ONTOLOGY AND APPEARING: DOCUMENTARY REALISM AS A MATHEMATICAL THOUGHT

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ABSTRACT: This paper exposes the relation between the different mathematical orientations, on the one hand, and the modes of documentary film on the other. When we take, with Badiou, mathematics as ontology, and mathematical orientations as orientations to Being, we find in the structural similarity of mathematics and documentary an equivalence between modes of documentary and mathematical-ontological decisions regarding the inscription of 'what is'. From here we move to consider Badiou's notion of 'in-appearing' through a reading of Alain Resnais' documentary *Night and Fog.*

KEYWORDS: Badiou; Ontology; Documentary

From its very inception, cinema has grappled with the question of presentation, or being-there, versus representation. The Lumière brothers' early shorts or actuality films appeared, in the eyes of the first 'naïve' filmgoers, to present 'life as it is', Dziga Vertov's experimentation with the 'Kino-eye' and montage claimed to construct a more penetrating window on reality via the harnessing of technology; neo-realism's framing of the Real broadened the conception of the field of presentation, and the (post)-modern filmmakers' reflexive techniques challenged the very possibility of documenting reality. Thus, it would seem that documentary plays in the fringes of the ontico-ontological division, in the interstices between being as pure presentation, and being as appearing, the area that Badiou's latest work in category theory seeks to explore.

If documentary can be said to produce a world, it is because the filmmaker undertakes an artistic procedure following a decision on existence. Each different orientation raises the question of being as the director undertakes a commitment to present a reality or 'truth' that the actual situation obscures. Analogous to the case of foundational mathematical orientations, being as such is established following a particular axiomatic decision that shapes the presented universe in the light of certain artistic convictions, or

thought protocols. Badiou defines an artistic world as a 'relation between the chaotic disposition of sensibility and form'.[1] Thus, the infinity of the material situation is given an order, or form, as a result of the artistic conviction, or vision, which can be understood as an ontological decision that orients the production of a truth that structures the particular being-there of the world produced by the documentary.

To be effective, art must take as its starting point that which Empire does not recognize—its void—and build a truth process from its immanent distribution within its context such that its 'in-existence' is rendered visible, a de-structuring process that sheds particularity, returning to the 'elemental' level prior to the overlay of representation. This paradigm places Empire in the position of knowledge, and figures the artistic truth procedure as radically disjunct. The purity of art stems from its ascetic separation, however: its purported aim, to 'render visible to everyone that which, for Empire (and so by extension for everyone, though from a different point of view) doesn't exist',[2] distinguishes between the state of the situation, and people's inevitable captivation by the symbolic order. This is at the heart of Badiou's injunction against the unthinking material re-production of existent (countable) elements of the state: '(w)hat there already is, the situation of knowledge as such, only gives us repetition. For a truth to affirm its newness, there must be a *supplement*'.[3] The criterion of 'novelty' demands that *each* work must initiate a new mode of enquiry. If an artistic creation is not surprising, incalculable, unanticipatible, it merely reiterates knowledge, rather than exposing a truth. Repetition is the mechanism by which the state regenerates, whereas art is charged with the production of a generic singularity.

Documentary is engaged in the struggle to overcome mere repetition of the pro-filmic or material world in front of the camera. Its mandate is to produce a work of art that brings to appearance those elements of a situation that were previously foreclosed by current modes of representations as legislated by the State of the Situation. Thus, while we would seem to be dealing with re-presentation (in so far as documentary gains its special status via its manipulation of indexical traces), since its inception as a genre it has defined itself in terms of what it *adds*—a supplement, the space for a new appearance. John Grierson, in his canonical *First Principles of Documentary*, deliberately excluded the 'actuality film' as one of the 'lower forms' because it was constructed largely of 'natural materials', arguing that 'the only world in which documentary can hope to achieve the ordinary virtues of an art [is when] we pass from the plain (or fancy) descriptions of natural material, to arrangements, rearrangements, and creative shapings of it'.[4] From this has grown a wide diversity of creative output and critical discussion, each hotly con-

1. Alain Badiou, 'The Subject of Art', *The Symptom*, no. 6, Spring 2005, http://www.lacan.com/symptom6_articles/badiou.html

2. Alain Badiou, 'Fifteen Theses on Contemporary Art', *Lacanian Ink*, no. 23, 2004, pp. 100-19, p. 2.

3. Alain Badiou, 'The Ethic of Truths: Construction and Potency', trans. Selma Sowley, *Pli: Warwick Journal of Philosophy*, no. 12, 2001, pp. 245-55, p. 250.

4. John Grierson, *First Principles of Documentary* quoted in Philip Rosen, *Change Mummified: Cinema, Historicity, Theory*, Minneapolis, University of Minnesota Press, 2001, p. 233.

testing the relation between reality, truth, objectivity and textuality. I am not presently concerned in establishing the validity of one particular stance in this complex debate; rather I would like to relate this whole discourse to Badiou's elaboration of the different mathematical orientations that I see as similarly contesting the nature of ontology, and the appropriate means of approaching the formalization or construction of its objects. Mathematicians and documentarists alike start from a foundational decision that orients the nature of the universe they set out to explore and determines the appearance of objects (mathematical or human) within the context of the delineated world. Just as Badiou argues for a *single* field of mathematics, wherein the different orientations (Platonic, constructivist, generic etc.) bring various aspects of this infinite field into being as a result of the institution of protocols of thought, we can see how the documentary also forms particular instances of being-there which are similarly shaped by an orientation that derives from an artistic decision regarding *what Is*.

Traditional ontological approaches to the question of 'being as being', either take what Desanti identifies as a maximalist approach, associated with empirical or logical readings whereby 'being' is adequate to its extensional concept, *or*, like Badiou, undertake a minimalist reading and set out to think being in its being, without external reference to an extension[5]—the question of the '*There is*' (il y a), or pure presentation. If being is to be treated within the its own, proper framework, the logical, or analytic approach that seeks to delineate an conceptual extension is excluded because it sets up an analogical relation that mediates between instances of being and pure being, while the contemporary linguistic turn in philosophy attempts to redress this problem by maintaining the impossibility of re-presenting being or presence, and instead seeks the trace of being in poetry which retains a unique opening to presence without subjecting it to the violence of linguistic determinacy. The desire to think being 'intrinsically' leads Badiou to reformulate the question within mathematical (or set-theoretical) terms, which means that to approach the thinking of being, we must also understand mathematics as a thought. Badiou turns to (ZF)[6] set theory because it makes no existential claims, nor adds any extension, or predicate to its bare inscription of being.

Re-reading Lebniz's maxim 'What is not *a* being is not a *being*' Badiou suggests that rather than this necessitating a Onenness of Being, and hence entailing predication, the singularization of a specific entity or multiple is always the result of an operation performed upon pure (inconsistent) multiplicity, and it is the operation of the count that structures it as one, or as *a* thing.

> In sum: the multiple is the regime of presentation; the one, in respect to presentation,

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5. I am grateful to Jean-Toussaint Desanti's elaboration of this point in Jean-Toussaint Desanti, 'Some Remarks on the Intrinsic Ontology of Alain Badiou', in Peter Hallward (ed.), *Think Again: Alain Badiou and the Future of Philosophy*, London, Continuum Books, 2004, pp. 59-66.

6. Zermelo-Frankel set theory offers a first-order system built up from the primitive notion of belonging ($\in$), and which constructs its axiomatic framework from the void, or empty set $\{\varnothing\}$. It makes no existential claims about the nature of sets, or their elements; in effect the system provides a means of describing the generation and organization of multiples, or sets, from nothing. It does not legislate over existential quantifiers (being specifically formulated to by-pass Russell's paradox).

is an operational result; being is what presents (itself). On this basis, being is neither one (because only presentation itself is pertinent to the count-as-one), nor multiple because the multiple is *solely* the regime of presentation.[7]

At the level of pure presentation all elements are simply registered on the level of 'belonging' to the multiple/set, or are counted, such that 'what is' appears as presented consistency. If Being as pure inconsistent multiplicity is subtractive (there is no Whole, no One) and existence, or *being-there* is the result of an onto-logical ordering that falls within a different level, there is no way of substantiating ontological claims. It follows that any statements about Being must be founded upon pure decision, given its fundamental inaccessibility to presence as inconsistent (uncountable) multiplicity. Badiou's interest in category theory lies in its ability to map the consequences of any decision regarding the nature of being and the conditions that structure its particular mathematical universe, allowing the logic of different orientations to be directly compared within a framework that is intrinsic to the ontological structures they describe. In particular, the absence of a meta-language is a strength of category theory that makes it compatible with the minimalist approach to Being that Badiou adopts—all logical relations are intrinsically generated specific to the various mathematical worlds, mapping their potential existence, in terms of the different logics that structure the 'being there' or appearing of elements, within each world.

Thus, although there are different orientations, there is but a single mathematics whose domain is the inconsistent multiplicity, the very stuff of Being, that is able to be brought to presentation in various different ways, depending upon whether one upholds the constructivist conviction that all mathematical entities must be capable of being generated from a consistent, demonstrable axiomatic framework, whether the mathematician accepts unlimitable cardinality that is regulated by a separate axiomatic framework, or whether s/he allows generic sets, and therefore a subtractive notion of Being. Badiou turns to the significant impasses that have formed mathematical thought, such as the paradoxes of set theory or generic sets, to support his insight that these blind spots function as the Real of mathematical thought, and the decisions arise from these areas of undecidability demonstrate the manner in which thought produces orientations that shape the various conceptions of existence: each decision on Being underwrites the foundations of the mathematical universe whose existence it declares.

In each case, it is a conflict in the thinking of Being, but on the level of *existence*, which Badiou glosses as that which 'thought declares and whose consistency is guaranteed by Being'[8], is grasped differently in each case. Since thought alone supports the foundational decision regarding an undecidable impasse, existence itself is the meeting point between 'decision and encounter', 'act and discovery', in other words, existence is produced by its particular thought: each decision axiomatically founds being via its initial inscription thereby determining the logic of its construction. The peculiar nature

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7. Alain Badiou, *Being and Event*, trans. Oliver Feltham, London, Continuum, 2005, p. 24 (henceforth BE).
8. Alain Badiou, *Briefings On Existence: A Short Treatise on Transitory Ontology*, trans. Norman Madarasz, Albany, State University of New York Press, 2006, pp. 45-58, p. 54 (henceforth TO).

of such a decision entails both the positing of what is, and the paradoxical discovery of the structure of that existence, on the basis of this initial intuition/conviction. Since this inaugural decision can have no grounding—being qua being is radically inaccessible—it is open to be thought in a range of orientations, but the conviction that is upheld in each orientation leads to the formulation of a potential being via its 'fictive activation': 'Existence is precisely Being itself in as much as thought decides it. And decision orients thought essentially' (TO 55). The Parmenidian insight 'Thinking and Being are One' is demonstrated through the retroactive consistency that each orientation endows upon the mathematical universe declared to exist as a result of its particular thought. As Badiou notes: '… a position has to be taken. For we stand actually as an act (*au pied de l'áct*), if I dare say, upon the very norm of the decision the act accomplishes. // At any rate, what is referred to in this obligation to decide is Being' (TO 52).

Badiou's latest work explores the process whereby mathematical decision on how the inconsistent stuff of Being can be brought to presentation, ordered, or numbered *produces* a framework of possible entities, or that forms being according to certain conceptual convictions. If, as Badiou suggests, the divergent mathematical decision to attribute existence can be metaphorically mapped with the three different political orientations that dominate contemporary society (TO 55-6), it would seem plausible to extend this analogy to the field of art which, broadly speaking, is similarly oriented relative to the three modes of thinking Being: constructivist, transcendent and generic.

The constructivist/intuitionist approach limits mathematical thinking of Being to a 'logical grammar' (BE 287) with origins that are traceable back to the Aristotelian rebuttal of Platonic ideality. Aristotle's proposal that mathematics is ultimately a branch of aesthetics rests on his conviction that mathematical thought consists of a 'fictive activation' of objects that have only potential existence in the realm of the sensible and thus deals with questions of order and symmetry, governed by a norm of the beautiful. This power to 'inseparate the inseparable' (TO 47) Badiou equates with language, and the various inscriptions of Being that dominate the thinking of mathematics today. For example, the aesthetic principle underpins the conviction that mathematics 'tells us nothing of real-being, but it forges a fiction of intelligible consistency from the standpoint of the latter, whose rules are explicit' (TO 48). Thus, mathematics is reduced to a consistent set of rules and structures rather than being the science of Being qua Being: 'thought subsumes the relation to being *within the dimension of knowledge*' (BE 293). The constructivist limits the set universe within which operations can be carried out to the class model of 'Constructible Sets'. This is characterized as a 'thin' set universe, in that it is generated from a spine of ordinals from which all the counting operations which are concretely constructible are appended. Such a model produces a universe that is as 'tall' as any potential universe, in that it contains the ordinals up to infinity, but it does not fully utilize the power set axiom, which would theoretically generate all potential subsets of a given ordinal, and so exhaust the combinatorial abilities inherent within the system. In the thin set universe, these denumerable subsets are not included, only those which can be directly counted are added on to the spine of ordinals. Such an omission

is acceptable in that the continuum hypothesis is unprovable within ZF which remains consistent with and without its addition.

However, this opens the question as to the nature of the resulting set universe 'L' (known as the 'class of constructible sets') relative to the infinity of sub-sets capable of generation under the power set axiom, giving rise to the complete universe of sets 'V', designated as the 'real world'. One would intuitively assume that the latter is much larger than the thin set universe (L), however, the Axiom of Constructability states V = L, and has been shown to be consistent. From V = L the existence of a minimal model can be consistently assumed, however, this in effect conditions the boundaries of the set universe relative to the language in which it is accessible. At this juncture, mathematics is encountering the Wittgensteinian dictum 'whereof one cannot speak, thereof one must be silent'.[9]

Badiou links this approach to Being with the neo-classical norms in art, that privilege continuity: 'The neo-classicist fulfils the precious function of the guardianship of sense on a global scale. He testifies that there *must* be sense' (BE 292). In terms of documentary, if we think the condition of existence being determined by constructibility, or conditioned by language, textuality, we can include those directors that privileged the structuring of the film as the means of producing a consistent construction of existence. We can relate this to Pudovkin and Kuleshov's conception of montage as an unfolding sequence built out of separate filmic elements that were placed together, piece by piece, to depict a specific narrative sequence.[10] This approach can be seen as a forerunner of what Bazin identified as the 'transparent' technique of classical Hollywood cinema in the 40's. Film theorist Philip Rosen has remarked the joint emergence of the classical fiction film along side the new documentary genre, suggesting that many of the conventions of sequencing and narratorial regulation of the latter resulted from this newly established viewing practice. This is most closely realized in Robert Flaherty's *Nanook of the North* (widely accepted as founding the genre) which was structured along classical narrative lines. The daily existence of the Inuits captured on film was a reality produced especially for and by the film. Most scenes were staged, and the dramatic structure collaboratively predetermined between Flaherty and Nanook. Broadly speaking, the thought that underwrites the treatment of appearing within this orientation aims to deal with that which can be shown—to close off aporia, making the diegetic world seamless. At this point, constructivism can be equated with textuality—there is no 'Real' to which the film/mathematical proposition refers, only the manipulation of signification within a conventionally governed framework that allows the production of meaning. As

9. Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*, trans. C.K. Ogden, London, Routledge and Kegan Paul, 1922.

10. Dziga Vertov's 'Kino-pravda' uses montage in an entirely different manner: the use of split screen, superimpositions and rapid montage to produce a 'truth' that only the superior technological resources of film could capture, distances him from the more conventional constructivist stance. A full discussion of Vertov's contribution the development of the documentary genre is beyond the scope of this present article.

Badiou comments: 'the constructible universe is […] the ontological symbol of knowledge. The ambition which animates this genre of thought is to maintain the multiple within the grasp of what can be written and verified. Being is only admitted to being within the transparency of signs which bind together its derivation on the basis of what we have already been able to inscribe' (BE 309). That construction is commensurate with knowledge is a dangerous proposal, as evidenced in the colonialist overtones of early anthropological documentary. For instance, Fatimah Tobing Rony has critiqued Flaherty's *Nanook* for its 'romantic preservationism', viewing its appropriation of the Inuit lifestyle as a fetishization of Otherness ('ethnographic taxidermy') and the deliberate production of a nostalgic fiction.[11] The contemporary rejection of the traditional omniscience of the documentarist/ethnographer nevertheless retains a self-conscious constructivist approach. As Cool and Lutkenhaus suggest, 'Although these enthnographies take a number of different forms, they share a self-conscious effort to portray the socially *constructed* nature of ethnographic knowledge'[12] (my italics). This overtly ethical stance nevertheless foregrounds the textuality implicit in its ideological orientation, reflecting what Badiou has termed the 'ethic of knowledge': 'act and speak such that everything be clearly decidable' (BE 314).

For Badiou, art enters into an antagonistic relation to the dominant cultural regime which he terms 'Empire', and he frames the goal of art as the production of abstract, non-imperial works that achieve the generic universality common to each of the truth processes. In this context, knowledge is equated directly with the generalized meta-structure, and Badiou writes: 'Since it is sure of its ability to control the entire domain of the visible and the audible via the laws governing commercial circulation and democratic communication, Empire no longer censures anything'.[13] This means that the drawback of any constructivist stance is its limitation to the realm of knowledge, which is governed by the State of the Situation/Empire. While any post-modern documentary that interrogates the repression and appropriation at play in any construction of social/racial/gender within its own framework as an artistic artefact, as well as the wider social context with which it engages is foregrounding the play of signification and its incommensurability with knowledge, its paradoxical reliance upon the properties of language to do so is nevertheless, from Badiou's perspective, a limitation. It precludes the possibility of an event, and denies the possibility of a (subtractive) truth, in favour of an endlessly disseminating relativity.

The attraction of such an approach is nevertheless appealing, and, within discussions of documentary practice, the insight that the work is a 'text' rather than a slice of reality has been extremely influential. Badiou accounts for this 'linguistic turn' by noting that the totalizing force of Empire is not manifestly repressive: rather than imposing

11. Fatimah Tobing Rony, *The Third Eye: Race: Cinema and the Ethnographic Spectacle*, Durham, Duke University Press, 1996, p. 102.

12. Nancy Lutkehaus and Jenny Cool, 'Paradigms Lost and Found', in Jane Gaines and Michael Renov (eds.), *Collecting Visible Evidence*, Minneapolis, University of Minnesota Press, 1999, p. 118.

13. Badiou, 'Fifteen Theses on Contemporary Art'.

an openly dogmatic program against which an artist might strive to retrieve the light of truth, the contemporary situation is unremittingly permissive, urging its subjects to 'consume, to communicate and to enjoy'[14], in effect fusing with the super-egoic injunction to 'enjoy!' such that one is bound by the duty to indulge. The granting of absolute licence binds the subject more tightly within the transparent operations of its regime. The meta-Statist strangle-hold currently saturates the situation to the extent that it is always already in excess of any new artistic configurations that might be formed—the structure is capable of anticipating all potential developments within the elements it regulates.

Against a regime that performs a perversely Foucauldian discipline of surveillance, that exercises absolute control over the domain of the visible and the audible such that nothing is censured simply because nothing can be produced that is outside the parameters of its control, Badiou turns to the force of the subtractive as the only space that is outside governance. To this end, his theses on contemporary art focus on the process of the generic, and the technique of purification. Art becomes possible at the point which the individual resists the imperative to enjoy (and hence participate), and practices a rigorous asceticism both in the personal realm, becoming 'the pitiless censors of ourselves', and in the refusal to (re-)produce in the service of the state. Indeed, '[i]t is better to do nothing than to contribute to the invention of formal ways of rendering visible that which Empire already recognizes as existent'.[15] In a constructivist orientation, all sets are always already constructible, hence there is no space for the 'new' to emerge: nothing to challenge the prevailing regime. A self-conscious or post-modern incorporation of this maxim does not destabilize this state of affairs as it is simply a reflexive re-configuration of that which is already counted, or controlled. Whatever can be (ac)counted for is by definition always already within the governance of Empire, and is indeed sanctioned as yet another means of proliferating its meta-structural control.

Badiou identifies a second mathematical orientation, which he terms prodigal or transcendent. The finitude of the constructivist orientation is superseded in set theoretical terms by the introduction of inaccessible cardinals, which he claims serve to introduce a 'theological' transcendence that breaks down the maxim of constructability via the positing of ordinals that cannot be reached from within the limits of the constructible universe. In this orientation $V \neq L$. Rather than work from the finite set universe towards its potential limit, the transcendent orientation works from the unquantifiable cardinals towards the constructible universe. This orientation revives Cantor's original theological insight, maintaining the undecidability of such cardinals from within ZF. Badiou discusses this in terms of different 'species' of multiple being—the successor ordinal, that has a local status and is identifiable within V, whereas the limit ordinal 'ex-sists from the sequence whose limit it is' (BE 155), and has a global status. The existence of large cardinals rests on a decision of thought, which produces a divergent mathematical orientation that conceives of the mathematical universe as far exceeding the part that has currently been formalized by its theorists. Although the positing of an 'indiscernible'

14. Badiou, 'Fifteen Theses on Contemporary Art'.
15. Badiou, 'Fifteen Theses on Contemporary Art'.

breaks the tyranny of the language/knowledge dyad, Badiou remarks its negative connotations, such that it indicates the inability of exact nomination, whereas the generic positively designates the truth of a situation that is incommensurable with knowledge.

We can compare this thinking of being with the neo-realist movement, which proposes a similarly transcendent 'Wholeness' of reality that the totalizing gaze of the camera brings to appearance. The unflinching recording of the detail of the everyday brings to presentation a deeper understanding of the local, producing a 'description of reality conceived as a whole by a consciousness disposed to see things as a whole',[16] a consciousness that Andre Bazin, has described as properly 'ontological'. The crucial difference is that meaning is constructed *a posteriori*, from the cumulative effect of the fragments of reality it juxtaposes, rather than aiming to construct a particular argument from the fragments by their deliberate arrangement. While such films are nevertheless crafted artefacts, and as such prey to the same dictates of textuality, Bazin suggested that neo-realism presented 'documentary reality *plus* something else, this something else being the plastic beauty of the images, the social sense, or the poetry, the comedy and so on'.[17] Badiou links this valorization of transcendence with Heidegger's notion of the Open, and indeed Bazin's appeal to the intangible evocation of the Real via 'poetry' certainly speaks to this desire to locate a trace of being as such.

Neorealism's belief in the truth inherent in uncontrolled events countered the earlier use of documentary to produce a subjective, personal truth whereby random, unpredictable happenings were retroactively re-framed within a larger structure of governance, by editing and voice over narrative. Knowledge/language is exceeded by the intervention of the Real, here indicated by the poetic trace that lends a teleological transcendence to the artistic world of the film. Badiou dismisses the Heideggerian appeal to poetry as the conduit to access the withdrawal of Being, equating it with the chimera of the inconsistent multiple that becomes retroactively thinkable as a result of the operation that brought the consistent multiple to presentation. There is no ineffable 'Whole' of being.

This same appeal to totality can be seen in the French *cinéma vècu*, where the documentarists' immersion in a particular way of life and the subsequent recording of testimonies claimed to produce an excess of truth. Likewise, Direct Cinema, and *Cinéma Vérité* were influenced by neorealism's drive to present a more 'complete' reality, introducing such diverse techniques such as the hidden camera, the provocative onscreen interview, or a narrowed focus on the 'crisis' structure, in a bid to capture the full 'event' as it unfolded. This belief in the camera's ability to capture the 'real nature of the world' soon came to be widely challenged by theorists and film makers alike. As documentarist James Lipscome notes: 'we cannot assume as c-v seems to, that there is a universal or absolute truth about objects and events—and thus we must face up to the fact that,

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16. Andre Bazin, 'In Defence of Rossellini: A letter to Guido Aristarco, editor-in-chief of Cinema Nuovo', *What is Cinema?*, trans. Hugh Gray, Berkeley, University of California Press, 1971, p. 97.
17. Bazin, 'In Defence of Rossellini', p. 100.

to paraphrase Euclid on mathematics, there is no royal road to the real nitty-gritty'.[18] Which brings us to Badiou's third mathematical orientation, that of the generic.

The construction of a generic extension entails a positive mapping of an indiscernible part of a situation—an excrescence—via an infinite truth procedure that verifies, element by element, those aspects which can be said to have a positive connection to the event and those which do not. The crux of this procedure is that the elements of this indiscernible part are all named within the prevailing knowledge of the situation, but the generic set that results forms a diagonal to the current representational norms, including at least one element that does not share an identifiable property with the rest of the infinite set to which it belongs, making the generic set indiscernible from within the situation insofar as it evades nomination. This indiscernibility is precisely that which characterizes the set as generic since its property is solely the fact of its *being* in the situation, and does not refer to its classification within language, as per the other constructible sets. It is this that allows the construction of the 'being-multiple' of a truth, insofar as the enquiry focuses on being, and its suture to the void, rather than on veridical determinations: what 'we are looking for is an ontological differentiation between the true and the veridical, that is between truth and knowledge' (BE 333).

The generic art-idea is not included in the *presented* work, simply because the parameters of space and time within which it is produced constrain the material artefact to finitude. Badiou's emphatic insistence that: '[…] the work of art is in fact the only finite thing that exists—that art creates finitude'[19] derives its justification from the Greek aesthetic principle of completion, in which perfection and completion are co-determinate. Thus the single work of art cannot be coextensive with a truth procedure as this would repeat the romantic error of seeing art as the privileged site of the incarnation of the infinite within the finite. Badiou's inaesthetic schema figures the relation between art and truth as being both singular and immanent:

> Art *itself* is a truth procedure. Or again: The philosophical identification of art falls under the category of truth. Art is a thought in which artworks are the Real (and not the effect). (HI 9)

An artistic truth is immanent to the work of art and is constructed from the unlocatable point of the void: we are dealing with a subtraction that bears witness to the reductive exigency of the structuring regime of the count-for-one. The first axiom of Badiou's 'Fifteen theses on contemporary art' states: 'Art […] is the production of an infinite subjective series, through the finite means of a material subtraction'.[20] Parsing this in terms of its mathematical context, we can understand each point, or element, as the site of an enquiry as to whether it can be said to be a member of the generic sub-set, given that there is no unifying predicate that determines membership (since the generic set/truth

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18. James. Lipscome, 'Correspondence and Controversy: Cinéma Vérité', *Film Quarterly*, vol. 18, 1964, pp. 62-3.

19. Alain Badiou, *Handbook of Inaesthetics*, trans. Alberto Toscano, Stanford, Stanford University Press, 2005, p. 11 (henforth HI).

20. Badiou, 'Fifteen Theses on Contemporary Art'.

is infinite it remains untotalizable). As such, the modality of any particular truth lies in the future anterior—*what will have been true*— a wager that founds the undertaking of the process and so brings the possibility of that truth into being as the 'infinite result of a risky supplementation'.[21]

The truth of any single presented multiple is that which 'from inside the presented, as *part* of this presented, makes the inconsistency—which buttresses in the last instance the constancy of the presentation—come into the light of day' (MP 106). Thus, the truth of a work of art is an immanent, but anonymous aspect of its material presentation, retrospectively readable as the operation that *formed* its finite consistency: a constitutive aspect that is not strictly commensurate within its spatio-temporal context, but is a rem(a)inder of the creative process itself.

The generic orientation, then, 'explore[s] how, from a given situation, one can construct another situation by means of the 'addition' of an indiscernible multiple of the initial situation'. This approach can be metaphorically linked to the documentary style of Alain Resnais, whose landmark documentary, *Night and Fog*, undertakes the bringing-to-'appearance' of those aspects of the holocaust that continue to be 'invisible' (or 'indiscernible') from the perspective of the state, creating a form that is adequate to the investigation of that which is most properly formless. What I am identifying as a 'generic truth procedure' is the painstaking manner in which the elements of the situation are 'counted', both according to the prevailing regime of knowledge and, simultaneously, as being included within a separate (what Badiou would call 'excrescent') part of that same situation that is indiscernible from within the governing norms of representation. Thus, Resnais' documentary can be said to construct a generic set that cuts a diagonal across the veridical truth of the situation, initiating an on going interrogation of the foreclosed aspects of an immanent truth. Much as the generic set cannot be totalized and therefore is resistant to being simply added to the constructible set universe (since such nomination would destroy its being *as* generic), Resnais' work does not set out to present the Truth of the holocaust. However, by his serial interrogation of the material traces, he seeks to extract immanent fragments from which he constructs his truth procedure. This leads us to suggest that Resnais' orientation, or manner of 'thinking of being' avoids the pitfalls of constructivism: since the localized truth of the holocaust is precisely the unthought of the situation, it cannot simply be brought to representation, since it ex-ists as its Real. In other words, it exceeds V=L. It is equally apparent that Resnais' work does not seek to evoke a transcendent Truth of the holocaust—a temptation to which many contemporary ethical theorists fall prey,[22] rather, he departs from a formalization which allows him to interrogate the excess of the Real over the governance of representation. It is this subtractive approach that makes Resnais' work analogous to Badiou's mathemati-

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21. Alain Badiou, *Manifesto for Philosophy*, trans. Norman Madarasz, Albany, State University of New York Press, 1999, pp. 106-7 (henceforth MP).

22. Badiou distances himself from the contemporary 'ethical' stance in philosophical thinking that valorizes the victim, and seeks to make suffering sacred. Resnais' documentary avoids this stance, framing a political challenge to think the truth of the holocaust in order to prevent its recurrence.

cal orientation. We shall return to Resnais' film shortly, as I undertake an exploration of the capacity of category theory to offer a more nuanced reading of localized being-there within the diegetic world(s) of the documentary.

While set theory remains the proper means of inscribing being as being, it does not offer any insight into *how* particular beings interact within a particular context, thus Badiou's latest work turns to category theory to provide a means of mapping the structure of any localized section of being—or a way of thinking the 'appearing' of a world. In particular, topos theory affords the means of explicating the *plurality* of 'worlds', since it models the structural determination of all potential situations, or topoi, rather than providing a global regulatory framework that accounts for a single, totalized Being. In terms of mathematics/ontology, this means it can map the set universe that holds for the different thought orientations or 'decisions' taken by the working mathematician, providing a consistent map of the relations that structure the universe following certain axiomatic presuppositions.

Traditionally, we have approached the question of world from the point of view of a being and their degree of consciousness of, or relation to it. Category theory by-passes this binary subject/object relation, placing the emphasis on the relation itself as the active component that effectively gives the being its capacity for appearing, legislating its mode of *being there*—the donation of place. A 'world' is a topos delineated by a finite series of identifications and operations. The anchor for all relations stems from the Void, as the only multiple-being that has no elements as is thus immediately determined.[23] All other multiples are made up of elements, which means that the multiple itself is determined according to its elements.[24]

> […] one calls 'world' (for those operations) a multiple-being such that, if a being belongs to it, every being whose being is assured on the basis of the first—in accordance with the aforementioned operations—belongs to it equally.
>   Thus, a world is a multiple-being closed for certain derivations of being.[25]

'World' in this sense, is properly speaking, the situation, or localized context within which the operation that allows a being to appear-there is performed. This formal condition of 'appearing' or becoming locally situated is extrinsic to the proper Being of an essent, but which allows an aspect of its Being to appear a certain way, as conditioned by its contingent network of (multiple) relations.[26] Something can only be said to 'appear'

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23. Alain Badiou, 'The Transcendental', *Theoretical Writings*, trans. Ray Brassier and Alberto Toscano, London, Continuum Books, 2004, pp. 189-220, p. 191.

24. Since all of these operations are contingent on the void as the only immediately determined being, it is theoretically possible to produce an ontological rank, relative to the multiple's distance from its origin, or the number of operations performed in its composition. However, since there is no whole of Being, there can be no single scale upon which multiple being can be ordered—there are multiples whose construction does not intersect with other multiples outside the single shared foundational set of the void. This cancels the possibility of any global uniformity, or categorization of beings: identifications and relations are always local. It is this property that Badiou exploits in his definition of 'world'.

25. Badiou, 'The Transcendental', p. 192.

26. It is important to note that the operation is dependent upon the place: without an ontologically presented

in a world if it participates in a relation with another being within the same localized context. Thus an object *x* can be expressed on an ontological level as a pure multiple, using a set theoretical framework, but this makes no existential claims. As Badiou notes '[w]hen *x* is said mathematically the possible and real become indiscernible'.[27] If we want to claim that *x* exists, it has to be situated (*x* belongs to S). Thus, existence is not an attribute of *x* alone, but is a function of its relation to S, hence what Badiou terms 'appearance' is 'what is thinkable about *x* in so far as it belongs to S'.

It is important to note that the being-ness of an existent is always thinkable relative to the situation within which it is embedded. Since being itself is not-all, then '[b]eing is only exposed to thought as a local site of its untotalizable unfolding' (TO 153-68, 161) Indeed, determination itself can only be understood in a relative sense, since the essent must be situated in order to show its 'beingness'. The morphisms of a situation form the objects that make up its map, thus any instance of 'being there' does not derive its attributes from the ontological manifold, but relative to the onto-logic of its context. Hence Badiou's focus on 'appearing', which he argues is an intrinsic determination of Being:

> Appearing is the site, the 'there' (*là*) of the multiple-existent insofar as it is thought in its being. Appearing in no way depends on space or time, or more generally on a transcendental field. It does not depend on a Subject whose constitution would be presupposed. The manifold-being does not appear *for* a Subject. Instead, it is more in line with the essence of the existent to appear. (TO 162)

This leads to the paradoxical overturning of the Platonic binary of appearance and ideality, since the immediate or given world is a world that is intimately structured, a web of relations and intensities, that stabilize the inconsistency of multiple-being within a determinate, situated logic. In contrast, the world of idealities—as inscribed by set theory—is a space of disjunction and absolute differentiation, a 'sense-deprived' rationality that lays down the composition of manifolds in an axiomatic austerity. The practical applications of categorical analysis remain to be established. In terms of film studies it affords the possibility of mapping the appearing of elements within a given diegetic world, and in particular, the 'in-appearing' of those elements that would (potentially) be included within the construction of a generic extension.

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multiple, there is nothing which can be located via the onto-logical operation. As we have seen, a world is constituted by a sequence of operations that map relations from an already existent being to a second being that is thinkable with respect to the first. The operation itself does not 'exist', but is inferred relative to the new point that is nameable as a result of its action. Thus: '[w]e call "situation of being", for a singular being, the world in which it inscribes a local procedure of access to its being on the basis of other beings'. The onto-logical operation actualizes possible formations within the different multiples of presentation and allows them to appear within a localized context. The being of these elements insists prior to their actualization; the operation one-ifies them, by linking them in a network of relations that establish degrees of difference and identity within the presented situation. These values are not absolute, i.e. they are not ontological, thus the 'same' element can be appear concurrently (and therefore differently) in a variety of worlds.

27. Alain Badiou, 'Notes Toward Thinking Appearance', *Theoretical Writings*, trans. Ray Brassier and Alberto Toscano, London, Continuum Books, 2004, p. 181.

Alain Resnais' documentary, *Night and Fog*, can be approached as a meditation on 'appearing', explored through the disjunctive worlds of the Jews in the concentration camps, the Germanic 'Volk', and the present day world of the viewer. While the potency of Blanchot's writings on the disaster remain unparalleled in providing a nuanced insight into the destitution of subjectivity and the peculiar timelessness of the event, Badiou's framework adds an invaluable commentary on the logic of the situation—the lack of mediating phenomenological consciousness[28] in the categorical framework paradoxically enables one to think the relational complexity of the different worlds, without inflicting the violence of determining the being of any of those who suffered this inapprehensible experience. Badiou's onto-logic describes the being-there, or the degrees of intensity of appearance of any single being within a given situation—it does not make judgement regarding their actual Being, since each essent has the potential to appear in a variety of ways, and in multiple situations. It remains important to underline that the holocaust itself does not figure as an 'event' for Badiou, primarily because it is a product of the Nazi's *political* agenda. The ideology of the Third Reich is identified as a simulacrum of an event, and as such serves as a paradigm of evil.

The opening shots of *Night and Fog* introduce the antagonistic multiples, or 'envelopes'[29] of a world, that will structure the film. The present day site of what will be revealed as the former concentration camp, shot in colour and accompanied by the light-hearted flute music (scored especially for the film by Hans Eisler) is introduced as a 'tranquil landscape'. The camera then pans down to include the stark outline of an electric fence that cuts across the harmony of the landscape, dividing the screen with a gesture which seems to signal a rupture, or a 'disjunctive' conjunction between this element and the rest, since they are situated within a single world (they each appear within the film frame) yet the common element of their respective intensities of appearance is

28. Badiou stresses that his own demonstrations of the applicability of categorical logic are largely allegorical, retaining a 'vulgar' phenomenological slant, whereas in fact '[t]his entire arrangement can do without my gaze, without my consciousness, without my shifting attention…' (Alain Badiou, *Theoretical Writings*, ed. and trans. Ray Brassier and Alberto Toscano, London, Continuum Books, 2004, p. 208.). My own analysis follows Badiou's mapping of the terrain. To take full advantage of category theory's departure from the privileging of consciousness it remains necessary to theorize the construction of worlds within the diegetic framework, and concurrently map their relation to the world(s) of the spectator. In the case of *Night and Fog*, the film addresses an audience on the tenth anniversary of WWII, which has to be factored in alongside the viewing present of each particular screening. I am particularly interested in how category theory might lead us to re-think specularity and appearance outside traditional matrixes of spectatorship.

29. The highest value of the synthesis of the total network of relations that form the consistency of a section of being-there is termed its 'envelope': 'The regional stability of a world comes down to this: if you take a random fragment of a given world, the beings that are there in this fragment possess—both with respect to themselves and relative to one another—differential degrees of appearance which are indexed to the transcendental order within this world. […] *Consequently, we call 'envelope' of a part of the world, that being whose differential value of appearance is the synthetic value appropriate to that part'*. (Badiou, 'The Transcendental', p. 208.). In other words, the envelope is the value of the composite intensities of appearances within a given segment of a world, and as such it provides a global stability to this section that underpins all appearances, even those with zero-value, as this lack of appearance is still a ration that maintains its relation to the envelope itself, and hence is included as a non-appearance.

nil—it approaches the minimum value of appearance within a part of being. While the film would seem to be setting up an emblematically disjunctive relation between what it identifies as the 'closed world' of the camp, and the 'tranquil landscape' surrounding it, topos theory allows us to approach this differently: despite the effective (and deliberate) lack of appearance of the camp from the situation of the free world, it nevertheless is demonstrably present as an element of that world, but one that in-appears. It is precisely this paradox of effacement and inclusion that we will be exploring.

The operation that regulates the appearing of beings does not guarantee that every element of a multiple be granted a place according to the governing transcendental.[30] As we have seen, since there is no Whole of Being, the very fact of localization means that the placement of beings is similarly 'not-all'. Thus, we need to account for this 'zero degree' of appearance, one which falls within the operating logic that structures a given situation without actually designating a place of 'being-there'. Badiou speaks of a logical mark, or index of non-appearance, an inscription of absence. Moreover, this being that lacks a situation of appearing is fundamental as the lower limit against which all other appearances in the transcendental envelope are to be measured, providing a stable scale against which the variations, or degree of beings draw their meaning. It is important to bear in mind that situational difference between elements is simply a question of the intensity with which they appear *in relation* to all the other elements within that world: there is no absolute measure of appearance, or appearance 'in itself'. This being given, an element with 'zero degree' appearance within a world is one with the least degree of relation with all other elements, thus, from the perspective of that particular world, it is not 'there': it is an element in the multiple being on the ontological level, but from the onto-logical perspective of the situation itself, it is not present.[31]

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30. The transcendental provides a basic ordering of a situation, stemming from a series of measures that determine the relations between the elements that comprise the situation. It is important to note that the transcendental is itself a multiple that orders and self-regulates: the situation itself *is not ordered*. The transcendental determines the conditions under which its elements operate within the specific, localized appearance. In moving from the potential real to the actual, we are tracing a reconfiguration of identity from a formal, singular mode, to a contingent, relational mode. The same set, and the same elements could appear as or in a wide context of situations, and as such their governing transcendental would vary according to the different constitution of worlds.

31. To bring out this crucial distinction, Badiou offers an example of natural numbers, which we have already established consist of transitive ordinals and contain their own logic of succession—thus their ontological status is given. However, when we turn to an instance of their use within an empirical situation, such as the numbering of the pages of a book, whilst their intrinsic being remains unaltered, it becomes possible to make claims about their varying degrees of appearance. Any page number participates in the situation of the book, and is governed by a transcendental logic that relates each number to the rest in terms of their sequencing. Within this, it is evident that some numbers appear more intensely than others—for example the chapter numbers that are singled out in the index and form a separate sub-set of extra-significant numbers, a difference that gives them a higher value of appearance since these are the ones to which all the other numbers in that respective chapter are related. Similarly, numbers that do not correspond to a given page (say, 37777) can be said to have zero-appearance within this situation—whilst ontologically they share the same being as other ordinals, or natural numbers, within this finite situation of appearing their relation is minimal (Badiou, 'The Transcendental', p. 217).

While the wire fence does not seem to appear within the envelope of the rural world, their juxtaposition entails a re-configuring of the topos. The widening of the context allows a re-calibration of the network of relations, and what Badiou calls the 'global unity' of the section of the world is reconstituted to allow for its conjunction with the totality of its elements. This degree of relation, then, is calculated in terms of the value of the conjunction between the wire fence and the synthesis of the value of its relations to all of the apparents within the envelope of the tranquil landscape, considered case by case. In our current example, the train tracks that appeared with a LM degree of intensity within the initial rural configuration, when taken in conjunction with the wire fence immediately take on a maximal degree of appearance, since they change from being part of a sleepy rural railroad, to being implicated in the deportation of the Jews—the path that anticipates the link between the two different worlds of the camps and the free world. This gesture is to be repeated throughout the film, as the routine of the present which initially seems removed from the inarticulable horrors of the camps, is re-connected to this unquantifiable multiple, demonstrating over and again the logical *relation* that binds the two as a single world. The documentary foregrounds the formal difficulty of being present-to that which remains subtracted from nomination, or representation, while paradoxically underlining the insistence of that which 'in-appears' within the current situation.

Certainly, the documentary foregrounds the intercalary relation between the 'tranquil landscape' and the camp site: grass has overgrown the tell-tale tracks, and the literal sites of the atrocities seem softened by the summer sunshine, the crumbling buildings ironically becoming almost picturesque such that, the narrator informs us, the crematorium has become the subject of postcards and snapshots. The buildings that housed the subjugated now appear bland, neutral, baldly refusing any appearance of extraordinariness that one feels events ought to have inscribed upon their surface. This aura of specious normality is taken up by the narration that details the production, planning and construction of the camps, undertaken as pragmatically as if they were any 'hostel or stadium', with 'estimates, bids, bribes'. The black and white documentary footage that accompanies this section again fails to bring-to-appearance any of the horror that the re-visiting of these images now invokes. It is only in the incongruous listing of the various architectural styles chosen for the camps, presented almost as though it were a lesson in real estate 'alpine style, garage style, Japanese style, no style', that we begin to understand that the failure to form a consistent envelope proper-to the appearing of the camps is not simply due to a current disjunction of worlds. Rather, it signals an operating logic which deliberately sought to efface that appearance, building facades, semblances that present a transcendental that mimics that of its rural context, an act that testifies to the 'imagination' of the designers, who indeed had the ability to envisage 'gates to be passed through only once', and the callous foresight to design them as part of the 'tranquil landscape', such that the atrocity remained screened, having a nil value of appearance within the larger world of the German people. To put this differently, the very fact that the various styles of the camps are all included within the larger matrix of

representation that constitutes the German state of the situation, enabled the prevention of the 'appearing' of the camps as such: at the time, they ex-sisted as an undetermined generic set without a unifying predicate to make them identifiable.

The documentary's meditation on the destitution of subjectivity maps the descent from singularity to the de-humanized dissemination of parts, devoid of particularity: the deliberate attempt to erase the being-there, or appearing of a whole section of humanity. To trace this, we must first review the identity laws, which consist of three categorical prescriptions for stabilizing a universe. For every object '*a*' there is an identical arrow *id(a)* associated with it, i.e. a map in which the domain and codomain are the same set *A*, *and* for each *a* in A, *f (a) = a* is called an identity map, written I_A.[32] Badiou remarks that the identity arrow is a 'neutral element' in the operation of an arrow composition. The identity map is also known as an 'endomap', as its compositional map is internal, leading Badiou to equate it with the 'null action of the One's minimal power' (TO 143-52, 146), or the inertia of reflexive relations that function as a stopping point.

The tautological composition of the identity map is contrasted with the expression of 'the same' *extrinsically*, or isomorphically. Unlike in set theory (on the ontological level) in which we determine two sets (or multiples) to be identical if they have the same elements, otherwise they are absolutely distinct, category theory admits degrees of relation. Two objects are said to be categorically indiscernible if there is a reversible (or isomorphic) arrow connecting them. This means that logically the same set of relations hold for each object. However, there remains the possibility of cancelling an inversion, which in itself identifies each object as literally distinct, although within the map they are identical—a formal, relational judgement.

This definition is added to the laws of composition and association[33] to generate the definition of a group within category theory: 'A group is a category that has a single object in which every arrow is an isomorphism' (TO 148). Thus, a group comprises an object that is identified purely by the anonymity of a letter and the set of morphisms that are associated with it, or 'the set of the different ways in which object-letter G is identical to itself' (TO 149). Where set-theory looks at the ordering of elements to determine identity between sets, in category theory the 'elements' are arrows, the operations mapping a composition, not the objects upon which it operates—indeed the object is the

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32. F. W. Lawvere and S. H. Schanuel, *Conceptual Mathematics: A First Introduction to Categories*, Cambridge, Cambridge University Press, 1997, p. 15.

33. 1) two arrows following one another make up a composition, or to put this differently, if we have an arrow 'f' that links a to its codomain b, and a second arrow 'g' that has b as its domain, and c as its codomain, then we can state that object a is linked to c (by g *o* f—expressed as 'g following f'). The two maps represented by the arrow and its respective domain and codomain produce a composite map written:

$$A \xrightarrow{f} B \xrightarrow{g} C.$$

2) the associative law, which shows that

f o (g o h) = (f o g) o h

(and thereby allows us to leave out the parentheses and just write ' *h o g o f*, or 'h following g following f'). cf. Lawvere and Schanuel, *Conceptual Mathematics: A First Introduction to Categories*, p. 15.

point of inertia, or neutral element that offers zero information, other than tautological self-evidence. We are clearly offered a different perspective on 'identity'—rather than the repetition of the same, we have a plurality of active ways of producing the same, the configurations via which it isomorphically manifests itself *as* the same. Badiou theorizes this via reference to the Platonic dialectical relation between the Same and the Other: whereas the identity endomap conforms to a mimetic relation, the activity of the isomorphisms perform a 'specular' relation as the reversibility of each arrow that claims two literally distinct elements as logically the same performs a doubling, a pair of symmetrical identifications that, when taken simultaneously, collapse back into the inertia of the endomap.

In rethinking identity in this categorical manner, we see how the being-there of an essent is determined not by the composition of its fixed properties (i.e. the ordering of its elements, which comprise its ontological being) but through to its active self-production which 'gives' its identity via the combination of relations it entails. Difference is not absolute, since the identity arrows are caught up within a network of Same/Other relations, but a question of degree—and here we are close to Deleuze's notion of intensities. These areas of convergence between same/other are not simply points of mimetic similarity between distinct essents (shared elements, such as the null set that is common to all constructed sets) but active relations that *produce* the identities of the two domains that are joined by the isomorphic arrows. Since these relations are not derived from fixed attributes but comprise active links that produce connections of sameness and difference, we can see how a situation is fluid, and yet rigorously structured.

Relating this back to the operational logic of the camps as portrayed in Resnais' documentary, we can note the deliberate attempt to erase the differential of appearances, as each inmate is stripped of any external marker that might distinguish them. This descent from ontological singularity, to the erasure of onto-logic appearing, is portrayed in the film as a passage from family groups, lingering close-ups of individual faces prior to their boarding the trains, to the sealing off of carriages as prelude to the ultimate concealment of appearance in the camp. Within the confines of the camp we no longer see images of 'whole' people, the fragmentation of identity is signalled by the de-subjectivized close-ups of the different body parts that are regulated, disciplined, upon arrival —naked, tattooed, numbered, and shaved—operations that do not seem to happen to some*one*. All inmates appear with a similar, minimum degree of intensity, or lack of appearance, since differentiation itself is systematically effaced.

The effacement of identity can be thought of as severing, or restricting, the multiple relations via which an individual constitutes the identity. In being reduced to just one more name, or number, meticulously recorded in a register, identity ceases to be interrelational, and is restricted to the minimal tautological relation that Badiou equates with the inertia of the One, the pure inscription that opens the place for an essent to appear, without allowing any dialectic between self/other to modulate the relational intensity with which an ontological singularity manifests the diversity and variety of its situated appearing. This inertia in effect is the minimum degree of self-relation that produces a

limited identity, or fixes the being-there within a localized world as merely 'countable'.

This minimal inscription of presence/absence is emphasized in the film by the many ways in which the prisoners are systematically 'erased' from the registers. The 'closed universe' of the camp enters into relation with a simulacrum of the Germanic world beyond its gates, having a hospital, but one in which all illness is reduced to a single ailment, the 'same ointment for every disease', or 'treatment' is in fact 'death by syringe'. Suffering is homogenized 'in the end each inmate resembles the next, a body of indeterminate age that dies with its eyes open'—even death, that which gives beings their singularity, is reduced to a process in which there remains no 'I' to die, only the endless dying of 'someone'; again, the degree of visibility of all apparents is negated such that even death fails to register as a singularizing event. Counter to this hospital in which all patients receive the same degree of inattention, we have the surgical block where the patients receive an inordinate degree of surveillance, becoming guinea pigs for pointless, grotesque operations, testing grounds for drugs, or simply a focus for idle experimentation. The well equipped surgeries here are not to heal the body, but produce deviant variations, new modes of appearing that violate the laws of nature and the humanity of the victim.

Once identity is reduced to the minimum inscription of place, number, one would imagine that no further destitution were possible. However, the imperative of the Final Solution provoked Nazi ingenuity to take the mania for dismantlement even further: the total effacement of the appearing of the Jewish prisoners is undertaken via the methodical dissemination into parts. That all elements that combined to produce the singularity of an individual were methodically stripped away we have already established, however, the perverse extent of this process that demanded the cataloguing and storing of all these dismembered attributes speaks to a desire to mutilate the identity of the prisoner beyond any possible recognition or recuperation. Footage from the Nazi warehouses depicts vast piles of confiscated property—the corollary of the 'properties' of each individual that were shed. Piles of clothes, dusty and moth eaten; mountains of odd shoes, spectacles, carelessly piled up, indifferent to scratches; combs, shaving equipment, the intimate debris of particular lives, separated out into their disparate elements and formed into a new, amorphous multiple, constructed of a single element that is reiterated to the nth degree, a magnitude of such scale that their original value, or use becomes lost, their specific features blurred in the sheer incomprehensible volume of which they are an indiscernible element —who is to re-use these mouldy shaving brushes, or pick out a particular cracked pair of reading glasses? Surely the point is not the thrifty cataloguing and re-cycling of resources, but the dismantlement of a section of humanity to its minimum parts, an operation Badiou terms 'immanent dissemination' whereby the elements that comprise an element are further broken down into their sub-elements, an extrapolation of relation, to its limit point—to the point at which the original being loses all particularity, being denuded of property, and the sub-elements themselves are re-configured to form infinitely large multiplicities that extend beyond any imaginable capacity to think their individual use. Each item is placed in a context where there is no possibility of it

retaining its intrinsic personal value, as operated in relation to its original context. Thus, even the smallest elements are reduced in their appearing to an absolute minimum.

In category theory, the logical operation of negation derives from the relation of dependence. As we saw with the zero-value of a being that does not appear within a world, this lack of relation is not understood as a simple negation, but is linked to the envelope or the synthesizing transcendental, such that it has a value in the world—it inappears—rather than functioning as a hole, or break in the fabric of its continuity. This insight is generalized to produce a logic of negation. Rather than restricting our operation to a single element that accords to the minimum degree of appearance, we can deduce whole sections, or envelopes that belong to a world, but are unrelated to other envelopes. Thus, if we construct the envelope that centres around the initial be-ing-there of an apparent we are also able to construct a set, or envelope of those beings, or elements, with which it has zero (or minimum) relation, and within this set we can again extract the measure that synthesizes this collective being-there for this separate part of the world. This provides a measure of the reverse of our former situation.

> We shall call 'reverse' of the degree of appearance of a being-there in a world, the envelope of that region of the world comprising all the beings-there whose conjunction with the first has a value of zero (the minimum).[34]

Badiou stresses that it is of particular significance that the logical operation of negation occurs as a *result* of the transcendental parameters (minimality, conjunction and the en-velope) and is not a meta-structural condition imposed from without.

This mania of effacement and control reaches its zenith in the Nazi hoarding of the hair of the shaved camp women. Here we have the material link between property as possession and property as attribute. Not only are the women made anonymous, sexless via the humiliating act of being shorn, but the markers of their individuality and free-dom is retained and amassed, forming an shapeless billowing mass of curls and tangles, impossible to take in as the camera pans across the expanse of the warehouse show-ing acres of hair, a quantity so expansive that there is no other contextualizing feature within the frame to help the viewer to comprehend what they are seeing. Here surely is the height of redundancy, a dismantling that exceeds sense.

But no, the documentary transitions to its final phase, where it traces the logic of in-appearing from the attempt to deny visibility, difference, to its actual transformation—its appearing-as-other. The shapeless hair becomes neat bales of cloth, stacked ready for the practical German Hausfrau, the recalcitrant skeletons that withstood the fires of the crematorium are re-cycled as fertilizer, bodies yield up fat to produce soap, and even skin is re-used as paper: one of the fluttering scraps that testify to this has, ironically, a beautiful female face drawn upon it—a grotesque inscription of lack at the very site of the inexistent whose absence it attests. In focusing on this literal inappearance of the Jews within the German situation, Resnais seeks to discuss the wider problem of think-ing the Real of the holocaust. While the very use of document, of historical footage, to

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34. Badiou, 'The Transcendental', p. 214.

construct his argument might suggest that, on the contrary, the reality is all to evident, the closing sequence of the film underlines its continuing resistance to being thought. The universal denial of responsibility extends beyond the depicted post-war trials, ironically implicating the work of art itself, as its release for distribution (so Resnais tells us[35]) was contingent upon the erasure of a French soldier's cap, shown supervizing the deportation of the Jews. In answer to the closing question 'Who is responsible?' even ten years later, the answer continued to be no one. In submitting to the change *and* remarking it, Resnais remains faithful to his artistic conviction which demands that he inscribe the impossibility of the bringing-to-appearance of the inexistent within the current state of the situation—ontological impossibility proper, but in parallel with the onto-logic (as here, the crassly political) level.

So long as we consider 'appearing' within a traditional ('vulgar') phenomenological framework, we can leverage only indirectly, through allegory, category theory's ability to map the logic of appearing within the diegetic frame. The real strength of category theory is its independence from phenomenology, from the centering consciousness of the subject, from the parameters of space and time. This makes category theory a particularly attractive tool for mapping the site of subtractive truth(s) in the field of art, for discussing works of art purely in terms of their 'in-appearing', and in terms of their relation with truth, and the character of that truth. In closing, we may consider some words of Chris Marker, another thinker of the generic, that 'truth is not the destination, but perhaps it is the path'[36]—and where documentary truth is at stake, it is perhaps even more explicitly the procedure, rather than the constructed artefact.

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35. Interview at the time of the film's release, now included with the distribution of the film on video.
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