A MATHEMATISED ARCHAEOLOGY OF ONTOLOGY
AGAMBEN'S MODAL ONTOLOGY MAPPED ONTO BADIOU'S MATHEMATISED ONTOLOGY

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ABSTRACT
This paper looks at the central portion of The Use of Bodies called An Archaeology of Ontology. Specifically, it concerns itself with Agamben's historiographic approach to ontology as regards the construction of ontology via the concepts of presupposition, relation and mode. Placing these comments within the frame of the whole book, the study of use of bodies in part I and form-of-life in part III, the paper suggests that, contrary to Agamben's own assertions, it is possible for an ontology to escape the historical destiny mapped out for it by First philosophy and foreclosed by Kant. This possibility makes itself known if one accepts that Agamben's definition of the ontology to come as a modality of the use of bodies as a habitual form-of-life, is indeed another way of stating that said ontology is directly mappable onto Badiou's work on existence as categorical functional relations between objects in Logics of Worlds. For use of bodies read functions between objects, and Agamben's modal and Badiou's mathematised ontologies suddenly fall into a powerful if restless alignment.

KEYWORDS
Agamben, Badiou, ontology, category theory, philosophical archaeology

There is no doubt in my mind that, as the years pass, *The Use of Bodies* will be seen as one of Giorgio Agamben's masterpieces. The signs are already auspicious, it is, after all, the concluding volume of the immense, epoch-defining *Homo Sacer* sequence that ends with probably the clearest statement yet of what Agamben conceives of as the politics and philosophy to come, after the successful indifferential suspension of the major signatures of the metaphysical tradition. Yet there are also more obscure augurs encoded in the book, specifically about Agamben's relationship to his great rival and friend, Alain Badiou. For those well-versed in the full body of work by both men, the very title *The Use of Bodies* is surely meant as an oblique, yet unmistakeable, comment by Agamben on Badiou's mathematised

ontology and his categorical theory of worlds. As I have argued in one of the two sister pieces to this article, for use of bodies read functions of objects and you have, basically, the summary of Badiou's *Logics of Worlds*. In the same piece I also show that the analogical method Agamben adopts from Enzo Melandri is better mapped onto the analogical conception of relationality in Badiou's reading of categories, namely the mapping of a function from source to domain (Watkin forthcoming). If one goes even deeper, then one can also say that Agamben's choice of the term 'bodies' is a direct challenge to Badiou's influential theory of the event. In *Logics of Worlds* bodies are the clusters of objects that gather around the nonrelational object of a world, the event, forming a radical nonrelational world within a world. The reason I dwell on this is that the whole point of *The Use of Bodies* and in a sense the entire sequence of books comprising *Homo Sacer* is, as in Badiou, a revolution in being, existence and politics. That the Agambenian sense of bodies is radically at odds with Badiou's, suggests that while both men appreciate that any theory of existence of any value in this third millennium of philosophy, must be based on a modal or functional logic, and a liberation of subjects from being 'subjects of...' to 'bodies that...', Agamben is clearly sending a message to Badiou, albeit as we shall see, a truculently encrypted one. Yes, he argues, ontology must become modal, category theory is a form of modal logic, and subjects must also become bodies, but if the politics to come is one of habitual use, as he argues across the book, then Badiou's theory of the event as intermittently disruptive of, and nonrelational to, functional world relations, is just another version of the philosophy of difference that Agamben has spent his career since *Language and Death* in 1982, undermining, rejecting, and part-replacing.

The purpose of my returning to Agamben's *The Use of Bodies* for a third and final time, is to ask for my own part, whether an accommodation can be found between Agamben and Badiou, around the concept of indifferential thought. I cannot answer that question here: it is a topic for my future work. Instead, across the two accompanying essays, *Agamben's Impotentiality and The Use of Bodies* and *Inoperativity as Category: Mathematising the Analogous, Habitual, Useful Life in Agamben's The Kingdom and the Glory, The Signature of All Things and The Use of Bodies* I show how first Agamben's indifferential method is problematized by some of the most basic axioms of sets, such that the logical paradoxes he delights in debunking may not be inconsistent at all. And then, more constructively, how Agamben's work is mappable on to category theory due to his commitment to analogical thought. Categories are analogical modes of relation between two objects. What all these papers are proposing is, first, that *The Use of Bodies* is a sustained engagement with Badiou's work, even if Badiou's name is never mentioned. The model Agamben has adopted here echoes that used in *What is an Apparatus?* which basically appropriates the terms of Badiou's work, as a mode of critique,

without ever speaking directly to, or about, Badiou[1]. And second, that Agamben's entire project, and his futural politics of habitual use based on his formulation of a modal ontology, lives or dies on how he responds to the revolution in the language of thought that occurs with George Boole's invention of extensional reasoning and Georg Cantor's application of this to the ontology of sets (Bar-Am 2008).

The question is a simple one: does the archaeological method of indifferential suspension of the articulation of common and proper such that the ruling signatures of metaphysics are rendered inoperative work, after the rationality of metaphysics alters in the mid-19th century such that the logical paradox of common and proper that Agamben sees as intrinsic to all signatures, is no longer paradoxical? Is the new language of being, extensional logic, another version of metaphysics, or the resolution of its problems? In the central portion of *The Use of Bodies* Agamben seems to pursue this problem both directly and obliquely by taking the terms of Badiou's ontology and his objective phenomenology, and then trying to implicate them in First philosophy. In what follows I will try to trace this odd conversation, and in a sense speak up for Badiou and my own commitment to extensional reasoning as and when appropriate. This is not to suggest that Agamben is wrong, there are many elements of Agamben's project that I would favour over Badiou's, but my aim here is simply to give voice to the issues at hand missing from Agamben's writing. The complexity of this project is perhaps beyond the already generous word count here so I have to assume the reader understands the basics of sets and categories. If they do not, then I refer them to the following resources in reverse order of direct relevancy (Badiou 2005; Badiou 2009; Badiou 2014; Watkin 2017; Watkin 2021). In miniature, sets reduce beings to ranked indifferent multiples. Upon which are founded categorical worlds composed of commutative triangles of objects defined entirely by their functional relations. These worlds have a halting point, the minimum, effectively Agamben's *archē*. They have a transcendental functor or name of the world, Agamben's *signature* (Agamben 2009: 33-80). Within which any two related objects can be both exemplary or subordinate due to the enveloping functions, Agamben's paradoxical *paradigms* (Agamben 2009: 9-32). I will return to the specifics of categories later when we discuss how the commutative triangle maps onto Agamben's conception of communicability.

In what follows we will be considering the central portion of *The Use of Bodies* called *An Archaeology of Ontology*. Specifically, Agamben's historiographic approach to ontology as regards the construction of ontology via the concepts of presupposition, relation and mode. Placing these comments within the frame of the whole book, the study of 'use of bodies' in Part I and 'form-of-life' in Part III, I suggest that, contrary to Agamben's own assertions, it is possible for an ontology to escape the historical destiny mapped out for it by First philosophy (and foreclosed by Kant). This possibility makes itself known if one accepts that Agamben's

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[1] I have traced an earlier example of this technique of Agamben's in Watkin 2016: 85-99.

definition of the ontology to come as a modality of the use of bodies (as a habitual form-of-life), is indeed another way of stating that said ontology is directly mappable onto Badiou's work on existence as categorical functional relations between objects in *Logics of Worlds* For 'use of bodies' read functions between objects, and Agamben's modal and Badiou's mathematised ontologies suddenly fall into a powerful, if restless, alignment. I suppose the central question is why, if Agamben is aware of this, does he not directly address it, accept elements of Badiou he can accept and challenge those he questions? If, for example, one is able to accept some of Badiou's work on modal categories extensively expressed in *Logics of Worlds* then, as my accompanying work suggests, the lack of detail Agamben provides as to how habitual use as form-of-life would actually function, is suddenly flooded with new and potentially world-altering complexity. I commence with sketching out this potentially rich complexity in my essay *Inoperativity as Category*, (Watkin forthcoming) but to get there, we need to cross the troubled swamps of the Western ontological tradition. So come with me, if you are willing, into Agamben's archaeology of ontology qua articulation and mode, analogically mapped onto Badiou's mathematised ontology thanks to sets, and his objective phenomenology of existence thanks to categories.

1. AN ARCHAEOLOGY OF ONTOLOGY

Agamben opens the central section of the three-part study of bodies and their uses with an attack on the presuppositions of First philosophy, rejecting its primacy based on its 'conceptual formulations' by arguing instead it is always inscribed in 'doctrine'. Although he does not say this directly, one cannot but assume however that this is as much a rejection of Badiou's ontological position, he is often presented as doctrinal[2], as it is of Aristotle's. For example, when Agamben goes on to describe ontology as "the originary place of the historical articulation between language and world, which preserves itself in the memory of anthropogenesis, of the moment when that articulation was produced" (Agamben 2016: 111), he is drawing clear water between his conception of ontology and Badiou's widely-known commitment to ontology. Agamben's historicised reading of ontology is such that when ontology changes, then the 'destiny' of ontology does not. What is transformed rather is "the complex of possibilities that the articulation between language and history has disclosed as 'history' to the living beings of the species *Homo Sapiens*" (Agamben 2016: 111). Thus, the revolution in ontology inaugurated by the Cantor event according to Badiou is, for Agamben, simply a new articulation between language (extensional logic) and the world such that extensional logic, in replacing syllogistic

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[2] François Laruelle's complaint re: the infection of Maosim across Badiou's *oeuvre* (Laruelle 2013).

logic, merely installs Cantor and later Badiou in the doctrinal position of the new Aristotle. As if to rub salt into the wounds of this subtle assault, on this reading Agamben's sustained fascination with *anthropogenesis*, explained here as the "becoming human of the human being" is defined as "the event that never stops happening", appropriating Badiou's most famous term and undermining its fundamental qualities of rarity and instantaneity. Which naturally entails that reading First philosophy, qua ontology, means that as a philosopher one "watches over the historical *a priori* of *Homo Sapiens*, and it is to this historical *a priori* that archaeological research always seeks to reach back" (Agamben 2016: 111). In a few short sentences, therefore, Agamben appears to dispense with Badiou without ever naming him as such.

From this opening position we can ascertain that ontology, for Agamben, is accessible only as a result of his archaeological method outlined in *The Signature of All Things*. That the centrality of ontology to the West is the articulation of *human* being. The event in question is both singular, the event of anthropogenesis, and yet also recurrent, never stops happening. And that any new destiny for ontology will constitute a reconfiguration of the paradigms and economy of the overall signature [Being][3]. A signature which he will go on to say is the original, foundational signature of the West. Finally, one is able to deduce that the role of the philosopher is to map the origins of ontology in First philosophy, onto the latest manifestations of the philosophy of being, for example ontology is mathematics or later the onto-logical in Badiou. Not only is this a breathtakingly economic expression of Agamben's mature position on ontology, but perhaps because of this, each of these statements is a contradiction of Badiou's thesis that ontology is mathematics or at least a contradiction of Badiou's claims re: the event due to this 'doctrinal' statement. Let's consider the evidence thus far and see if our thesis that this is an attack on Badiou holds water.

First, Badiou insists that ontology is mathematics which contravenes Agamben's proposal that ontology is a reconstitution of the terms of First philosophy. Although first philosophy concerns a substance of Being that underlies all other beings, the fact is that the rise of set theory – after Boole and Cantor – rejects firmly the theory of classes as the basis of existence (Potter 2004; Tiles 1989). Extensional logic is able to establish a foundation without recourse to issues of essence, or named properties. In this way it is, I contend, the first fully consistent refutation of First philosophy as bequeathed to us by Aristotle, consistent in that set theory remains a central pillar of mathematics used by thousands of mathematicians every day covering millions of calculations. Thus, Badiou seems justified in arguing that ontology is

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[3] To systematise Agamben's use of the term and I suppose to insist the Agamben community accept the systematic nature of his archaeological method, when I am speaking of a term specifically in terms of its signatory function I capitalise it. From this paper on I believe it is also necessary to place it in square brackets to indicate that we take signatures to be set-compositional functions.

mathematics, not the study of substances. Yet, Agamben's argument is a critique of the structural form of First philosophy and not just its terms. In this sense, his is, interestingly, an extensional mode of reasoning. Agamben is reaching for the abstract structural recurrence of the articulation that originates in Aristotle. Part of this articulation is the assumption in our ontology of a fundamental co-relation between language and world. It is true, however, that Badiou cannot be readily captured by this formulation because set theoretical ontology rejects the linguistic turn. For Badiou multiples are 'real', or at least their being is, and their consistency is not a trick of language, but a discovered truth. Sets are not a mode of language about the world, but a means of counting multiples. Accepting these provisos to be the case, at the same time one must admit that sets are articulated, and they do combine a materiality, multiples are real, and a language of sorts, after all maths is a mode of discourse as Badiou himself avers (Badiou 2005: 8). In addition, the foundationalist claims that Agamben will go on to attack as presupposition, exist in some order in Badiou who advocates, for example, the controversial axiom of foundation in set theory.

Agamben, then, is presenting his archaeology as an extensional model for all subsequent claims to ontology and arguing that ontology is the prevalence of this articulated model, into which each manifestation in history is a mode of intensionality. His point, resembling the strategy of early Derrida, is that any claim for ontology is by necessity a return back to the First philosophy co-relational model and cannot be otherwise even if it claims otherwise, perhaps especially if. And that for all the revelations of the mathematising of ontology, extensionally speaking, all ontological claims when rendered content neutral, if they are to be classed as part of the doctrinal historicisation of ontology since the Greeks, will manifest the identical architecture of articulation between language and world. Badiou is unapologetic in *Logics of Worlds* of defining his entire project as onto-logical, or, in other words, an articulation between set theory and worlds. Thus, by implication according to Agamben Badiou is simply the new Aristotle and his ontology just another chapter in the historicising of ontology.

Resuming, with these thoughts in hand, Agamben's overall critical program we can see in each case a definite implied negation of Badiou.

- Ontology, for Agamben, is accessible only as a result of the archaeological method. Ontology, for Badiou, is accessible only if it is mathematised.

- The centrality of ontology to the West is the articulation of *human* being. Whereas for Badiou the centrality of ontology is the statement being is-not and the manner by which maths makes this consistent as a permanent definition of being.

- The event in question is both singular, the event of anthropogenesis, and yet also recurrent, never stops happening. In contrast, the event in Badiou is singular and non-repeatable. In Badiou's work the functional

repetition of the event, inquiry in *Being and Event* for example, is a process of mapping the evental effects in a world, in real time, progressively, without recursion[4]. In addition, for Badiou being is not a question of humanism, he refutes this aggressively in the *Preface* to *Logics of Worlds,* thus there is no human event. Events are truths, inhuman truths.

- Any new destiny for ontology will constitute a reconfiguration of the paradigms and economy of the overall signature [Being], such that the mathematising of ontology will just be another repetition of this, not, as we have just argued, the end of the influence of Aristotelianism in the development in the 19th century of extensional logic, actual infinity and sets.

- Finally, the role of the philosopher is to map the origins of ontology in First philosophy, onto the latest manifestations of the philosophy of being. In contrast, the role of Badiou's work is to outline the consistency of the set theorised being as a basis for the process of demonstrating that events exist, impact on a world, in a manner that is true and generative of subjects loyal to and investigative of this truth.

To summarise this set of counter-positions, for Badiou, extensional logic is the end of Aristotelian First philosophy because it replaces syllogism with extensional modes of reasoning, negates classes in favour of sets, has no need for essences, replaces substance with the void and has a workable proof for actual infinity. For Agamben, any such claim is second-guessed by Aristotle's influence, his role as effectively a metaphysical signature, and so just another example of metaphysics qua articulation. He has, it would appear, out-extended his great rival by *indifferentiating* the content of Badiou's claims, rendering their content neutral so as to observe their functional genericity qua articulation, and found them to be, structurally, just another example of the historical narrative of ontology qua articulation, or the great myth of the ontico-logical that Badiou is more than happy to sign up to.

2. HISTORICAL *A PRIORI*

As Agamben proceeds from this occluded, but to me unmistakable, rejection of Badiou's ontology *qua* mathematics, he takes up a term from Foucault, as he often does, possibly originating in Husserl, the "historical *a priori*", as a way of presenting his own archaeological method as a means of expressing the central paradox of

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[4] Recursion has, in Badiou, a clear functions. It is recurrence that allows on to deduce from any number however large, back to the certainty that it is well-founded at its lowest level on the empty set or in-divisible one. This mode of recurrence, basically indifferentiated, generic ranking function qua multiple, exists for the event, but only if one ceases for a moment to test the event through subject-based inquiry of the yes/no, and retroactively looks back to say that this string of ordered-pair multiples has to be well-founded, even if we have no conception at this point how large this set of relations is going to be.

communicability. Communicability presented in Agamben as the linguistic function per se, or the *sayability* of saying, (Watkin 2015: 255-260), matched in Badiou by the presentation of presentation as such or the presentative function (Watkin 2017: 36-40). Both are extensional reductions of language and mathematics respectively to their functional, operationality. Agamben here calls the paradox of communicability, Agamben is little more than a philosophical debunker of metaphysical paradox: "A constitutive dishomogeneity: that between the ensemble of facts and documents on which it labors and a level we can define as archaeological, which though not transcending it, remains irreducible to it and permits its comprehension" (Agamben 2016: 112). The historical *a priori* is another way of expressing the communicability of statements as expressed in Agamben's work and my own as a development of Foucault's theory of intelligibility (Watkin 2015: 3-28), or not what a statement says but that it can be said. A position that could be summarised as *content as sanction.*

Later Agamben can be spotted ambling on past historical *a prioris* to indicate how the question of First philosophy of being was finally shelved by Kant who moved the debate from articulation of anthropogenesis through language and world, to knowledge and the knowing subject. And how the issue returned in the nonphilosophy of Michel Foucault, Walter Benjamin and Emile Benveniste's investigations of the transcendental through language "by not attending to the level of meaningful propositions but by isolating each time a dimension that called into question the pure fact of language, the pure being given of the enunciated, before or beyond their semantic content" (Agamben 2016: 113). In other words, Agamben's consideration of ontology qua anthropogenesis is concerned with an ontology of *communicability*: the 'pure fact' of language or the pure presentation of presentation as such. Not of what the speaking subject says, but how the speaking subject is constituted by the communicable function of the articulated relation between their possession of language as a means of dialectical diaresis with the world at large. Metaphysics qua communicability. In my recent work I have come to rename this mode of communicability *commutativity*, which is the basic structural relation of all categories in Badiou. I will explain this shift in term in the final part of the essay. For now, all we need do is register that the importance of this shift is that categories are not an issue of language but of relationality, such that commutativity is not defined by being intelligible, Foucault's intuition, but by being visible, defined in terms of categories as universally exposed. This leads one to ask the question: is language the real determinant of the articulation Agamben highlights? According to Agamben it must be, because that is what is handed down by the tradition through the repeated use of the signature [Language], subject of his indifferential suspension *The Sacrament of Language* (Agamben 2010), but what is language in reality, a mode of expression, communication or relation? In that he defines language himself as oath, it is clear even Agamben takes language to be a mode of action, not a

form of communication, added to which an oath is a modality of relation not expression per se. This will become clearer as he considers ontology as demand later. Is it not the case that communicability itself is a mode of relationality expressible most effectively by categories? And that the moment of anthropogenesis can be defined as *zoon logon echon* only if this conception of *logon* as language is accepted to be a misdirection of attention away from the truth of what it is that actually produces anthropogenetic separation? After all, according to Badiou, the onto-logical articulation is not determined by language but by multiples, not determined by reference but by relation.

In stark contrast to Badiou, communicability, for Agamben, is always historically located (categorical commutativity is essentially atemporal). As he goes on to argue, somewhat contentiously, the communicability function of language as determined by a historicisation of the question of being qua language has been replaced by an ahistorical presupposition of being: "It is now put forward as a neutral ahistorical or post-historical effectuality" (Agamben 2016: 114). This can only be a refutation of Badiou's mathematisation of Being and beings. This being the case, Agamben feels that the archaeology of being should be conducted by a "genealogy of the ontological apparatus that has functioned for two millennia as a historical *a priori* of the West" (Agamben 2016: 114). This is surely the conception of relational articulation qua diaresis, dialectics, and hierarchy. Yet, at the same time the history of said communicability is retroactively constructed, so is not historically 'true' in the sense that most might take that word to mean. Yet again, because the reconstruction of the *archē* in each case is effectively, structurally the same (extensional), and because Agamben suggests here any innovation in ontology repeats this articulation no matter what, as the meaning of [Ontology][5] is articulation per se, there is a stable and consistent 'truth' to ontology. In this sense one could argue that ontology is real in its structural inevitability or at the very least, to apply Gottlob Frege here, it is a truth object. And further, that ontology is mathematics if one defines mathematics as the most fundamental form of articulation, represented by the abstract, extensional potential of the equation. Although for many that might be taking things too far.

With these comments in hand, the signature [Ontology] can be said to extend over objects in a world not as a form of reference, but as a mode of structuration. Ontology is not the result of an articulation between, say, human and being, but is said articulation, a point he first made in *The Open* and which he will go on to confirm later in this middle section. If the repetition of ontology as articulation is no surprise to the careful scholar, the conclusion he draws here has more shock value: "One can define philosophical archaeology as the attempt to bring to light

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[5] Agamben's favoured way of showing he is talking about a signature, not just the ordinary language sense of a term, is to capitalise it but this is not always systematic and doesn't capture for me the idea of the signature as the transcendental name of a set. Therefore when I am speaking of a term as a signature I use square brackets which is a common way to designate sets.

the various historical *a prioris* that condition the history of humanity and define its epochs. It is possible, in a sense, to construct a hierarchy of the various historical *a prioris*, which ascends in time toward more and more general forms. Ontology or first philosophy has constituted for centuries the fundamental *a priori* of Western thought" (Agamben 2016: 112). This is the first statement in Agamben's extensive *body of work* that clearly outlines a history and hierarchy of signatures, something my own work has studiously rejected because in theory it delegitimizes the whole method by accepting there is a signatory origin (Watkin 2015: 107-136), opening Agamben up to the predictable, yet valid, criticisms of the Derridean community.

There is, it appears, for Agamben at least, one signature that precedes all others and in this sense founds them, and that signature is [Ontology]. [Ontology] defined as an articulation between language and the world as the mode of the anthropogenesis of the human being, or the living being that has language. On this reading [Ontology] is the halting point of philosophical archaeology, meaning that it is effectively analogical to the empty set of Badiou's ontology. 'Empty' because the content of the signature is irrelevant and historically contingent. It is the structural form of articulation that is important, not because of what it allows one to say of being, but because of what it tells us about why we can say being in the first place. Basically, Badiou's point in his maxim being is-not. 'Set' because its job is to collect together statements as archetypes of a particular signatory position. In fact, each of the works in *Homo Sacer* is essentially a signatory set, poverty, office, life, body, excavated archaeologically to unearth its *archē*, then populated with all its paradigms across time and space, with the aim of indifferentially suspending the signature by the end of the book. One can go further and state that as Badiou shows that the entirety of being is composed from the oscillation between the void set as included and then as belonging, then it is true that, as Agamben says, [Ontology] as such is articulation, written in Badiou as: $\emptyset\,[\emptyset]$. But wrong to say that there is a historical origin of articulation. And wrong to say the articulation is between language and world, when in fact it is between two ways of counting a multiple. This point is encapsulated in the first of the trilogy of pieces I have written on *The Use of Bodies* where I demonstrate that the axiom of separation is able to prove that the assumed paradox Agamben identifies between potential and actual, the basis of his conception of impotential in the concluded section of *The Use of Bodies*, is, as regards the extensional logic of sets, simply not paradoxical and so absolutely resistant to indifferential suspension[6]. All of which comes down to what I think of a most important question in continental philosophy as metaphysical critique at the present time. *Is extensional logic an event that continental thinkers simply disregarded for a century, Badiou's*

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[6] Similarly Agamben can say the [Ontology] is the first signature if he accepts first in terms of the halting point of the empty set, which refutes any Derrida-inflected attacks on Agamben's commitment to origins.

position and my own, or just another example of metaphysics as articulation, Agamben's position and possibly your own?

Forced against my will to accept that there is a meta- or founding signature of signatures, consoled by the fact I can still justify this if I apply the axiom of separation to Agamben's work, then I am also coerced into assuming that language is no longer a mode of expression or communication, but the functional basis of the emergence of the human. Language does not say, it does. Language makes humans. It does so by the articulation between being, the world, and the expression of said being, language. On my reading this historical primacy is impossible qua content. It cannot be the case that First philosophy is first in a historical sense, and that everything is traceable to Aristotle, because this is not what the *archē* means for Agamben. Each time we reach back to First philosophy, it is first for the first time, or it is a new event of primacy. As such, primacy qua foundation is reconstructed for our current needs. And yet, admittedly, the *archē* as foundation and firstness is one of the central components of the archaeological method. The communicability of a signature for us is necessarily dependant on a first moment or an origin it would seem. This firstness cannot be actual primacy, so one is forced to deduce that it is a functional position: the foundational moment qua function. In both of Badiou's definitions of 'primacy', the empty set for set theory and the minimum for categories, these foundational moments are functional results of counting and relating that come after the systems they found as consistent. For example, the empty set is something you count back to from wherever you are until you get to a set which does not succeed from another. This retroactive founding of a set of proper elements on a commonality that however does not exist until the proper elements call it into being, is the archetype of the Agambenian, indifferential, suspensive method.

Left like this, Badiou's work would be easy to suspend, and in a sense dispense with. Yet to do so would open Agamben up to a kind of philosophical check-mate as if the *archē* is to be foundational, and he insists on that, it can only be 'first', according Badiou's extensional ontology, if it is emptied of content and rendered an extensionally indifferent, foundational element due to the axiom of separation and the definition of sets as collection not fusion (extensional not intensional). Yet if you empty the *archē* of content, it ceases to have the function of *archē* as named archetypal moment. People, to put it crudely, are only happy to accept an origin if it is a content-rich, temporally specific moment. But then again, in accepting as Agamben does, that the signature is content neutral, its naming does not refer to objects but is rather the generic naming function qua gathering of archetypes into a signatory set, if the content-neutral signature is founded by the arche, then by definition the *archē* must be devoid of specific content also.

This back and forth we are experiencing due to the problematics of the foundational moment – it only functions if it is specific, it only functions if it is indifferent – is the essence of Agamben's indifferential suspensive method, as I have detailed

elsewhere in *Agamben and Indifference*. But it is also what Agamben will go on to call it in the first chapter of this middle section of his study: the otological apparatus of presupposition. And there is much that is yet to be said on this topic. Before we turn to that let's sum up where we have got to thus far. What Agamben is reaching for in the final book of the series is a historically populated theory of consistent, functional worlds. The role of archaeology is to excavate the historical *a prioris* that render communicable and specific the manifestation of the ontological articulation. As such, articulation qua being shares functional parallels with Badiou. For Agamben, the articulation of being constitutes what we call being. As I have detailed elsewhere, being is a content neutral modality of functional relation that requires a specific means of co-relational hierarchy, the economy of paradigms, a specific transcendental function, the signature, and a foundational base, the arche[7]. In this way, as being is-not is to the counting of being, so being as *archē* is to the historicising of being. Meaning that Agamben's archaeological method is a historical manifestation of the mathematics of being, not so much in terms of set theoretical ontology but, as I have argued already elsewhere, in terms of logics of worlds. So that while there are many points of divergence between Agamben and Badiou, the parity between their work, if you dig deep enough, outlines for the wider community where ontology is travelling to in the new century. Think of the two men as bickering, but constant companions, sojourning along parallel, functionally analogical paths.

3. THE ONTOLOGICAL APPARATUS OF PRESUPPOSITION

Remarkably, we have only come to terms with the brief introduction to the middle section of the book, a section divided into three chapters through which we will now proceed systematically with different levels of emphasis. The first chapter is a consideration of the archaeological elements of ontology since the Greek arche, primarily the idea of presupposition which is another way of demonising Badiou's presupposition of the real of the void thanks to such axioms as separation and foundation. The second chapter is a consideration of relation which we will skip, not least because we have considered relation and nonrelation in the book elsewhere[8]. The final, the proposition that our post-indifferentially suspended ontology has to be a *modal* ontology. It is this idea of a modal ontology that must concerns us the most going forward with Agamben into the future, he assures us. For the record, these three areas pertain directly to Badiou's extensive ontological project. The presuppositive impulse is the search for the First, the foundational, the consistent that has come to define being, and its relative invisibility until Heidegger, as apodictic, tautological, self-evident. In Badiou a central part of his entire ontology is the halting

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[7] This analogical mapping of signatures onto categories is explained in full in Watkin forthcoming.

[8] Watkin forthcoming.

point or empty set and its participation in the validity of a constructive definition of being determined by is-not-ness that is not negative. Defined by the combination of axioms of separation and foundation. While the second, relation, and the third, modal, are more determined by Badiou's later work on categories in that category theory is a modal logic and in Badiou's work its main function is to formalise relations between objects in worlds.

Returning to the *Ontological Apparatus*, Agamben begins by tracing the *archē* of being as articulation between that which is said of being, and that which is not said of being but lies under being as the *hypokeimenon* or *sub-jectum*. The three mechanisms for access to the foundation are singularity, proper names and deixis, all mechanisms used by analytical philosophy of the last century, in particular the Frege—Carnap—Quine extensional axis, to capture being as logical, relational extension. The secondary level is the genera: this certain man belongs to the species man. Thanks to Badiou we are able to assert that what Agamben is outlining here is not, in fact, the role of language as he purports, but the role of sets, as the above example of genera clearly shows, allowing us to state emphatically that the originary relational articulation of being does not concern language as communication, expression, content, reference or signification, but instead language as a modality of collection. This will be our main bone of contention between the two theories of modal ontology. Agamben concludes here that being, like life, is "always interrogated beginning with the division that traverses it" (Agamben 2016: 115); or being is not articulated into an onto-logical pairing but rather being is articulation qua articulation. The major development of the modern age therefore is surely the realisation of the possibility of being as *not* traversed by a division between essence and class that was the basis of the development of extensional reasoning by Boole, Cantor and Frege. The specificity of the object is not determined by its being a multiple in a particular location in a set, ranked 3 in a set of 6 say. In ranking, the multiple is singular, no other multiple can be third because being third is the being of said multiple. It is a proper name, it is *The Third*. And it is defined by *deixis*: its role is indicative and denotative. What The Third points to in reality is the position of third-ness, a space entirely filled by an indifferent multiple that is located as that which succeeds from second-ness. On this reading, Aristotelian class is replaced by Cantor's set, and the central function that is identified here is that of collecting. Thus, the truth, I would argue, of the archaeology of ontology is that its definition as diaresis is a mode of relation between *ousia* and *gramme*, as Jacques Derrida defines it, that is then replaced in set theory with an entirely new mode of relationality, that between two indifferent multiples. The significance being that the relation between two indifferent multiples does not succumb to diaresis, at least not as Agamben conceives of it. This will become the intractable problem of the entire book in fact.

Agamben's consideration of Aristotle's *Categories* which follows then perhaps misses the point that classes have been replaced by sets through a radicalisation of

nonrelational relationality, non-relation, and finally un-relation. One could argue that in truth the narrative in question is no longer that of being as articulation reconstituted in the same modality of communicability, but the end of a historical epoch of communicability, and the assumption of a new mode of communicability. As I argue in *Badiou and Communicable Worlds*, a shift from communicability as communication, to communicability as commutativity. Nonrelational relationality, a formulation that occupies much of the *Epilogue* of the book, is the means by which two beings can be related when they are content neutral and essence functional. Essence functional means they operate as if they possess 'essence', in the same sense that the transcendental functor of the maximal category in Badiou operates functionally as transcendental, but is anything of the sort. This is facilitated by the nonrelational function of being as foundation and actual infinity as transcendental. All of which is founded on a more fundamental issue which is that rank is simply a metaphor or mode of thought that makes being both exposed and useful to mathematicians, outlined by Badiou in the explosive second appendix to *Being and Event*, but that "fourth" is in fact just an ontological essence-function: there is in the world fourthness. Which is further reducible to a pre-founding indifferentiated, generic proposition represented by the formula, $\emptyset \, [\emptyset]$ or the empty set first as included and then as belonging, from which all of nature, all multiples, can be deduced.

Ignoring this avenue of enquiry, Agamben instead doggedly commences his study of the presupposition as language qua communicability, a topic on his mind since his very early and, to my mind, methodologically flawed *Infancy and History*. Language, for Agamben, through reading Aristotle, is the presuppositional basis of the *hypokeimenon* meaning that language is effectively the subject in our history. The subject becomes human through the presupposition of language. Agamben's innovation here is to redefine *ousia* away from the critique of *ousia* posed by extensional reasoning, namely that essence simply does not exist. As he says: "*The primary ousia is what is said neither on the presupposition of a subject nor in a subject, because it is itself the subject that is pre-sup-posed—as purely existent—as what lies under every predication*" (Agamben 2016: 118). What he is suggesting, surely, is that essence is not some Greek superstition, but is rather the very foundation of communicability. The essence of a thing is the presupposition of its communicability, for only humans possess communicability, if you take it to be just a linguistic function[9]. The essence of a thing is that it can be exposed by communicability. In this way, essence returns to sets, but entirely reconfigured as the pure communicability function per se. Essence is the ability of a being to appear in a category due to language.

[9] A central diaresis between Agamben and Badiou over communicability is that the commutative communicability that I develop in reading of Badiou is based on an objective phenomenology meaning that commutative communicability as facilitating universal exposition is in-human and thus a-historical.

Agamben decides to call this essence-functional modality of appearing, remember Badiou names his objectal phenomenology logics of appearing, the 'pre-supposing' relation:

> As soon as there is language, the thing named is presupposed as the non-linguistic or non-relational with which language has established its relation. This presuppositional power is so strong that we imagine the non-linguistic as something unsayable and non-relational that we seek in some way to grasp as such, without noticing that what we seek to grasp in this way is only the shadow of language. The non-linguistic, the unsayable is...a genuinely linguistic category: it is in fact the 'category' par excellence—the accusation, the summons worked by human language, which no non-speaking living being could ever conceive. That is to say, the onto-logical relation runs between the beings presupposed by language and their being in language. What is non-relational is, as such, above all the linguistic relation itself (Agamben 2016: 119).

It is all here basically, which is why I have cited it at length. The initial conception of non-relation is that of the non-relationality of the unsayable that language then tries to express. This is the basis of Agamben's ground-breaking critique of the philosophy of difference qua the unsayable and ineffable in *Language and Death.* This non-relation is the basis, or rather excuse, for the metaphysics of relation that then defines the entire history of Western thought. Language presupposes something 'before' language and this means that the conception of something as exceeding language is in fact a fundamental category of language. Not only a category, it is the defining category because it stipulates that there is a division between a being and the world that cannot be expressed in language but which exists because of it. However, the fundamental non-relation is not this constructed mode of relationality due to the assumed non-relation, because said non-relation is in fact totally within the signature of relationality. The second non-relationality of language then is the communicable function of language. The communicable relation is non-relational first because it is indifferent. It is the abstract and generic pure communicability as such, or the utterance as generic. Second, according to Badiou at least, it is non-relational because it depends on the pure presentation of presentation as such qua being, which is in-different[10]. Yet it seems here that Agamben is criticising Badiou on at least three points. The first is that he clearly appropriates Badiou's term onto-logical in the negative vein, rather than Heidegger's onto-ontological or ontico-ontological[11]. The second is that he blatantly uses the word category; it is in his work on categories where Badiou develops this idea. As both of these pieces of proof have the quality

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[10] In my work non-relation differs significantly from nonrelation in the same way as in Badiou in-difference is not the same as indifference.

[11] More work by scholars perhaps needs to be done on this term onto-logy which thus far I have traced back to Aristotle via Section 29 part b of Heidegger's *Plato's Sophist.* It may be that Agamben is citing Badiou, but if he is unaware of this and is citing Aristotle via Heidegger, it may of course be that Badiou's choice of onto-logy is doing the same. This is an interesting avenue of archaeological enquiry, but not central to our overall argument here.

of deniability as one could say he is just engaging with Aristotle, third, perhaps most telling, example is that he attacks the very presuppositional tool of set theory that allows Badiou to argue that multiples are real. I will explain.

Badiou argues that the language of mathematics is such that for many mathematicians it does not presuppose a real world. Such constructivist mathematicians, Gödel is one, require only an internal consistency of the system and a communicable transmissibility with the community. In contrast, Badiou contends, the axiom of separation plus the issue of notation (language) proves that there is something real. The axiom of separation in set theory states that every set has at least one subset so that we can always speak of every multiple as both a container and as something contained, or belonging and included. The importance for philosophy of the axiom of separation is that,

> the theory of the multiple, as general form of presentation, cannot presume that it is on the basis of its pure formal rule alone—well-constructed properties—that the existence of a multiple (a presentation) is inferred. Being must be already-there; some pure multiple, as multiple of multiples, must be presented in order for the rule to then separate some consistent multiplicity, itself presented subsequently by the gesture of the initial presentation (Badiou 2005: 47-8).

Separation therefore is able to demonstrate set theory in terms of realism rather than mere construction. Logic alone, the abstract notation $\lambda(\alpha)$, is not enough to present presentation, because the formula already admits to separation between the two terms. Rather, logic is what comes after a multiple is presented so that all forms of separation, sets of sets, subsets of subsets and so on, presume the existence of the multiple in the first instance, even if that multiple as such is presented retroactively after the consistency of a situation of multiples as a set that has been constructed. This is clearly the basis for the retroactive logic of the final phrase, which describes the process of presentation of presentation, Badiou's early version of communicability significantly modified by the later emphasis on commutativity. What this implies is that for sets to be constructible using abstract formal language they first have to exist, as the axiom of separation shows that in order to describe a set as the elements which are included in that set, $\lambda(\alpha)$, the elements as such must already be presentable in said presentation.

What we can draw from this is that for Badiou, confirming Agamben's critique, separation is a fundamental presupposition of being. That said, his conception of presupposition does not match that presented by Agamben, at least not perfectly. For example, the separation of language in mathematics does not concern language as a mode of reference to the external world. In constructivist maths the words of the language do not refer to things 'out there' but values, positions, variables and functions in here, in the 'language'. Second, the separative nonrelationality of set theory represented by the axiom of separation refutes the dialecticisation of diaresis, even though Badiou himself calls it a dialectic between belonging and inclusion

(meaning dialectic and diaresis are not synonymous). It is true that foundational belonging arrives at the empty set, and that the empty set is the basis of ontology, but it is not the case that the empty set conforms to any of the issues of Aristotelian classes, quite the opposite as we have consistently stated. Is it possible that Agamben has not fully come to terms with the dramatic implication of the indifference of the multiple? That he has pursued a structural issue, dialectical nonrelational relationality, and thus ignored what I call relational nonrelationality in my analysis of the *Epilogue*, or to put it otherwise, the way in which two beings can come into relation outside of the diaresis of the metaphysical tradition? (Watkin forthcoming). Either way, Badiou is stating, and this cannot be denied, that at the basis of every multiple *is* a language, mathematical notation, but said multiples only exist in language because they are extensional and so do not express in language real things, but construct in language 'real' truths.

Truth objects, according to Frege at least, exist in language because of language, this is the infamous linguistic turn. The point being that from the mid-19th century on, Western thought was able to extricate itself from the double-bind of the metaphysical tradition by entering entirely into language qua language. This allows extensional set theory, for example, to first occupy the communicative function, second, use it to solve the problems of being, and third to hollow it out from the inside thus making communicability into sets, not simply the non-linguistic element of the linguistic. In early Badiou, the communicability of sets is the pure presentation of their presentation, or their reality due to being as non-relational. In this way it is not quite accurate to call this the linguistic relation itself, rather it is the mathematical mode of writing pure relationality as such qua ranking succession: $\lambda(\alpha)$ or $\emptyset$ [$\emptyset$]. If the real or void comes 'before' sets, it is generated due to set theory retroactively, by placing the void into a symbol, $\emptyset$, so as to be able to separate it into a set [$\emptyset$], and so is, in a sense, a 'derived' result of set theory. The reality of the multiple is not the foundation of set theory but a result of sets. Set theory does not need it to function, in fact many set theoreticians prefer Gödel's constructivist model, but due to set theory the axiom of foundation allows one to state that, due to separation, multiples can be said to exist before their notational capture, expression, communicable intelligibility. Or, the presupposition of sets for Badiou thanks to the axiom of foundation is that multiples are real, before they can be captured by notational language, in agreement with the neo-Platonic intuitions of Frege.

Returning to the Agamben text, the final point obviously pertains to the category. Here, Agamben and Badiou are on the same page. It is almost as if Agamben is using his problems with sets to negate categories, while at the same time unconsciously expressing category theory, in terms of modal ontology and elsewhere in the book in terms of analogy. For he is right, according to my own conclusions, that the category itself par excellence is the nonrelationality of the pure function of

communicability. But again is wrong to say that the communicable function is based on language. In fact, as he himself makes clear in later work like *The Sacrament of Language* and his various early considerations of the tablet, (see Watkin 2015: 122-124, 160-1, 245-270), the truth is that communicability does not communicate. Category theory can be expressed algebraically, in a language, but its real power is to be located in its topology. Unless one is to argue that commutative triangles are a form of language which I believe to be impossible and retain at least Agamben's sense of the signature [Language], then one has to conclude that communicability as the performance of non-relation through categories is only expressible if you accept that the pure linguistic function, the communicability of communicability as such, is not actually linguistic in essence, which is the conclusion of my most recent work in the field (Watkin 2021). Language qua relation is simply one 'language' that can be expressed by category theory, which was developed to provide a meta-structural way of speaking of all mathematical languages in the same language. And while it may be the case that, historically, Agamben's anthropogenesis is the emergent separation between a being and its world due to language, the third age of life he himself advocates at the end of the book, must be something quite different. If *human* being is articulation due to separation, as Agamben argues, what is being qua habitual use of bodies, placed on the timeline of anthropogenesis as the cancellation of this repeated emergence, to be called?

4. ANTHROPOPHANY AND ANTHROPOGENESIS

We are now, thanks to sets as foundation of categories due to indifference and bodies as habitual, nonrelational use, able to emerge out of the two and a half millennia long enslavement of being by language, *zoon logon echon*, into a new potential that Agamben himself is advocating. Pure communicability of this order must be ranked as the third age of relation. The first is the radical non-relationality of the animal. The animal knows of no separation between itself and the world, thus there is no relation as there is no separation. Animal is world, and their actions totally determined by their genes which is not the genes of a being but the total interpenetration of the animal by the world. The world is constituted for the animal by its genes, in that the genes themselves are determined entirely by the conditions of the world. The second age is of course the age of human being or of anthropogenesis. This came to a close over a period of the past 150 years. Its closure really began with Boole and Cantor, but in our tradition we usually commence with Friedrich Nietzsche, ending of course with Agamben. The third age of relation, our nascent age, will surely be remembered years from now as the golden age of relation. From relation as total immersion in in- or non-relation, through relation as strictly curtailed by dialectic, our new mode of relationality is again a total interpenetration of subject and world, only this time not non-relationally, as it was with the animal, but

due to relation, free relation, the choice to relate not dictated by genes or metaphysics. This is in essence the exhilarating conclusion of *The Use of Bodies*, a form-of-life determined by a use of bodies facilitated by the human capacity for impotentiality that redefines the metaphysical, sovereign subject away from a being at work, towards a body of use. This golden age we are ineluctably emerging into is one I propose we call the age of *anthropophany*, or the appearance of the human as non-curtailed by information (genes), or language (metaphysics), and functionally facilitated by communicability defined as sets and their categories. It is another way of stating beings are determined by free-relationality within an actual infinity of a generic, rather than categorical mode. By this I mean, after my work on generic indifference (Watkin 2017: 189-220), in a world a being takes up a relation with another in a non-hierarchical manner, operating locally as if there is a transcendental functor, for Agamben the signature, for Badiou the category, but without our ability to define what that functor will be. This is a kind of liberated category theory or generic category theory that Badiou believes impossible (Badiou 2014: 15-16), but which Agamben's work may in fact prove to be workable, desirable, and truly radical.

Grounding this a little in the actual text to hand, Agamben concludes this section by stating that the structure of presupposition leads to the "interweaving of being and language, ontology and logic that constitutes Western metaphysics" (Agamben 2016: 119), surely a direct attack on Badiou? For language read logic. Agamben then maps out the process of division into existence (*ousia*) and predicate (what is said of being) concluding: "The task of thought will then be that of reassembling into a unity what thought—language—has presupposed and divided...Being is that which is a presupposition to the language that manifests it, than on presupposition of which what is said is said. (It is this presuppositional structure of language that Hegel [...] will seek at the same time to capture and to liquidate by means of the dialectic)" (Agamben 2016: 119)[12]. The clear negation of dialectics at this point is the final assault on Badiou who, after Hegel, using an openly admitted dialectical structure, tries to use mathematical language (logic) to both capture being and also the liquidate the dependence of being on a language.

Agamben now turns to Aristotelian classes and the difference between to predicate and to indicate. Essence is that which coming before language can only be pointed at: *tode ti*, a certain this. *Deixis* is taken by the tradition as the limit point of subjectivation, a primary essence which the subject cannot capture by the defining feature of its being, language. This is traced over several pages that we will skip because in this analysis at least it is hopefully obvious that the paradoxes and limitations of this archaeology of ontology have been superseded by extensional sets replacing Aristotelian classes. He next moves to the problem of singular being, again one removed by indifferent multiples. Finally, he considers the temporality of being

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[12] *Ousia* is not usually translated as existence but is how Agamben takes the term to mean here at least.

in Heidegger which again we will discount due to the replacement of temporality with retroactive reasoning, and regressive successive deduction. Instead what holds our attention is what these sections set up, namely the return to the conception of anthropogenesis:

> The articulation between language and world that anthropogenesis has disclosed as 'history' to the living beings of the species *Homo Sapiens*. Severing the pure existent (the *that it is*) from the essence (the *what it is*), and inserting time and movement between them, the ontological apparatus reactualizes and repeats the anthropogenetic event, opens and defines each time the horizon of acting as well as knowing, by conditioning, in the sense that has been seen as a historical *a priori*, what human beings can do and what they can know or say (Agamben 2016: 128-9).

The second age of control of the human as anthropogenesis them can be defined here according to a number of mechanisms:

- Articulation of language and world.

- Historicisation of being as arrival at articulation through evolved acquisition of language.

- Dividing ontology from existence or that it is (sets) from what it is (categories).

- Inserting time and movement, *archē* and *oikonomia.*

- Ontology itself as the repeated reactualisation of the signature [Being] over time.

- Always locating acting and knowing within the communicable traditions of metaphysics.

In contrast to this, what I am proposing, after Agamben thanks to Badiou, as anthropophany, is not an articulation of language and world, although the very title *Logics of Worlds* admittedly suggests such. Instead, categories present a graphic, tabular, topological triangulation of the functional relationality of objects. Categorical worlds are not historical entities and categories are not a historically derived metaphysics of existence. Badiou is guilty of dividing ontology from existence in pursuit of the event, this is true. In addition, he is too concerned with defining sets as ontology, again in pursuit of the event. In our case, rather, sets define indifference, ontology is a mere derivation of indifferentialism, and categories result in a consistent theory of communicability stabilised thanks to sets and possible due to indifference. For Badiou, the onto-logical is a method for defining the event, for my own work sets and categories are part of the wider rationalism of indifferent communicability. Badiou refutes time and movement in his work, putting to one side the event, which is a temporal category, sets and categories are atemporal[13], and he

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[13] There is a sequence to both sets and categories which takes time to work through, but this is not the same as temporality qua historiality.

purposefully avoids the description of either as modes of intensity of becoming because of Gilles Deleuze. Indeed, the real benefit of insistence on the event is not a viable theory of revolutionary singularity, but a credibly atemporal and noneconomical philosophy. The great discovery of mathematised being is that change is a stability.

It is clear that Agamben sees Badiou's ontology as just another way of reactualising the division of being and its re-articulation. Our position is that this fails to take into account the radical shift in the 19th century from classes to extensional sets. It is not the case that Badiou easily falls into a metaphysics of scission in that sets radically negate classes. Any extensional theory after Boole and Cantor may still use scission and dialectic, but it seems hasty of Agamben to assume that this, by definition, means they are metaphysics in the old sense as originating from First philosophy. Metaphysics, after all, is a specific conception of scission and relation due to classes. Sets are not separative in this way, nor relational after that fashion.

The final point, however, retains some validity. Badiou is unrepentant in his theory of the four conditions, such that the conditions of worlds are seemingly impossible to disrupt, however sustained our fidelity to an event. That said, our reading of communicability as commutativity is a radical new direction in the theory of communicability, again demonstrating that, due to sets, collecting and relating are totally reconceived away from the metaphysical tradition. That Badiou uses them to save ontology so as to propose singularity does not however alter the fact that indifferential suspension is simply the opening of the gate of indifferential reasoning. Such that anthropophany is a highly complex and detailed mode of reasoning, not simply the historical continuation of the dialectics of scission. Agamben is wrong to concentrate on language as anthropogenesis, when the truth is that language here is actually a term for a certain ontology of relation and being. In contrast, the logics of worlds does not constitute the relationality of subjectivity due to language about worlds as the 'language' of categories and the 'language' of sets does not reproduce the bifurcated conception of language Agamben's critique of the philosophy of language as difference will not let go of. Language is not a word about a thing. The language of sets does not use 'words', but is about collecting 'numbers', and is non-referential and in this sense non-linguistic. While in categories it is arguable that the 'logic' is not linguistic at all. The objects in question are not pointed to or used to refer, but are used functionally in a topologically tabular, graphic model of appearing not referring.

Having established this basic framework Agamben details precisely how it functions. Due to limits of space and patience I will again summarise.

- Every *archē* is transformed into a presupposition by the presuppositional structure of language.

- Anthropogenesis: the event of language pre-supposes as not (yet) linguistic and not (yet) human that which precedes it.

- "Apparatus must capture in the form subjectivation the living being, pre-supposing it as that on the basis of which one says, was what language, in happening, presupposes and renders its ground" (Agamben 2016: 129).

- In Aristotle's ontology *hypokeimenon* or pure that it is, names this pre-supposition.

- "[T]he singular and impredicable existence must be at once excluded and captured in the apparatus" (Agamben 2016: 129).

- In this way it is more ancient than any past tense, referring to an "originary structure of the event of language" (Agamben 2016: 129).

- The name, especially the proper name, is "always already presupposed by language to language" (Agamben 2016: 129).

- Precedence in question is not chronological "but is an effect of linguistic presupposition".

From this impressive list Agamben concludes:

> Hence, the ambiguity of the status of the subject-*hypokeimenon*: on the one hand, it is excluded insofar as it cannot be said but only named and indicated; on the other hand, it is the foundation on the basis of which everything is said. And this is the sense of the scission between "that it is" and "what it is," *quod est* and *quid est*: the *ti en einai* is the attempt to overcome the scission, by including it in order to overcome it (Agamben 2016: 129).

Although I believe this entire chapter is an implied attack on Badiou, two elements disallow this as an effective critique of Badiou's ontology. The first is that Agamben's sense of impredicative is derived from metaphysics, while in set theory multiples are able to participate in an impredicative status that is immanent to the situation. An indifferent multiple is impredicative in the 'what it is', in that the fourth multiple is fourth, without this being a predicate of its being or existence. The second pertains to this 'what it is' structure. The specificity of a multiple in a set is not a 'what it is'. The fourth multiple does not possess 'being fourth' or 'being four' as a what, quality or predicate. Precisely because indifferent multiples are quality indifferent. Ironically, Agamben's critique fails because he has not fully applied his own term, indifference, and has not excavated further the actual history of metaphysics, the negation of classes by extensional logic in the mid-19th century, even though the entire multi-volume sequence *Homo Sacer* is concerned with the archaeology of metaphysics due to its signatures.

Agamben concludes by asking: "Is there really such an articulation of being –at once divided and unitary? Or is there not rather in the being so conceived an un-bridgeable hiatus? [...] Existence is identified with essence by means of time. That is to say, *the identity of being and existence is a historical-political task*. And at the same time it is an archaeological task" (Agamben 2016: 132). For me he is directly

attacking the atemporality of Badiou by ignoring Badiou's contention that events happen in time, even if their truths are universal and atemporal. He is accusing, it would seem, Badiou of political conservatism in pursuit of political radicalism, a justified accusation perhaps. But at the same time again this is ignorant of the truth of any historicised ontology, meaning it can be suspended, the unbridgeable hiatus, but it can also change. The hiatus in question is real, between 19th century extensional logic and 20th century continental philosophy, but it is not unbridgeable.

The chapter closes as Agamben recounts this history of division between Being and beings: "The bare life of the *homo sacer* is the irreducible hypostasis that appears between them to testify to the impossibility of their identity as much as their distinction" (Agamben 2016: 133). Both life and time here are negated as possibilities of defining being according to Aristotle,

> time—at once chronological and operative—is no longer graspable as the *medium* of the historical task... The Aristotelian ontological apparatus, which has for almost two millennia guaranteed the life and politics of the West, can no longer function as a historical *a priori*, to the extent to which anthropogenesis, which it sought to fix in terms of an articulation between language and being, is no longer reflected in it (Agamben 2016: 133).

Communicability-as-metaphysics has come to a close, and communicability-as-indifference now takes over. Anthropophany replaces anthropogenesis, for better or worse, as the third, and possibly final, chapter in the history of being as coerced: by genes, by metaphysics, by mathematics.

5. CATEGORY THEORY AS MODAL ONTOLOGY: FROM COMMUNICABILITY TO COMMUTATIVITY

The thesis that closes out the *Homo Sacer* project is that we need to move towards a modal ontology. That Badiou's use of category theory as a means of structuring existence in worlds is a modal ontology is therefore significant. What categories allow Badiou to speak of is the possibilities of being, due to the necessities of set theory ontology. Categories, in effect, present a means by which diverse worlds of multiple beings existing in their infinite possibilities, can be rendered shockingly consistent by a simple requirement. This is that of universal exposition: if they exist they appear in a world determined by functional relations with at least one other object that also appears as visible in this world.

The position of universal exposition, this is an anarchist appearing along with a communist in the world of the demo to use one of Badiou's examples, is defined formally in category theory by the commutative triangle. Here is the basic diagram of the commutative triangle that defines practically all categorical worlds.
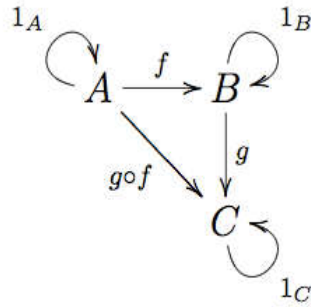
We have here our objects, A, B and C, and the arrows that travel between them: $A \to B$, $B \to C$, and $A \to C$. These are commonly called morphisms. We also have a composite arrow. The arrow from A to C is functionally the same as the combined arrows from A to B and B to C making the arrow combination A to B to C a composite or composable. It is composed of more than one function, here written f and g, and this composition of functions is, functionally, the same as the function directly from A to C, called $g \bullet f$. In category theory notation you read from right to left. Thus, we can say the line between A and C is composed of the two functions that exist between A and B and B and C, so that the two directional choices are functionally the same. This is called a commutative diagram. Commutative means you can swap the two sides of an equation and get the same result. For example, $A \to C$ = $A \to B \to C$, or here $C \bullet B \bullet A = C \bullet A$. What this formalises is that you can find an analogy between A and C directly, or you can travel via B such that you might say this is a demonstrator on a demo, A to C, or this is an anarchist which is on a demo, A to B to C, such that when you also say, this is a communist on a demo, although anarchist and communist are ontologically distinct, in terms of the triangle of their relations, they are the same. They are both [something-ists, on the same demo]. Thus, their difference is rendered identical: they both possess B-ness defined here as [something-ist on a demo].

What commutativity states is that all objects and their relations are visible from a superior position, here A, which is able to say, these two demonstrators are 'the same' when it comes to being demonstrators, even if they appear different when it comes to their local differentiation or their being in favour of collectivisation or not. Commutativity is, basically, the topology of communicability as sanction, except the sanction is largely im-potent in Badiou. A is in the position of universal exposition simply because it is the category in question, not because it is, for example, the government or the police. Spoken of modally, two women on a demo with different political allegiances, anarchist and communist, necessarily have to be taken as two demonstrators if the world in question is said to be a demo. But within said world these two individuals, who normally hate each other meaning their separation is absolutely necessary, find it possible to be taken as the same objects, because they share in common a functional, analogical relation. Let's say they both object to the new restrictions on labour relations in the public sector in France.

Modally speaking, the being qua multiple of each of the demonstrators is necessary as sets are not modal but strictly classical[14]. The appearance of a being in the world is also necessary: multiples have to exist in some sense in some world if you wish to treat them as intensional objects rather than extensional, generic, indifferent abstractions. Yet how they appear is modal, possible, infinitely varied, depending on the way a world 'sees' them analogically as regards their functional relations with other appearing objects in that world. If, however, two varied multiples appear as functionally analogical in a world say due to the position of universal exposition, I see these two women as members of the same demo world, then their modal possibilities are rendered necessary, in order to appear in this world they must possess these functional relations in common meaning their necessary ontological difference becomes a necessary existential identity.

What is essential here is to realise that what is taken by Agamben to be a primarily linguistic function, communicability as sayability as he will go on to explain below, is in fact not linguistic but topological. Ontologically at least, communicability is really commutativity. It is not that such and such a thing can be said of being, as Foucault intuits, but that such and such a being can be seen to appear in said world due to possessing an analogical functional relation with at least one other being. Modally speaking, the possibility of a being is the infinite ways it can appear in infinite worlds. The necessity of an existential being is that in order to appear it must be visible, meaning it must be susceptible to universal exposition due to commutativity. The significance of this is that, contrary to the tradition, the modal relation of Being and beings that Agamben goes on to analyse, is captured perfectly by category theory without the aporias, logical impasses and so on that Agamben, inevitably, will identity from the tradition of modality outside of categorisation. Or, Badiou's onto-logy is not the same as Aristotle's.

The two stipulations Agamben commences with, that Being depends on beings and vice versa but in an asymmetrical fashion, happen to be true of categories. Objects can only appear in the world as aspects of existing multiples. Plus while multiples can appear in infinite possibilities in worlds, at no point can any of these versions of a being alter the 'essence' of the being qua multiple. This is an important piece of information first, because it allows Agamben to implicate Badiou in the failures of metaphysics as articulation, here between Being and beings. And yet second, in that category theory is mathematically irrefutably stable, categories are everywhere and indeed determine our world to a large degree because of their impact on software, Agamben's contention that modal articulation needs indifferential suspension, like his contention that impotentiality needs the same, is incorrect. Like the application of separation to impotentiality, the application of commutativity to

[14] Being is necessary. Fourthness is necessarily fourthness on the global-local determination. There are no degrees of fourthness. In addition, two beings occupying fourthness are the same being not two different examples of fourthness.

modes of being obviates the need for indifferential suspension because the point of said suspension is logical impossibility masked by *oikonomia*. And both sets and categories are, in contrast, logically absolutely consistent. Neither sets or categories have anything to hide, indeed they have everything to expose.

6. TOWARD A MODAL ONTOLOGY

Category theory is truly transmissible, exceptionally consistent a modal logic of functional relations based on the value of universal exposition called commutativity which, in the hands of Badiou, becomes a very extensive modal ontology. It is with this context in mind therefore that we now turn to the final round in this centralised skirmish with the history of ontology as articulation so as to juxtapose the two methodologies here, Badiou's mathematisation of modal ontology vs Agamben's archaeology of modal ontology. The archaeological excavation begins, aptly enough, with the paradox of classes as expressed by Leibniz re: monads possessive of essence and quality and yet remaining monads before we move on to the development of mode, the central term for Agamben's final sense of ontology. "The idea of mode was invented to render thinkable the relation between essence and existence. They are distinct and at the same time absolutely inseparable. Their relation is, however, asymmetrical". The asymmetry of their relation is because, according to his source Suarez, "the separation of one element from the other is not reciprocal, which means one extreme can remain without the other, but not vice versa" (Agamben 2016: 155). What this determines for the tradition is that modal being cannot exist by itself or be separated from that which it is the mode of. Thus, mode reverses Aristotelian *hypokeimenon* in favour of essence, Agamben argues, but in such a way that makes the movement into individuation impossible. Either individuation is an essence, or individuation adds nothing to essence, the logical impossibility of being conceived of in terms of class dispensed with in fact by extensional sets, although Agamben doesn't state this. This problem then becomes resolved by taking existence not as an entity but a mode of being, a solution developed from the debate between Leibniz and Des Bosses leading to the conclusion: "Existence is not a mode of essence or a difference of reason alone: it is a demand" (Agamben 2016: 159). These comments encourage the movement on to consider Spinoza's failure "to resolve the ambiguity between ontological and logical that the Aristotelian apparatus had left as a legacy to Western thought" (Agamben 2016: 161). Agamben then concludes on this tradition:

> The undecidability of logic and ontology is, in this sense, consubstantial with the concept of mode and must be brought back to the constitutive undecidability of Aristotelian onto-logy, inasmuch as the latter thinks being insofar as it is said. This means that the ambiguity of the concept of mode cannot be simply eliminated but must rather be thought as such. It is possible that the dispute between philosophy

inappropriately defined as continental and analytic philosophy has its root in this am-
biguity and can therefore be resolved only on the terrain of a rethinking of the theory
of modes and of the categories of modality (Agamben 2016: 161).

One can only applaud this final sentiment for indeed our own work, with its
concentration on mathematics, is effectively an attempt to resolve the self-same dis-
pute through a rethinking of the categories of modality, which in our case means
category theory as a modal logic of relational appearance qua existence. However,
not unexpectedly perhaps, there remain several issues to contend with, secretly em-
bedded in Agamben's extended olive branch. First, it seems probable that the ter-
minology of onto-logy is referring to onto-logical element of *Logics of Worlds* even
though he never says as this, indeed the whole paragraph seems to be a commentary
on Badiou's *work*. Second, the problem with Aristotle is clear, to think means to
be said. This however is not an issue for Badiou's extensional ontology, nor a prob-
lem if you understand that saying as command is saying as doing, and that the em-
phasis of being is doing, of which saying is only one element. For example, catego-
ries are the mathematics of 'doing', in that functions are modes of doing things, not
saying them. On this reading, anything can be possessive of being outside of a sub-
jective orientation of ontology. Mode then is resolvable because it is not actually
proscribed by the Aristotelian ambiguity of classes, eliminated by set theory. Finally,
his point of the resolution of the two traditions is to do with a modality of thought,
best represented by the mathematisation of existence through categories, not a re-
purposing of modal logic in terms of necessary and possible or Kripke's logic, but
as regards the modality of categories.

It is inevitable that such discussions will come up against Heidegger at some
point, here in terms of the assumption that being is never without beings and beings
never without being. This paradox is resolved by set theory, of which no mention
here, so we will move on from that conceptual quagmire. It is, as far as we are con-
cerned, a pseudo-problem. Leaving Heidegger to one side we find Agamben stating,
seemingly after Badiou: "Between being and modes the relationship is neither of
identity nor of difference, because the mode is at once identical and different—or
rather, it entails the coincidence, which is to say the falling together, of the two
terms" (Agamben 2016: 164). This positioning appears impossible from inside the
tradition he is excavating, until you accept that multiples are indifferent, in which
case this contention is, contrary to the 2500 years of cogitation from the tradition,
surprisingly easy to resolve. Speaking of Spinoza in this regard, again rather than
Badiou, he comments on "the neutralization and disappearance of identity as much
as difference" with the demand to stop thinking in the substantial "while mode has
a constitutively *adverbial* nature, it expresses not 'what' but 'how' being is" (Agam-
ben 2016: 164). All of these are correct but rudimentary intimations of two facts:
beings are indifferent multiples which exist modally as relational objects in categor-
ical worlds due to commutative exposition.

Doggedly with Spinoza, rather than Cantor or categories, Agamben ignores the above implication and instead turns his thought to the immanent cause: "an action in which agent and patient coincide, which is to say, fall together". Modes, on this reading, constitute themselves as existing for example in the ancient verb *paesarse*: walking-yourself into existence. This, as ever, moves Agamben to refer to an ontology of the middle voice "in which the agent (God, or substance) in effectuating the modes of reality affects and modifies only itself. Modal ontology can only be understood as a medial ontology" (Agamben 2016: 165)... In the first part of this book, we have called 'use' a medial process of this kind. In a modal ontology, being uses-itself, that is to say, it constitutes, expresses and loves itself in the affection it receives from its own modifications" (Agamben 2016: 165). Use then, as we have shown in the sister paper, *Inoperativity as Category*, is another name for function, bodies is another name for objects. Or, put aside Leibniz, Suarez, Des Bosses and Spinoza, and you can see that a modal logic of mediality is in fact another way of saying category theory. Just as one can say, again as I have detailed in the accompanying work *Agamben's Impotentiality*, that the mediality he makes so much of here, that is then defined in terms of impotentiality across the entire volume, picking up his life-long interest in Aristotle and the aporia of potentiality, is dispensed with when you apply the axiom of separation to being. Indeed, the axiom of separation proves that a being can be both Being and existential being depending on whether it is counted as belonging (set) or included (subset), in a manner that is not asymmetrical (a multiple is a set a set is a multiple) aporetic, metaphysical (in the sense of being as articulation), or paradoxical. In fact, famously, it is because of this oscillation that being is proven to be consistent for, we contend, the first time in its history. That Agamben knows this is obvious, that he chooses instead to linger among the failed, grandiose projects of the history of the problem, seems almost perverse this late on in the game, albeit totally in keeping with his archaeological rather than rationally deductive method.

Agamben now returns to the earlier Aristotelian consideration of the proper name and *ti en einai* in this case as regards the name Emma[15]. He explains:

> Essence cannot be without the relative nor being without the entity, because the modal relation—granted that one can speak here of a relation—passes between the entity and its identity with itself, between the singularity that has the name Emma and her being-called Emma. Modal ontology has its place in the primordial fact...that being is always already said...Emma is not the particular individuation of a universal human essence, but insofar as she is a mode, she is that being for whom it is a matter, in her existence, of her having a name, of her being in language (Agamben 2016: 167).

The difference here between the historical conception of modality and the mathematics of categories is this presupposition about 'language' as anthropogenesis.

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[15] I am unable to find a clear reference to where this example re the name Emma originates, from Aristotle or from a later work Agamben perhaps assumes the reader is familiar with.

Instead of assuming communicability qua language, as I hope is clear, my most recent work rather defines communicability to be a function of exposition, just as Badiou is transparent that mathematised being is a result or product of counting not of language. To be in language, as regards the modal logic of existence that is category theory, does not mean to be communicated, as the tradition has had it to be for centuries, but simply to be in a position of exposition. What is odd and perhaps exasperating is that this section on modal ontology basically summarises Badiou's method if one dramatically alters the terms in play so that the named singularity is now not a named singularity but a ranked multiplicity that exists not due to the name being a manifestation of the being, but the relation being a mode of the multiple. Agamben continues to ignore this fact when he goes on to state: "Our goal here is not the interpretation of Spinoza or Leibniz's thought but the elaboration of categories that escape from the aporias of the ontological apparatus" (Agamben 2016: 168). This is precisely our point but turns out to be a promise which he then resolutely fails to uphold in the rest of the chapter. The interpretation of categories outside of a metaphysics of being as articulation of being between language and world exists, it is called category theory and is extensively analysed in Badiou's *Logics of Worlds*. Either Agamben thinks this text does not escape the ontological apparatus, a valid possibility in that categories, in Badiou, are founded on sets, and sets, for Agamben, could be guilty of a kind of ontology as articulation, although, as I have shown, this is not entirely true. Or he is studiously ignoring it to such a degree that, a rather like Foucault's famous comment on the Victorians and sex, the more he chooses not to write about Badiou's ontology, the more he ends up doing precisely that.

7. DEMAND

We return at this potential break-through moment to the demand and Leibniz's conception of potential being as a demand to be. Here we begin to diverge from Badiou again because the functional demand of categories is not: "Being, come into existence!" Rather, function takes over from demand, or demand is now thought of as one of several functions. The reason why something exists rather than does not is not due to a worldly demand of existence, but rather the issue is: can said thing be seen to exist in this world? One clear differentiation here is that Leibniz does not see demand as a logical category. To demand, for him, is not to entail. Agamben goes on to define the demand ontologically as "it is not of the order of essence (it is not a logical implication contained in the essence), but neither does it coincide with actual reality. In the onto-logical, it consists of the threshold—the hyphen—that unites and at the same time separates the ontic and the logical, existence and essence" (Agamben 2016: 169). The demand, on this reading, is the command of the tradition that being should be divided and articulated, that a multiple is not, on its own,

enough, that worlds must be populated, that relationality must be developed. Agamben ruminates:

> Thus, demand is the most adequate category to think the ambiguity of logic and ontology that the Aristotelian apparatus has left as an inheritance to Western philosophy. It corresponds neither to language nor to the world, neither to thought nor to the real, but to their articulation. If ontology thinks being insofar as it is said, demand corresponds to the *insofar* that at once separates and unites the two terms (Agamben 2016: 169).

Demand is tantamount to our reading of communicability, combined with the Nietzschean purpose of intelligibility one finds in Foucault, which is of course exposition of power. The demand of exposition defines the fundamental nature of power, not just that something can be exposed but that it must be exposed. It is the ontological demand of the history of our concepts that requires that being be exposed as existing. In a sense, it is this demand that forced Badiou to write *Logics of Worlds* because of the wider demand of an existential complexity of relation. It is also in accord with the importance of demand in relation to his conception of the event. I find in it echoes of Deleuze's comment that language is nothing more than command, itself an assertion that effectively adds considerations of power to speech act theory. It is the violent requirement of the tradition to negate indifference in favour of relation that my work battles against. But sadly, it is not an accurate summation of modal categories. Worlds are not categorical due to demand, they are categorical due to ontology. And ontology is not consistent due to a demand, rather worlds are rendered unstable thanks to the demands of the event.

Agamben goes on to part confirm this intimation when he defines demand as follows: "If language and world stand opposite one another without any articulation, what happens between them is a pure demand—namely, a pure *sayability. Being is a pure demand held in a tension between language and world.* The thing demands its own sayability, and this sayability is the meaning of the word. But, in reality, there is only the sayability: the word and the thing are only its two fragments" (Agamben 2016: 170). The issue of sayability obviously takes this back to the communicable function qua language. Where my work innovates, if I may be so bold, is that sayability is only one example of the larger categorical function called commutativity. When commutativity takes over from communicability then we are able to define a praxiological overview of language, not in terms of what language says, but what it does. The meaning communicated by language is not therefore, primarily, the meaning held in the words. The content of speech is always a shibboleth, a code word, between members of a community, that defines the 'same page' mentality necessary for communication. The meaning of the speech is precisely this process of exposition, coupled with the conception of power, sanction. Language as communicability as sanction: this is the demand as modal ontology.

Agamben, due to his sources, obviously goes in an opposite direction by thinking of demand in relation to potential. Demand is here not possibility, this being could be, but potential. All the same his obliqueness is finally lifted as we realise that his interest in the modal is in truth an interest in the history of the possible as parsed through the necessary. The possible then is another way of saying potential, the necessary is the articulation that being must be sayable. Leading to the usual metaphysical circumlocutions: "*If existence becomes a demand for possibility, then possibility becomes a demand for existence*" (Agamben 2016: 170). Adding in, according to Leibniz, that the possible doesn't demand to exist, but the real "demands its own possibility [...] Being itself, declined in the middle voice, is a demand which neutralizes and renders inoperative both essence and existence, both potential and act. These latter are only the figures that demand assumes if considered from the point of view of traditional ontology" (Agamben 2016: 170).

Being as demand is the same as saying being as object of relations in the world. Communicability, therefore, emerges out of the articulation of being, the means by which it founders through Agambenian indifference, and then the potential that is opened up by Badiou's conception of ontology by mathematising beings into multiples, the lack of detail as regards relationality for the wider community, and the development of categorical communicability. When Agamben says being "is nothing other than its modifications" this is basically Badiou's entire project summarised" (Agamben 2016: 170). Leading Agamben to accept that "demand and not substance is the central concept of ontology" (Agamben 2016: 170), if one takes demand not as logical entailment nor moral imperative. One might almost think he is trying to negate Badiou here, only to accidently condone him, after all Badiou's insistence that being is real is surely framed as an appeal to substance.

We find ourselves dragged back one last time to Spinoza and *conatus*, specifically defining being as a kind of self-manifestation: because of its demand it constitutes itself. By this reading multiples demand to exist, are constituted only by existing. This is not, however, what Badiou contends. The ontological world is complete without existence. In fact, existence is only needed, according to him, to allow for the event which cannot exist as a pure multiple alone. All the same the next section on conatus concerns a forgotten idea of ductus, a classic Agamben gambit, a tension preserved in a certain figure, which is revealing. What is fascinating in particular is how it describes a dynamic and ever-altering relation between ontology and category that is missing from the monolithic Badiou: "human nature crosses over into existence in a continuous way and precisely this incessant emergence constitutes its expressivity... singular existence—the mode—is neither a substance nor a precise fact but an infinite series of modal oscillation, by means of which substance always constitutes and expresses itself" (Agamben 2016: 172). Here we can draw the differences between the two thinkers in favour of Agamben. Badiou, for example, lacks a purposiveness as regards categories determined in time (signatures). His

conception of commutativity also lacks the demand impetus of power: categories want to expose you. Again, while Badiou is able to speak of a mode of a being in a world, his system is flat-footed in terms of concerning the modalities of a being through a world in time and across worlds in the timeline of said being. This is, presumably, because he wishes to avoid the Deleuzian, Bergsonian idea of continuous becoming, a valid position, but it also means that he has no mechanism for explaining the prevalence of certain worlds, only any world whatsoever, an approach that throws all its impetus into one political outcome, the event, but which means it then fails politically on at least one other count, the critique of power due to the signature of life in biopolitics say. Leaving the extended chess match perhaps in a perpetual endgame that will inevitably result in a draw, if either part were willing to concede this, which appears, on the face of it, at the present juncture, an impossible result. And so the game drags on...

8. CONCLUSIONS

Agamben's intention in the middle portion of *The Use of Bodies* is clearly expressed in the final part of the final sentence. He is questing for a conception of life where the life that one lives, being, and the life through which one lives, modal beings, is capable of coincidence rather than articulation, such that: "What appears in this coincidence is no longer a presupposed life but something that, in life, ceaselessly surpasses and overtakes it: a form-of-life" (Agamben 2016: 191). It is a well-constructed and exciting sentiment that the final part *Form-of-Life* comes close to fulfilling, but after many volumes and decades of promises, for many I would imagine close is just not enough. The overall problem, I think, across the magisterial *The Use of Bodies* is what to make of Agamben's critique of the metaphysics of diaresis, after the innovations of extensional reasoning and their eventual impact on continental thought in the work of Badiou, a historical trajectory of belatedness Agamben is more than aware of. If, as I believe, extensional reasoning has obviated the need for a justification of his method of indifferential suspension, at the same time it has strengthened his claims for the tri-partite archaeological method. Said method is a mode of historicised set theory after all, signatures are the names of sets of archetypes with a temporal halting point or arche, as much as it analogically maps onto category theory as well. The clear power of Agamben's philosophy is surely a kind of historical necessity underlining the apparent contingency of terms when outlined historically rather than rationally. But, this being said, what is the justification for his ignoring the great historical developments in extensional logic when they directly impact on the entirety of his work? If modal ontology is the definition of Agamben's ambition, why does Agamben only historicise modal logic, neglecting to formalise it through reading Kripke or, more pointedly, Badiou's *Logics of Worlds* and category theory?

As for his relationship with Badiou, I recall that letter between Russell and Frege. Russell's famous letter of 1902 stopped Frege in his tracks, sent him into despair, but ultimately spurred him on to his greatest work, and of course left us Russell's paradox, one of the most important conceptual formulations of the last hundred years. Why is it that Agamben, seeing the innovations in modal thought in Badiou's work, is unable to accede to Badiou's insights and modify his work accordingly? Maybe it is because Agamben is right in his implied critique of Badiou's ontology. A most unnerving moment for my own work in reading and rereading *The Use of Bodies* is the lingering doubt that Agamben is correct and Badiou's ontology is simply articulation, coupled to the desperate hope that it however escapes ontology as articulation due to the peculiarity of sets. If the ability to dislodge you from entrenched positions is the definition of great work, then Agamben's conclusion to *Homo Sacer* is unquestionably great. Yet, it would be greater if it admitted to the fact that the three main aspects of the work all require a sustained engagement with his peers, rather than the ghosts of thinkers long gone. His consideration of separation, after all, explodes under the pressure of the mathematised axiom of separation and the non-relationality of multiples. His insistence on looking at analogy through the rather obscure Melandri seems perverse when categories are a workaday, globally-accepted form of advanced analogical thought. Finally, fascinating though his history of modal ontology is, it seems outflanked entirely by contemporary work by Badiou and the analyses I put forward on categorical modal ontology.

In contrast, the idea of a historical *a priori* as an alternative to mathematised reasoning is revelatory and salutary. At no point has it been clearer that what is missing from Badiou's objective phenomenology is a reason why certain worlds persist over time and space, and the role of power rather than rational consistency over the relative stability of the signatures of our commonly-held worlds. Category theory is a brilliant way of looking at the stability of some of all of our worlds, but falls short of speaking to the persistence of that set of worlds we simply cannot appear to divest ourselves of, generation after generation, century after century. And it is true that I was as disappointed as any with the predictable onto-logy structure Badiou eventually sides with, as there is no denying it, such a project, necessary for Badiou because of his obsession with the event, is just another entry into the annals of both metaphysical articulation of language and world, and the blind adherence to a valorisation of singularity in the philosophy of difference since Hegel.

Read in these terms it is absolutely necessary that we concede that Badiou's revelatory maxim being is-not is to the counting of being, analogically as being-as-*archē* is to the historicising of being. Meaning that Agamben's archaeological method is a historical manifestation of the mathematics of being, not so much in terms of set theoretical ontology but, as I have argued already elsewhere, in terms of logics of worlds. If we accept that Badiou's articulation is a-linguistic, represented by the alteration of Agamben's communicability to the topological sense of commutativity,

then we are able, perhaps, to instigate a brief truce by accepting Badiou's ontology is articulation, but just as there are various types of relation, difference and indifference, so too there are, if you will, bad forms of articulation and good. Agamben scholars have to concede that mathematised ontology requires a significant reconsideration of indifferential suspension, the three-part method and the calls to think modally and analogically. Badiou's followers need to admit that *Logics of Worlds* lacks a theory of historical consistency of certain worlds, and surprisingly, a workable theory of power. The truth is, the two great thinkers are not so far apart. They both utilise a theory of sets. They both accept that ontology must be modal. They both agree that all future thinking concerns the use or function of bodies or objects. They each, in their way, advocate a theory of communicability (commutativity). And finally, neither man would be able to even begin down their parallel, analogically, perhaps destinally equivalent paths to being, if it were not for their commitment to the rationality of indifferential reasoning.

Is a mathematised archaeology of ontology possible? I hope to have shown that the answer is yes. The issue is rather, considering our tendency in continental philosophy to draw stark oppositions and then construct critical articulations between different positions such that our reasoning depends on the promulgation of said oppositions, can the wider community read Agamben through Badiou and Badiou through Agamben simultaneously, and without prejudice? In the end, inspired by another thinker from the analytical tradition of extensional thought, we need to accept that archaeological ontology and mathematised ontology are two equally consistent languages apposite for differing approaches to the same worlds we all exist in. If we are able, therefore, to apply Carnap's principle of tolerance, then a mathematised archaeology of being, and a historicised mathematics of beings is surely within our collective grasp.

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