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## Heideggerian Mathematics: Badiou's *Being and Event* as Spiritual Pedagogy

*Philosophy has no other legitimate aim except to help find the new names that will bring into existence the unknown world that is only waiting for us because we are waiting for it.*

—Alain Badiou<sup>1</sup>

*As I have often said, philosophy does not lead me to any renunciation, since I do not abstain from saying something, but rather abandon a certain combination of words as senseless. In another sense, however, philosophy does require a resignation, but one of feeling, not of intellect. And maybe that is what makes it so difficult for many. It can be difficult not to use an expression, just as it is difficult to hold back tears, or an outburst of rage.*

—Ludwig Wittgenstein<sup>2</sup>

### Introduction

THIS PAPER IS AN EXPERIMENT in redescription and reinterpretation. It seeks to take a text that enunciates a Heideggerian metaphysics of the “event”—understood as an encounter in which a subject meets itself emerging from the “void”—and to treat this text itself as an event in a quite other sense: as an ordinary historical occurrence. I will thus be approaching Alain Badiou's *Being and Event* historically, in terms of the publication of a written work, but of a highly particular kind. This is a work whose discursive structure programs a refined spiritual pedagogy, and whose composition and reception only make sense within the historical context of the elite academic-intellectual subculture in which this pedagogy operates.<sup>3</sup>

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**ABSTRACT** This paper provides a historical redescription and reinterpretation of Alain Badiou's major work, *Being and Event*. The work is approached historically, as a text that uses Heideggerian metaphysics to perform an allegorical exegesis of mathematical set theory and does so as a means of fashioning a supremacist spiritual pedagogy for a philosophical elite in the context of a national intellectual subculture. **REPRESENTATIONS** 134. Spring 2016 © The Regents of the University of California. ISSN 0734-6018, electronic ISSN 1533-855X, pages 116–56. All rights reserved. Direct requests for permission to photocopy or reproduce article content to the University of California Press at <http://www.ucpress.edu/journals.php?p=reprints>. DOI: 10.1525/rep.2016.134.5.116.

If we consider that Badiou regards his text as a “metaontology” that enunciates the emergence of events and indeed of historical time itself from the domain of nonbeing, then to treat this work as a kind of writing that occurs wholly within a particular historical subculture will imbue our re-description with an indelibly polemical complexion. It should be noted at the outset, however, that this complexion arises from the choice of a particular intellectual-historical method, rather than from any normative contestation of the content of Badiou’s work. This method or stance treats even the most abstract objects of reflection as products of an open-ended array of historical intellectual arts: rhetorics of argument, formal and informal languages, mathematical calculi, “spiritual exercises,” pedagogical practices.<sup>4</sup> As a result, even a mode of reflection that claims to apprehend its objects at their point of emergence from the “void” and the “unthought” will be described in terms of the contingent historical use of a particular array of such arts. These will be those arts through which a philosophical elite learns to fashion an illuminated self whom it imagines keeping watch at the threshold of the void for the emergence of things newly minted from nonbeing through their naming. It is the task of a certain kind of philosopher to fashion such a self. The task of the intellectual historian, however, is to describe the intellectual arts used in this “work of the self on the self,” and the historical circumstances and purposes governing their transmission and use.

### Context

Badiou’s text was first published in French as *L’être et l’événement* in 1988 and then, marking a different reception, in English as *Being and Event* in 2005. The circumstances in which its central arts and figures of thought were first forged, however, date from the 1960s and pertain to a particular French academic intellectual institution. Owing to its monopoly of the state funding, training, and examination of philosophy teachers destined for French *lycées* and colleges, the philosophy program of the *École normale supérieure* (ENS) has had a uniquely powerful role in the formation of an elite philosophical cadre, comparable with the role of the *Ratio studiorum* in early modern Jesuit universities.<sup>5</sup> This key national-cultural role has made the ENS philosophy program a cockpit for an array of rival cultural-political movements, including Christian phenomenology, Catholic existentialism, Kantian rationalism, Lacanian psychoanalysis, and “scientific Marxism.” Yet it would seem that since the Second World War Heideggerian philosophy has been the dominant form of *Schulphilosophie* at the ENS, perhaps less for any particular doctrines of Heidegger than for its role in supplying the basic

intellectual culture through which the other currents of thought have been received and reshaped. There is no need, however, to draw sharp doctrinal boundaries around Heideggerianism, since the role of philosophy as a spiritual pedagogy within the ENS has permitted fluid relations among the modes of self-interrogation and self-transformation of the different philosophical schools.<sup>6</sup>

As Edward Baring has shown, philosophical pedagogy at the ENS consists in intense drilling in classical and modern philosophical texts in preparation for highly competitive oral and written tests and the demanding civil service *agrégation* examination. This drilling has sometimes seen selected students being set apart for special grooming by such *agrégé-repétiteurs* as Louis Althusser, while the *agrégation* pedagogy itself has played a key role in shaping both the canon and the style of French philosophy.<sup>7</sup> In these regards, Baring's account of ENS philosophical pedagogy can be fruitfully compared with Andrew Warwick's study of the teaching of mathematical physics at nineteenth-century Cambridge. This too was characterized by the intense drilling of young men in complex intellectual performances, under the grooming of charismatic tutor-exemplars, in preparation for a single highly competitive examination—the Cambridge mathematics Tripos—that would shape mathematical physics and physicists both.<sup>8</sup>

In both cases we are dealing with the formation of a small cadre or caste for whom access to the object of knowledge is dependent on the pedagogical inculcation of a specific array of technical abilities and personal qualities anchored in a particular kind of intellectual persona or comportment.<sup>9</sup> In the case of the Cambridge students, the drilling was in algebraic equations designed to model the action of physical forces in celestial and terrestrial mechanics, or the behavior of charged particles in electromagnetic fields, which would ultimately be subject to observational testing in purpose-built laboratories. The ENS philosophy students, however, were drilled in a hermeneutical exegesis of philosophical texts that was simultaneously a “hermeneutics of the self,” since it tied the understanding of philosophy texts to specific acts of self-interrogation and self-transformation undertaken by students under the watchful eyes of their tutors and examiners.<sup>10</sup> If the Cambridge students were drilled in formal mathematics so that they could master calculi for work in advanced physics, then the ENS students were drilled in textual exegesis—the exercise of the *explication de texte*—that some, like Badiou, would apply to the texts of formal mathematics. As a result of its pedagogical focus on personal self-transformation through competitive hermeneutical exegesis, ENS philosophy thus was not connected to the world through extramural observation or experiment. Rather this took place through a variety of cultural and political grouplets that orbited the philosophy program and permitted its regimen of philosophical self-transformation

to be reciprocally reflected in acts of self-transformation undertaken through political and religious militancy and psychoanalytic therapy.

This reciprocity between the official philosophical training of the ENS students and their unofficial participation in adjacent coterie dedicated to political, religious, and psychoanalytic self-transformation resulted in a highly distinctive intellectual subculture. This was one in which the most *recherché* philosophies learned in the competitive ENS drills found their way into communist and Catholic cells and psychotherapeutic groups. Meanwhile, inside the ENS these philosophies were attacked and defended as matters of the highest ideological, religious, or therapeutic moment, making this subculture extraordinarily rivalrous and fissile.<sup>11</sup> During the 1960s it was the Althusserian “scientific Marxists” and the Lacanian structuralist psychoanalysts who most successfully colonized this subcultural nexus between the official grooming of a national philosophical elite and the paracurricular use of this prestigious grooming in adjacent political and therapeutic cells. By occupying this liminal space, these groups sought to channel ENS philosophical grooming into para- and infra-institutional political and therapeutic coterie, while simultaneously directing the flow of extramural ideological and therapeutic imperatives into ENS pedagogy, all the while engaging in intense intramural combat. It was in just this space—where the hermeneutic exegesis of formal philosophy was imbued with revolutionary political and therapeutic consequences, while adherence to particular philosophies was subject to menacing ideological and therapeutic criticism—that Badiou learned to assemble the figures of philosophical thought and pedagogy that would find their definitive form in *Being and Event* some twenty years later.

Before redescribing *Being and Event*, it will be useful to provide a brief snapshot of the manner in which some of its central figures of thought and discourse emerged in this remarkable subcultural space. In 1966 the short-lived ENS house journal *Cahiers pour l'Analyse* published a paper, “Suture (Elements of the Logic of the Signifier),” by a leading member of the Lacan seminar, Jacques-Alain Miller. In this paper, Miller claimed to show how a properly understood psychoanalytic “logic of the signifier” could outstrip the “logic of logicians.” He sought to do this by displaying the mechanism through which “the subject”—including the subjectivity of logicians—was called into existence through the “chain of discourse,” this mechanism being that of “suture.”<sup>12</sup> If Miller’s paper is stripped back to its essentials, it can be seen that its core operation is to take some fragments of Gottlob Frege’s mathematical logic and subject them to a hermeneutic rereading and rewriting in accordance with a powerful philosophical-therapeutic grid derived from Lacanian psychoanalysis and Heideggerian metaphysics. In a move that would be unintelligible to mathematical logicians outside the

ENS subculture, Miller thus takes Frege's construction of zero via the notion of logical contradiction—through which Frege produces a concept whose set or extension contains no members—and makes it into an emblem for an account of the formation of the subject, although Miller himself acknowledges that Frege's concept of the foundations of arithmetic is not at all concerned with the question of subjectivity. Miller thus transforms Frege's set-theoretic construction of zero by reinterpreting logical contradiction as an act of exclusion or "repression" of a "real" object from discourse.<sup>13</sup> In Lacanian terms this repression constitutes a "lack" such that when the signifier "zero" is assigned to this "unthinkable" or "impossible" object, the zero "sutures" the object in a thinkable concept (or "signified"), but only at the cost of repressing the object's "real" form, thence ensuring the "repetition" of the suturing process along the "chain of signifiers."<sup>14</sup>

Crucially, if we follow Miller in treating the "real" contradictory object as the subject's own unconscious experienced in the form of a lack, then the suturing of this impossible or absent object by the signifier "zero" takes on a specifically circular or paradoxical form. This signifier must be that which renders the unconscious thinkable by suturing it, thereby producing the subject as its effect, and yet it must also be that which the subject uses to represent or suture the impossible object, thereby repressing it from discourse. In Miller's formulation: "We must hold together the definitions which make the subject *the effect of the signifier* and the signifier *the representative of the subject*: it is a circular, though non-reciprocal, relation."<sup>15</sup> As shall soon be shown in more detail, the ultimate source of this scarcely intelligible figure of thought is to be found in Heidegger's teaching that Being discloses itself in human being (*Dasein*), the price of whose coming to consciousness is the concealment or "forgetting" of the Being that has summoned it. For the moment, though, what is noteworthy, and indeed amazing, is that the ENS subculture could permit this almost esoteric figure of thought to supply the structure for a virtuoso exegesis of a Fregean text that would turn it into something like an allegory for Heideggerian metaphysics and Lacanian psychoanalytic theory.

In the attack on the "Suture" paper that he published in the *Cahiers* three years later, in 1969, Badiou vehemently rejected Miller's claim that the symbolism of mathematical logic was itself subject to suturing, which would entail its unacceptable subordination to a Lacanian "logic of the signifier." At this stage Badiou was a member of the "Groupe Spinoza," a clandestine cell of communist *normaliens* competing for intellectual and political dominance of the ENS subculture.<sup>16</sup> Directed by Althusser, between 1967 and 1969 the cell was engaged in a multifront cultural-political campaign. It sought to combat "religious spiritualism," "idealist" phenomenology, and the "humanist" variants of existentialism and Marxism within the ENS philosophy program. At

the time, it engaged in covert monitoring and reporting on the teaching activities of such “unreliable” luminaries as Claude Levi-Strauss, Jacques Derrida, and Michel Foucault, all the while countering the rival claims to dominance of the Lacan seminarians.

Badiou’s allergic reaction to Miller’s paper arose from the fact that in extending the concept of suture, and hence the dominance of psychoanalysis, to mathematical logic, Miller threatened a distinction that was fundamental to the entire Althusserian program. This was the distinction between “science” and “ideology.” According to this program, “science” was to be understood in terms of the subject-less production of “knowledge effects” by formal logics (somehow identified with “historical materialism”), while “ideology” referred to the formation of the subject through suturing ideological discourses, allowing it to be consigned to psychoanalysis as a subsidiary “regional science.”<sup>17</sup> At the same time, because Badiou’s paper also, like Miller’s, consisted of the hermeneutic exegesis of certain texts of mathematical logic, and because this hermeneutics was also deeply informed by the central Heideggerian figure of thought—that is, by the notion that Being is only revealed in human being from whom it nonetheless remains concealed—Badiou’s attack on Miller displays a fundamental affinity with its target, as it emerged from the same subculture but as an opposed articulation of its key elements.

Badiou thus attempts to trump Miller’s psychoanalytic “logic of the signifier” and reassert the autonomy of “science” through a hermeneutic exegesis of a more powerful version of mathematical logic than Frege’s. This seems to be a combination of Bertrand Russell’s theory of types and Kurt Gödel’s “syntactic” logic, evoking the hierarchical or “stratified” logical system that had been developed in part to overcome the famous paradoxes (associated with single-level universal set construction) that Russell had found in Frege’s logic.<sup>18</sup> Badiou’s central strategy is to use the model of logic derived from Gödel to treat zero as a “mark” whose value is wholly determined by its syntactic disposition within a calculus, thereby undermining Miller’s Lacanian treatment of zero as suturing the “lack” induced by logical contradiction and resulting in the formation of the subject.<sup>19</sup> This permits Badiou to argue that “science” produces its objects in the same way that calculi determine the value of “marks” or numerals, internally, without recourse to “real” objects or their repression, hence without need of a subject.

Repudiating Miller’s conception of the signifier zero as grounded in the suturing of the contradictory or non-self-identical object, Badiou declares that all mathematical marks have their values determined “mechanically” by their place in a calculus whose outputs become inputs for a higher calculus.<sup>20</sup> Nonetheless, despite its immanentist character, Badiou insists that this stratified hierarchy of calculi constitutes a “metatheory” (later a “metaontology”)

for mathematics, as a means of asserting its “scientific” character.<sup>21</sup> This hierarchy eventually exhausts the totality of “scientific” knowledge without positing a real object, such that even physics (and presumably “matter”) is understood as a form of mathematical writing, as “inscriptions of energy,” and hence as a text for explication.<sup>22</sup> Badiou acknowledges the existence of the subject, but only outside the subject-less calculi of “science,” in the separate domain of “ideology,” whose discourses do indeed operate via Miller’s suture: that is, through the presentation of “real” objects as if they lay outside their “scientific” production, thereby “interpellating” the subjects needed to think them, as Althusser was teaching.<sup>23</sup>

Despite these differences, however, there are several key regards in which Badiou’s discourse is indistinguishable from Miller’s. In the first place, like Miller’s, Badiou’s discourse is not a contribution to mathematical logic, or even a use of its calculi to solve philosophical problems. Rather, it is a deployment of some fragments of mathematical logic as a text for the ENS exercise in hermeneutical rereading and rewriting—the key pedagogical exercise of the *explication de texte*—alongside fragments from G.W.F. Hegel, Baruch Spinoza, Lautréamont, and Stéphane Mallarmé. Second, Badiou follows Miller in using logical symbolism not as a calculus but as part of a thoroughly minatory rhetoric. This is empowered by the presumption that unlike “informal” literary and philosophical discourses, a symbolic-logical one achieves “scientific” certainty by eliminating contestable subjective interests and opinions, despite the fact that Badiou’s intimidating use of this symbolism is wholly governed by a contestable philosophy hidden in its penumbra. Third, as will be shown in more detail in what follows, the key to Badiou’s hermeneutical rereading and rewriting of mathematical logic is once again supplied by the central Heideggerian figure of thought: the notion that Being discloses itself through the formation of a subject from whom it remains concealed. Badiou, though, deploys this figure in a manner different from Miller’s, in order to reconstruct and defend the Althusserian distinction between “science” and “ideology.”

In deploying the stratified calculi as the image of a total “science,” capable of grasping the determination of all values or things from its own internal operation, prior to the emergence of the subject or “real” objects, Badiou provides a formalist allegory for a figure that lies at the heart of Heidegger’s metaontology: namely, Being as the emanative source of all beings, including humans prior to their “falling” into consciousness: “Foreclosure, but of nothing, science may be called the psychosis of no subject, and hence of all: universal by right, shared delirium, one has only to maintain oneself within it in order to be no-one, anonymously dispersed in the hierarchy of orders.”<sup>24</sup> At the same time, in retaining the notion of suture and the formation of the subject as definitive of ideological discourse, Badiou uses Heidegger’s central figure of thought—of Being’s disclosure

of itself in a subject from whom it is concealed—as a theory of “ideology,” now understood as the entirety of “lived” experience and knowledge outside of the “science” (metaontology) of Being.

Despite the fact that Badiou attempts to confine Miller’s Lacanian “logic of the signifier” to the domain of ideology, while himself laying claim to the domain of “science” guaranteed by a subjectless supercalculus, there are no grounds for a historian to choose between Badiou’s and Miller’s rival discourses. Since they are in fact optional and alternative attempts to reread and rewrite some fragmentary texts of mathematical logic in accordance with rival Heideggerian Marxist and Heideggerian psychoanalytic templates, any choice between them could only express a factional allegiance relative to the ENS subculture. It is striking, then, that even today, in the context of the Anglophone translation and reception of Badiou’s work, there are those who think that this still-unresolved dispute over the relation between Althusserian “scientific Marxism” and Lacanian psychoanalysis might be something more than cultural-political combat within a factionalized intellectual subculture.<sup>25</sup>

By the time Badiou came to write *Being and Event* twenty years later, much had changed in his discourse. In this work the programmatic distinction between “science” and “ideology” had undergone a sea change, with science now being only one of several portals to Being, and the “subject” losing its ideological stigma. Here the central texts for hermeneutic reworking were no longer drawn from Russell’s and Gödel’s mathematical logic but from Georg Cantor’s formal mathematics and set theory. Further, a metaphysical conception of “event” had been introduced to form the threshold between “metaontology” and “ontology,” replacing the notion of the “epistemological break” that had performed a similar role for the threshold between “science” and “ideology.” Badiou thus conceives *Being and Event* as a metatheoretical exposition of the doctrine that “mathematics is ontology.” Here Cantorian mathematics is treated as a kind of supercalculus from which the entirety of “being qua being” can be unfolded in the form of endlessly generated infinite “multiplicities” or sets, while a (Heideggerian) “doctrine of the event” provides a “metaontological” framing for this mathematical ontology in terms of the intrusion of something incalculable:

Our goal is to establish the meta-ontological thesis that mathematics is the historicity of the discourse on being qua being. And the goal of this goal is to assign philosophy to the thinkable articulation of two discourses (and practices) which *are not it*: mathematics, science of being, and the intervening doctrines of the event, which, precisely, designate “that-which-is-not-being-qua-being.”<sup>26</sup>

Nonetheless, despite these changes, Badiou’s revised discourse belongs to the same subcultural context and operates in accordance with the same

basic arts and figures of thought as his earlier work. Centrally, *Being and Event* is structured by the deployment of fragments of Cantor's formal mathematics as texts that are subject to a sophisticated and sustained hermeneutic rereading and rewriting in the ENS house style. Not only does this produce a discourse whose intimidatory formalism is integral to its persuasiveness but the key to the hermeneutic redeployment of the formalism also remains the same as in the earlier work: the central Heideggerian teaching of Being as the emanative source of all beings, including the human being in whom it is disclosed and from whom it is concealed.<sup>27</sup> I shall show that this reliance on Heidegger remains the case despite Badiou's differentiation of his metaontology from Heidegger's, most notably in his claim that Heidegger's theme of the "poetic" unfolding of forgotten Being has been "interrupted" and superseded by "mathematical ontology" or the "matheme," according to which Being is understood "subtractively," in terms of the formal generation of multiples (or sets) from the "void" (*BE*, 123–29). In fact, Badiou's mathematical ontology continues to work with the Heideggerian thought-figure that there is an ontological font of all things—Badiou's "void" going proxy for Heidegger's "Being"—which is concealed in its disclosure or, in Badiou's nomenclature, is "presented" in the form of the "unpresentable": "The void is the name of being... inasmuch as presentation gives us therein an unpresentable access, thus non-access, to this access" (*BE*, 56).

I shall argue, then, that Heidegger's figure of the simultaneous disclosure and concealment of Being in beings sits at the center of Badiou's discourse.<sup>28</sup> It forms the reciprocating hinge between his deployment of formal set theory as an allegorical symbolism for Heideggerian metaphysics and his translation of this metaphysics into the symbolic language of set theory. In technical rhetorical terms, Badiou is engaging in allegoresis, or the allegorical interpretation of a nonallegorical text.<sup>29</sup> In *Being and Event* formal mathematics and Heideggerian metaphysics are linked by a metaphorical exegesis, since the key to understanding Badiou's "mathematics" lies in the partially occluded figure of Heideggerian thought that governs his presentation of set theory, even if the main portal to this underlying philosophy is via the mathematical discourse itself. On the one hand, this infusion of metaphysics intensifies Badiou's minatory use of mathematical language by imbuing its symbology with the power of a quasi-religious mystery. On the other hand, it means that the Heideggerian doctrine of the emanation of forgetful beings from Being is treated as a kind of mathematical posit, neither discussed nor defended, which suggests that Badiou's work may be regarded as embedded in a Heideggerian theology or sect. This helps to explain the remarkable fact that Badiou never raises the question of why anyone would believe that there is such a thing as Being, harbored in the

“void” as unrepresentable infinities, and summoned into knowable existence by a subject whom it summons into existence for just this purpose. It is this extraordinary performance of a Heideggerian allegoresis on formal mathematics and set theory that gives Badiou’s discourse its intensity and portentousness, even allowing it to assume messianic and apocalyptic overtones.

As in Heideggerian thought more generally, so in Badiou’s revised program it is the “event” that mediates the dark passage between an unrepresentable ground of Being and the beings in and as whom it is presented. Here the “subject” operates in the dual paradoxical register already noted in Miller’s paper—as the being that names the event, calling the unrepresentable into existence as a “presentational multiple” through an “intervention,” and as the being that is called into existence by a self-nominating event, in order to bear mute testimony to the disclosure of unrepresentable Being: “It is certain that the event alone, aleatory figure of non-being, founds the possibility of intervention. It is just as certain that if no intervention puts it into circulation . . . then, lacking any being . . . the event does not exist” (*BE*, 209). It will be a central feature of my redescription that this circular or paradoxical figure of discourse will not be viewed as a logical flaw. Rather, it will be treated as the program for a self-transformative intellectual gymnastic, one that belongs to a long history of philosophical “spiritual exercises,” and whose role in the ENS continued to be that of the grooming of a spiritual elite, but now located at the pinnacle of a state-funded national education system.

The contextual frame for my redescription of Badiou’s *Being and Event* has thus been established. In terms of the itinerary now to be followed, I shall begin with an account of Badiou’s emblematic presentation of Cantor’s “null set” and transfinite numbers, and then discuss his “meditations” on the event and the subject. This will allow me to complete the paper with an account of Badiou’s deployment of the model-theoretic procedure of “forcing” as a Heideggerian allegory for “discerning the indiscernible,” or “naming unnamable being.” Should this redescription fulfill its envisaged aims, it will result not in the invalidation of Badiou’s discourse but in the suspension of two affective attitudes toward it: namely, the desire for this discourse among those who think it capable of truth and the disdain for it among those who think it evidently false or nonsensical.

### **The Null Set and the Transfinite (Nothing and Everything)**

Badiou introduces his twin constructions of the null or empty set and the transfinite numbers in order to set the inner and outer existential limits of his discourse. Formulated by Georg Cantor at the end of the

nineteenth century, these constructs are deployed by Badiou to allow his “metaontology” to frame the entire ontological universe, between nothing and everything (*BE*, 30). He thus absorbs the traditional scholastic metaphysical project of comprehending all of the domains and kinds of “being qua being” within a single originary science, originally the metaphysics of God’s intellection or emanation of all beings. But he transforms this into a metaontology of the emergence of multiple infinities of beings from a nothingness that anticipates them in the form of unrepresentable or “inconsistent” mathematical operations (*BE*, 27–28). This provides the intellectual setting that permits Badiou to allegorize the two technical constructs by transposing them into a new metaphysical register. He can thus treat the empty set as an emblem for the existentialist conception of the emergence of beings from nothingness or the “void,” thereby reversing his earlier refusal to treat zero in these metaphysical terms.<sup>30</sup> And he can treat Cantor’s transfinite numbers as symbolic of the supposed fact that the ontological universe consists of a single homogeneous domain of the enumerable, but one so vast that it outstrips any actual “constructive” enumeration and all “regional” natural sciences (*BE*, 52–59).

In formal mathematics and logic, the null or empty set is a technical construct called into existence by its operational uses, so much so that Richard Dedekind’s foundations of arithmetic could exclude it, treating 1 rather than 0 as his foundation for the number system.<sup>31</sup> In “extensional” set theory—that is, set theory premised on the calculation-independent existence of set members—the null or empty set, understood as the empty extension and symbolized by  $\emptyset$ , is likewise a technical construct with no necessary ontological implications.<sup>32</sup> Here its primary use is to show how the natural numbers can be constructed as sets of elements built up from the empty set, such that  $\emptyset = 0$ ,  $\{\emptyset\} = 1$ ,  $\{\emptyset, \{\emptyset\}\} = 2$ ,  $\{\emptyset, \{\emptyset\}, \{\emptyset, \{\emptyset\}\}\} = 3$ , and so on, as part of the set-theoretic foundation or simulation of arithmetic.<sup>33</sup> In Badiou’s allegorical deployment of it, however, the empty set is made to go proxy for Being, here understood not as the “one,” as in Platonic and Christian metaphysics, but as a domain of unrepresented or “unconscious” elements or “singularities” whose “counting as one” gives rise to the sets of a presented “situation.”<sup>34</sup> On this account, to be presented (or thought) means to be counted in or as a set, which is also what it means to exist. In not themselves being counted as one, the singularities of the empty set are both unrepresented and “nothing.” For Badiou, however, this “nothing” also exists, in a special sense (“in-exists”), and is in fact the unrepresentable source of all the sets (or “beings”) resulting from the mathematical operation “count as one”:

To put it more clearly, once the entirety of a situation is subject to the law of the one and consistency, it is necessary . . . that the pure multiple, absolutely unrepresentable according to the count, be *nothing*. But being-nothing is as distinct from non-being as the “there is” is distinct from being. (*BE*, 53)

For Badiou the “nothing” emblemized in the empty set is thus the unrepresentable or unconscious source of all of the enumerated sets that constitute the presentable ontological domain of “being qua being.” For mathematicians and mathematical logicians, however, sets have no source—no void, or domain of unrepresentable Being—since the concepts of set and membership ( $\in$ ) are treated as “primitive notions” incapable of further analysis, acting instead as the posits on which set theory is built through the employment of logical syntax and arithmetic operations.<sup>35</sup> In identifying it with the void, Badiou thus turns the empty set into an allegorical symbol of the Heideggerian nexus between thinkable things or beings and the unthinkable Being (or “being-nothing”) from which they are supposed to emerge. This allows him to freight the otherwise variable formal-syntactic notation of the empty set,  $\emptyset$ , with the Lacanian-Heideggerian meaning of the “suture to being,” similar to Miller’s earlier treatment of zero (*BE*, 66–69). In this way, the technical role of the empty set in the set-theoretic modeling of natural numbers is transmuted into an emblem of the existentialist and Heideggerian conception of nothingness or the void, understood as the unthinkable source of all thinkable or presentable things. In a characteristically paradoxical and gnomic comment, Badiou thus proclaims that:

The void is the name of being—of inconsistency—according to a situation, inasmuch as presentation gives us therein an unrepresentable access, thus non-access, to this access, in the mode of the not-one, nor composable of ones; thus what is qualifiable within the situation solely as the errancy of the nothing. (*BE*, 56)

We can now start to see how the strategy of taking the key Heideggerian thought-figure—that access to Being is also its occlusion—and embedding it in formal symbols allows it to be posited as an unquestionable or “axiomatic” theology. This strategy imbues the symbols with an affective intensity arising from their presentation as a kind of sacred mystery at the very limits of human understanding. Badiou thus comments that in choosing the old Scandinavian symbol  $\emptyset$  for the empty set, it is as if mathematicians were “dully aware that in proclaiming that the void alone is . . . they were touching on some sacred region, itself liminal to language” (*BE*, 69). For the moment, though, our attention is focused on the fact that Badiou himself treats his Heideggerian interpretation of the empty set not as an act of allegoresis but as a disclosure of truth, a posture that is assumed without further reflection by many of his followers.<sup>36</sup> In this way the “revealed” metaphysical truth used to allegorize the mathematical symbolism is turned into a quasi-religious denunciation of mathematicians for their alleged ideological failure to penetrate the hidden or “unconscious” grounds of their own discourse (*BE*, 69). Conversely, when Badiou’s commentators interpret his discourse they unpack the embedded metaphysics as if they were being initiated into a hidden truth.<sup>37</sup>

In tandem with the empty set as symbol of the void, Badiou designates the infinite or transfinite numbers of Cantorian set theory as the “second existential seal” of his metaontology, by which he means its second point of contact with Being (*BE*, 156). This time ontological contact comes not in the form of the unpresentable multiples of the void that precede the “situation” of presented things or beings, but in the form of multiple infinities that constitute the situation yet stretch beyond it, constituting its “Other” (*BE*, 142–49). As an emblem of the Other—that is, of an incalculable plenitude of Being underpinning all calculable domains of knowledge—Badiou’s transfinite numbers represent a further use of set theory as a symbology for Heideggerian metaphysics.<sup>38</sup> The technical complexity of Cantor’s mathematical construction of transfinite numbers, however, makes the task of describing Badiou’s allegorization of them particularly challenging.

Transfinite numbers emerged toward the end of the nineteenth century in the context of the long-running project to arithmetize the geometric line; that is, to replace geometric linear continuity with nonterminal arithmetically and algebraically generated numbers or values, initially conceived as abstract points on a “number line.”<sup>39</sup> Cantor’s conception of numbers as classes, sequences, or sets (*Menge*) of points marked the emergence of set theory as a program for reconstructing number theory (and thence mathematics) by providing a common foundation for different number forms: natural, rational, and irrational (nonterminating and nonrepeating decimal expansions such as  $\pi$  and the square root of 2).<sup>40</sup> These could all be regarded as formed from the structuration and combination of sets of “points” occupying spaces on an abstract number line. Moving beyond the notion of “point-sets,” Cantor also invented two new kinds of number internal to set theory: cardinal numbers, which “counted” set size by establishing one-to-one relations between the members of equivalent sets, and ordinal numbers, which were designed to represent the order-relations holding among the members within sets.

This machinery seemed to allow Cantor to integrate rational and irrational numbers in the “real number line” by treating the irrational numbers (for example,  $\pi$  as 3.14159...) as expanding endlessly toward a “limit point”—the next rational number (for example, 3.25)—that they never reach, thereby supposedly expanding infinitely in the “gaps” of the number line and providing an arithmetic or algebraic simulacrum of the geometric “continuum.” On this basis Cantor could construct “real” numbers as “gaps” or “intervals” in the number line that are formed by the unending expansion of a sequence or set of numbers toward a “limit” number that is never reached.<sup>41</sup> This in turn provided the basis for the set-theoretic conception of the infinite or “transfinite” numbers, now understood as “actual” or completed (rather than “potential”) infinity, since the “limit” numbers

toward which they asymptotically unfolded supposedly already existed.<sup>42</sup> Cantor could thus treat infinity as a superlarge number, rather than just a rule of expansion. And this in turn gave him the license to posit multiple infinities of different sizes or cardinalities that could be assigned algebraic symbols—based on the “aleph” symbol  $\aleph$ —and incorporated in arithmetic calculations. Cantor hypothesized that one of these aleph cardinals,  $2^{\aleph_0} = \aleph_1$ , represented the size of the continuum or set of all real numbers, giving rise to his “continuum theorem.”

It is important to observe, even if only in passing, that Cantor’s construction of the real number line or continuum with its limit points and transfinite numbers belongs not just to a mathematical practice but also to a particular philosophy of mathematics. In treating the infinite number sequences or sets as existing as intervals in the “real number line,” supposedly prior to the algorithms or functions that “partially” expand them, Cantor’s construction presumes an “extensional” philosophy of mathematics as a theory of independently existing mathematical entities (points) and relations such as sets. Conversely, a significant minority of mathematicians and logicians, most notably Wittgenstein and the Dutch mathematician L. E. J. Brouwer, insisted that mathematical quantities and relations are arrived at only through the actual performance of definite calculations or algorithms, having no independent ontological existence—the “intentional” or “constructivist” viewpoint.<sup>43</sup> They thus refused to accept that infinite point-sets or number sequences existed beyond the actual arithmetic operations or algebraic functions through which sequences were actually calculated or finitely expanded.<sup>44</sup> This is also why Wittgenstein rejected the notion of the real number line containing multiple infinities, since he regarded the different kinds of number that it supposedly contains—natural, cardinal, rational, irrational, and real—as the products of diverse finite algorithms or calculi. The different types of number thus never outstripped their actual calculation or expansion, and were incapable of being incorporated into a supercalculus, or even of being regarded as “numbers” in the same sense.<sup>45</sup>

Badiou rejects these intensionalist and constructivist views out of hand because of the manner in which they divorce mathematics from ontology, leading him to dismiss them as symptoms of the “unconscious” practice of “working mathematicians” (*BE*, 247–52, 286–94). It is not my present concern to directly contest this move, only to describe its role in his discourse. Badiou’s discussion of transfinite numbers supervenes on this divergence within the history and philosophy of mathematics, but from a quite distinct metaphysical vantage point. In fact, Badiou’s approach is framed by his apparent rejection of the Christian ontotheological conception of infinity—in terms of the human mind’s finite participation in God’s singular infinite

intellection of all possible things—and by his refusal of Heidegger’s conception of mathematics as the “forgetting of Being” (*BE*, 123–29, 142–49). Badiou argues that Cantor transformed prior ontotheological conceptions of infinity by relocating infinity *within* Galileo’s quantified “nature”—that is, within the number sequences and classes of the real number line—giving rise to a plurality of infinities. He thus appeals to Cantor’s immanent multiple infinities to undermine transcendent ontotheology and to give a new disposition to Heidegger’s theme of the forgetting of Being. This could now be understood in terms of the “oblivion” into which the multiple infinities were cast by the finite “situation” constructed from them.

But Badiou gives Cantor a new disposition too. For while Badiou takes over Cantor’s extensionalist conception of the transfinite numbers—as indexing multiple infinities of mathematical objects that are only partially revealed in any given expansion or iteration of a rule—he simultaneously reinterprets this conception in a Heideggerian manner. He thus treats the expansion of a number series via a rule or algorithm as determining the identity of multiples (sets, beings, “others”) but only through an encounter with something that lies beyond all calculation and identity: namely, infinity as the Other that outstrips and necessitates all applications of the rule, ensuring that such applications are only partial calculations (hence forgettings) of incalculable Being:

The existential status of infinity is double. What is required is both the being-already-there of an initial multiple and the being of the Other which can never be inferred from the rule. This double existential seal is what distinguishes real infinity from the imaginary of the one-infinity, which was posited as a single gesture. (*BE*, 147–48)

Situated in this new metaphysical context, the mathematical meaning of Cantor’s limit numbers including limit ordinals—that is, their role in defining real numbers as the asymptotic limits of infinite number sequences—is radically transformed. For now Badiou deploys limit numbers as symbols of breaks in natural multiples that admit unrepresentable Being in the form of an incalculably infinite Other:

Take the sequence of successor ordinals which can be constructed, via the rule *S*, on the basis of an ordinal which belongs to a limit ordinal. This entire sequence unfolds itself “inside” that limit ordinal, in the sense that all the terms of the sequence belong to the latter. At the same time, the limit ordinal itself is Other, in that it can never be the still-one-more which succeeds an other. (*BE*, 154–55)

In this way Badiou interprets the limit number as an allegorical symbol of an infinite Other that outstrips and hence founds the finite mathematical unfolding of “natural” beings, just as we earlier saw him interpreting the

empty set as a metaphysical symbol of the Heideggerian void from which all beings (multiples, sets) are called into existence through their mathematical enunciation. It is of course possible to flatly reject Badiou's allegorizing and insist on the nonallegorical character of formal logic and mathematics, as Ricardo Nirenberg and David Nirenberg do in their valuable discussion of Badiou as a latter-day Pythagorean.<sup>46</sup> In adopting this strategy, however, one risks misunderstanding the intellectual activity in which Badiou is engaged, which is not bad mathematics but a Heideggerian allegoresis performed on mathematical texts and used as an instrument of sectarian spiritual grooming.

Badiou deploys the relation between the empty set and the transfinite numbers to displace the traditional metaphysical relation between the divine mind's infinite intellection of all possible things and the human mind's partial reflection of this infinity. The empty set or void is thus the hole that was once occupied by God, which allows Badiou to proclaim the atheist character of his metaontology (*BE*, 277). At the same time, however, Badiou's void or "being-nothing" continues to serve the core function of the displaced metaphysical God, to be the source of all presentable things in the cosmos, hence to be the only thing that truly exists, albeit negatively as "inexistent" and unrepresentable: "It is quite true that prior to the count there is nothing because everything is counted. Yet this being-nothing—wherein resides the illegal inconsistency of being—is the base of there being the 'whole' of the compositions of ones in which presentation takes place" (*BE*, 54). *Being and Event* may thus be regarded as a translation of negative theology into negative ontology, which is reflected in its significant reception among theologians.<sup>47</sup> In presenting it as the only true image of the passage of unrepresentable Being from the void into presentation and the domain of "being qua being," Badiou elevates his symbolic "metaontology" to the status of a sacred discourse, but that is because this Heideggerian image has already been embedded in this symbology as the revealed "truth." This imbues Badiou's discourse with a quasi-holy aura and preeminence in relation to other merely historical or scientific disciplines, while also dictating that it be entered through rituals of initiation and conversion.

### **The Event and the Subject**

Elaborated in the dense set of meditations that comprise parts 4 and 5 of *Being and Event*, Badiou's intricate constructions of the "event" and the "subject" constitute the work's philosophical center. As in Heidegger's discourse, so too in Badiou's, the role of the event is to effect a passage between the unrepresentable and inexistent Being of the void and the domain

of presented things or beings—in Badiou’s case the “multiples” of a “situation”—that are supposed to emerge from the void via the event.<sup>48</sup> As such, Badiou’s event is a metaphysically liminal or amphibious creature, moving unformed in the limitless ocean of unrepresentable nothingness but crossing the shoreline of presentational thinghood through a naming of the unnamable. Standing on this existential littoral, the subject is a similarly liminal figure, since it must be both the source of the name that calls the event into being and a being that is called into existence by the event that it “encounters.” It is quite remarkable that Badiou’s faithful readers must in some sense commit themselves to this unavowable metaphysical picture as the condition of initiation into his discourse. Given the contradictory constitutions imposed on the “event” and the “subject” in this ritual of thought, however, it is not surprising that Badiou’s discourse on them should take the form of a series of structured paradoxes or aporiai. These, I shall argue, are in fact “spiritual exercises” required of the reader.

The first of Badiou’s liminal or paradoxical figures is that of the “evental site” (*BE*, 173–77). Like the “situation” or counted multiples, the evental site is a place or site of presentation (knowledge), yet, unlike the situation, it contains no presentable or countable elements, since it sits at the “edge of the void” from which such elements must be called into presentation and existence. It thus consists of unrepresentable singularities that have escaped the “count” or mechanism of thought (*BE*, 174–75). Like Heidegger, Badiou identifies the event with “history.” Here, though, history is not understood as the passage of events in time, but as the passage of Being from atemporality into time; a passage that erases all memory of atemporality, thus echoing Heidegger’s condition of “thrownness.” On this occasion acknowledging his debt to Heidegger, Badiou opposes “history” or the “historical situation” to “nature” or the “natural situation,” thereby identifying the “evental site” with a thinking of the “non-natural” (*BE*, 173–74). “Nature” is understood as the stable unfolding of presentational multiples (sets) in accordance with a calculus, while Heideggerian “history” is construed as the “unstable” or “anomalous” place in which unrepresentable singularities are “convoked” from the void. This understanding means that “a historical situation is therefore, in at least one of its points, on the edge of the void” (*BE*, 177).

Despite their anomalous character, however, the evental sites can themselves be classified since, according to Badiou, there are just four of them. These are “love, art, science, and politics,” each understood as a place where the unthought can be thought and drawn across the threshold of presentation via an event (*BE*, 17). Love, art, science, and politics are thus construed as evental sites or historical situations where the natural situation can be radically transformed by a thinking of the unthinkable that “touches the void,”

bringing forth new beings. Given this characterization, it is hard to see why Badiou has not added religion as a fifth privileged portal to Being, unless of course it is the clandestine foundation of the other four. For its part, as the domain of stable thought or presentation, “nature” is tantamount to a “forgetting of Being”: “Nature, structural stability, equilibrium of presentation and representation, is rather that from which being-there weaves the greatest oblivion” (*BE*, 177). It is thus no accident that in this sentence, the French term translated by “being-there” is *l’être-là*, which is one of the standard French translations for Heidegger’s *Dasein*; for it is the fate of human *Dasein* to bring Being into time—to make it “being-there”—at the cost of forgetting it.<sup>49</sup>

Badiou programs understanding of the meaning of the event by situating it as the nexus of a specific contradiction or paradox, the mastery of which must be understood as a particular task and art of thought presented to the reader. He thus declares that in order to avoid its absorption within the stable and law-governed multiples of the natural situation, which would amount to a “catastrophic” direct presentation of the unrepresentable, the event must arise from the unrepresentable and unnamable singularities of the void itself. Conversely, if it is to fulfill its vocation of revolutionizing the domain of natural facts, then the event must itself be named and presented in the “situation,” as the condition of its crossing from the void into the domain of presentable things and beings: “By the declaration of the belonging of the event to the situation [naming] bars the void’s irruption. But this is only to force the situation itself to confess its own void, and to thereby let forth, from inconsistent being and the interrupted count, the incandescent non-being of an existence” (*BE*, 183). To read the central parts of *Being and Event* means in effect to practice the inner exercise or gymnastic of holding these contradictory stipulations in a kind of intellectual oscillation or equilibrium. In this regard, Badiou’s text stands in a long history of Western Christian spiritual pedagogy, where aporiai are used as exercises in conceptual purification designed to allow the thinking of divine things using “human” predicates that have been cleansed by paradox.<sup>50</sup> This spiritual pedagogy is misunderstood by Badiou’s followers no less than his opponents, since the former imagine that it elevates them to a higher reality or truth—that of the “event”—while the latter dismiss the structuring paradoxes as “fashionable nonsense,” both sides forgetting that such exercises belong to a tradition of subcultural spiritual exercises.

In stationing the event at the nexus of a purifying paradox, Badiou thus comments: “I touch here upon the bedrock of my entire edifice” (*BE*, 181). If the event is part of the historical situation, then it has already been severed from the unrepresentable and unnamable force of the void and rendered nameable and thinkable within the normal situation, thereby losing

its transformative potential. If it is not part of the situation, however, then the event remains dispersed among the anonymous singularities of the void, its name signifying “nothing,” thence failing to constitute an evental site or transformative historical situation (*BE*, 182). By formulating this paradox, Badiou can declare the question of whether the event belongs to the situation to be “undecidable”: “The undecidability of the event’s belonging to the situation can be interpreted as a double function. On the one hand, the event would evoke the void; on the other hand, it would interpose itself between the void and itself. It would be both a name of the void and the ultra-one of the presentative structure” (*BE*, 182–83).

This undecidability can only be resolved by the notion of a self-naming event that reveals the void within the situation. It thus sets the scene for the second of Badiou’s paradoxical thought-figures, that of the “intervention.” After declaring the question of whether the event belongs to the situation to be undecidable, and insisting that there is no decision procedure to resolve the paradox, Badiou introduces the figure of the intervention as the path to a decision (*BE*, 202). The intervention has two elements: first, the declaration that there is indeed an “evental multiple,” or a multiple consisting of the elements of the evental site and the event itself; and second, the decision that the evental multiple is a term or name of the overarching historical situation to which it belongs. In fact, though, the crucial feature of the intervention is that it names or interprets the event in the midst of its anonymous singularities and, in so doing, brings both the event and the historical situation into existence—just as, Badiou claims, the naming of the “French Revolution” transformed the prerevolutionary void into an evental site (*BE*, 179–80). To understand this, one must grasp the extraordinary or paradoxical character of the interventional naming of the event itself. On the one hand, the event cannot be named by first identifying it among the elements of the evental site, since it is the naming of the event that constitutes the site or historical situation. In Badiou’s example, the naming of the French Revolution gives birth to “that historical situation that we call France” (*BE*, 203). On the other hand, this naming is supposedly itself impelled by something unconscious or unrepresented within the evental site that, as it were, calls for its own naming or thinking, such that “an intervention is to *make a name out of an unrepresented element of the site to qualify the event whose site is the site*” (*BE*, 204).

In other words, in a circle or paradox that anticipates Badiou’s conception of the subject, if it is the intervention that “touches the void” and draws the unrepresented element across the threshold of history by naming the event, then, at the same time, it is the event that “founds the possibility of intervention,” since there can be no naming without the aleatory or unconscious intrusion of the void into the ordered space of presentation (*BE*,

209). The “undecidable” question of whether the event belongs to the situation is thus repeated within the paradoxical figure of the intervention that was meant to decide it: the event is created by the interventional naming that calls it into historical existence, and yet it is the unconscious event that calls this interventional naming into existence so that it can cross from the void into thought and history. With this circularity we are fully on the terrain of Heidegger’s hermeneutic circle, and it is striking that, like Heidegger, Badiou declares that this circle cannot be escaped, only “split” and then repeated: “There is actually no other recourse against this circle than that of splitting the point at which it rejoins itself” (*BE*, 209). Given that intervention cannot found the event that finds it, Badiou can only declare that “*the possibility of intervention must be assigned to the consequences of another event*” (*BE*, 209). And this in turn allows him to reconfigure intervention as “fidelity,” or the intervenor’s “faith” in a prior event (*BE*, 211). That a conceptual paradox should be used to engineer a leap into faith is not of course unknown. But Badiou’s leap only reinstates the circularity at one remove, for this prior event will also be one that is called into existence by the intervention that it calls forth.

At this point, in a remarkable rupturing of the surface of his supposedly atheistic discourse, Badiou attempts to stem the unending spiral of events and interventions by positing an ur-event. This turns out to be none other than the advent of Christ, understood as the sacral inaugural transition of Being from the void into time, and thus as the means of explicating the recurrence of events and the nature of intervention and fidelity. The symptomatic absence of religion from Badiou’s four points of contact with Being—art, science, love, and politics—thus inverts into a founding presence.<sup>51</sup> If until this point it has been Heideggerian metaphysics that has supplied the shadowy key to Badiou’s allegorization of set-theoretical mathematics, then suddenly this metaphysics has been decisively Christianized, since it is the “Christ-event” that stems and founds the spiral of historical events and interventions but, in doing so, reminds us of the displaced theological character of this entire metaphysics of “touching the void.” At this point, though, a decidedly sectarian undercurrent breaks through the surface of Badiou’s formalistic discourse, initially in a fond remembrance of his “master” Lacan’s *bon mot* that even if no religion were true, Christianity nonetheless “came closest to the question of truth” (*BE*, 212). Badiou interprets this to mean that in Christ Christianity supplied the founding emblem of the “ultra-one” or event whose emergence from the void imbued history and the cosmos with meaning. At the same time, though, repeating his fundamental paradox, Badiou also declares that the advent of Christ depended on the intervention of the apostles, whose naming of the “Christ-event” called it into historical existence.<sup>52</sup>

In a derogatory but quite traditional Christian trope, Badiou identifies Judaism with the “law” and the “normal situation,” declaring that the Jewish prophecies of a messiah had to be overturned by the apostolic naming of the tortured man as God, thereby enacting the “miracle” that calls forth the event, even as the event calls for its apostolic naming (*BE*, 213, 216). It is thus the “fidelity” of an interventionist Christian “avant-garde” that resolves the undecidability of the question of whether the event belongs to the situation—here, whether Jesus is God—through an act of naming that is simultaneously an act of faith:

The belief of the intervening avant-garde bears on the eventness of the event, and it *decides* the event’s belonging to the situation. “Miracle” names this belief, and so this decision. In particular, the life and death of Christ—the event strictly speaking—cannot be legitimated by the accomplishment of prophecies, otherwise the event would not interrupt the law. (*BE*, 219)

Here we can see the way in which the spiritual elevation of those whose faith in the event calls it into existence is inseparable from the spiritual derogation of those who remain within the law of the empirical “normal situation,” in this case the Jews.<sup>53</sup> Perhaps this anti-Judaism reflects Badiou’s Christian-existentialist formation and lends some plausibility to the claim that “Badiou can also be read as the last great author in the French tradition of Catholic dogmaticists that began with Pascal and Malebranche.”<sup>54</sup>

Badiou’s final meditation in the sequence dealing with the event and the subject is one that explicates the theme of “fidelity” and with it his conception of the subject. “Fidelity” is the term Badiou uses to characterize the relation between the naming of the event by the intervenors and the transformation of the situation—the existing intellectual, factual, or institutional situation—that results from the intervention: “I call fidelity the set of procedures which discern, within a situation, those multiples whose existence depends upon the introduction into circulation (under the supernumerary name conferred by an intervention) of an evental multiple” (*BE*, 232). The paradoxical character of Badiou’s fidelity is that it combines both “discernment” of the multiples that constitute a situation and “love” of the event that has emerged from the void, in what Badiou for the first time characterizes as an “encounter” and designates as the “dialectic of being and event” (*BE*, 232). Badiou notes that “at the empirical level” there are competing fidelities to an event, as can be seen with Stalinists and Trotskyites in relation to the revolution, intensionalists and extensionalists in relation to set theory, and (twelve-tone) serialists and neoclassicists in relation to musical innovation (*BE*, 234); although it should be noted that for Badiou there is only one “true” fidelity in each of these cases. As one might expect, however, Badiou only entertains two possible “fidelity procedures”:

one, “dogmatic,” that allows the “evental multiples” to be absorbed within the factual situation whose law-governed character Badiou identifies with the “state,” and another, “generic,” that remains true to the incalculable fecundity of the event itself, injecting the situation with an uncountable infinity of multiples and operating as an “inexistent procedure” adjacent to pure chance (*BE*, 235–36).

I shall return to this last issue later in the essay. For the moment, though, my attention is focused on Badiou’s posing of the question of whether the interventionist naming of the event—or the “encounter” with it at the edge of the void—prescribes a particular form of fidelity or faith as the mode of its unfolding in the worldly situation. Despite characterizing this as “one of the most profound questions of philosophy,” it should be clear that Badiou has already preempted its answer, since it is only a particular form of fidelity—for example, Paul’s faith that Christ is God—that permits an inexistent event to make the transition into worldly existence (*BE*, 238). Nonetheless, Badiou’s way of formulating this question—of whether the event determines our faith in it (or vice versa)—is full of interest, and allows the threads of this commentary on the theme of “spiritual exercises” to be drawn together. Badiou’s comment is thus:

Philosophically speaking, the “topos” of this question is that of Wisdom, or Ethics, in their relation to a central illumination obtained without a concept at the end of an initiatory groundwork, whatever the means may be (the Platonic ascension, Cartesian doubt, the Husserlian *εποχή* [*epoché*] . . .). It is always a matter of knowing whether one can deduce, from the evental *conversion*, the rules of the infinite fidelity. (*BE*, 238–39)

This is the first and only explicit reference to conversion in *Being and Event*, but, in treating the event as a conversion experience bringing nonconceptual illumination, it provides incipient clarification of the relation between the event and the subject. It is also the immediate context for Badiou’s stipulative definition of the subject: “I will call *subject* the process itself of liaison between the event (thus the intervention) and the procedure of fidelity (thus its operator of connection)” (*BE*, 239). In other words, Badiou treats the subject as a being formed through spiritual conversion by experience of the event and as the being whose procedural faithfulness is the key to the event taking place in history.

Badiou’s comment provides the opportunity for a significant retrospective clarification of his subtextual Heideggerian discourse on the event and the subject. After all, if we isolate Badiou’s central paradox—the naming of the event is the calling of an unthought thing into existence by a subject who is simultaneously called into existence (converted) by the event—then how might this be understood other than as a “central illumination obtained

without a concept at the end of an initiatory groundwork”? In other words, positioned as something that can only be acceded to via the exercises in paradox that we have just discussed, Badiou’s event can be understood as the telos of a particular spiritual exercise that his readers must perform on themselves. Through the arduous inner exercise of maintaining both sides of the Heideggerian paradox, Badiou’s faithful readers are to be rewarded by something far more profound than knowledge of a philosophical doctrine: namely, by the transformation of their quotidian selves into a rare subject who is spiritually qualified to receive the illumination of the truth as event (*BE*, 432–33).

To behold Badiou’s event, even theoretically, is thus an incipient conversion of the reader. If this is so, then *Being and Event* should be understood in significant part as a conversion discourse, which helps to explain the affective intensity imbuing its paradoxical central figures of thought. This clarifies Badiou’s insistence that not all individuals are subjects (*BE*, 285). In fact, on his account only those individuals who have been illuminated or converted by their encounter with a transformative event—that is, only those individuals who have passed through the paradoxes of Badiou’s Heideggerian exercises—can obtain the “militant” or “avant-garde” fidelity to the event’s infinite unfolding that qualifies them as subjects. Those who have not passed through this elevating conversion are not spiritually qualified to be subjects, presumably like those who remain within “Judaic” lawfulness and empirical nature. Badiou’s Heideggerian allegorization of set theory thus stations his discourse at the nexus of “philosophy” and “spirituality.”<sup>55</sup> For this discourse is one that makes access to the objects of philosophical knowledge—the void and the transfinite, the event and the subject—conditional on performance of the Heideggerian conversion-paradoxes that spiritually qualify the subject to accede to “truth.” Despite its extolling of the aleatory, the unrepresentable, the infinite, and the incalculable, Badiou’s discourse is thus profoundly closed and sectarian, and radically dependent on the making of converts and disciples.

**Discerning the Indiscernible  
(from Having Knowledge  
to Being-in-Truth)**

In the culminating stage of *Being and Event* Badiou purports to provide, for the first time in history, a formal mathematical demonstration of how the unrepresentable or “indiscernible”—which emerges from the void and inhabits the transfinite gaps within “nature”—is brought across the threshold of discernment. This is to occur through a mathematical simulacrum of the

“fidelity procedure” that mediates the subject’s summoning of the event and the event’s summoning of the subject. For Badiou the discerning of the indiscernible is not “knowledge,” understood as the “calculable” multiples or sets generated from mathematical axioms and functions, for in this sense Being and the event are never known. Rather, it is “truth,” understood as something disclosed to the subject through the subject’s own conversational coming into being through the interventional naming of the event: “The operator of faithful connection designates *another mode of discernment*: one which, outside knowledge but within the effect of an interventional nomination, explores connections to the supernumerary name of the event” (*BE*, 329). Discerning the indiscernible multiples of the void is thus not an act of knowledge attending the mastery of a calculus whose public rules determine the possibility of mistakes. It is the outcome of an act of spiritual transformation in which truth is pictured as an illuminative event that calls forth the subject that has called forth the event, thus a faithful “witnessing” to truth outside of all public rules of valid knowledge.

This is a remarkably ambitious undertaking. Were it to succeed, Badiou would have transformed what remains a kind of philosophical mythography in Heidegger—the figure of Being’s disclosure through the calling into existence of the human being in whom it remains concealed—into a quasi-mathematical demonstration, thereby putting Heideggerian philosophy onto an entirely new basis, or perhaps superseding it. One of Badiou’s central claims is that he has “interrupted” and displaced Heidegger’s “poetics” of the unfolding of forgotten Being with the “matheme” according to which Being is understood “subtractively,” in terms of the discernment of the indiscernible multiples of the void through a formal “fidelity procedure” (*BE*, 123–29). The formal-mathematical technique that he chooses to instantiate and execute the “fidelity procedure” or “operator of faithful connection” is thus crucial to Badiou’s entire undertaking. Needless to say, while I will be redescribing this procedure as the symbolic or allegorical execution of the Heideggerian thought-figure internal to a particular spiritual subculture, for Badiou it is something else entirely. He regards it as the actual form through which the qualified subject comes to unconsciously discern the indiscernible Being that has emerged from the void through the event and entered the transfinite spaces of the real number line or “continuum,” thence to issue in the entirety of “being as being” or “nature.” The mathematical procedure that Badiou asks to bear this extraordinary metaphysical weight is the advanced set-theoretic and model-theoretic technique known as “forcing.”

Forcing was invented around 1963 by the American mathematician Paul Cohen. It is a technique for constructing a certain kind of model for the standard axiomatized form of set theory, known as “Zermelo-Fraenkel set

theory with the axiom of choice” (ZFC).<sup>56</sup> A model for set theory is simply a class of sets engineered in such a way as to “satisfy” its axioms and theorems. A model for ZFC is thus a “universe” of abstract mathematical objects in relation to which a set-theoretic theorem can be shown to be inconsistent or consistent with ZFC, depending on whether or not its negation is satisfied by the model. Equally, a model for ZFC might show that a theorem and its negation are both satisfied by the model—that it is neither disprovable nor provable—meaning that the theorem is undecidable or “independent” of ZFC.

The theorem whose undecidability Cohen sought to demonstrate, by showing that its negation was satisfied by a particular model of ZFC, was Cantor’s “continuum hypothesis,” which I have already introduced in my discussion of transfinite numbers. Cantor’s hypothesis is grounded in his conception of numbers as classes of sets, thence in his conception of the “natural numbers” or integers as forming a “countable infinite set”—the number of elements in this set forming its “cardinality” and being symbolized by the cardinal number  $\aleph_0$  (aleph-nought). This gives rise to Cantor’s hypothesis that the first “uncountably infinite number,”  $\aleph_1$  (aleph-1) is  $2^{\aleph_0}$ —two to the power of aleph-nought—which he equated with the continuum or set of asymptotic “real” numbers, as discussed earlier.<sup>57</sup> In Cantor’s system,  $2^{\aleph_0}$  is the cardinality of the set of all subsets (the “power set”) of  $\aleph_0$ , the (countably) infinite set of natural numbers.<sup>58</sup> As an algebraic permutation of the elements of the set of natural numbers, the power set of aleph-nought,  $2^{\aleph_0}$ , has a hyperlarge cardinality, incapable of being counted by (put into a one-to-one relation with) the natural numbers.<sup>59</sup> Cantor’s hypothesis is thus that the cardinality of the continuum (or set of real numbers) is  $2^{\aleph_0} = \aleph_1$ . This was supposed to be the first uncountably infinite cardinal in what was envisaged as a series of such cardinals, each formed by the performance of the power-set permutation on its predecessor. In 1937 the mathematician Gödel had constructed a “standard model,”  $M$ , for ZF set theory in which the continuum theorem was “satisfied,” thereby showing its consistency with this form of set theory. Cohen’s endeavor in 1963 was to extend the standard model by adding sets in such a way as to show that the negation of the theorem is also consistent with ZF(C), thereby demonstrating its undecidability or independence. Forcing is the technique that he developed in order to construct this new model.

For our present limited purposes, forcing may be understood as a procedure for transforming Gödel’s “standard model”  $M$  of ZFC by adjoining a further set,  $G$ , giving rise to the extended model  $M[G]$  in which the continuum hypothesis fails. Gödel had shown that the standard model for ZFC constituted an exhaustive minimal model, that is, a “constructible universe” of sets built-up exhaustively from simpler sets, and that satisfied the

continuum theorem.<sup>60</sup> This meant that to adjoin the new set  $G$  to the standard model  $M$  Cohen had to invent new formulas, his “forcing conditions,” which are formulas (sometimes called “names”) providing information regarding membership of  $G$ . Meanwhile,  $G$  is understood as a “generic” set, meaning that it decides the truth and compatibility of the forcing conditions, but without either sharing any formula or “property” of the standard model  $M$  or simply importing a set larger than  $M$ .<sup>61</sup>

Taking  $G$  as a set of integers, Thomas Jech provides a simplified example of how  $G$  is built from forcing conditions: “As forcing conditions we consider finite sets of expressions  $a \in G$  and  $a \notin G$  [ $a$  is in  $G$ ,  $a$  is not in  $G$ ] where  $a$  ranges over the set of all integers. (Therefore  $\{1 \in G, 2 \notin G, 3 \in G, 4 \in G\}$  is a condition that forces  $G \cap \{1, 2, 3, 4\} = \{1, 3, 4\}$ .)”<sup>62</sup> Here “forces” should be understood as analogous to “implies,” since it refers to the outcome of a special kind of equation. In this way  $G$  is built by using the same primitive notions of set and membership that determine the standard model  $M$ , while augmenting it in a such way that the extended model  $M[G]$  continues to satisfy ZFC. Once this was done, Cohen could use forcing conditions to adjoin integers to  $M[G]$  that violated the continuum hypothesis, arranging, for example, that  $M[G]$  contain  $\aleph_2$  elements—the power-set of Cantor’s original continuum “number”  $\aleph_1$ —and declaring this to be the cardinality of the continuum rather than Cantor’s  $\aleph_1$ .<sup>63</sup>

Despite being inexplicable to mathematicians, Badiou’s key strategy is to treat Cohen’s forcing technique as his central instance of the “fidelity procedure” that names the event and permits the “unpresentable” elements of the void to cross the threshold of thought and existence. In order to allegorize forcing in this Heideggerian way, Badiou identifies the standard model ( $M$ ) of ZFC—the “situation” in Badiou’s lexicon—with “discernment” or “knowledge.” This is in turn understood as the universe of constructible sets, excluding the random and aleatory, and hence the event (*BE*, 337). At the same time, he identifies Cohen’s adjoined “generic” set  $G$  with the unpresentable or “indiscernible” and thence with “truth” as opposed to “knowledge.” In fact, Badiou equates the indiscernible with the multiple infinities that supposedly inhabit the “situation” (or standard model), without being discerned there, while remaining capable of manifesting themselves in the truth of the subject’s blind encounter with the event: “The discernible is veridical. But the indiscernible alone is true. There is no truth apart from the generic, because only a faithful procedure aims at the one of situational being. A faithful procedure has as its infinite horizon being-in-truth” (*BE*, 339).

Badiou’s central idea is thus that Cohen’s forcing technique can be interpreted as a naming of the event, and thereby as discerning the indiscernible truth within the merely veridical “situation” itself. He interprets this in

quasi-apocalyptic terms, as the first time in the history of humanity that unnamable being has been “de jure” or formally rendered immanent to discernment, or perhaps as the first time Heidegger’s poetically concealed Being has been mathematically revealed:

However, [the truth] would remain subtracted from knowledge if the language of the situation was not radically transformed. Not only is a truth indiscernible, but its procedure requires that this indiscernibility *be*. A truth would force the situation to dispose itself such that this truth . . . be finally recognized as a term, and as internal. A faithful generic procedure renders the indiscernible immanent. (*BE*, 342)

Without Cohen realizing it, his forcing procedure is thus supposed to be world changing, since, like the parallel “fidelity procedures” in art, science, and politics, it permits the naming of unnamable being (*BE*, 343).

It should be clear already that despite Badiou’s technical command of forcing, his deployment of it has little in common with Cohen’s, or indeed with the kinds of set theory and model theory in which Cohen was working. We have already observed that the putative ontological origin of sets is not a topic within set theory, since sets are treated as abstract objects manipulated through the syntactic rules of set theory and justified solely in terms of the richness of the mathematical results. Further, models of set theory, whether the “standard model”  $M$  or the “generic” extension  $G$ , have no necessary ontological implications. This is the case not least because ZFC set theory can be (and has been) supplied with a plurality of models, depending on particular model-theoretic objectives, as we saw with Cohen’s construction of  $M[G]$  in order to show the undecidability of Cantor’s continuum theorem.<sup>64</sup> Above all, though, it is alien to Cohen’s entire way of proceeding that the forcing conditions used to build the new generic set  $G$  should be regarded as the discerning of a set that was somehow already present in the standard model  $M$  (or “situation”) but invisibly so.<sup>65</sup> This is because the forcing conditions or formulas are not part of  $M$  but are added to it as the means of generating the hyperlarge cardinal “numbers” whose presence in  $G$  is the condition of ensuring the failure of the continuum hypothesis in  $M[G]$ .<sup>66</sup>

Again, in treating it as a “fidelity procedure” that discerns the indiscernible in the standard “situation” by naming the event, Badiou is deploying Cohen’s forcing procedure as an allegory for the Heideggerian theme of the naming of unnamable Being, while simultaneously improvising a formal symbolization for this theme. This permits Badiou to invent an allegorical mathematical symbolism for Heideggerian metaphysics by renaming the generic set  $G$  as the “indiscernible set,” then providing it with a new (Lacanian) symbol  $\mathfrak{F}$ —symbolizing woman as a being beyond “phallic” knowledge. He can then substitute  $S(\mathfrak{F})$  (the situation  $S$  containing the indiscernible set) for Cohen’s  $M[G]$  (the standard model augmented

through the forcing of the generic set). Here we can see the attempt to create a Heideggerian symbolism, not as a notation for the performance of set-theoretic calculations or model-theoretic constructions, but as a cultic symbolism for a penumbral Heideggerian teaching: the disclosure of unknowable Being through a naming that incarnates it in a subject who embodies its truth.

In treating the generic set as indiscernibly present in the standard model  $M$ , or basic “situation”  $S$ , however, Badiou creates a formidable technical problem for his discourse. If the generic set is to be construed as indiscernible within the standard model or situation, then the formulas or functions that “discern” the membership of the set (Cohen’s forcing conditions) must themselves be present in the original model or situation. For if these conditions of discernment are not present, then the state of affairs is not one in which the generic set *cannot be seen*—that is, is “indiscernible”—but one in which it *cannot be looked for*, since there are no criteria determining what it would mean to find it. If the conditions are present in the initial model or situation, however, then the generic set is already discernible there in the normal way. This difficulty can be formulated as a dilemma. Either the formulas (forcing conditions, “names”) that determine membership of the generic set  $G$  are present in the standard model  $M$  (the situation  $S$ ), in which case  $G$  is already discernible in  $M$  and cannot function as a symbol for the naming of “unnamable being.” Or these formulas are not present in the standard model but are added to it in the form of forcing conditions that select the membership of  $G$ . But in this case it is not that  $G$  cannot be seen (is indiscernible) in the standard model or situation, but that it cannot be looked for (is unintelligible) there, while of course being unproblematically discernible in the new or augmented model  $M[G]$ . No such dilemma arises for Cohen, as it does not cross his mind to treat  $G$  as indiscernibly present in the ground model  $M$ —he is not a Heideggerian philosopher in search of a symbol for the naming of unnamable being—and he simply treats the forcing conditions as additions to  $M$  that “discern”  $G$  (select its members) for the purposes of the new or augmented model  $M[G]$ .

As it turns out, Badiou is explicitly aware of this dilemma confronting his project (*BE*, 375). He is not in a position to resolve it by following Cohen’s path, however, for that would prevent him from treating forcing as a discerning of the indiscernible, which would in turn undo his entire attempt to mathematicize the Heideggerian philosopheme of naming the unnamable. Badiou thus adopts a different strategy. He treats the conditions or formulas for discerning  $G$  as latently or “unconsciously” present in the standard model or situation, allowing  $G$  to be thought of as indiscernibly or unconsciously present there too:

We will thus start from a multiple [set] supposed existent in the initial situation (the quasi-complete situation); that is, from a multiple which belongs to this situation. . . . This multiple will be both the basic *material* for the construction of the indiscernible (whose elements will be extracted from it), and the place of its *intelligibility* (because the conditions which the indiscernible must obey in order to be indiscernible will be materialized by certain structures of the chosen multiple). (*BE*, 357)

This allows Badiou to treat the addition of the forcing conditions as realizing a latent or unconscious element in the ground model or situation, and thence the building of  $G$  as a discerning of the indiscernible.

Badiou's strategy is exceedingly convoluted and arcane—few of his readers will have been able to follow it—but for expositional purposes can be reduced to two basic tactical maneuvers. In the first and most important of these he does something that has no parallel in set theory or model theory but that accords with the ENS subcultural tradition of viewing formal languages as embedded in (or as) a philosophical subject: he treats the ground model  $M$  (the “initial situation”  $S$ ) and the augmented model  $M[G]$  (or  $S(\wp)$ ) as if they were “worlds” inhabited by different epistemological subjects. Badiou thus designates the first of these subjects as the “inhabitant of the situation  $S$ ,” and he characterizes this subject (sometimes the “working mathematician”) as viewing the relation between the set-theoretic axioms and the situation or standard model from the “inside”; that is, from within the model-theoretic formulas that construct a model ( $M$ ) that satisfies the axioms and theorems of ZFC (*BE*, 358–62). He then designates the subject of the augmented model  $M[G]$  (or  $S(\wp)$ ) as the “ontologist,” and he ascribes to this subject a capacity for viewing the relation between the first inhabitant and the ground model from the “outside.” This is a perspective that is supposed to permit the ontologist to “see” the indiscernible set that purportedly remains invisible to the inhabitant of the standard model (*BE*, 372–75). Badiou eventually acknowledges that the notion of an epistemological inhabitant of a mathematical model is actually a “metaphor” that would not be accepted by mathematicians (*BE*, 411). But this is not before he has used this metaphor to convert the absence of forcing conditions in the ground model (indicating that  $G$  cannot be looked for) into the unconscious limits of a certain kind of epistemological subjectivity (indicating  $G$  cannot be seen). This in turn allows the “ontologist” to be presented as discerning something that is indiscernible or unconscious for the “inhabitant” of the standard model or situation, rather than as someone (like Cohen) who adds new elements of mathematical syntax (the forcing conditions) and thence new mathematical objects: “Now things became still clearer, I would introduce new sets of integers to an existing model.”<sup>67</sup>

As I have noted, however, mathematicians typically do not regard set-theoretic models as worlds inhabited by subjects who might have unconscious or conscious knowledge of them, but as sets or classes of sets that are constructed by mathematicians for the technical purposes of demonstrating the (in)consistency of particular axioms or theorems. Viewed in this way, rather than being an epistemological theory of mathematical truths that are confirmed by the models, set theory is in fact a way of performing ordinary mathematical operations in a more abstract and generalized notation.<sup>68</sup> In Wittgenstein's pithier formulation, the only way of knowing mathematical objects is by doing mathematics, or inventing it, which means that "one cannot discover any connection between the parts of mathematics or logic that was already there without one knowing."<sup>69</sup> Cohen's forcing conditions were a mathematical invention. Badiou's introduction of the metaphorical epistemological inhabitant of a model is thus a way of smuggling the criteria or forcing conditions for the generic set  $G$  into the standard model  $M$  (or situation  $S$ ) by treating them as unconsciously present in the subject or "inhabitant of the initial situation." This allows the absence of the forcing conditions in Gödel's  $M$  (the fact that they had not then been invented) to be illicitly treated as their unconscious presence in a mythical subject of  $M$ . Badiou can thus portray Cohen's invention of the forcing formulas as if it were the "ontologist's" discernment of an indiscernible generic set already present in  $M$  or the "initial situation."

The second tactical wing of Badiou's strategy for treating the absence of formulas for the "indiscernible" set as their unconscious presence is an even more arcane affair. It involves treating the "names" or formulas of the standard model  $M$  or "initial situation"  $S$  as themselves harboring the formulas or forcing statements that produce the generic set  $G$  (or indiscernible set  $\mathfrak{G}$ ). This again allows Badiou to transmute Cohen's invention of the forcing statements into a means of naming unnamable being, and thus to treat forcing as a "fidelity procedure" that forces the situation to "accommodate" the indiscernible truth through the "intervention" of the subject (*BE*, 342). As noted, Badiou is himself aware of the dilemma that he must resolve for this strategy to succeed. If the formulas for constructing the generic set are already used in the standard model  $M$  (or initial situation  $S$ ), then the generic set is already discerned within the initial situation, and forcing is no longer a naming of unnamable being. But if the formulas are added to the ground model for the purpose of producing an expanded model, as they are by Cohen, then the generic set is not something that was already present and indiscernible in the initial situation or ground model, but is simply something unintelligible there. Badiou thus comments, "The extreme difficulty of the question lies in this 'addition' having to be made with the resources of  $S$ : otherwise it would be unintelligible for an inhabitant

of  $S$ " (*BE*, 375). This of course is not a problem for Cohen, as he does not require the generic set  $G$  to be present in the ground model or initial situation, or that it be intelligible but indiscernible for some "metaphorical" inhabitant.

Badiou's solution to the problem is thus also foreign to Cohen's forcing procedure: "The solution to this problem consists in constructing, within the situation, multiples which function as *names* for every possible element of the situation obtained by the addition of the indiscernible  $\varphi$ " (*BE*, 358). We can recall that Cohen's "names," or forcing conditions, are iterative formulas—similar to  $n$  in  $G$ ,  $n$  not in  $G$ , and so on—*added to* the standard model (or situation) for the purpose of selecting the elements of the "adjoined" generic set  $G$  (Badiou's  $\varphi$ ). Badiou's solution, however, involves treating the forcing conditions or names as (simultaneously) *already present in* the standard model or situation where their role is not to adjoin a set to the basic model but to discern the indiscernible set or name the unnamable being supposedly unconsciously present there.

Here the important thing to observe, though, is that Badiou's solution does not take place within set theory or model theory—for in these disciplines the dilemma would destroy his discourse—but takes place via a shift to the underlying discourse of Heideggerian philosophy. For this shift permits the quotidian logical dilemma or contradiction to be transmuted into an efflorescence of philosophical paradoxes:

The striking paradox of our undertaking is that we are going to try to *name* the very thing which is impossible to *discern*. We are searching for a language for the unnamable. It will have to name the latter without naming it, it will instruct its vague existence without specifying anything whatsoever within it. The intra-ontological realization of this program, its sole resource the multiple, is a spectacular performance. (376)

Not only do these paradoxes rhetorically disarm the dilemma by converting it into a quasi-sacred mystery but they also program a further discursive spiritual exercise—a repeated circular movement between an unnamable Being that summons a subject to name it, and a subject who summons this Being by naming it—carried out through the "spectacular performance" of an arduous but allegorical formal philosophical argument.

There are two main parts to this performance. Badiou's first move is one that has no parallel in set theory or model theory: he treats the "multiples" or sets of the initial situation or standard model as already harboring the generic set (and its forcing conditions) but in a "negative" or indiscernible form. The baroque details of this mathematico-metaphysical construction need not detain us. Suffice it to say that Badiou's basic procedure is to treat the formulas of the standard model or initial situation as if they were chosen

from among an indeterminate plenitude of formulas—proxy for the unrepresentable multiples of the void—rather than being syntactic constructs *ab initio* as they are for Gödel and Cohen. The putatively “unchosen” formulas are then treated as the negative or indiscernible conditions of those supposedly chosen to form the sets of the standard model or situation (*BE*, 367–71). In a simulacrum of Heidegger’s “forgetting of being,” this allows the “discernment” of the sets of the initial situation or standard model to be treated as conditioned by the “indiscernment” of the generic or “indiscernible set  $\varphi$ .” The indiscernible set can thus be regarded as unnamably present within the standard model or situation *S* as the condition of its discernment that has been hidden from or “forgotten” by the “inhabitant of *S*,” historically Gödel!

The second part of Badiou’s “spectacular performance” consists in his attempt to show how the “intelligibility” of the indiscernible (generic) set can be derived by “manipulating” the sets or formulas of the initial situation (standard model) itself, again allowing the generic set to be thought of as present but indiscernible in the initial situation rather than being generated as Cohen’s “new sets of integers.” Badiou’s key move is to treat the forcing conditions as already latently present in the “names” or sets (“basic multiples”) of the initial situation or (Gödel’s) standard model—rather than as having been invented by Paul Cohen—thereby allowing the names to function as the point where the occluded negative or “forgotten” conditions can be made to surface or “materialize.” He does this simply by stipulating that the names of the basic multiples of the standard model will themselves consist of ordered pairs of names and conditions  $\langle u, \pi \rangle$ , among the latter being the conditions of the generic or indiscernible set itself (*BE*, 376). This satisfies Badiou’s need for the forcing conditions to be present in the initial situation (so that the indiscernible set is intelligible), but to be latently or unconsciously present (so that the indiscernible set cannot be discerned by the inhabitant). He thus comments that “it is with these names that we are going to construct a situation  $S(\varphi)$  to which the indiscernible  $\varphi$  will belong. A case in which it is literally the name that creates the thing” (*BE*, 378). Badiou then specifies the manner in which the “names” of the initial situation *S* give rise to the generic or indiscernible set  $\varphi$  by introducing a binary function  $R_\varphi$ . This “reference function” operates on the paired names and conditions  $\langle u, \pi \rangle$ , such that the resulting “referential value” determines  $\varphi$  as a “referent” of the names that are supposedly “in *S*” (*BE*, 378–80). Badiou represents this as  $R_\varphi(u) = \langle u, \pi \rangle$ , which might one day be collected as a curio in the history of formal languages: a one-off attempt to formulate a mythopoetic “equation” for symbolizing the Heideggerian discerning the indiscernible.

Were Badiou’s construction to belong to formal model theory rather than Heideggerian allegoresis, then by this point the problems confronting

the construction would be overwhelming. I have already noted that Badiou's embedding of the indiscernible set within the ground model or initial situation—by treating the formulas of the latter as amnesic selections from the infinite multiples of the void—represents a Heideggerian allegorization of model theory. Now it can be observed that the introduction of the symbol  $\varphi$ —woman as impervious to “phallic knowledge”—represents the importation of a “semantic” symbol from Lacanian psychoanalytic discourse in a manner that is foreign to the formal-syntactic order of set theory and model theory but typical of the intellectual hybrids spawned within the ENS subculture. For if considered in a purely formal-syntactic manner, nothing about the operation of a binary function on the pairs of names and conditions  $\langle u, \pi \rangle$  indicates that the resulting “referential value”  $R_{\varphi}(u)$  will be indiscernible; nothing, that is, apart from the illicit Lacanian semantic content of the  $\varphi$  symbol itself. If, however, the semantic meaning of  $\varphi$  is suspended, and Badiou's generation of the generic set from the “names” is viewed in a purely formal-syntactic manner, then the dilemma haunting his account returns in full force. For, now, either the functional names (or formulas) are part of the standard model or initial situation, in which case their sets are generated or “discerned” unproblematically and thus do not constitute an indiscernible or generic set. Or the names are indeed Cohen's forcing formulas that have been added to the ground model as a new piece of mathematical syntax. But this means that the “adjoined” generic set cannot be regarded as indiscernible in the ground model or initial situation, since the conditions permitting it to be “looked for” had not yet been added.

As we have seen, Badiou's “solution” to this problem lies in treating the invented formulas for newly adjoined sets as if they were unconsciously present in the formulas for the standard model or situation, and the only way he and his readers can do this is via the spiritual exercise in which they repeatedly trace the circle between the subject that Being calls forth to name it, and the subject that calls forth Being by naming it. On the one hand, the “inhabitant of S” can discern his world only on the basis of formulas or names that conceal the unnamable infinite multiples from which they have been drawn. On the other hand, in naming the unnamable by the “aleatory” procedure of forcing in which the “name creates the thing,” the “ontologist” makes room for the event as the “being of truth,” but does so blindly, since fidelity to the event brings this subject into existence: “What must be recognised therein, when it inexists in the first situation under the supernumerary sign  $\varphi$ , is nothing less than the purely formal mark of the event whose being is without being; and when its existence is indiscerned in the second situation, is nothing less than the blind recognition, by ontology, of a possible being of truth” (*BE*, 387). What this means of course is that the subject's naming of the unnameable event creates the conditions for discerning the

indiscernible ♀, while the aleatory encounter with the unnameable event creates the conditions or the subject in which the indiscernible will be discerned. In short, we end with the paradox of the subject whose naming summons the unnameable Being that summons the subject—the paradox mediated through the spiritual exercise of Heidegger’s hermeneutic circle—which is the point at which we began.

### Concluding Remarks

In fact, I began by proposing to redescribe Badiou’s discourse as one formed at the nexus of the allegorical reworking of set theory as a symbology for Heideggerian metaphysics and the formalization of this “poetic” metaphysics through its transposition into set-theoretic “mathemes.” This discourse, I argued, arose in the context of the ENS subculture in which students were required to undertake competitive hermeneutic exegeses of philosophical texts, often using Heideggerian thought as the hermeneutic key, under circumstances in which this formative pedagogy was penetrated by the political and therapeutic imperatives and passions of rival extramural coteries. In the course of this redescription a recurrent dilemma has arisen: Badiou’s claim to treat set theory formalistically, as producing its objects from its “names” or formulas, encounters the contradictory claim that these names or formulas have the role of articulating objects that already exist but are indiscernible. Were Badiou’s discourse to be what he claims—a “metaontological” use of set theory and model theory proving the thesis that “mathematics is ontology”—then this dilemma would be destructive of his undertaking, for within those mathematical disciplines the dilemma would be the symptom of an insurmountable contradiction. I have shown, though, that Badiou’s discourse is grounded not in these disciplines but in the discipline of Heideggerian metaphysics, and that here the recurrent dilemma does not play out as a contradiction. Rather, it is systematically transmuted into a paradox whose central form is that the act of mathematical naming of the “event,” by which the subject summons unpresentable Being into thought and existence, is simultaneously the moment in which the event summons the subject into existence as the being in which Being is disclosed and concealed.

This paradox is the fundamental Heideggerian thought-figure that I have identified lying at the core of Badiou’s *Being and Event*, where it structures his allegoresis of set theory. In the course of my description, however, I have shown that this figure of thought is also a type of spiritual exercise. In fact it is an inner gymnastic required of Badiou’s readers, and desired by them, on the basis of the promise that through it they will pass

beyond merely “veridical” knowledge and encounter the “truth” in its highest and most paradoxical form: as an encounter with unnamable Being that calls them into existence as its “subject,” even as their “militant” naming of Being calls it into existence in and as the world of beings. Those who have sought to mock Badiou’s discourse as “fashionable nonsense” could hardly be more mistaken or less effectual, since the staging of such spiritual exercises reaches all the way back to the “psychagogies” of the early Christian and Neoplatonic schools.<sup>70</sup> What is modern about Badiou’s discourse is that it emerged as a pedagogical instrument at the pinnacle of a highly centralized state education system, where it has played a part in the spiritual grooming of a national philosophical elite, even if it would also later appear in an archipelago of Anglo-American university courses and reading groups that partially replicate this pedagogy.

Like those other spiritual exercises that he names—“Platonic ascension, Cartesian doubt, the Husserlian [*epoché*]”—Badiou’s too can be understood as aimed at an “illumination obtained without concept at the end of an initiatory groundwork” (*BE*, 238–39). In Badiou’s case initiation occurs through his students and readers learning the fundamental Heideggerian paradox itself—a difficult undertaking for those outside the ENS subculture—and then using it to transform their relation to themselves such that they become subjects open to illumination by the “event”; although the only event that actually takes place here is the perfectly quotidian and historical pedagogical transformation itself. The reason, then, that Badiou and his followers never treat the Heideggerian thought-figure as a contestable doctrine is that it is the “theological” means of initiation into his extraordinary mathematico-metaphysical regimen, even though this figure of thought brings with it almost the entirety of Christian metaphysics transposed into a sectarian negative ontology. One thus accedes to Badiou’s paradoxical discourse not by testing its theoretical or empirical credentials but by converting to it. This permits one to groom a self whose elevation to the status of “subject” is inseparable from the derogation of those unilluminated “Judaic” selves who have never passed through the “initiatory groundwork.” As the program for an extended spiritual pedagogy, Badiou’s discourse thus can neither be falsified nor validated, but it can be redescribed in a manner that might help purge the desire to undertake it.

## Notes

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1. Alain Badiou, "Caesura of Nihilism," in *The Adventure of French Philosophy*, trans. B. Bosteels (London, 2012), 65.
2. Ludwig Wittgenstein, *The Big Typescript, TS 213*, trans. C. G. Luckhardt and M. A. E. Aue (Oxford, 2005), 300e.
3. Here and throughout I use "spiritual" and "spirituality" to refer not to a domain of belief but to special practices of self-transformation—of self-interrogation, conversion of outlook, hermeneutic self-shaping, the pursuit of illumination—that are programmed by particular philosophical doctrines or figures of thought. Cf. Foucault's distinction between "philosophy" as the "form of thought that asks . . . what determines that there is and can be truth and falsehood," and "spirituality" as the "search, practice, and experience through which the subject carries out the necessary transformations on himself in order to have access to the truth," including "purifications, ascetic exercises, renunciations, conversions of looking, modifications of existence, etc." See Michel Foucault, *The Hermeneutics of the Subject: Lectures at the Collège de France 1981–1982*, ed. F. Gros, trans. G. Burchell (New York, 2006), 15.
4. Ian Hunter, "The History of Philosophy and the Persona of the Philosopher," *Modern Intellectual History* 4 (2007): 571–600.
5. See the important discussion in Edward Baring, *The Young Derrida and French Philosophy, 1945–1968* (Cambridge, 2011), 42–47, 67–80, 82–107. See also Alan D. Schrift, "Is There Such a Thing as 'French Philosophy'? or Why Do We Read the French So Badly?," in *After the Deluge: New Perspectives on the Intellectual and Cultural History of Postwar France*, ed. J. Bourq (Lanham, MD, 2004), 21–48; Alan D. Schrift, "The Effects of the *Agrégation de Philosophie* on Twentieth-Century French Philosophy," *Journal of the History of Philosophy* 46 (2008): 449–73; and Knox Peden, *Spinoza Contra Phenomenology: French Rationalism from Cavailles to Deleuze* (Stanford, 2014), 149–90. For an illuminating account of the *Ratio Studiorum* as a plan of studies that tied access to philosophical knowledge to the ascetic transformation of students, and thus philosophy to salvation, see Paul Richard Blum, *Philosophenphilosophie und Schulphilosophie. Typen des Philosophie-rens in der Neuzeit* (Stuttgart, 1998), 50–64, 142–57.
6. It is in this regard that I would qualify Alan Schrift's otherwise persuasive argument—in "Is There Such a Thing as 'French Philosophy'?"—that the shape of French philosophy arises from the character of the French academic institutional order. Schrift argues that the role of Heideggerianism in this order is that of a discrete doctrine playing a limited role in relation to an array of other such doctrines, including Kantianism, Hegelianism, existentialism, formalism, and Spinozist Marxism. I argue, though, that the formative pedagogical role of these intellectual traditions allowed them to enter into fluid and fissiparous interactions, and that, as the dominant spiritual pedagogy in the ENS context, Heideggerian figures of thought entered into Spinozist Marxism, Lacanian psychoanalysis, and logical formalism at their deepest levels, as shall be seen in the case of Badiou.
7. Baring, *Young Derrida*, 221–38.
8. Andrew Warwick, *Masters of Theory: Cambridge and the Rise of Mathematical Physics* (Chicago, 2003), 1–48, 227–85.
9. For this reason, despite all that can be learned from them, I do not incorporate Pierre Bourdieu's sociological studies of French higher education, since my focus is on the production of an academic intellectual cadre through the

- transmission of an array of technical and spiritual disciplines rather than on the reproduction of class relations. That said, the social background of the ENS students—middle-class and skewed heavily toward the children of schoolteachers—is clearly important in the preformation of those who will undergo these disciplines.
10. Cf. Foucault, *Hermeneutics of the Subject*, 1–19.
  11. Baring, *Young Derrida*, 91–111.
  12. Jacques-Alain Miller, “Suture (Elements of the Logic of the Signifier),” in *Concept and Form*, vol. 1, *Selections from the Cahiers pour l’Analyse*, ed. P. Hallward and K. Peden (London, 2012), 92–93.
  13. *Ibid.*, 97.
  14. *Ibid.*, 98–99.
  15. *Ibid.*, 101.
  16. Baring, *Young Derrida*, 273–76; Peden, *Spinoza Contra Phenomenology*, 175–77.
  17. Alain Badiou, “Mark and Lack: On Zero,” in Hallward and Peden, *Concept and Form*, 1:161.
  18. *Ibid.*, 1:160–64.
  19. *Ibid.*, 1:169–71.
  20. *Ibid.*, 1:165.
  21. This constitutes one of many striking antitheses between Badiou’s approach to the philosophy of mathematics and Ludwig Wittgenstein’s. In the 1930s Wittgenstein had also insisted that the significance or value of mathematical symbols was wholly determined by their syntactic place in particular calculi or algorithms but drew a conclusion diametrically opposed to Badiou’s regarding the consequences for the philosophy of mathematics: “Because mathematics is a calculus and therefore really about nothing, there isn’t any metamathematics”; Wittgenstein, *The Big Typescript*, 372e. It is not clear that Badiou had first-hand experience of Wittgenstein’s work during the 1960s, although he would have come across it at one remove in an outlying contribution to the final volume of the *Cahiers* by Jacques Bouveresse, “Philosophie des mathématiques et thérapeutique d’une maladie philosophique: Wittgenstein et la critique de l’apparence ‘ontologique’ dans les mathématiques,” *Cahiers pour l’Analyse* 10 (1969): 174–208.
  22. Badiou, “Mark and Lack,” 167.
  23. *Ibid.*, 171–74.
  24. *Ibid.*, 172.
  25. See, inter alia, Peter Hallward, *Badiou: A Subject to Truth* (Minneapolis, 2003), xxi–xxxvi, 11–15, 148–51; Peter Hallward, introduction to *Concept and Form*, 1: 55; Slavoj Žižek, *In Defense of Lost Causes* (London, 2008), 1–5; and Bruno Bosteels, *Badiou and Politics: Post-Contemporary Interventions* (Durham, NC, 2011), 45–76.
  26. Alain Badiou, *Being and Event*, trans. O. Feltham (London, 2005), 13. (All further references are given parenthetically in the text. All emphases are original.)
  27. For a reasonably compact and accessible formulation of the Heideggerian prototype for this figure of thought, see Martin Heidegger, *Being and Time: A Translation of Sein und Zeit*, trans. J. Stambaugh (New York, 1996), 56–58. And for a routine expression by Badiou, see the epigraph to this paper.
  28. Needless to say, this is a contested issue. For an argument that Badiou’s theory of the subject is fundamentally Heideggerian, see Graham Harman, “Badiou’s Relation to Heidegger in *Theory of the Subject*,” in *Badiou and Philosophy*, ed. S. Bowden and S. Duffy (Edinburgh, 2012), 225–43. For an argument that in

- mathematizing Heidegger's theme of the concealment of Being in its disclosure Badiou fundamentally transforms it, see Sam Gillespie, *The Mathematics of Novelty: Badiou's Minimalist Metaphysics* (Melbourne, 2008), 73–77.
29. On allegoresis, including its ancient use to import “hidden” philosophical and theological doctrines into Homer, see Dorothea Sigel and Hildegard Cancik-Lindemaier, “Allegoresis,” in *Brill's New Pauly: Encyclopedia of the Ancient World*, ed. H. Cancik and H. Schneider, 16 vols. (Leiden, 2001–10), 1:511–16. See also, Zhang Longxi, *Allegoresis: Reading Canonical Literature East and West* (Ithaca, 2005).
  30. For Badiou's earlier view, see Badiou, “Mark and Lack,” 170.
  31. Richard Dedekind, *Essays on the Theory of Numbers*, trans. W. W. Beman (Chicago, 1901), 33–34.
  32. See Ricardo L. Nirenberg and David Nirenberg, “Badiou's Number: A Critique of Mathematics as Ontology,” *Critical Inquiry* 37 (2011): 593–94; and Akihiro Kanamori, “The Empty Set, the Singleton, and the Ordered Pair,” *The Bulletin of Symbolic Logic* 9 (2003): 273–76.
  33. The basic idea informing the extensionalist program at the beginning of the twentieth century was that all mathematical objects, numbers in particular, can be regarded as collections of independently existing abstract objects or sets, and formulated in expressions that reduce to the membership relation,  $\in$ . Integers (“natural numbers”) can thus be treated as finite sets, rational numbers (“fractions”) as pairs of integers, “real” numbers as intervals in an infinitely expanding number line, and functions as sets of pairs. See M. Randall Holmes, *Elementary Set Theory with a Universal Set* (Louvain-la-Neuve, Belgium, 1998), 25–28. Here I do not discuss the controversy as to whether set theory provides a foundation for mathematics or simply a more abstract set of notations for it, but note Wittgenstein's comment that the “logical calculus—is only frills tacked on to the arithmetical calculus”; see Ludwig Wittgenstein, *Remarks on the Foundations of Mathematics*, 3rd ed. (Oxford, 1978), 146.
  34. “Situation” is an unexpectedly complex technical term in Badiou's discourse, combining three different referents in a manner that condenses a good deal of his argument. It refers, first, to the (extensionalist) set-theoretic concept of “domain” as the values or  $n$ -tuple relations that “satisfy” a mathematical function; second, to the “universe” of sets structured by first- and second-order logics as a “model” for a selected axiomatization of set theory; and third, and more informally, to an empirical state of affairs—a domain of facts, a “historical situation”—that Badiou nonetheless approaches as if it were a kind of set-theoretic domain or model.
  35. Thomas Jech, *Set Theory*, 3rd rev. ed. (Berlin, 2003), 3–5; Paul J. Cohen, *Set Theory and the Continuum Hypothesis* (New York, 1966), 3–7.
  36. For examples, see Justin Clemens, “Platonic Meditations: The Work of Alain Badiou,” *Pli* 11 (2001): 217; Hallward, *Badiou*, 75, 101–103; Justin Clemens and Oliver Feltham's introduction to Alain Badiou, *Infinite Thought: Truth and the Return to Philosophy*, ed. and trans. J. Clemens and O. Feltham (New York, 2003), 15–16; and Ray Brassier, *Nihil Unbound: Enlightenment and Extinction* (Basingstoke, 2007), 104–5.
  37. Cf. Peter Hallward's comment that “the void is thus all that can be presented, within a situation, of pure, inconsistent multiplicity, or be-ing. And since ontology is the presentation of presentation, it can just as well be redescribed as the presentation of the unpresentable, or as the presentation of nothing”; Hallward, *Badiou*, 65. Here Hallward simply presumes the truth of Badiou's Heideggerian

- allegorizing of zero and the empty set, thence that there is such a thing as the “void,” and that it makes public sense to speak of ontology as presenting the unrepresentable, which gives his commentary a strongly devotional character.
38. It can be noted that in an early work, in which Badiou puts Georg Cantor’s transfinite numbers to the same Heideggerian use, he characterizes the incalculable and impossible infinitude inhabiting the calculable domain not as the “Other” but as the “real,” in accordance with Jacques Lacan’s pairing of the “symbolic” and the “real.” See Alain Badiou, “Infinitesimal Subversion,” in *Concept and Form*, 1:189–93.
  39. For pioneering papers see Georg Cantor, “Über die Ausdehnung eines Satzes aus der Theorie der trigonometrischen Reihen,” *Mathematische Annalen* 5 (1872): 123–32; and Dedekind, *Essays on the Theory of Numbers*, 1–13. For a helpful overview of these developments, written for students of law and the humanities, see Robert Hockett, “Reflective Intensions: Two Foundational Decision-Points in Mathematics, Law, and Economics,” *Cardozo Law Review* 29 (2008): 1967–2119. See also Joseph W. Dauben, *Georg Cantor and the Battle for Transfinite Set Theory*, (New York, 1988).
  40. For the extensionalist character of this foundation, see note 33.
  41. See Cantor, “Über die Ausdehnung eines Satzes,” § 2. For a useful commentary, see Joseph W. Dauben, “The Trigonometric Background to Georg Cantor’s Theory of Sets,” *Archive for History of Exact Sciences* 26 (1971): 202–8.
  42. Joseph W. Dauben, *Georg Cantor: His Mathematics and Philosophy of the Infinite* (Princeton, 1979), 95–101.
  43. For a summary statement of L. E. J. Brouwer’s “intuitionist” view of infinity, see Michael Dummett, *Elements of Intuitionism* (Oxford, 1977), 51–56. For Wittgenstein’s parallel but distinct form of finitism, see Wittgenstein, *Remarks on the Foundations of Mathematics*, 260–80.
  44. For an overview of the two outlooks, written from the perspective of a moderate extensionalism, see Hockett, “Reflective Intensions,” 1990–2006.
  45. Wittgenstein, *Big Typescript*, 489e–505e.
  46. Nirenberg and Nirenberg, “Badiou’s Number,” 601–6.
  47. See, for example, Kenneth A. Reynhout, “Alain Badiou: Hidden Theologian of the Void,” *Heythrop Journal* 52 (2011): 219–33, whose central argument is that Badiou’s void is God.
  48. One of Heidegger’s characteristic evocations of the event thus runs: “All the same, the task remains: *the retrieval of beings out of the truth of beyng*. . . . A projection of the essential occurrence of beyng as *the event* must be ventured, *because* we do *not* know that to which our history is assigned. Would that we might radically experience the essential occurrence of this unknown assignment in its self-concealing”; Martin Heidegger, *Contributions to Philosophy (of the Event)*, trans. R. Rojcewicz and D. Vallega-Neu (Bloomington, 2012), 11–12.
  49. See Alain Badiou, *L’être et l’événement* (Paris, 1988), 197.
  50. For a germane account of the Neoplatonic use of Plato’s *Parmenides* in this kind of aporetic spiritual pedagogy, see Alain Lernoùd, “Negative Theology and Radical Conceptual Purification in the Anonymous *Commentary* on Plato’s *Parmenides*,” in *Plato’s Parmenides and Its Heritage*, ed. J. D. Turner and K. Corrigan (Atlanta, 2010), 257–74. For a discussion of the role of paradox in Husserlian and Heideggerian philosophy, written from within this philosophical perspective, see Carl J. Kalwaitis, “The Origin of Paradox and Its Relation to Philosophical Reflection,” *Philosophy Today* 42 (1998): 361–74.

51. For a detailed argument to this effect, see Slavoj Žižek, *The Ticklish Subject: The Absent Centre of Political Theology* (London, 1999), 141–51.
52. This is the paradox that structures Badiou’s meditation on the apostle Paul. See Alain Badiou, *Saint Paul: The Foundations of Universalism*, trans. R. Brassier (Stanford, 2003), where we find such pronouncements as: “For Paul, it is a matter of investigating which law is capable of structuring a subject devoid of all identity and suspended to an event whose only ‘proof’ lies precisely in its having been declared by a subject” (5).
53. For a broader historical account of the role of Christian metaphysical purification in a *longue durée* anti-Judaic political theology and revolutionary messianism, see David Nirenberg, “‘Judaism’ as Political Concept: Toward a Critique of Political Theology,” *Representations* 128 (2014): 1–29.
54. Slavoj Žižek, “Psychoanalysis in Post-Marxism: The Case of Alain Badiou,” *South Atlantic Quarterly* 97 (1998): 235–61, 244.
55. On the nexus between “philosophy” and “spirituality,” see note 3.
56. As a nonmathematician, I have drawn the following account of forcing from several standard sources, which are listed here for other nonmathematicians in order of increasing technicality, beginning with some generally accessible accounts: Thomas Jech, “What is Forcing?,” *Notices of the American Mathematical Society* 55 (2008): 692–93; Paul Cohen, “The Discovery of Forcing,” *Rocky Mountain Journal of Mathematics* 32 (2002): 1071–100; Timothy Y. Chow, “A Beginner’s Guide to Forcing,” in *Contemporary Mathematics: Communicating Mathematics*, ed. T. Y. Chow and D. C. Isaksen (Providence, 2009), 25–40; Thomas Jech, *Set Theory*, 3rd rev. ed. (Berlin, 2003), 201–24; and Paul J. Cohen, *Set Theory and the Continuum Hypothesis* (New York, 1966), 107–29.
57. For a helpful exposition, see Dauben, *Georg Cantor: His Mathematics and Philosophy of the Infinite*, 96–101.
58. The power set is an algebraic invention that works by taking the countable elements of a set and then creating new groups of numbers (“subsets”) based on all possible algebraic permutations of the original elements. The number of permutations or subsets formed in this way is two to the power of the number of the original elements. An original set of three elements thus gives rise to a power set of  $2^3$ , or 8 subsets. If the original set is the infinite (unending) number of natural numbers  $\aleph_0$ , then the power set of the natural numbers,  $2^{\aleph_0}$  or  $\aleph_1$ , is the imagined result of an infinitude of permutations that are in fact incapable of being performed. Here I set aside the question of whether a power set is a “set” in the same sense as the original set of elements—since it is formed through a different calculus—and hence the question of whether its number should be regarded as “larger” than that of the original set, as opposed to simply being counted (permuted) in a different way.
59. Cohen, “Discovery,” 1079.
60. Kurt Gödel, “The Consistency of the Axiom of Choice and the Generalized Continuum-Hypothesis,” *Proceedings of the National Academy of Sciences of the United States of America* 24 (1938): 556–57.
61. Cohen, “Discovery,” 1091–93.
62. Jech, “Forcing,” 693.
63. Cohen, “Discovery,” 1097.
64. For a helpful discussion of how pluralism in model building precludes an ontological interpretation of set theory, see Penelope Maddy, *Naturalism in Mathematics* (Oxford, 2000), 22–37.

65. Conversely, many of Badiou's commentators simply presume that Cohen's forcing conditions are a means of discerning a generic set that is supposedly indiscernibly present in the "situation" or the ground model ( $M$ ) of ZFC, although they rarely cite Cohen to this effect, only Badiou. See, for examples, Hallward, *Badiou*, 135–39; and Sean Bowden, "The Set-Theoretical Nature of Badiou's Ontology and Lautman's Dialectic of Problematic Ideas," in *Badiou and Philosophy*, 53–55. Again, this amounts to a devotional style of commentary.
66. Cohen, "Discovery," 1095–96.
67. *Ibid.*, 1090.
68. Maddy, *Naturalism*, 24–27.
69. Ludwig Wittgenstein, *Philosophical Grammar* (Oxford, 1974), 481.
70. See, for examples, Lernould, "Negative Theology and Radical Conceptual Purification"; and Theresia Hainthaler, "The 'School of Antioch' and Theological Schools in the Area of the Patriarchate of Antioch," in *Christ in the Christian Tradition*, vol. 2, part 3, *The Churches of Jerusalem and Antioch from 451 to 600*, ed. T. Hainthaler (Oxford, 2013), 218–51.