶⁴. Consequently, this requires that the writing $\sim l(x, x)$ is a non-derivable statement and must therefore be localised to the region of Non-Theses. (As the reader will recall, this means that we cannot *derive* the writing of identity from the writing of non-identity because it has been relegated to the side of NT.)

Although this demonstration is simple, is nevertheless shows that $\sim l(x, x)$ is a *product* of logical writing that falls “within” logical writing itself. As Badiou himself says, “[i]t is false that x might not be equal to itself to x . But this negation, in fact of lack, does not mark anything but the rejection (the *presence*) in the other *moitié* (that of the non-theses) of the statement $\sim l(x, x)$ ”⁶⁵. Therefore, the non-identical is not repressed but rather *re-localised*. “We would therefore be wrong to imagine that $\sim l(x, x)$... *marks* in the system...the unthinkable non-identical-to-itself of the sign, and that such a (correct) expression organises the saturation to the calculation of this unthinkable.”⁶⁶

We can thus fully appreciate the ideological nature of Miller’s formalisation. Considering that Miller treats the non-identical as necessarily repressed, this is tantamount to an effacement of what makes logic historical in the first place; that it *produces* something. As we have maintained from the beginning, what differentiates science from ideology is that science produces something that is irreducible to the ahistorical given; science is thus demarcated from ideology because its object is rendered historically. $\sim l(x, x)$ is in this context the scientific *by-product* of logical writing. Since Miller must repress the non-identical to safeguard the Truth, the formalisation of this repression coincides with the repression of the historical. Thus, the inadvertent consequence of this attempt to formalise history is the utter dissimulation of the historicity of science. As Badiou formulates (in a very precise manner), “the thesis we will sustain is that of the impossibility of the logic of the signifier to *envelope* the scientific order, and where the epistemological cut would

be effaced”⁶⁷. The problem is thus not that Miller does not have the desire to formalise history, but that his attempt to do so amounts to an exhaustion of science by discourse. The problem is that Miller *succeeds* in enveloping the product of science; and it is precisely due to his success that his account of history fails. A Millerian account of history amounts to its stillbirth. In effect, it results in one-history, and therefore *no history*⁶⁸. This ideological epistemology is thus tantamount to a naturalisation of the historical, an ideologisation of the scientific, and the reduction of time to a relentless linear march. History robbed of history, chronological time prevails. Miller’s account of historicity is thus a thorough failure: an attempt to formalise history that amounts to that dehistoricisation of history and the naturalisation of time⁶⁹. In this precise sense, *Suture* is an *ideological* formalisation.

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What possible hope could there be for a thought of history? How to extricate philosophy from this ideological tendency to absorb and exhaust the historicity of science? It is prudence that speaks dissidence to idealism, that stands for this hope – this possibility to affirm philosophy.

A certain philosophical diligence is in order. As we saw from our reading of the productive process of logical writing, this writing produces something within its own operation. By taking account of the products of this science we highlight that science as such is *irreducible* to any discursive totalisation of it. Insofar as the object of science is a *product*, this means that this object is *novel* as opposed to natural. To that precise extent, science cannot be totalised because its object *constitutively* exceeds the ranks of the given. Science as such, by definition, *exceeds* totality. There is no one-science. Accordingly, the philosophical pronouncement of the epistemological cut does not amount to a colonisation of science, but instead signifies the “recurrent *impossibility* of philosophy”⁷⁰ to totalise it. When philosophy marks the existence of the epistemological cut, declaring the historicity of science, this does not amount to an ideological reprise of historicity. Rather, the pronouncement of the cut marks the resistance of science to any discursive exhaustion. A true pronouncement of the epistemological cut thus prohibits totalisation because it insists that there is no one-science, there is no one-history, there is no one-cut. “*La science est le Dehors sans point de cécité.*”⁷¹ The philosophical declaration of the epistemological cut *is* thus at one and the same time the formulation of philosophy’s admission of its own impotence.

The philosophical admission of impotence is, paradoxically, the very gesture that allows it to think historicity proper. Now, this appears to be a vulgar and naïve Kantian⁷² gesture of modesty; it seems that

because we have insisted on philosophy's inability to totalise the domain of scientific historicity, that it cannot think historicity at all. This accusation of Kantianism, this blunder, must be rejected with the utmost severity. Indeed, we have highlighted that when it comes to science, philosophy encounters an impasse. Often, the concept of an impasse is reduced to the vulgar simplification of something that is 'inaccessible'. Yet if something were truly inaccessible, we would not be able to say *that* it is inaccessible in the first place; since the very claim *that* something is inaccessible implies the knowledge of that impasse, and thus can no longer be considered as an impasse (at least in the sense of 'inaccessibility'). Identifying an impasse *as an impasse* therefore amounts to a certain 'transmission' of its knowledge. It is in this register that Badiou announces the "recurrent impossibility of philosophy" to envelope science. *By* identifying the existence of this impossibility, Badiou achieves an intra-philosophical formalisation of philosophy's inability to envelope science. In other words, the very *identification of this impossibility as such* is the philosophical formalisation of its inability to exhaust the historical productivity of science. So, this formalisation of the impasse of formalisation is precisely what *allows* for an intra-philosophical transmission of the fact *that* it cannot totalise science.

So, *by* admitting that it cannot deplete the historicity of science is the very gesture that allows philosophy to think this history. Because by admitting its own inability to reduce the historicity of science to an encyclopaedic representation also means that philosophy has *registered* the excess that is characteristic of scientific production; philosophy thereby thinks history. Precisely when philosophy identifies its own impasse as such it also thinks history⁷³. In effect, the intra-philosophical formalisation of its own impasse of formalisation coincides with its thought of history as such.

Prudence; not modesty. For prudence is also philosophy's audacity.

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To conclude, it is worth briefly noting what this philosophical prudence (and its audacity) allows us to think; the historicity of science. Now that we have understood that philosophy *can* think the historicity of the epistemological cut, we can now pose the question pertaining to the *historical* relationship *between sciences*. Indeed, the cut names the "relation" between a preceding ideology and a science. *Refonte* characterises, by contrast, the relationship between an anterior science and a new science⁷⁴. Moreover, as Badiou will later say, it is this relation of *refonte* that allows us to think the "*historical time*"⁷⁵ between sciences. Without a doubt, the following remarks are only schematic and would require further elaboration; but it is worth briefly exploring the corridor Badiou opens for thinking history.

For example, let us consider the rapport between the axioms of Euclidian geometry and Riemann. According to Euclid's famous postulate, "through a point outside a line, there passes one and only one line parallel to that line."⁷⁶ The negation of this postulate would seemly amount to the inconsistency of the intra-axiomatic system of Euclidian geometry – thus placing the system itself into *crisis*. However, what Riemann demonstrates that this postulate can be negated without placing the whole system of Euclidian science into a crisis. He shows, in other words, that this postulate is *independent* from the other axioms of Euclidian geometry⁷⁷. He does not change the axiomatic system *per se*, but rather changes its *historical status* – showing that this postulate has *always been* independent from the others. Or better, he historically formalises the historical status *of* that crisis as such. Riemann could thereby be said to establish an epistemological *refonte* with respect to Euclid⁷⁸.

To put this in a slightly modified parlance, we can say that the epistemological *refonte* enacts a dialectical reversal on the science anterior to it. Consequently, by revealing that Euclid's postulate was always already independent of the others, the *refonte* enacts a retroaction on the status of these axioms themselves.

To follow this dialectical reversal also means to highlight that the *refonte* problematises the linear vector travelling from the past to the present. Indeed, an intuitive understanding of this dynamic situates Riemann as the inheritor of Euclid's problematics. Following this intuition means to engulf Riemann in the shadow cast by Euclid – where the ancestral past presides over and determines the present. Yet when we consider the dialectical *coup* of the epistemological *refonte*, this requires that the linear temporal relation between the past and present must be put into question. Initially, it seems that the present is destined to inherit the bloodline of the past. But if the *refonte* shows that the axioms at stake were *always already* independent from one another, this inaugurates a vector in the opposite direction: *from the present to the past*. In this sense, the *refonte* can be understood as enacting a *retroactive causality* on its own past.

Let us try to break this idea down for the sake of clarity. Firstly, a past science seems to determine the present in a linear manner. This is what we can call the first vector (or V1). Following the epistemological *refonte*, we reveal that the axioms constituting Euclidian geometry always already had a degree of intra-axiomatic independence. Therefore, the second vector travels from the present to the past (or V2). What this means is the *refonte* retroactively alters the *status* of the past; revealing that (in the current example) this axiom has always already been independent from the others. It is not that the *refonte* changes 'what' this science is *per se*, but rather changes its *historical status*. This is what Badiou will term the double-occurrence of science⁷⁹. First, science seems to be a mode of production of knowledge, then the *refonte* re-articulates that science itself. Science, in other words, occurs at least twice.

Accordingly, we can see that the vectors of production also involve a logic of repetition. Following the first vector, the past is characterised as a form of production which subsequently allows for the “present” (Riemann) to occur. Yet, the *refonte* establishes a retroactive causality and thus alters the historical status of Euclidian science in the first vector. If science is a means of production of knowledge, this means that the epistemological *refonte* is the *re-production of the very means of production of knowledge itself*⁸⁰. In other words, the first vector is the means by which the present is determined by the past; the second vector is the means by which the present determines how *it* is determined. The epistemological *refonte* thus inflicts a retroactive causality on *its own scientific history*⁸¹.

This retroactive causality introduces a further turn of the screw. For if we are to take this category seriously, we see that the temporal *counterthrust* inaugurated by the epistemological *refonte* promotes an infinite process of self-positing. According to our first vector, the past (science) is predominant over the present in a chronological determination of time. We have here something like what one might call in Marxist terms the prejudice of the past. Considering everything we have said thus far, the epistemological *refonte* also means that the present changes the status of *its* past. But if the present also changes the historical status of its past, this implies that the retroactive causality from the present to the past *furthermore* promotes the vector from the past to the present to occur once again. Put another way, if the present changes the past, this also involves a change to the *past of the present* (– the present that has changed the past). In changing the past, the present thus changes *its* past and therefore implies a change to *the past of the present*. The present therefore suffers the retroactive causality that it inflicts upon the past – caught in the ripples of its own gesture. Following the *refonte* of the past, we are thus forced to confront this first vector from the past to present *once again*.

Now, if we claim that we are forced to traverse the vector from past to present once more, we call this second traversal of this vector V1'. Moreover, this shows that (by way of a retroaction on our own argument), that the *refonte* enacted by Riemann has always already implied the vector V1'. That is, if Euclid's postulate *has always already been* independent from the others, this means that the *refonte* inaugurated by Riemann *itself always already* presupposed the vector V1'. Euclid, in other words, seems to have already *anticipated* the *refonte*. The retroactive causality inaugurated by the *refonte* has thus always already been a *refonte on a refonte*. Riemann has thus always already deployed a vector of the kind V2'. As one might anticipate, the means that V2' has also changed the past of *its* present. Once more, V2' is subject to the effect of its own retroactive causality that it has inflicted on the past. Thus, the past with respect to V2' is now revealed to be the vector V1'' (and subsequently lead to V2'', V1''', V2''' and so on). *Again*.

Indeed, this idea deserves a far lengthier explication. However, what we can notice about this disorienting rapport is the apparent cohabitation of history and invariance. In positing the *refonte*, we problematise the merciless forward march of natural time; the present is not just a passive recipient of the causality of the past. Rather, as we saw with Riemann, it inaugurates a change to the historical *status* of that past. Yet (and here is the true difficulty of this problem) once we traverse this retroactive causality travelling from Riemann to Euclid, it appears that the past has *always already suffered the effects of the refonte in the first place*. Riemann shows that Euclid's postulate has always been independent from the others, so it appears as though Euclid has always been operating with the consequences of the *refonte* in the first place. So it is not only that Riemann shows the system of Euclidian geometry to be intra-axiomatically independent, but that this very demonstration has always already happened; that the epistemological *refonte* has always already occurred. So when we revisit the very retro-act committed but Riemann, it is as though he has already conducted the *refonte* as such; that he is always conducting a *refonte on a refonte*.

What we see here is not an external relationship between eternity and history, but rather that a veritable thinking of history *involves* the eternal. A true thinking of historical time is thus not only a rupture with natural chronology, but commands that a thought of historical time involves thinking the eternal. Inaugurated by the *refonte* is a philosophical thought of the history of sciences; a thought of history that walks hand in hand with eternity. Historical time, in other words, is not without eternity.

History *is* the history of eternity⁸².

- 1 Among many other things, I owe this title to my dear friend and collaborator Jan Phillippe Weise.
- 2 Badiou & Balmès 1976, p. 123
- 3 Badiou 1969, p.150 My translation.
- 4 Badiou 2022, p. 145
- 5 Badiou 1969, p.150
- 6 Regnault 1968, p.1
- 7 As Badiou argues in his *(Re)commencement of Dialectical Materialism*, the specific relationship between science and ideology is strictly speaking “irresolvable” or better “unformulatable”; since to formulate a relation between the two is to bury their difference. Indeed, this break, this cut, is a construction of a “new scientific object”. In this regard, there is no reversibility between science or ideology. 2022, p.138
- 8 For Badiou’s *Le Concept du Modèle*, empiricism as well as logical positivism are identified as instances of bourgeois epistemology.
- 9 Weise 2025
- 10 Badiou 2022, p. 147
- 11 Ibid, p. 138
- 12 Ibid, p. 146-147
- 13 Regnault 1968, p.1 emphasis added
- 14 Frank Ruda has impressively shown how the very concept of rationalism is not something that simply leaves mythology behind, but rather that each instance of rationalism generates its own myth. See *Indifference and Repetition or Modern Freedom and its Discontents*.
- 15 Badiou 2022, p. 148
- 16 Ibid, p.148
- 17 Regnault 1968, pp. 1-2 This is, indeed, why Regnault rightly refers to the Bachelardian idea that there is a *formation de l’esprit scientifique*.
- 18 Badiou 2022, p.151
- 19 Ibid, p.151
- 20 Badiou 1969, p.150
- 21 This is precisely Badiou’s early critique of Michel Serre’s text *La querelle des anciens et des modernes en épistémologie et en mathématiques*. While Serres maintains that mathematics implies its own epistemology within its own practice, Badiou points out that this identification in this account is “placed in a *transcendental* perspective”. Thus, collapsing the distinction between science and epistemology. Badiou 2022 p. 152
- 22 Ibid, p. 150 See also *Le concept de modèle* p.51
- 23 Ibid, p. 150 emphasis added
- 24 Ibid, p.150
- 25 Badiou 2007, pp.43-49 A desire that Carnap wanted to achieve and Quine sought to illustrate. Both thinkers, for Badiou are within the same problematic of what he calls “bourgeois epistemology”.
- 26 Badiou 1969, p.150
- 27 See also *The (Re)commencement of Dialectical Materialism*.
- 28 Ibid, p.150 emphasis added
- 29 Lenin 1972, pp. 149-178
- 30 Regnault 1968, pp.7-8
- 31 Badiou 1969, p. 150 emphasis added.
- 32 Ibid, p.151 emphasis added
- 33 Ibid, p. 151 Considering that Badiou himself italicises the word *coupé* in his original text, it is justified to emphasise the terminological weight this term bears – especially in the current context.
- 34 Ibid, p.151
- 35 Ibid, p.151
- 36 Ibid, p. 151
- 37 Ibid, p.151
- 38 Ibid, pp.151- 152
- 39 Ibid, p.151
- 40 Ibid, p.153
- 41 Ibid, p.153
- 42 Ibid, p.153 emphasis added
- 43 Ibid, p.154
- 44 We witness here a subtle yet important distinction between Badiou’s and Lacan’s understanding of Gödel. For Lacan maintains the vocabulary of indemonstrability. So radically is the case that for Lacan, not even the fact that something is indemonstrable can be demonstrated. However, Badiou’s understanding marks a subtle yet important difference: it is only when such a statement is *demonstrated* to be localised to NT that we can say it is undecidable. Ultimately, this is why Badiou states that “J. A. Miller’s discussion from Frege to Boole, and by Lacan of Gödel’s theorem or of the semantics of implication, have this ambiguity that they simultaneously deploy, and without distinction, that which is indicated by the effective construction of a logical mechanism, and that which is indicated by the (ideological) discourse by which logicians represent this construction to themselves.” Badiou 1969, p.156 See also Lacan 2006, p.85
- 45 Badiou 1969, p.153 emphasis added
- 46 Ibid, p.154
- 47 Ibid, pp.154-155
- 48 Ibid, p.154
- 49 Ibid, p.155
- 50 Ibid, p.155 The use of the word “foreclosure” in this case no doubt has psychoanalytic resonances, but Badiou’s use of the term is an intentionally provocative reference to a text of J. A. Miller called *Action de la structure* (written in 1964 and published in summer of 1968). For Miller the term signifies “[t]he closure of science thus operating a repartition being a closed domain from which we do not see any limit if we consider it from the interior, and a foreclosed space. Foreclosure is the other side of the closure... the foreclosure makes a return under the form of the impossible.” Miller 1968 pp. 102-103 my translation.
- 51 Badiou 1969, p. 151
- 52 Ibid, p. 151
- 53 It is worth noting that despite its apparently Lacanian tone, Lacan himself forthrightly rejects Miller’s attempts to formalise by way of Fregean logic. This is particularly clear in Lacan’s SXVI wherein he very clearly opts for a Cantorian, set-theoretical, axiomatisation.
- 54 Miller 1966, p. 39 My translation.

- 55 Ibid, p. 39
- 56 Ibid, p. 47
- 57 Ibid, p. 41
- 58 Ibid, p. 42
- 59 Ibid, p. 41
- 60 Ibid, p. 43
- 61 Ibid, p. 43
- 62 Ibid, p. 44 emphasis added
- 63 Badiou 1969, p. 157
- 64 We place 'false' in quotation marks so as to avoid the ideological importation of the Truth/False paradigm.
- 65 Badiou 1969, p. 158 Emphasis added. When Badiou uses the term "present" in this context it is not in the temporal register but rather to signify that the writing of non-identity has not been repressed.
- 66 Ibid, p. 157
- 67 Badiou 1969, p. 151 emphasis added
- 68 Could we not say that this is a result of Miller's insistence on a Leibnizian reference for his framework? Even an account for Leibniz that excels in philosophical and exegetical acumen such as Michel Serres' is also confronted with this problem. For Serres, Leibniz's great insight concerns his concept of system. For Serres' account, a given system is also an expression of the whole. Each instance of a system is a variation or expression of the whole. A variation, according to Serres' account, is also the expression of an invariant, and invariance expresses itself *in* variation. An encyclopaedic harmony is therefore at work between the multiple systems. Although Serres' himself does try to parse out a possible Leibnizian account of history, this amounts to an encyclopaedic exhaustion. See Michel Serres, *Le système de Leibniz et ses modèles mathématiques*.
- 69 We might then say that the problem with Miller's formalisation is *not only* that it is metaphysical (which is the vocabulary Badiou's accusation), but that it is all too *physical* in the Aristotelian sense.
- 70 Badiou 1969, p.163 emphasis added.
- 71 Ibid, p.162
- 72 Indeed, Kant himself was neither of these things.
- 73 This is what Badiou means when we says that "the epistemological cut must be thought under the *irrepresentable* species of de-saturation." Ibid, p.161
- 74 This is a term that is proposed by François Regnault in 1968 in Louis Althusser's *Cours de la philosophie pour scientifiques* identifies. It is with this word *refonte* that Badiou ends his *Le concept de modèle*. Badiou's text was of course the last contribution to the *Cours* (although his was interrupted by the events of May of that year). Thus, *refonte* is literally the final word of this whole course.
- 75 Badiou 2007, p.143
- 76 Badiou 2007, p.143 One of the examples deployed by Badiou here.
- 77 Ibid, p. 143
- 78 Could we not also say that this is the

relationship that Badiou later identifies between Plato's *Parmenides* and Cantor? For what appears from Plato's to be an inconsistency and intra-discursive impossibility within the discourse on Being later receives its mathematical formalisation from Cantorian Set Theory. It is not that Cantor changes what ontology is, but offers the formalisation of this inconsistency as such, thereby changing the historical status of Platonic ontology. Thus, when Badiou speaks of inconsistent multiplicity in *L'être et l'événement*, this has nothing to do with Being qua Being but rather concerns a crisis of the discourse on Being qua Being; and is thus already a meta-ontological gesture. This is what it means to say that "mathematics is ontology" (p.10). So, when we come to read *L'être et l'événement* on a global level, when we come to the concept of a Truth procedure, this means that the crisis of Cantorian set-theory itself, concerning the axiom of choice and the continuum hypothesis, is already a meta-meta-ontological assessment. There is thus no reading of Badiou that is more disastrous, more ideological, than one which proclaims "Being is multiple".

79 Badiou 2007, p. 121

80 Ibid, p.148

81 Ibid, p.148

82 Badiou 1992, p.57ff A non-theological eternity.

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