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The politics of logic: On the consequences of formalism

Introduction: An Inquiry into Forms of Life

I begin with a formulation of Wittgenstein's, as enigmatic today as it was when written fifty years ago, which nevertheless captures the central problem on which a post-"analytic" philosophical reflection on language and a critical theory of politics in the "continental" mode are today converging:

What has to be accepted, the given, is -- so one could say -- forms of life.[1]

In the *Philosophical Investigations*, Wittgenstein uses the term *Lebensform* (or *Lebensformen*) only a handful of times. But in these few cases, Wittgenstein employs the term in a positively assertoric voice that is rare within a text dedicated almost wholly to criticizing what we may otherwise take to be the "givens" of our language and everyday world. Contemporary interpretations oscillate between two ways of understanding Wittgenstein's elliptical invocation of forms of life as "the given." One line of interpretation understands it as indicating a conventionalist anthropologism of practices or cultures. This is a doctrine of the communal determination of meaning by means of shared practical conventions and norms "implicit in practice." Another takes it to suggest a biologism of adaptive forms, a "naturalist" reduction of language and meaning to broadly natural-scientific facts.[2] I shall argue, however, that Wittgenstein here gestures toward a different problematic altogether, one that actually tends to undermine the very terms in which this decision between culturalist and naturalist readings is normally couched.

Indeed, as I shall argue, the problem posed by Wittgenstein's invocation of forms of life is not located simply either in the question of the nature of lives *or* of their forms, but rather in what lies between these two terms: in what it is, roughly, for a form to be a form *of* life, what it means that something like form or forms shape a (human) life at all. This relationship cross-cuts the distinction between "culturalist" and "naturalist" conceptions of forms, or of the lives they shape. This problematic is thus not one of

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[1] Wittgenstein (1953) (henceforth: *PI*), II, xi.

[2] Conventionalist or communitarian readers of Wittgenstein include Rorty (1993), Kripke (1982), and Bloor (1983); naturalist readers include McGinn (1987) and Maddy (2000). For the broader project of "naturalizing" meaning and language, see, e.g., Millikan (1984), Dretske (1997), and Fodor (1992).

criteriology or genealogy; it cannot be resolved by a taxonomy of determinate factual ways of life, whether sociologically or biologically defined. Nor is it, however, the old Platonic problem of the transcendent *being* of forms, which is sometimes answered today by a naturalism of forms that is simply the inverted image of the dominant conventionalism of lives.[3] Rather, it is the problem of understanding the meaning of the connective "of" in *forms of life*: in what way does form *inform* a life, and what is it for a life to be lived in some determinative relation, obscure or clear, vague or explicit, to forms or to a form?[4] What is implicated in this question is the obscure link between form and matter, the ideal and the real, the universal and the particular, or the transcendent and the immanent. This is the place of what Plato called "participation." Contemporary thought has traced it as the place of the diagonal, the paradoxical, and the *chora*, but also the (history-making or supra-historical) "event," and the fragile possibility of a radically clarified life to come.

The aim of this work is thus to consider the relationship between *forms* or *form* and a *life*, under the condition of an age determined by the technicization of *information* made possible by the logico-syntactical *formalization* of language. As I shall argue, this requires an investigation into the *consequences of formalism* in two senses. First, it requires a consideration of the ways that collective life can be theoretically reflected in formal-symbolic theoretical structures and the extent to which such structures can illuminate the forms of communities and politics. Second, however, it is necessary to consider the effects of the material and technological *realization* of some of these very same formal structures on the actual organization of contemporary politics, for instance the actual communicational and computational technologies that today increasingly determine social, political, and economic institutions and modes of action around the globe.

The concept of "formalism" is here intended to be very broad and neutral. It comprehends, for instance, both *mathematics* (the abstract locus that Plato grasped as the domain of forms *par excellance*) and symbolic *language* (as the formaliz*able* system of rules that the approaches of twentieth-century linguistic philosophy have often taken it to be). In its contemporary development, the formalization of both

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[3] One example of this kind of reading is McDowell (1994), who attempts to avoid both "bald naturalism" and conventionalism by means of the invocation of a "naturalism of second nature" that, McDowell suggests, can also function as a "naturalized Platonism."

[4] The lack of any explicit connective in Wittgenstein's German term "Lebensform" does not make this problem of relation any less urgent.

mathematics and language arises from a transformative experience of what Greek thought already grasped as *logos*.[5]

In the twentieth century, the material and historical "rationalization" of social life (for instance in the widespread development and standardization of technologies and practices of communication, information exchange, and commodificiation) is closely linked with developments arising from critical *reflection* on language and its formal structure or structures. Accordingly, both the concrete historical and the abstract critical consequences of formalism probably must be treated together if we wish to produce an analysis adequate to the most important social and political phenomena of our time.[6] Indeed, it is a substantial failing of many existing analyses of technology, progressive rationalization, and "instrumental reasoning" that they fail to take into account, in any detail, the *internal* implications of the specific abstract and formal-logical structures that, on their own accounts, increasingly dominate social and political life. It is typical for these analyses, continuing in various styles the classical legacy of Kantian critique, to complain of the growing dominance of technical, instrumental, or calculative reason, while maintaining the possibility of a distinct, non-formal or "lived" modality of reason still accessible to critical thought and practice.[7] But if, as seems likely, the twentieth-century development of formal reflection on language and logic problematizes the very terms in which theorists have attempted to describe such an alternative modality of "lived" reason and reasoning, it may be that critical thought about technology and society must now continue explicitly in a formal mode, if it is to continue at all.

This produces a new question, which nevertheless may be seen, retrospectively, as having been one of the most significant questions of a wide variety of philosophical projects ("analytic" as well as "continental")

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[5] Today we *might* indeed translate *logos* as "language." This translation misses the plurivocity of the original Greek term, and the experience it connotes, which is ambiguous, for instance, between "language," "word," "meaning," and "account." And as is well known, the Greek experience of *logos* is the historical basis for all that develops afterwards as "reason" and "rationality," as well as for what we today understand, using the techniques of formal logic, as norms for the meaningfulness of language *or* the integrity of thought. What is important, in any case, is to preserve the profound continuity that runs between Socrates' search for the *logoi* of the various phenomena with which he was concerned and today's critical inquiry, developed in the analytic tradition and by means of formal, symbolic logic, into the constitutive structure of language as such.

[6] The critical theory of the progressive "rationalization" of society and its links to what is discussed as "instrumental" as well as "communicative" forms of rational practice has roots in Weber and is presented in what is by now its classic form by Habermas (1981).

[7] See, e.g., Husserl (1957) and Habermas (1981b), who treat the "pre-" or "non-"formalized aspects of reason under the heading of the "lifeworld," Adorno (1966) and Horkheimer (1967), who criticize "instrumental reason" while appealing to an older, Kantian and non-instrumental conception, and Heidegger's (1952) and (1953) critiques of technology and "calculative thinking."

in the twentieth century. This is the question of the *formalization of formalism* itself, of the reflection of formal-symbolic structures *within* themselves, and thus of the possibility of these structures coming to comprehend and articulate their own internal constitution and limits. Within the analytic tradition, this question is posed and pursued within the ill-defined field sometimes called "metalogic." Its results are recognized as profound, but their larger significance has, so far at least, been difficult to place. In particular, despite the largely negative significance usually ascribed to them, the transformative results of Russell, Gödel, and Tarski, for instance, have in fact fundamentally articulated what we can expect from a critical reflection on the nature of language and our human access to it. On the "continental" side, as well, such transformative critical meta-reflection has resulted from the massive mid-century project of structuralism as soon as "post-structuralist" philosophers subjected it to internal critique on its own terms.

One of my chief goals in the present work is thus to argue that these two strands of reflection on language – metalogical analysis on the "analytic" side, and post-structuralism in a deconstructive mode on the "continental" – can be allied, and thus can both be useful sources of *critical* reflection on the *political* implications of formalism as such. Their combination can yield, in particular, a formally clarified understanding of the constitution and structure of political communities, as well as of their possibilities of alteration and internal dynamics of change.

One of the most important developments of formalism in the twentieth century is the mathematical set theory inaugurated by Cantor. As early as 1883, Cantor defined the notion of a set [*Menge*] in terms that already demonstrate his grasp of its profound philosophical significance:

> By a 'manifold' or 'set' I understand in general any many [*Viele*] which can be thought of as one [*Eines*], that is, every totality of definite elements which can be united to a whole through a law. By this I believe I have defined something related to the Platonic *eidos* or *idea*.[8]

Here, Cantor recognizes the relevance of his new concept of the set to the ancient problem that most vexed Plato in accounting for the Idea as the One that unites the Many of its participants. This is the problem of the One and the Many itself, and the comprehensive set theory that Cantor founded transfigures this ancient problem in two decisive and interlinked ways. First, as Cantor and Frege already grasped, we may consider the relationship of a set to its elements as capturing the relationship between a universal and the individuals that fall under it. Thus, the definition of a set can be understood as formally identical to the definition of a concept, or a general term. Second, Cantor's discovery provides new

[8] Cantor (1932), p. 204, n. 1, Quoted in Hallett (1986), p. 33. ("*eidos"* and "*idea"* are written in Greek in the original quotation).

resources for addressing one of the most ancient problems of *political* philosophy: namely, the question of the relationship of the One of the state, social whole, or community to the Many of its members and constituents. Since we may consider the relationship of a set to its elements to formalize this relationship of the social whole to its own members, we may also thus take the generality of the set to manifest the "common" structure of any community, however this structure may be further defined or articulated. Accordingly, the formal structures of sets will also illuminate the basis of claims to unity, wholeness, or sovereign power that bind political communities together as wholes, as well as the disruptive aspects of non-inclusion that can lead to their sundering or transformation.

According to a longstanding philosophical tradition, the distinctive form of a human life is *logos*, or as we may perhaps say today, *language*. Although Wittgenstein does not simply concur with this tradition, it is nevertheless clear that he understands "language" (*Sprache*) as the name for an unparalleled site of problems, whose place is also that of the everyday, or an ordinary life. His analysis of these problems considers the pictures we are prone to offer ourselves of an individual or collective life, critically reflecting on the temptations that lead us to these pictures, their (limited) satisfactions, and their (manifold) frustrations. This consideration involves a kind of thinking that is "political" in the broad sense that it investigates the ways that we live our lives in relation to our own (individual or collective) self-conceptions of them. And although the direct political implications of Wittgenstein's arguments in the *Investigations* and other "central" texts are not always immediately obvious, it is nonetheless evident that he intended such analyses as the "private language argument" and the "rule-following considerations" to support a far-ranging critical reflection on the ordinary ways of life of the culture in which he found himself. This includes his critical engagement with the leading organizational structures and self-rationalizations of a twentieth-century industrial culture dedicated to (false or misleading, as Wittgenstein would suggest) guiding ideals of novelty and "progress" achieved through technical and organizational means.[9]

In the following inquiry, the "linguistic turn" taken in the twentieth century by both the "analytic" and the "continental" traditions (though in different ways) has a certain methodological priority. The aim is not, however, to theorize the structure and possibilities of an everyday human life by means of an external description of the empirical phenomena of language or its use, but rather to discern the basis of these phenomena in the broader and more enigmatic phenomenon of the *logos*.

[9] For the conception of Wittgenstein as a "philosopher of culture" in this sense, see, e.g., Cavell (1989). I have also discussed some implications of this conception in Livingston (2008), chapters 6 and 7.

The ancient conception which takes the form of a human life to be the *logos* accordingly defines the human being as the *zoon logon echon* – the animal "having" *logos* or language. At *Politics* 1253a7-18, Aristotle suggests an essential link between this definition of the human and the very possibility of politics:

> Now, that man is more of a political animal than bees or any other gregarious animals is evident. Nature, as we often say, makes nothing in vain, and man is the only animal who has the gift of speech. And whereas mere voice is but an indication of pleasure and pain, and therefore found in other animals … the power of speech is intended to set forth the expedient and inexpedient, and therefore likewise the just and the unjust. And it is a characteristic of man that he alone has any sense of good and evil, of just and unjust, and the like, and the association of living beings who have this sense makes a family and a state.

If the original "political" definition of the human animal correlates strictly, as is formulated here, with the claim of *logos* upon an otherwise animal life, then a contemporary critical reflection on the "meaning" of this life necessarily speaks the language of logic as fluently as it does that of politics.[10] And if, as Agamben has argued, today's global politics produce totalizing regimes of "biopower" that simultaneously construct and then capture the "bare life" of the simply living within the formal structures of institutions and economies, then the possibility of this capture is evidently thinkable only as a matter of the "logical form" of practices, institutions and laws.[11] This critical reflection on formalism is not, then, a matter of applying an external "logic" (or logics) to the "political" – hence, not a "logic *of* politics" – but rather a matter of comprehending the very structure of logic itself in its inherently "political" dimension – hence, a kind of "politics *of* logic."

The ultimate question for this inquiry is not, then, how a community is structured out of a plurality of antecedently individual or self-sufficient lives, subsequently united by contract, convention, or common need.[12] Rather, its goal is the development of a "politics of logic" that ventures to comprehend *logos* itself – what Heraclitus long ago determined as the "common" – as *immediately* the necessary form of any

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[10] Compare also *Politics* 1332b5: "Animals lead for the most part a life of nature, although in lesser particulars some are influenced by habit as well. Man has reason, in addition, and man only."

[11] Agamben (1995).

[12] As it is, for instance, in earlier attempts to understand the structures of politics as determined by conventional agreement, for instance through the formalism of game theory (see, e.g., Lewis (1969); Habermas (1981a)). The fundamental limitation of these analyses, on the present account, is shown by their assumption that social and political structures must ultimately have a contractual basis in the agreement of individuals, rather than (as the analyses treated here tend to suggest) in the inherently *collective* logical structures of presentation and representation.

common linguistic life, *prior to* the self-sufficient life of distinct individuals capable of agreeing on matters of fact or opinion.

It is in this sense that Wittgenstein declares, in a cautious formulation that nevertheless suffices to indicate his radical break with all politics based on the norms of consensus, deliberation and contract:

> It is what human beings say that is true and false; it is in language that they agree. That is not agreement of opinions, but in form of life.[13]

Here, the distinction between agreement *of* individual opinions and agreement *in* form of life, between agreement *on* claims, true or false, and agreement *in* language, marks the essential difference between the unity of contract (explicit or implicit) among individuals and the uncertain *formal* "attunement" that first defines the structure of a distinctively human life at all.[14] It is this attunement that, according to Wittgenstein, first *grounds* the very possibility of *any* agreement or disagreement on the level of opinions, facts or norms. But just what kind of ground is this, recalcitrant to description but nevertheless demonstrated in the formal structures that evince what is presupposed as "given" in any explicit accounting for a linguistic human life? It is to this question that the current work is addressed.[15]

I

In a 2007 interview, Alain Badiou offers an exemplary description of the deepest underlying commitments of his own profound, systematic, and radical reflection on formalism:

> I believe that if all creative thought is in reality the invention of a new mode of formalization, then that thought is the invention of a form. Thus if every creative thought is the invention of a new form, then it will also bring new possibilities of asking, in the end, 'what is a form?'…Like Plato, who first thought this, thinking is the thinking of forms, something that he called ideas but they are also the forms. It is the same word, *idea*. It is different from Aristotle's thought where thinking is the thinking of substance. His paradigm is the animal. For Plato, it's mathematics. Mathematics holds something of the secret of thinking. This is the first point. I think I hold a

[13] *PI*, 241.

[14] This is, of course, not an "orthodox" reading of Wittgenstein (see chapters 6 and 7 below). The language of "attunement" is Stanley Cavell's from Cavell (1979).

[15] Without losing a sense of the profound methodological and doctrinal differences that separate Wittgenstein from Badiou (which we will discuss in more detail in chapter 9, below) it is worth noting the surprising points of convergence here.

> fidelity to this idea, but, at the same time, the heart of the most radical experience is politics. Politics itself, in a sense, is also a thinking through forms. It is not the thought of arrangements or the thought of contracts or the good life. No. It is a thinking of forms.[16]

Badiou's far-ranging investigation of the formalisms of mathematics yields a systematic conception of politics that is at once radical in its metaphysical depth and staggering in the scope of its contemporary implications. In *Being and Event* (1988), Badiou develops a dramatic interpretation of the implications of mathematical set theory for contemporary thought about the very structure of being and the most fundamental possibilities of political change and transformation. More recently, in the 2006 sequel *Logics of Worlds*, Badiou has supplemented this investigation with a detailed analysis, grounded this time on the formalisms of mathematical category theory, of the relationship between being as it is in itself (and is treated by "ontology") and appearances or phenomena, the subject of "phenomenology." Together, the two books thus comprise a highly sophisticated manifestation (probably the most highly developed to this date) of what I am here calling the "politics of logic." One main purpose of this book is thus to examine Badiou's system, both in its formal and its political registers. But while this demands some exegesis of Badiou's complex work, my aim here is not simply exegetical, but also evaluative and critical.[17] In particular, as I shall show, Badiou's *application* of the mathematical formalisms to the diverse questions of social and political life involves, at several crucial points, fundamental gestures of interpretation, whereby formal and mathematical structures themselves bear the weight of the theorization of such diverse political and ontological concepts as those of presentation, representation, the subject, the state, and the very possibility of political change. Most important to Badiou, and crucial to the argument of *Being and Event*, is a highly suggestive interpretation of one of the most technically formidable and complex innovations of set theory, the method of "forcing" discovered by P. J. Cohen in 1963. Badiou uses the formal results of this method to support his theory of the Event, or the possibility of a radical and transformative break with the organizing logic of any specific political or social order.[18]

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[16] Badiou (2007), p. 102-103. Without minimizing the *vast* differences of theme and method that separate him from Wittgenstein (we will examine these in more detail in chapter 9), it is worthwhile to note, as well, the deep and surprising convergences which unite the two (and both with Plato) in the common pursuit of a 'political' investigation into the consequences of form.

[17] There are already several primarily exegetical studies of Badiou available in English: see, e.g., Hallward (2003), Norris (2009), Feltham (2008), Gillespie (2008), and the many helpful essays collected in Hallward (2004a). Two of the first books in English to bring Badiou systematically into discussion with other major contemporary thinkers are Johnston (2009) and Calcagno (2007).

[18] Here and in the rest of this chapter, to avoid tedious repetitions of phrases such as "event, in Badiou's sense" I capitalize "Event" whenever referring to the event as Badiou specifically conceives it.

In the following, I consider all of these interpretive gestures critically, evaluating their standing with respect to other possible interpretations of the formalisms and their bearing on social and political life. My point is emphatically not that the formalisms themselves do not bear anything like this kind of consequence at all. Indeed, one of the most innovative and helpful features of Badiou's thought is his ability to draw specific and determinate ontological and political results from the formal structures. However, his specific ways of interpreting formalisms nevertheless involves, at several points, fundamental interpretive *choices* which he often leaves unmarked. This leads Badiou repeatedly to reject positions and orientations of thought with which he might otherwise be much more sympathetic, and which we ought to consider in the course of an investigation of the consequences of formalism for questions of political life.

One of the most significant issues in dispute between Badiou and much of contemporary critical thought is the legacy of the linguistic turn itself. When he discusses it, Badiou recurrently dismisses the linguistic turn and its legacy, often reducing it to a postmodern "sophism" that substitutes rhetoric and verbal manipulations for philosophy's venerable investigation into the nature of "the things themselves."[19] This rejection is presented as a consequence of the formalisms, but as an interpretation of them it is, as I shall show, highly prejudicial. In fact, it puts Badiou in the problematic position of having substantively to reject the massive contributions of twentieth century thought in the linguistic mode – ranging from continental structuralism to the analytic tradition itself – to the very kind of formal reflection he would like to carry out. We can reverse this prejudice, I shall argue, by reconsidering the formal underpinnings of these contributions and the interpretive decisions they permit. More specifically, Badiou's official decision *against* the linguistic turn and the wide gamut of critical thinkers who draw on it results directly from his own decision *for* what he calls the "generic" orientation in thought. This is a radical and productive orientation which Badiou opposes to both the essentially authoritarian and conservative orientation of traditional metaphysics and to the "constructivist" or nominalist orientation that restricts being to the fixed law of an existing language.

Badiou presents his decision in this respect as the necessary implication of a more fundamental rejection of any orienting "One-All" of thought, any assumption of the total adequacy of language to a universe complete and consistent in itself. However, as I shall show here, this presentation is misleading. For Badiou's own "generic" orientation does not so much result from a unilateral rejection of the "One-All" of traditional metaphysics as from a decision, which is indeed forced by set theory, against *one aspect* of

[19] See, e.g., Badiou (2003), p. 50; Badiou (1998b), p. 159. In both cases Badiou cites Socrates' demand, in the *Cratylus*, that philosophy concern itself "things" rather than "words;" but for more on the *Cratylus* see below.

this "One-All" which is simultaneously a decision *for* another aspect of it. In particular, Badiou rejects the possibility of describing the totality, the "All" of the set of all sets or the universe of all that exists. At the same time, however, he leaves intact and wholly unchallenged the other crucial formal aspect of the traditional "One-All," that of *consistency*, or of the demand that whatever may be said, must be said without contradiction.

Indeed, there is in fact another possible orientation here that is wholly coherent with the formal results and entirely missed by Badiou. Moreover, it plausibly captures a wide range of contemporary critical thought, especially that which arises from the legacy of the linguistic turn. I call this fourth orientation of thought the "paradoxico-critical" orientation. In the following, I develop the paradoxico-critical orientation through a consideration of representative figures from diverse schools and traditions: namely Giorgio Agamben, Jacques Derrida, Gilles Deleuze, and Ludwig Wittgenstein. Following this, I juxtapose each of these thinkers to Badiou's own "generic" orientation on a series of interrelated points. All four of these thinkers stand, in diverse ways and according to differing historical connections, in the legacy of the linguistic turn. Moreover, and crucially for their relevance here, all draw on highly specified *formal* reasoning to document the critical and productive consequences of a consideration of the structure and boundaries of language. As I shall show, their shared formal orientation results directly, along with all of its critical consequences, from their taking the alternative decision to the one that Badiou takes and leaves unmarked. Instead of making a decision for the One of consistency and sacrificing the All of totality, they jointly choose the All of totality and sacrifice the One of consistency, developing a rigorous and transformative articulation of the constitutive status of paradox and antinomy for the very structures of political life.

II

2300 years ago, intervening in the debate of origins about *phusis* vs. *nomos* that framed, in the Sophists and Pre-Socratics, the deepest problems of self-understanding that a dawning culture of rationality could address to itself, Plato has Socrates interrupt a dialogue between Cratylus and Hermogenes over the "correctness of names" (*orthotes onomatos*). At issue is whether names have a certain kind of correctness by nature (*phusei*) or whether their relation to their objects is fixed entirely by the "convention and agreement" (*syntheke kai omologia*) (384c) of their users. To Cratylus' naturalism, Hermogenes opposes the "conventionalist" position that "whatever anyone decides to call a particular thing is its name," (385a). However, as Socrates, entering the debate, quickly points out, on the level of statements (*logoi*) at least, there is a difference between telling the truth and speaking a falsehood. He who makes a true

statement must employ true names; but if we wish thus to succeed in naming, we must name things "in the natural way for them to be named" (387d). Indeed, a name is given by giving the *rules* for its use (388d). But who is it that sets these rules, and by what right?

As it is often in Plato, it is a question of *techne*. A thing is named correctly if it is named "with the natural tool" for naming it; a name is thus "a sort of tool" (*organon*) (388a) and, like a drill or a shuttle, it will be successful only if well made. The success of the tool thus implies the existence of the craftsman (*demiourgon*), one who is skilled both in making the name (*nomos*) and setting the law (*ho nomos*). By way of this decisive ambiguity between names and the law, Socrates calls this craftsman the *nomothetes*:

> Socrates: Can you at least tell me this? Who or what provides us with the names we use?
> Hermogenes: I don't know that either.
> Socrates: Don't you think that the law (*ho nomos*) provides us with them?
> Hermogenes: Very likely.
> Socrates: So, when a teacher uses a name, he's using the product of a law-giver (*nomothetes*).
> Hermogenes: I believe he is.
> Socrates: Do you think that every man is a law-giver or only the one who possesses the craft?
> Hermogenes: Only the one who possesses the craft.
> Socrates: It follows that it isn't every man who can give names, Hermogenes, but only a name-maker, and he, it seems, is a law-giver – the kind of craftsman most rarely found among human beings. (388e-389a).

Like the craftsman of a tool, the successful *nomothetes* must, in order to establish the meaning of a name, possess knowledge that guides him toward the correct way of crafting the name out of the sounds and syllables available to him. However, there remains a paradox (cf. 438b-c). How is the *nomothetes* himself to know the "correct name" for something before it has been fixed *as* the correct name by his very law-giving gesture of original naming? The paradox is the original paradox of meaning; it already vitiates any account that, like the theory of Cratylus, accords meaning purely to nature or, like that of Hermogenes, to the arbitrary decision of the individual speaker. However, Socrates does not hesitate to resolve it by means of a portentous appeal to a kind of knowledge that *precedes* the technical/instrumental knowledge of the craftsman himself. If, in the course of the craftsman's synthetic activity, for instance the carpenter's activity of fabricating the shuttle, the instrument were to break, the craftsman would then look toward something that is common to all successful instances of the type:

> Socrates: Suppose the shuttle breaks while he's making it. Will he make another looking to the broken one? Or will he look to the very form to which he looked in making the one that broke?

Hermogenes: In my view, he will look to the form.

Socrates: Then it would be absolutely right to call that what a shuttle itself is. (389a-b)[20]

Thus the craftsmen, whether of shuttles or of words, thus necessarily looks to a knowledge of the *form* (*eidos*) of what he is making, what is common to all appropriately made instances of the type, and what we may indeed understand, in virtue of this appropriateness to the task, as indeed being "the thing itself." In this way, the *nomothetes* too, the *demiourgen* of names and laws, envisions the form of language itself; under its guidance, he is able to enact his original thesis. This knowledge of "the thing itself" is more important than the particular material of which the artifact is made, in each case:

> So mustn't a law-giver also know how to embody in sounds and syllables the name naturally suited to each thing? And if he is to be an authentic giver of names, mustn't he, in making and giving each name, look to what a name itself is? And if different law-givers do not make each name out of the same syllables, we mustn't forget that different blacksmiths, who are making the same tool for the same type of work, don't all make it out of the same iron. But as long as they give it the same form – even if that form is embodied in different iron – the tool will be correct, whether it is made in Greece or abroad. (389d-e).

But how, then, is the successful law-giver to gain knowledge of this form, which is never given simply in any individual instance? Again, Socrates does not hesitate to offer an answer. Knowledge of the form is to be found in that everyday *usage* (*ethos*) that embodies the role of the instrument in the life it facilitates. Just as the successful maker of lyres must himself be "supervised" by those who play lyres, so the work of the nomothetes is itself to be supervised by one who knows the "correctness of names" in the actual *praxis* of their everyday life:

Socrates: And who can best supervise the work of a rule-setter, whether here or abroad, and judge its products? Isn't it whoever will use them?

Hermogenes: Yes.

Socrates: And isn't that the person who knows how to ask questions?

Hermogenes: Certainly.

Socrates: And he also knows how to answer them?

Hermogenes: Yes.

Socrates: And what would you call someone who knows how to ask and answer questions? Wouldn't you call him a dialectician?

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[20] The passage also invites a reading against Heidegger's famous description, in *Being and Time*, of the transition in the mode of being of an object from its ready-at-handness (*Zuhandenheit*) to its being present at hand (*Vorhanden*), where the transition that allows us to discern the objects theoretical being is indeed precisely made possible when it is no longer readily accessible in use, as for instance when it breaks.

Hermogenes: Yes, I would. (390c)

Plato thus finds an unprecedented answer to the problem of the original knowledge of names – the correspondence between words and things – in the everydayness of their use. The dialectician or philosopher, in his reflexive inquiry into the *logos* of names and laws, also possesses the skill to evince from the everyday *praxis* of language the obscure secret of their force.

Much later, this response to the problem of meaning and laws, to the authority of rules and the scope of meanings, is essentially *repeated* in another problematically dialectical text dedicated to the examination of language's relation to life and to the specificity of what may be called linguistic "use" or "usage." For Wittgenstein, it is again a question of laws and their force. At *Philosophical Investigations*, section 217, Wittgenstein poses in a radical form the critical question of the *force* of rules. This is the question of how we should understand the "capacity" of linguistic or grammatical rules to "determine" meaning in everyday life. As for Plato, the question links the problem of the origin of words with that of the *authority* of rules, the problem of what actually determines usage *de facto* with what assures its right to do so, *de jure*. The *Investigations*' inquiry into this twofold question passes through a profound consideration of what it is to learn a rule, and what it is successfully to follow one, but at the root of this question, as well, is that of the original *institution* of standards. Wittgenstein's demystification of the picture of rules as "rails laid to infinity" interrogates the claim of the rule to a superlative force grounded in the possibility of its "abstraction" from any (finite) number of its instances. The inquiry also passes through Wittgenstein's diagnosis -- by way of an example that bears comparison to Plato's own invocation of the craftsman's necessary knowledge of the *organon* he creates – of the tendency, rooted deeply in ordinary language, to "sublime" the action of the machine and the law of its operation:

> 193. The machine as a symbol of its mode of action: the machine – I might say at first – seems already to have in itself its mode of action. What does that mean? – In that we know the machine, everything else, namely the movement that it will exhibit, seems already to be completely determined.
>
> We talk as if these parts could only move in this way, as if they could not do anything else. How is this – do we, then, forget the possibility of their bending, breaking off, melting, and so on? Yes; in many cases we don't think of that at all…
>
> 194. When does one think: the machine has its possible movements in itself already, in some mysterious way? – Well, when one philosophizes. And what leads us to think this? The kinds of way in which we talk about machines….

Radically posing the question of what it is that leads us to think of language as such a logical machine, whose possibilities are determined in advance by the "rules of use," Wittgenstein identifies a far-ranging

paradox of rules and their symbols. As he puts it in *PI* 201: "No course of action could be determined by a rule, because every course of action can be made out to accord with the rule." No symbolic expression of a rule is sufficient, by itself, to determine the infinite number of instances of its application. There remains, therefore, an essential gap in practice between *any* such symbolic expression (and thereby *any* explanation by means of language) and the understanding manifest in everyday life.

Insofar as there is a conclusion to be drawn here, it is that no rule can determine its *own* application; that is, there is no symbolic expression that by itself determines how it *itself* is to be applied to any new case. This is what suggests the specification of another rule to determine the application of the first (cf. *PI* 86, 139-141); as if "every interpretation hangs in the air," (*PI* 198) waiting for further support. But this response cannot succeed, on pain of an infinite regress. It is thus clear that the attempt to understand the application of rules as wholly determined by their symbolic expressions itself cannot succeed, and that it must therefore be supplemented by the dimension or aspect of understanding that Wittgenstein calls "mastery of a technique."[21] To be master of a practice – to know *how* to apply a rule – is then to possess a competence or capability whose extension *cannot* be fully explicated in finite, symbolic terms; yet it is the competence ascribed to any normal adult speaker who can use a general term at all.[22] The question of what is involved in this competence is the question of the *infinite* dimension of knowledge of language, or of the possibility of knowing and understanding the use of any term that *can*, in principle, be extended to an infinite number of cases. This infinite applicability is, again, formally modeled in the comprehension of a set of particulars within an (as it may be, infinite) set; it is the relationship of the general to the particular that Plato understood as "participation." There can be, it is clear, no account of the *force* of a rule in governing its particular instances – or of the relationship between a general linguistic term and the particulars it characterizes – that does not account for the origin and entry of this infinite dimension of applicability into "finitude" of a human life.

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[21] *PI* 199.

[22] It is thus clear that 'finitist' or intuitionist objections, according to which it is impossible for an infinite *completed* totality ever to exist, are not really to the point here. For because they do not go to the heart of the issue of *how* a symbolic expression is related to its usage on each particular occasion, these objections amount more to a refusal to consider Wittgenstein's problem than a response to it. Indeed, as we shall see in more detail in chapter 7, the issue here is not well put in the classical terms of Aristotle's distinction between "potential" and actual infinities at all. If the finitist's point is simply, as it is sometimes put, that we can grasp a "potentially" infinite procedure only through its *finite* symbolization, Wittgenstein can quite well agree with *this* point: the question then is simply how such a symbolization underlies even a "potential" infinity of applications, or how it determines an application on each particular occasion. If, on the other hand, the finitist is better interpreted simply as denying that there is any sense in which a finite rule determines an extension that is *either* potentially *or* actually infinite, then she is better seen as taking a position that simply opts out of the problem that Wittgenstein is posing here altogether. Such a position may be the "radical conventionalism" that has sometimes been misleadingly attributed to Wittgenstein himself, but it is clear (as we shall see in more detail in chapter 7) that this is not his position and that it is untenable in itself.

How, then, *is* it possible to follow a rule?[23] For Wittgenstein as for Plato (quite to the contrary of the usual interpretation of the former as a radical "anti-Platonist"), the answer is to be found, again, in the *givenness of form*. Like the "logical form" that precedes and anticipates it in Wittgenstein's own writing, a "form of life" is evidently not to be described or specified by any theoretical account. Nevertheless, the "givenness" of forms of life is closely connected with the "solution" that Wittgenstein offers, in the *Investigations*, to his own radically posed problem:

> There is a way of grasping a rule which is *not* an *interpretation*, but which is shown in what we call 'obeying the rule' and 'going against it' from case to case of application. (*PI* 201; translation slightly altered).

Showable but not sayable, evident but not describable, forms of life are given, outside the assurance of any structure, in the immanence and heterogeneity of actual cases and the widely varied circumstances of an everyday life. As I shall attempt to show here, we may take this usage to evince what amounts to an inherent "ethos" of the ordinary, in a sense that has nothing to do with convention or conventionalism.[24] Wittgenstein's invocation of forms of life responds, as does Plato's, to the question of the authority of rules with a reflexive transformation of the direction of our theoretical gaze.

So far, commentary on the "rule following considerations" has massively emphasized the *social* aspect of Wittgenstein's apparent "solution" to the paradox in the remarks following paragraph 201. Thus, it is standardly supposed that Wittgenstein's main point here is to replace an "individualistic" theory of mind

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[23] This question has both an "epistemic" dimension and a "metaphysical" one. The epistemic question the question about how a (finite) mind can *grasp* or *understand* a rule that determines our practice in an infinite number of cases, whereas the metaphysical one is: what sort of thing is a rule, such that *it* can determine what is the right thing to do in an infinite number of cases of practice or application. The second question is sometimes specified as the question of the origin or structure of "normativity;" however, it is probably too closely intertwined with the first to be capable of separate treatment. For this and other related reasons (see below, chapter 6), I do not follow the mainstream literature in attributing to Wittgenstein a desire either to presuppose or account for a supposedly "normative" dimension of our practices. However, at the same time, it is clear that neither question is simply the question of what we do *in fact* do in any number of actual cases; this question is presumably an empirical or historical one, and can be settled by means of empirical research and evidence.

[24] Cf. Socrates in *Cratylus*, again, where 'convention' and 'usage' (*ethos*) are clearly distinguished: "And even if usage (*ethos*) is completely different from convention, still you must say that expressing something isn't a matter of likeness but of usage, since usage, it seems, enables both like and unlike names to express things. Since we agree on these points, Cratylus, for I take your silence as a sign of agreement, both convention and usage must contribute something to expressing what we mean when we speak. Consider numbers, Cratylus, since you want to have recourse to them. Where do you think you'll get names that are like each one of the numbers, if you don't allow this agreement and convention of yours to have some control over the correctness of names? I myself prefer the view that names should be as much like things as possible, but I fear that defending this view is like hauling a ship up a sticky ramp, as Hermogenes suggested, and that we have to make use of this worthless thing, convention, in the correctness of names." (435a-c).

or understanding with an inherently *social* one, according to which rule-following is only possible within the context and constraints of an intersubjective community. The "private language argument" that follows is then often supposed to amount simply to the application of this communitarian moral to the question of what determines the correctness of any individual use of language, and the two skeins of argument are together supposed to support the thesis that only a community's norms or conventions can ultimately determine correct usage. Though this replacement of an individual with a collective account of correctness is indeed *part* of Wittgenstein's point here, the commentary that reads Wittgenstein as a social communitarian has mostly ignored another, equally important dimension of it: namely, the equally significant emphasis Wittgenstein places on what we may call the *iterative* dimension of linguistic usage. As we will see in more detail in chapter 7, it was crucially important to Wittgenstein at least from the time of his return to philosophy in 1929 that the use of language is always the realization of a capacity that is capable of supporting an indefinite *repetition* of linguistic symbols and justified uses. Thus, a rule is as such something that could not only be followed once; every rule is capable, as such, of interpretation or application in an *indefinite* and indeed properly *infinite* number of cases. This iterative dimension is always essential to Wittgenstein's invocation of "practices," "techniques," "usages," and the like, and plays a similarly essential role in his positive consideration of the very possibility of following a rule.

Indeed, his questions and statements around *PI* 201 emphasize this iterative dimension easily as much as the social dimension: "Is what we call 'following a rule' something that it would be possible for only *one* person, *only* once *in a lifetime*, to do?"; "It is not possible that there should have been *only one occasion* on which only one person followed a rule." (*PI* 199) (emphasis added). "As things are, I can, for example, invent a game that is never played by anyone. – But would the following be possible too: mankind has never played any games; once, though, someone invented a game – which, however, was never played?" (*PI* 204). These formulations have the effect of emphasizing that any account of language usage as ultimately depending on participation in a *practice* or mastery of a *technique* will demand, in addition to whatever may be said on behalf of the essentially *social* dimension of usage, an account of the possibility of indefinite iteration that characterizes any rule (and hence any practice or technique), as such.

What the standard communitarian solutions miss, then, is that it is not simply sufficient to replace the individualist "image" or interpretation, supposed to be present in an individual's mind and wholly responsible for her behavior, with a "socially defined" standard, rule, or norm, articulated by the conventions or the conventional patterns of education or enforcement within a community. For however these conventions or patterns are stated, the statement would itself seem to be in need of a further

interpretation; and here, as a question of the original force of (what are supposed to be) conventions or conventional agreements, the underlying problem between rules and their interpretation again repeats itself.

But if the problem of rule-following is not to be answered simply by the invocation of communal standards or intersubjective conventions, then there is a deeper question here, one that concerns the very possibility of forming a community at all. It is the question of the *basis* of the infinite iterability that constitutes a rule or practice as such. Such iterability is the precondition of all possibility of the *application* of a rule or law, and thus of the possibility of any political community as such.

To "agree" in a "form of life" is thus not to agree in opinions or beliefs; it is not to be party to an originally founding convention or a consensus founded on the "communicative" capacities of individuals. Wittgenstein says it is, rather, to "agree in language." And:

> To understanding through language belongs not only an agreement in definitions, but (as strange as this may sound) an agreement in judgments. This seems to abolish [or sublate] logic, but does not do so. – It is one thing to describe methods of measurement, and another to find and express results of measurement. But what we call "measuring" is also determined by a certain constancy in the results of measurement.[25]

Wittgenstein's reference here to "agreement in judgments" does not indicate consensual agreement, but rather agreement in the *basis* of judgments – in what might be called, by way of a figure that, though itself foundational for all discourses of "normativity," remains metaphorical – the "agreed-upon standards" of judgment and decision. Such standards – if such there be – set the "measure" for a shared life, determine the basis for judgments of rectitude, and thereby "constitute" the community through "shared" agreement on its bounds. Yet rather than attempting to specify such standards or to argue (in conservative fashion) for their necessity, Wittgenstein proceeds directly to pose a deep paradox concerning them. Since the consideration of rules shows that the symbolic representation of these procedures cannot by itself determine the mutual attunement of form of life, it may seem that pointing to their limitations implies that logic must be left behind, transcended, sublated or "abolished."[26] But as he hastens to point out, "it does not do so." For beyond or behind the signs of formal logic, and as I shall attempt to show here, there is

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[25] *PI*, 242.

[26] Wittgenstein's word here is *Aufheben*, the problematic Hegelian term of art that can be variously translated as "sublate," "supersede," "transcend," "cancel," or "preserve."

another kind of formal relevance of *logos* to life, one not wholly determined on the level of given "rules of use" but shown in the everyday life of language as it problematically reflects itself.

Whereas it is clear that "mastery of a technique" in Wittgenstein's sense of the term is in some respect a mastery of rules, it is also clear that one of the problems that most occupies him in the *Investigations* is that of how it is possible for finite, and hence symbolically expressible and learnable, rules to capture (what seems to be) an infinite totality of usage. What, then, is the strange "presence" of this totality of usage, what is never "fully" given by the rules themselves but nevertheless can seemingly be completely determined by them?[27] As we shall see in chapter 7, the metalogical tradition formulates this question as that of the "effectiveness" of formal procedures, or of the extent and limit of the capacities of formal and mechanical systems to access infinite structures by means of the iterated application of finitely and symbolically representable rules. Just as significantly, the attempt to discern these limits, and thus to show the existence of real but "uncomputable" functions and numbers, is *directly* the historical basis for Turing's original description of the abstract architecture of a symbolic computing machine. This description would subsequently become the model for the structure of every existing electronic computer. As I shall argue in chapter 7, lurking behind the question of effective computability for both Turing and for Wittgenstein is the question of the capabilities of a finite agent – one who is, for instance, constrained to learn a language in a finite amount of time, or to use only finitely many different signs in accomplishing its infinite power of signification. This problem is in fact also underlies Wittgenstein's paradox of rule-following, which raises (but does not solve) the fundamental problem of the nature and kind of being of a regular technique, or practice.

III

The remnants of the tradition of (what is still called) "continental" philosophy are today converging, in multiple respects, on the *logico-political problem of the nomothesis*, to which both Plato's and Wittgenstein's invocations of lived forms offer responses. This is the problem of the original positing of names; at the same time, it is the problem of the original force of law. Through what is by now a classic deconstructive gesture, the question of the *arche* of structure arises in a radical fashion as soon as structural analyses venture to consider their own conditions of possibility – as soon, that is, as the conditions for the possibility of a structuralist picture of language are thematized under the condition of

just such a structure.[28] However, this problem of nomothesis is also the problem of the original *force of law*: the problem of the authority of whatever or whomever is entitled to pronounce, to speak the law into force by original declaration or prohibition, and to pass judgment (in the name of the law thus enunciated) on the particular case. Here, the structuralist conception of language as a rule-bound structure of signs, and hence one that determines usage, in each case, on the basis of a structural law to which each of us, as speakers of the language, must be submitted, is just one figure of the original *force* of law over life. The sovereign law of structure is the capacity of language to bind the instances of a life into the regularities of ordered sense.

Today, a large (and growing) literature testifies to the constitutive instability of this sovereign position, both in its political and juridical forms.[29] Here, between what was once distinguished as "constituting" and "constituted" power, is the site of a double bind, an original paradox of the nomothesis that is suddenly discernible as the hitherto unthought basis of all instances of instituted sovereignty. The paradox is that the act of instituting the legal order cannot be legal, within that order itself. Thus the original institution and continuing force of law depends on a founding gesture that is both illegal and *exceptional* with respect to the order that it founds. This paradox was perhaps first stated explicitly, amidst the breakdown of constitutional democracy in the Weimar republic, by the German legal philosopher Karl Schmitt. In *Political Theology*, Schmitt argued for the "necessity" of an exceptional sovereign who, standing simultaneously both inside and outside the political order he institutes, grounds the original possibility of this order itself. Subsequently, political authority may be delegated to a constitution or a democratic or parliamentarian body; but the original essence of the political is, according to Schmitt, captured in the necessary and exceptional position of the sovereign whose "pure decision" first constitutes the legal order:

> The exception is that which cannot be subsumed; it defies general codification, but it simultaneously reveals a specifically juristic element – the decision in absolute purity. The exception appears in its absolute form when a situation in which legal prescriptions can be valid must first be brought about. Every general norm demands a normal, everyday frame of life to which it can be factually applied and which is subjected to its regulations. The norm requires a homogenous medium. This effective normal situation is not a mere 'superficial presupposition' that a jurist can ignore; that situation belongs precisely to its immanent validity. There exists no

[28] Derrida (1966).

[29] Contemporary discussion develops from classical sources in Bodin, Pufendorf, Suarez, and Hobbes. Relevant contemporary discussions include (just to scratch the surface): Schmitt (1932) and (1934); Benjamin (1927); Bataille (1949), Nancy (1991); Derrida (1994), (2002), (2003), and (2005); Agamben (1990a), (1995), and (2003).

> norm that is applicable to chaos. For a legal order to make sense, a normal situation must exist, and he is sovereign who definitely decides whether this normal situation actually exists.[30]

As several recent theorists have emphasized, this exceptional position of the sovereign remains in the background of the normally functioning *polis*, even when it is obscured by mystifying figures or conceptions of the unity of the political community or its source. Contemporary regimes in fact tend to expand this exceptional position to a more general "state of exception" which extends the claim of sovereign power indefinitely by citing the existence of an exceptional or "emergency" situation in order to re-instate and promulgate the original indistinction between fact and law.[31]

With this analysis, the longstanding "critique of metaphysics" takes on a new political dimension and an altered topological structure. In its deconstructive modality, critical interrogation of the structure of the sovereign exception operates to expose the inherent contradictions at the center of any constituted political order, and thus to expose its normative claims to immanent reflexive critique. Among these claims is the sovereign's claim to *totality*: that is, the claim of a constituted political order to normalize and decide upon the legality of each of the diverse and heterogeneous events and facts that fall within its scope. However, the claim of any particular form of sovereign power to constitute a political order, and thus support it in its totality, is not here criticized from a transcendent position "outside" the limits of that order itself. Rather, the original basis of sovereign power is recognized immanently as the *inconsistent* position at the paradoxical threshold of the constituted order and what it excludes.

Thus the paradoxical topology of the sovereign position constitutes an original double bind between force and law.[32] This topology can in fact be understood quite generally, not only as the basis for specific empirically described political orders, but for the normative forces of reason and measure themselves. In a remarkable recent work, Reiner Schürmann undertakes to reread the history of philosophy as the history of the succession of sovereign measures. In the history of what he terms "hegemonic phantasms," particular individuals are successively raised to the rank of the standard of measure; in this way,

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[30] Schmitt (1934), p. 13.

[31] Agamben (2003).

[32] The terminology "double bind" originates with Bateson (1956), who used it to discuss a communicative situation in which contradictory imperatives are issued, leading to a situation in which there is no possible "right" response. In the article in which he introduces the terminology, Bateson refers to Russell's theory of types, holding that a double bind can result from the communicative situation in which the hierarchy of logical types is breached, as for instance when a class is a member of itself. Derrida has employed the concept of the "double bind" both with reference to deconstructive and psychoanalytic interpretation (e.g. Derrida 1998) and, more recently (Derrida (2003)), with reference to the "auto-immune" political structure of democracy, which must systematically inoculate itself from itself.

determinate philosophical regimes, taking place between the institution of a hegemony and its diremption, successively organize all that can appear phenomenally within a particular epoch of being. From Parmenides to Heidegger, the history of the being of beings can therefore be understood in terms of the paradox of the nomothesis, and its characteristic double bind:

> The one measures measure. Measure, having power due to its givenness, legitimizes these measures which have force through conventions. What is susceptible of being (or not being) legal will always be an act (or a situation made up of acts). The conformity of these acts to the law that is in force makes up their legality. But everywhere and always the law can be and has been called into question. In order to resist this, it must, in turn, be able to shore itself up with arguments. The law, directly, and the acts, indirectly, have need of an authority capable of assuring their legitimacy.
>
> To achieve this, we seek a fixed point that cannot be called into question, and we argue for a link, if not of necessity at least of propriety, between this fixed point and the law in force. The authority referred to will not be legitimizing unless it qualitatively differs from any human legislator.
>
> Since Parmenides, the candidates for this sovereign post from which laws and acts receive their measure have continued to substitute themselves for one another. Here are some examples: "[T]he supersensible World, Ideas, God, the moral Law, the authority of Reason, Progress, the Happiness of the greatest number, Culture, Civilization."[33]

Between beings and Being, what Schürmann calls the "hegemonic phantasm" orients individuals toward the self-consistent law of the One. Occupying the sovereign position of the "fixed point" that cannot be called into question, the hegemonic phantasm authorizes the law in its force. Yet, as Schürmann argues, the hegemonic phantasm always results only from the elevation of an indifferent particular to the exceptional position of a sublime authority. Its basis is the act of original naming that, separating the individual from its peers, also raises it to the rank of the setting of the law: the original *nomothesis* that, setting the basis of names and laws, defines the name of the law itself.

As I shall argue, critical discernment of the basis and implications of the original force of law thus today requires a formal investigation into the basic structures of logic and language that make it possible. To this end, I have paired Wittgenstein with two interlocutors whose understanding of logic captures, at

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[33] Schürmann (1996), p. 96.

opposite historical ends of the linked history of Western logic and metaphysics, this underlying formal basis of this original force of law. The first of these is Parmenides, whose original logical distinction between being and non-being first articulated the hegemonic force of the sovereign One. The second is Turing, whose investigation into the limits of the effectiveness of formal procedures illuminates, as I shall argue, the original paradox of the regular structure of symbolic language itself. In other chapters of the present work, I investigate how Derrida, Deleuze, Agamben, and Badiou pursue closely related investigations into the way that power, authority and language are linked in the originally paradoxical situation whereby the power of language in naming is first made possible.

IV

When, in 1879, Gottlob Frege (then an obscure Prussian mathematician) published his *Begriffsschrift* or "concept-writing," he could scarcely have been aware of having founded a wide-ranging revolution of philosophical thought and *praxis*. His first goal was simply to place mathematical inference on a firm ground, formalizing inference by means of a logical system that "leaves nothing to intuition" and thereby submits mathematical reason to the rigors of pure, abstract thought. But the originally narrow program of logicism would lead in short order to the revolution of thought that, in originating the "analytic tradition," would transform the methods of philosophy and our understanding of the nature of language in fundamental ways. It did so, mostly, by failing. For the attempt to complete the logicist program soon led to a set of far-ranging paradoxes that also, articulated limits on the possibility of formalization as such in manifold ways that could hardly have been anticipated in advance. Despite their decisive role in shaping (and limiting) the prospects of reductive analytic projects in the twentieth century, these paradoxes have often been treated as mere curiosities or, at best, as applicable to specific problems of computation or formalization. However, I shall argue that the unprecedented *metalogical* insight whereby the formal or syntactic structure of language is itself made an object of systematic investigation, and the paradoxes to which this inevitably leads, remain deeply relevant to how we should think today about finitude, language, politics, and truth. More specifically, close attention to the consequences of formalism that make it possible for a formal system problematically to reflect "itself" (to encode, that is, its own formal structure and syntax, and thereby to "express" its own syntactic properties) can yield a new articulation of critical thought in its ongoing attempt to reflect upon the capabilities and limits of our understanding of the world.

The first important development of this formalism was Cantor's discovery or invention of the mathematical symbolism and calculus of an infinite hierarchy of infinite sets. Cantor's innovation articulates in a fundamental way the possibility for philosophical thought to conceive of the infinite, and of its relationship of the infinite to a (finite) human life. It relies in detail on the technique of *diagonalization*, which plays a fundamental role in the generation of all of the paradoxes I discuss here. In general, diagonalization allows the generation of an arbitrary element that is *outside* the closure of any (finite or infinite) set to which it applies. By means of diagonalization, Cantor showed the strict excess of the size of the *power set* of any set – the set of all possible sets re-combining its elements – over the original set itself. By means of this operation, Cantor's vast hierarchy of transfinite sets, each an infinity strictly larger than the last, is born.

Given the apparatus of sets, their elements and subsets (including infinite ones) it is possible to consider rigorously what is involved in linguistic meaning and reference. Since a set is simply a grouping of any elements whatsoever, we may apparently consider a set to be determined by any well-formulated referring term in a language defining a common type, category or property. Such, in any case, was the intuition underlying Frege's initial axiomatization of set theory, whose "universal comprehension" principle held that there exists a set corresponding to each linguistically well-defined property. However, the closer pursuit of the underlying implications of the capacity of language to model itself would soon lead to negative results that would bring about the ruin of this assumption.

The first of these negative results was the famous paradox of Russell, which concerns the possible existence of a set containing all sets not members of themselves. Such a set is a member of itself only if it is not, and is not a member of itself only if it is. It is therefore contradictory, and cannot be described by a consistent set theory. Thus, Russell took it that the contradictory status of such a set shows the fundamental untenability of Frege's original conception, according to which language consistently comprehends the world, in that every linguistic predicate picks out a well-defined set.
Even more historically decisive in limiting the hopes of logicians to achieve a thoroughgoing and consistent formalization of mathematics were the two infamous "incompleteness" theorems of Gödel.[34] By means, again, of diagonalization, Gödel demonstrated the possibility of within any sufficiently complex formal system (for instance the system of Russell and Whitehead's *Principia Mathematica*) of a sentence which "asserts" its "own" unprovability. The sentence is a "fixed point" produced directly by the diagonalizing technique of representing the system's regular structure of proof within itself. Given

[34] These were first demonstrated in Gödel (1931).

the existence of such a sentence, it is possible immediately to show that it is "undecidable" – that is, neither it nor its negation is provable – within the system itself. For, given that the sentence captures the logic of proof characteristic of the system as a whole, it is provable only if it is not, and can never be proven if it is. Thus, by virtue of the existence of the formally undecidable sentence, the system is either inconsistent (in that it proves both a sentence and its negation, and so proves a contradiction) or it is incomplete, in that there is a truth – the truth of the Gödel sentence itself – that it cannot prove. Taking his theorem to demonstrate the latter, Gödel understood it to show a fundamental incompleteness of formal systems as such, an inability of any formal system ultimately to capture all of the truths of mathematics accessible to our own mathematical understanding.

At first, the paradoxes of self-reference articulated in the results of Russell and Gödel were taken simply to demonstrate the untenability of the earlier project of logicism, which had sought to reduce the objects and procedures of all mathematical reasoning to formal systems of logic. However, they would soon lead to fundamental results in the theory of truth as well. In 1933, Alfred Tarski appealed to a result formally similar to Gödel's to argue that no formal language can specify the logic of its own truth-predicate.[35] That is, if we stipulate that the behavior of the predicate "true" for a language must be such that, for any proposition P, it is possible to assert:

"P" is true if and only if P,

then it is demonstrably impossible for the language to capture the logic of this predicate without inconsistency. The underlying reason for this is again the possibility of linguistic self-reference, as it figures for instance in the classical "liar" paradox of Epimenides:

This sentence is false.

Given the possibility of such sentences – indeed, given the possibility of linguistic self-reference at all – it is readily possible to create sentences that "assert" their own falsehood, and so are apparently (given Tarski's schema) true if false and false if true. Therefore it is impossible, Tarski's result suggested, for any language *itself* to give a complete and illuminating description of what is involved in its own description of truth.

[35] Tarski (1933).

Almost as soon as they were derived, these "incompleteness" results of Gödel and Tarski were taken, as well, to demonstrate the need to supplement the internal, syntactic description of any language with a dimension of *external* meaning or reference, outside the capacity of the system under consideration itself to capture or model. Thus, for instance, Tarski took his own result about truth to demand the supplementation of any purely "syntactic" consideration of truth and meaning with a "semantical" consideration of truth as involving reference to external objects; later on this "semantical" conception of set theory was developed into the formal theory of "models."[36] In this way, the problematic features of self-reference are avoided; but it is now necessary to consider the whole discussion of truth as taking place, not in the language itself under consideration, but rather in a *metalanguage* that can completely survey it. Similarly, Gödel's result, which demonstrates the incapability of any sufficiently complex formal system consistently to represent its own logic of proof, was taken to demonstrate the existence of a meta-language or –system which is capable of representing the proof logic of the original system, as well as the Gödel sentence for that language itself. Of course, the new system then generates its own, new Gödel sentence, calling for yet a third, stronger language to capture it, and so forth. The price of the attempt to preserve both consistency and completeness is thus, apparently, the iterated requirement to ascend an unlimited hierarchy of metalanguages, each of which can capture the logical structure of the one below it, but fails in attempting consistently to display its own.

This interpretation of the situation is in many ways parallel to Russell's own response to his paradox of set membership, the "theory of types" which regiments the universe of sets by assigning them "types" or "levels," and allowing sets only to have members at a lower level or type than themselves. Type theory thus blocks the formation of the paradoxical Russell set – or indeed, any set that contains itself – by the mechanism of *parameterization*. Much the same underlying intuition is also enshrined in the "iterative conception" of sets that forms the intuitive motivation for the most widespread axiomatic systems of set theory today.[37] However, the price of this solution is again that it is apparently impossible to talk about the totality of all sets, or formulate in *any* terms the logic of a language that is complete in that it can refer descriptively to anything that is.

This is a price that might well be paid in the context of the development of specified, formal systems, which can presumably always be described by means of a specifiable, higher-level metalanguage; but it is much less plausible in relation to ordinary, natural language itself. The formalisms and paradoxes of

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[36] Tarski (1944).

[37] For the iterative conception, see, e.g., Boolos (1971).

Cantor, Russell, Gödel and Tarski all have at their basis the capacity of a system or structure to include an element capturing, or making reference, to the system or structure as a whole; it is in this way that they figure, by way of diagonalization, the logic of total "self"-reference, leading to antinomies in each case. It might at first seem, as it did indeed to generations of logicians, that the paradoxical results of this situation indeed have application only to the study of formal systems, such as the axiomatic structure of set theory, or the complex formal system of Russell and Whitehead itself for which Gödel demonstrated his own result. However, that the significance of these problems cannot be so limited is seen from a few other examples of total self-reference, which I quickly develop:

1) Language. Suppose I wish to speak about the very language I am using, e.g. English. For instance I may wish to criticize the grammar of someone's utterance, or adduce general logical principles governing correct usage in English. I discuss the structure of the language overall, making reference to its constitutive principles using terms and expressions that are also in English. Supposing this reference is successful, it is precisely a situation in which an element or elements (those terms and expressions) succeed in making reference to the whole of which they are only elements. If Russell's solution were generally applicable, it would imply that such reference is impossible.

2) Truth. Very plausibly, what it is for an assertoric sentence to be true is for what it asserts actually to be the case. Thus, if I assert that "the cat is on the mat" then, barring ambiguity and failures of reference, what I have said is true *just in case* the cat is indeed on the mat. This is the intuition that is expressed in Tarski's "convention T," which holds that a legitimate truth predicate (Tr) may be characterized by the structure

"X" is Tr *iff* X

for all assertoric sentences of the language. It is very plausible that the predicate "true" in English fits this schema. However, if that is indeed the case, then it is another instance of a whole system (the logic of truth in English) being represented by one element within it, namely the predicate "true" itself, and as we have seen, this leads necessarily to inconsistency.

3) History. It is very plausible that our *representations* of historical events play a constitutive role in the constitution of these events themselves. For instance, the American declaration of independence plays a decisive role in the constitution of America as an independent state. Without any such declaration, the various activities and events of revolutionaries would not constitute the event of the independence of the USA itself. Thus, here again, an element in the total event of the independence of the USA from Britain is represented by one element within it.

4) Sovereign Power. As we have seen above, sovereignty, or the rule of many by one, depends on an original paradox whereby the one must be both inside and outside the total order over which it rules.

Since it derives its power from the whole, it cannot be simply outside it and so must be an element. But since it is able to rule over the whole, it must figure the entirety of its structure within itself.

5) The Nomothesis. In order for a new law legitimately to be instituted within a constituted political order, it is typically necessary for a leader or political body (such as a congress) to institute it. For the institution to be legitimate, this body must itself be legal and have (legally) the power to institute laws. Its power thus figures the entirety of the legal order, although it is just a single element within the scope of this order.

In each of these cases, the Russellian gesture of prohibiting internal reference to the totality is strikingly implausible. We can hardly prohibit talk of language, or truth, or origins, or legality, while still preserving the structure of English (or any natural language) itself. Nor is parameterization an option here, since there is no obvious metalanguage available in which to talk about the behavior of ordinary language itself. Appreciation of this point leads to the suggestion that the problem of total self-reference that each phenomenon poses may not be well solved by the kind of parameterization that has been adopted in the context of formal languages, but that this problem may evince a fundamental set of paradoxes at the very boundaries of language and thought as such.

More specifically, all of these paradoxical situations are instances of what Graham Priest, in a recent, far-ranging work, has formalized and treated as *limit-paradoxes* necessarily arising at the boundaries of thought.[38] Priest documents the arising and implications of such paradoxes in a wide range of philosophical projects involving accounts of limits, from Aristotle to Derrida. As Priest argues, it is possible to generate a formal limit paradox, or contradiction, *whenever* two formalizable operations are possible. The first operation is *closure*, which formalizes the limit of a totality (for instance, the totality of the sayable, knowable, or thinkable) by drawing its boundaries. The second operation is *transcendence*.[39] Transcendence is any operation that, given a totality of a certain sort, can generate an element of a certain kind that is *outside* this totality. Its general paradigm is, again, diagonalization. With the combination of the two operations of closure and transcendence, it is always possible to generate a contradiction: an element which both *is* (by closure) and *is not* (by transcendence) an element of the given totality. According to Priest, this kind of contradiction at the limits of thought and language is just the formal version of paradoxes that have long concerned philosophers, and which result from any attempt to comprehend the boundary of any totality of thought or action to which the act of comprehension itself

[38]Priest (2002).

[39] Priest (2002), pp. 133-36.

belongs. Since any such attempt necessarily, according to Priest, evinces the contradiction of an element that is both within and without the closure of the totality concerned, it is accordingly necessary to recognize at the very boundaries of thought and language an inherent structural form of contradiction, the paradoxical topology which we may, following Priest, term the *in-closure*.

Given the generality of this situation, and its apparent application to each of the domains that I have named, how should we respond to these paradoxes in their general form, which arises whenever we combine the possibility of self-reference (transcendence) and closure (reference to a totality)? For decades, the usual response of formalists has been some form or another of *parameterization*, whereby linguistic or ontological elements are indexed and the possibilities of reference to them formally restricted to a metalanguage or metastructure, so that it is formally ruled out for the language to make reference to itself. Thus, Russell argued for an intrinsic type-hierarchy of sets, which prevents any set from containing (or, if we extend the analogy to linguistic terms, any term making reference to) itself; Tarski saw his own account of truth as demanding that we can give a semantical theory for a particular language only by means of the provision of a "model," which must take place in a meta-language; and Gödel saw that we can indeed affirm and demonstrate the truth of the Gödel sentence for a particular system only in a distinct, "higher" one. And we may indeed apply such devices of parameterization to the cases I have discussed as well. Thus, for instance, it is possible to escape the paradoxes of truth arising from discussion within English of Tarski's truth-convention for the English predicate "true" by affirming that it is possible to talk about this predicate only in a meta-language that is not itself English; or we may affirm that it is only possible to name a historical event as such *after* it has taken place, and thus that the naming can take place only after the event has already determinately concluded. Or we may affirm that the legal power of the sovereign body in framing laws and conventions itself traces to a source that is not part of the legal order and cannot itself be legitimated by laws, a supra-legal source of mystical authority.

However, it is also clear that each of these devices is inadequate to the phenomena under consideration. We *do* talk about truth-in-English in English; and the representation of historical events *does* play a role in constituting them as such. More generally, the devices of limitation and parameterization threaten to imply that we cannot use (our own) language to talk about (our own) language at all, which is clearly false. We improve the situation by reconsidering what is involved in the underlying paradoxes themselves. As Priest has convincingly argued in an earlier treatment, despite their usual interpretation, these paradoxes are not in fact *intrinsically* such as to demand a solution in terms of parameterization.[40]

[40] Priest (1987), pp. 30-38; cf. also Priest (2002), pp. 141-55.

In each case, the solution of parameterization implies that the original language we have used must be incomplete or inadequate to the phenomena: that there are important phenomena it cannot capture, including for instance the behavior of its own truth-predicate and indeed its own systematic logic.[41] However, the paradoxes by themselves do not necessarily *demonstrate* the incompleteness of any language, but rather face us with a choice, in the case of each actual language, *between* incompleteness and inconsistency.[42] Given the existence of in-closure paradoxes, we cannot preserve the completeness of the language, *on pain of inconsistency*; but we may indeed choose to shoulder the pain, or at least examine more clearly the underlying reasons for the forced choice itself.

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In facing up to the paradoxes of self-reference, formal thought thus defines a fundamental choice: either consistency with incompleteness (and hence the prohibition of total self-reference, and the egress into an open iterative hierarchy of metalanguages) or completeness with inconsistency (and hence reference to paradoxical totalities). On the level of *formal* languages and systems, either of these choices is evidently a possibility; we can save the consistency of our systems by ascending up the hierarchy of metalanguages or, as Priest suggests, we can model inconsistency within self-contained formal languages by means of what he calls a *dialetheic* logic, one that tolerates contradictions in certain cases.[43] However, if the paradoxes indeed have bearing on *natural* languages, the *first* choice is, with respect to them, effectively blocked. There is no distinct metalanguage to which we can retreat to render the underlying logic of English consistent; nor can we plausibly ban discussion of such phenomena as language, truth, and the law from the scope of these phenomena themselves. This general problem is, moreover, a feature of any natural language as such, for all natural languages are equipped with devices of self-reference that make reference to their own totalities possible (and problematic). Nor is the problem solved by using a *second*

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[41] Priest (1987), p. 20.

[42] Priest (1987), pp. 46-47.

[43]Priest thus argues for the counter-intuitive doctrine of *dialetheism*: the omnipresence of inclosure, Priest argues, suggests that there are *true contradictions* – that is, sentences, P, for which both P and not P are true, concerning the limits of thought.
The dialetheist doctrine of true contradictions may seem, at first glance, difficult or impossible to credit; but this is so, Priest argues, largely because of the traditional principle *ex contradictione quodlibet*: "from a contradiction, anything follows." If it were true that the existence of a single contradiction could lead to *any* conclusion, then any formal/logical system that includes contradictions would indeed be useless, since it would be of no use in tracking truth or understanding the world. However, as Priest demonstrates, it is possible to construct a dialetheist logic that tolerates contradictions in *certain* cases without allowing these contradictions to "explode" to the proof of any claim whatsoever. (Priest 1987, pp. 53-72) Thus, if we accept such a logic, the traditional principle of non-contradiction will be relaxed in *particular* cases, and thought can thereby reckon with the possibility of radical contradiction at the limits of totality.

natural language – for instance Chinese – to talk about the meaning of claims involving terms such as "truth" and "language" in English. For the problematic propositions in English (such as: "Language as such is symbolic" or "Truth is Beauty") are best construed as formulating claims that are translatable into either language, and so would quickly lead to a repetition of the same problem.

If, indeed, parameterization and the decision for incompleteness (rather than inconsistency) is not an open option in the case of natural languages, then we are effectively forced to choose for *inconsistencies at the limits* of any system of thought or writing that can indeed represent itself. Where do these inconsistencies originate? We are involved in them, it seems, as soon as we are capable of speaking a natural language at all. For as soon as we can speak a language, we can make use of the devices of total self-reference that it includes. These devices themselves lead to the undecidability that forces a choice between inconsistency and incompleteness; and the practice of continuing to employ these devices in a language that itself has no meta-language ensures that we cannot, in practice, choose incompleteness. We are thus seemingly forced to the position that there are certain inherent contradictions, or inconsistencies, *involved in our very practice* of speaking (meaningful) language itself, contradictions not to be avoided as long as we speak or think about the totalities in which our very acts of speaking and thinking take part.
Such contradictions are a problem for any (practical, philosophical, or political) project of enclosing these totalities within the assurance of a complete and consistent system. By the same token, though, they may also provide *opportunities* for the critical thought that challenges any such project.

Since Kant, critique has been understood largely as the practice of *tracing the closure of totalities;* this conception, with its origins in the Kantian project of "limiting" the claims of knowledge to the experienceable and thus checking its claims to exceed its bounds, continues in the various developments of the "critique of metaphysics" today. In its classical form, the critical project takes the shape of a consideration of the intrinsic limits of knowledge, which according to Kant may not exceed the fixed boundaries of intuitive givenness and the formal limitation of the categories. For beyond these boundaries lies a realm in which the free operation of thought is no longer checked by the grounding limitation that conditions all possible knowledge. However, even in Kant there are already strong anticipations of the problem for critical thought that Wittgenstein makes explicit in his preface to the *Tractatus*:

> "… in order to draw a limit to thinking we should have to be able to think both sides of this limit (we should therefore have to think what cannot be thought)."[44]

[44] Wittgenstein (1921), preface. For instance, it is anticipated in those passages in the *Critique of Pure Reason* in which Kant invokes the necessity, beyond a "Transcendental analytic" which simply and limitatively checks the claims of reason to exceed possible experience, of a "Transcendental dialectic" in which these claims are confronted

The attempt to think the boundaries of thought, the closure of the totality of the thinkable, thus apparently demands of the critic an impossible perspective – a perspective that his very critical enterprise would tend to demonstrate to be impossible. But if the limit of a totality can only be reflected *within* that totality itself, then the critical position from which it can be traced can only be found in the diagonal that inscribes the law of the totality in some of the local, immanent moments subsumed to it. The price of this solution, however, is paradox: for as soon as the closure of the system can be reflected within the system itself, it is possible to generate out of this closure an *in-closure*. Such a point, like the Gödel sentence, belongs to the totality precisely in asserting of itself that it does not belong to the totality; with respect to it, there is therefore no *consistent* intra-systematic answer to the question of its belonging to the totality of the system. However, as we have seen, an extra-systematic answer is simultaneously ruled out by the original problem of perspective. For the solutions of parameterization or the invocation of meta-languages simply reinscribe the original problem of perspective once more. If, in each case, the critical tracing of the limit of a language, *n*, will only be possible in another language, *n1*, then of course the constitutive principles of the language n_1, and hence the basis for the original declaration, will only be comprehensible by means of a third language, n_2. And then the possibility of *this* declaration will only be comprehensible by means of a fourth language, n_3, and …

Thus, the phenomenon of undecidability immediately gives rise to the paradoxical structure of in-closure. From the point of its locality, the systematic possibility of decision – the systematic law of the totality of the system – is thinkable only, paradoxically, as *im*possibility; more generally, the closure of the boundaries of any system as its paradoxical non-closure. If we wish to avoid parameterization, which simply pushes back the problem, it is possible to conceive of this position only as an inconsistent one, a position that is both inside and outside the system it criticizes. However, it is thus apparently possible from this position to apply a radical critique to any *claim* of consistent totality, the claim of any individual or item to master the whole of which it is a part, without contradiction.

These terms – the undecidable, the conditions for possibility as conditions for impossibility, and the radicality of a critical practice that traces the closure of metaphysics as its paradoxical in-closure – are today familiar, most of all, from Derrida's longstanding project of deconstruction. From his first writings on Husserl and Saussure until the end of his career, Derrida sought to develop a writing that articulates the boundaries of the systems of metaphysics by tracing their paradoxical in-closure. As we shall see in chapter 4, the location and description of the undecidable, as discovered by Gödel, is an essential aspect

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with themselves, leading to the development and invocation of what are, precisely, limit-paradoxes of inclosure: the four cosmological antinomies.

of this method of writing and tracing. However, as we have in fact already seen, the implications of this deconstructive method for the general questions involved in understanding the structure of language and the inherent limits of its conception as a rule-based structure are very close, as well, to those of the radical paradox of rule-following in Wittgenstein's *Philosophical Investigations*. Here, as it is for Derrida, the question of what is involved in the practice of a language is very much the question of the possibility and force of rules, as these define the relationship between the (finite) sign and its (infinite) possibilities and contexts of use. As it is for Derrida, as well, the structural aporia of this understanding of linguistic systems is marked in the properly *syntactic* effect by which a rule for the "use" of expressions is manifest (as it must be, for there is no alternative) only in what is (necessarily) simply *another* symbolic expression. In this precise sense, both Derrida's deconstruction and Wittgenstein's "therapeutic" practice of reflection on the often misleading terms in which language presents itself to itself can both operate as pre-eminent modalities of the critical reflection that considers what is involved in our relationship to the inconsistent totality of language as a whole. To fix terms, we may call this mode of criticism, in distinction to the older *criteriological* mode that seeks to draw and define a fixed boundary to language from a stable, transcendent position outside of it, the *paradoxico-critical* mode.[45]

VI

Since at least the *Theory of the Subject* of 1982 (comprising seminars held from 1975 to 1979), Alain Badiou has attempted in an unparalleled way to think the ontological and political implications of formalism, subjecting the very constitutive structures of ontological being to the dictates and rigors of

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[45] The term is chosen, in view of the systematic structure on which the operations of paradoxico-criticism depends, the ability of these operations to evince the 'irrational' core of systematic rationality, and the formal connection of this core to the objective introduction of chance and aleatory events (see chapters 9 and 10 below), with deliberate reference to the "frenzied-critical synthesis" that Salvador Dali termed, in a 1935 essay, the "paranoid-critical" method:

"It was in 1929 that Salvador Dali turned his attention to the internal mechanism of paranoid phenomena, envisaging the possibility of an experimental method based on the power that dominates the systematic associations peculiar to paranoia; subsequently this method was to become the frenzied-critical synthesis that bears the name of "paranoid-critical activity." Paranoia: delirium of interpretative association involving a systematic structure—paranoid-critical activity: spontaneous method of irrational knowledge based on the interpretative-critical association of delirium phenomena … The presence of active and systematic elements does not presuppose the idea of voluntarily directed thinking or of any intellectual compromise whatsoever; for, as we all know, in paranoia, the active and systematic structure is consubstantial with the delirium phenomenon itself—any delirium phenomenon with a paranoid character, even an instantaneous and sudden one, already involves the systematic structure "in full" and merely objectifies itself a posteriori by means of critical intervention. … Paranoid-critical activity is an organizing and productive force of objective chance. Paranoid-critical activity does not consider surrealist images and phenomena in isolation, but in a whole coherent context of systematic and significant relationships. Contrary to the passive, impartial, contemplative, and aesthetic attitude of irrational phenomena, the active, systematic, organizing, cognoscitive attitude of these same phenomena are regarded as associative, partial, and significant events, in the authentic domain of our immediate and practical life-experience." (Dali [1935] 1998).

abstract mathematics. One of the most significant outcomes of Badiou's thought is his application of formal methods to what has also become an obsession of contemporary continental philosophy, the problem of theorizing the "Event," or the transformative eruption of the essentially unforeseeable *new* into a given, determined situation.[46] According to a problematic already developed and pursued by Heidegger, such genuine novelty demands, as well, a fundamental break with all that can be said with the language of the metaphysical tradition, including all that is expressed or expressible by the "ontological" language that comprises everything that can be said *of* what *is*. For Badiou, in order to develop such a theorization of novelty as such, it is thus necessary first to model the "ontological" structure of being, insofar at least as it can be described, in order thereby to develop a rigorous schematism of what occurs or takes place beyond it.

This attempt to articulate symbolically the advent of novelty which occurs, for Badiou, beyond the limits of "what can be said of being qua being" threatens to put Badiou, like others who have attempted to trace the "closure" of a "metaphysical" language that avowedly determines everything that can be said of what is, in a paradoxical and even self-undermining position. This is the dilemma (familiar to readers of the early Wittgenstein) of the philosopher who would speak of what is by his own lights unspeakable, who would attempt by means of symbolic language to trace the very boundaries of the sayable as such in order to indicate what lies beyond. One sort of solution to this dilemma (which is, of course, not without its own problems) lies in the Wittgensteinian attempt to discern, beyond the ordinary significative function of language in saying, the distinct function of an ineffable "showing" that operates, most of all, where language exceeds its own bounds and thus falls into nonsense. Badiou, however, solves the problem in a very different way, one that suggests a radically different understanding of the significance of formalization itself. For faced with the dilemma of the demonstration of the unsayable, which cannot, on pain of contradiction, amount to a significative use of language, Badiou foundationally and completely disjoins the formalisms of mathematics from language itself, attempting a formalization both of all that is sayable of being *and* of what lies beyond this regime by means of the abstract (and, for Badiou, wholly non-linguistic) schematisms of mathematical set theory. For according to Badiou, where language cannot speak, the formalisms of mathematics, definable purely by their abstract transmissibility, beyond the

[46] The significance of this problematic of the event goes back at least to Heidegger's discussion of *Ereignis*, the mysterious "event of enowning" that transforms in a fundamental way the basis for whatever is in being; in subsequent discussions, Derrida and Deleuze have each (in different ways) accorded their different formulations of the "event" a central place in their own critical projects (we shall explore these formulations in chapters 4, 5, and 9.) For Heidegger's conception, which I do not discuss in detail here, see, e.g. Heidegger (1938) and (1957).

constraints of any particular language, can nevertheless display the structure of the sayable, as well as the structure of the Event which necessarily lies beyond it.[47]

More specifically, Badiou identifies the axiom system of Zermelo-Fraenkel set theory as defining the regime of ontology, or the possible presentation of what is as such.[48] This interpretation then serves as the basis for his suggestive as well as problematic formal schematism of the Event, which, in *breaking* with these standard axioms at a certain precise point, also locates, according to Badiou, the point at which the ontological order of being is itself interrupted and surprised by the transformative eruption of an essentially unforeseeable novelty. In the more recent *Logics of Worlds*, Badiou continues this analysis with a formal consideration, based this time on category theory, of the primarily linguistic establishment and transformation of the boundaries and structure of particular situations of appearance, or worlds.[49] Here again, the possibility of any fundamental transformation in the structure of a particular, constituted situation depends on a formally characterized effect of ontology, a kind of "retroaction" by means of which an ontologically errant set-theoretical structure allows what was formerly utterly invisible suddenly to appear and wreak dramatic substantive as well as structural changes.

In both of Badiou's major works, the interpretation of structures that have been considered "foundational" for mathematics thus operates as a kind of formalization of the limits of formalism themselves, which in turn yields radical and highly innovative interpretations of what is involved in thinking both the structuring of situations as such and the possibilities of their change or transformation. One of the most far-ranging of these innovative consequences of the interpretation of formalism, as Badiou points out, is that it renders the *infinite* mathematically (and hence, according to Badiou, *ontologically*) thinkable. In particular, Cantor's theory of multiple infinite sets, which is at the very foundation of contemporary set theory in all of its versions, yields a well-defined mathematical calculus which allows the "size" or cardinality of various infinite sets to be considered and compared. This symbolism has, as Badiou emphasizes, profound consequences for the ancient philosophical problem of the one and the many, and

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[47] As we shall see (chapter 10) there are problems here, insofar as this rigid disjunction between mathematical formalism and language, which indeed solves the dilemma on one level, nevertheless makes it virtually impossible for Badiou to justify his own reflexive (and, necessarily, it seems, *linguistic*) interpretations of the schematisms themselves.

[48] Badiou (1988). (Henceforth: *B&E*)

[49] Badiou (2006).

hence for any systematic consideration (mathematical, ontological, or political) of what is involved in the formation and grouping of elements into a larger whole. [50]

By far the most mathematically and conceptually radical consequence of this definition of the set as a "many which can be thought of as one" was Cantor's theorization of the *infinite series* of natural numbers (1, 2, 3, …) as comprising a single "completed" set. With this single, bold, theoretical step, Cantor reversed thousands of years of theory about the infinite, stemming originally from Aristotle, which had held that such infinities as the series of natural numbers could only be "potential" infinities, never existing as actually completed wholes.[51] Moreover, with the same gesture, Cantor also suggested the existence of a vast open hierarchy of 'completed' infinite sets, each bigger than the last, beyond the set of natural numbers itself. For, as he quickly showed, the definition of a set already allows us to consider its *subsets*, those sets that are comprised only of some of the original set's elements. We can then consider the *power set*, or the set of all subsets; and as Cantor showed with the theorem that still bears his name, the power set will always be strictly larger – will contain 'more' elements – than the original one. By repeatedly applying the power set operation to the original, infinite set, we thus obtain an apparently boundless hierarchy of larger infinite sets, whose relations of size or cardinality can then be discussed and compared.[52]

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[50] It is thus possible to see in the radical consequences of Cantor's thinking of infinite totalities the specific limitation of Levinas' thought about the relationship figured in the title of his book *Totality and Infinity* (Levinas 1961) which in fact figures this relationship not as a conjunction but as an exclusive disjunction. This is why, for Levinas, the phenomenological "openness" to infinity, for instance in Descartes' argument, always points the way to a "infinite transcendence" that lies outside the possible survey of any totality. If Cantor has succeeded in his formalization, however, this opposition is by no means demanded by the thought of the infinite, which can indeed yield a doctrine of infinite totalities; and hence, as Badiou argues, Cantor's innovation can be the specific agent of the historical passage of thought about infinity from the categories of the mystical, transcendent, or religious (in which it still falls for Levinas) to a thoroughly de-mythologized and "atheistic" treatment of the role of the infinite in a finite human life.

[51] For more on this history see Moore (2001a).

[52] These innovations already led Cantor to pose what is, today, still one of the most notorious unsolved problems in all of mathematics. This is the problem of the status of the "continuum hypothesis," or of the relationship between the size of the 'first' infinite set (the set of natural numbers) and that of the set of *real* numbers, or of discrete points on a continuous line. As can easily be demonstrated by means of diagonalization, the continuum is indeed larger than the set of naturals; the problem (to the solution of which Cantor labored for decades, but in vain) is how much bigger it is. The *continuum hypothesis* holds that the continuum has the size, or cardinality, of the very "next" infinite set beyond the set of natural numbers (which has the 'first' transfinite cardinality, aleph-naught). As we now know, owing to decisive independence results proven by Gödel in 1939 and Cohen in 1963, the hypothesis cannot be proven (Cohen) or disproven (Gödel) from the standard ZFC axioms of set theory.

At one stroke, Cantor thus both radically transforms mathematical thinking about the status of infinity and creates contemporary set theory by allowing that arbitrary multiplicities can indeed be considered to be well-defined and actually completed wholes. Yet how big an infinite many indeed "can" exist as a one? Is there any limitation to the size of successive infinities formed by means of the power set operation, or does the hierarchy itself extend without any boundary? And what, then, should we say about the existence and size of this *whole* infinite hierarchy of infinite sets? As Hallett (1986) has recently shown, Cantor's own thought about these questions is motivated, at least in part, by theological considerations, which led him to believe both that the well-defined infinite sets of the naturals, or of the reals, can exist as wholes in that God can indeed group them all together as unified sets (even if finite agents cannot) and that the whole infinite hierarchy of infinite sets forms an "unincreasable" totality that cannot be treated mathematically at all, what Cantor called the *Absolute*. This Absolute infinity is, for Cantor, "unreachable by any determination;"[53] it thus inherits the position occupied in earlier theories, for instance those of Aquinas and the scholastics, by an absolute divinity whose magnitude is incapable of numerical or any other positive specification. Thus, despite the radical innovation of Cantor's theory in positing the actual existence as a set of *any* multiplicity (be it finite or infinite) that can indeed "be thought as one," his understanding of the Absolute leads him effectively to posit that there are indeed multiplicities – most notably, the multiplicity of *all* sets, or what we might otherwise call the "set-theoretical universe" as a whole -- that are "too big" to be thought of as sets at all. In a later text, Cantor termed such "too big" multiplicities "inconsistent multiplicities" – reflecting the intuition that they indeed *cannot* (consistently) be thought together as Wholes – reserving the term "set" for the smaller "consistent multiplicities" that can indeed be thought as one.[54]

Although Cantor's motivations in holding the Absolute – or the set of all sets – to be indescribable mathematically, on pain of contradiction, was primarily theological, subsequent developments in set theory themselves would bear out his intuition in a striking and deeply suggestive way. As we shall see in more detail in chapter 2, the subsequent development of a series of far-reaching set theoretical paradoxes appeared to show that it is indeed *impossible to conceive* of a "set of all sets," or of certain other related multiplicities, as completed wholes, without encountering contradictions. The first of these paradoxes was the one already discovered in 1897 by Cesare Burali-Forti, which appeared to show that the set of all orderable or "ordinal" numbers, considered as itself an ordinal number, must be both larger

[53] Hallett (1986), p. 39 (quoting from p. 176 of Cantor (1883))

[54] "When … the totality of elements of a multiplicity can be thought without contradiction as 'being together', so that their collection into 'one thing' is possible, I call it a *consistent multiplicity* or a *set*.' (1899 letter to Dedekind, quoted in Hallett (1986), p. 34).

and smaller than itself. Just four years later, Russell's paradox would put a closely related result in vivid form, as the demonstration of the contradiction that follows necessarily from the supposition that there exists a set of all sets that are not members of themselves.

In the first pages of *Being and Event*, Badiou describes set grouping or unification as the result of a fundamental operation of "counting as one" which forms an indifferent multiplicity into a structured one that can indeed be "counted" or presented as such.[55] The outcome of this operation is the formation of anything that can indeed be understood as a presented whole with any structure whatsoever; all investigation of the effects of structuration and formation on any existing situation can therefore proceed from an investigation of the possibilities and properties of this fundamental "count-as-one." Following Cantor's own terminology, Badiou calls the successful result of this operation – an actually existing set, be it finite or infinite – a "consistent multiplicity;" before the count-as-one, there are only "inconsistent multiplicities" which precede any formation into ones, and so indeed cannot be thought or conceived mathematically (or ontologically) at all.[56] The distinction between consistent and inconsistent multiplicities, so described, is to be regulated, Badiou holds, by an axiom system that implicitly defines which sets can exist (and hence which multiplicities cannot be grouped as sets at all).[57]

This appeal to the axiomatic structure of set theory and the consequent need to avoid the formation as sets of any of the "too-large" inconsistent multiplicities forms the backdrop to the first and most general of the axiomatic "decisions" that comprise Badiou's own systematic ontology. This is the decision of the "non-being of the one" from which, as Badiou says, his "entire discourse" originates.[58] According to this decision, "the one *is not*;" fundamentally, there are only multiples and multiplicities. These multiples can indeed, in general, be grouped into ones by the action of structure, or the "count as one"; what cannot exist, however, is the "One-All" or universe that would result from the grouping together of everything that exists.

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[55] B &E, p. 24.

[56] There are actually two distinct questions here: i) of what (if anything) "precedes" the operation of the count-as-one; and ii) of what (if anything) cannot be counted as one at all, on pain of contradiction. Cantor uses 'inconsistent multiplicity' primarily to describe ii); since he lacks any clearly formulated conception of the set grouping 'operation' itself, he does not explicitly extend this usage to i). However, Badiou argues (pp. 41-43) that given an axiomatic definition of the grouping operation, we can indeed identify the two senses of "inconsistent multiplicity." We shall return to these issues in chapter 10.

[57] B &E, pp. 29-30.

[58] P. 31

Badiou presents this axiomatic decision against the One-All as a fundamental rejection of the legacy of Parmenides and, indeed, of the entire ontological tradition he founded.[59] But although his rejection of the One-All is, like other significant decisions, axiomatic, Badiou does not hesitate to give a justification for it in terms of set theory. This justification turns on Badiou's interpretation of Russell's paradox and the related paradoxes, which led Russell and subsequent logicians to seek devices to prevent the possibility of forming the problematic sets.

The Russellian 'theory of types,' is one such device, as are the axioms of foundation and separation enshrined in the now-standard axiom system of Zermelo-Fraenkel set theory. The intent behind all these devices is to prohibit the *self-membership* of sets; in other words, they all prevent, at a basic level, the possibility of a set belonging to itself. In this way, the "paradoxical multiplicities" or sets leading to contradictions are immediately prohibited; so, also, is the 'total set' or set of all sets.[60] Badiou follows the tradition of logicians in both prohibitions, holding that since the existence of a contradiction would "[annihilate] the logical consistency of the language,"[61] the problematic sets cannot be formed, or in other words that the problematic multiplicities, including the multiplicity of all multiplicities, do not exist as Ones. The universe described by language is thus essentially and fundamentally *incomplete*; this result provides formal grounds for the basic decision "against the One-All," which, Badiou holds, must be maintained by any systematic, axiomatic theory of being itself. Thus:

> Inconsistent or 'excessive' multiplicities are nothing more than what set theory ontology designates, prior to its deductive structure, as pure non-being.
>
> That it be in the place of this non-being that Cantor pinpoints the absolute, or God, allows us isolate the decision in which 'ontologies' of Presence, non-mathematical 'ontologies', ground themselves: the decision to declare that beyond the multiple, even in the metaphor of its inconsistent grandeur, the one is.
>
> What set theory enacts, on the contrary, under the effect of the paradoxes – in which it registers its particular non-being as obstacle (which, by that token, is the non-being) – is that the one is not. (p. 42)

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[59] It is "a decision to break with the arcana of the one and the multiple in which philosophy is born and buried…", (*B&E*, p. 23).

[60] For, such a set, if it existed, would be (since it would be a set) a member of itself.

[61] *B&E*, p. 41.

Badiou is indeed right to hold that the paradoxes establish a fundamental result, transformative for all systematic consideration of the one and the many, in establishing the fundamentally problematic status of the attempt of traditional metaphysics to think an unproblematically unified totality, the traditional "One-All" of the universe of all that exists. However, with respect to the formalisms themselves, there is an important alternative here which Badiou does not so much as acknowledge. For as some logicians have more recently emphasized, it is not at all the case that the Russell paradox, for instance, simply *forces* the decision against a One-All or a set of all sets. For we may, by means of various alternative devices, *affirm* the existence of the total set while nevertheless acknowledging the Russell paradox. One way to do this is to permit axioms allowing the existence of self-membered sets, including the total or 'universal' set, while still prohibiting the problematic Russell set itself.[62] Alternatively, we may tolerate the existence of the Russell set and the other contradictory sets by *allowing the existence of certain contradictions* – contradictions that characteristically arise in the course of thinking, or talking, about the limits of a totality in which the act of thinking or talking *itself* is a member.[63]

In fact, the choice to affirm the existence of the totality, and thus to uphold the completeness of language in its capability of speaking the All, defines an alternative critical orientation, one which is also heir to the paradoxes but strikingly at odds to Badiou's own. We can see this difference particularly clearly, indeed, in relation to the status of another result that figures directly the consequences of self-belonging and diagonalization, Gödel's (first) incompleteness theorem. As we have already seen, although the theorem is usually called the "incompleteness" theorem, it in fact faces us with a decision *between* completeness and consistency. Affirming the consistency of the formal system in which it is formulated (for instance, *Principia Mathematica*), we may take it that the result shows that this system is *incomplete*: that is, that "there are truths" that it cannot prove (such as, for instance, the truth of the statement of the Gödel sentence itself). However, we may also just as well take it to show that the system is *inconsistent*, i.e. that there is some proposition, A, of which it proves *both* A and its negation. In this way we may preserve the completeness of the system (of PM, or by analogy, the system of language itself in its capability to *say* everything) at the cost of determining it to contain inconsistencies. Of course, this is not the route usually taken, since it has usually been assumed that a contradiction ruins the integrity of any system, since "from a contradiction anything can be proven." However, as we shall see, this is by no means necessarily so, and depends in detail upon the structure of the logic of proof that is employed. In any case, and even more significantly, although we *may* make the decision for consistency and incompleteness, *or for*

[62] See, e.g., Forster (1992).

[63] See, e.g, Priest (2006), esp. chapter 2, and Priest (2002).

completeness and inconsistency, neither one is mandated by the formal system itself. For – and this is the precise content of Gödel's *second* incompleteness theorem – it is impossible for a formal system to prove its own consistency; it is thus always possible to take it, and impossible to foreclose the possibility from within, that it may contain inconsistencies.

More generally, then, we might put the situation as follows. It is not in fact the case that the implications of the Russell paradox or any of the related semantic paradoxes immediately force us to reject, as Badiou claims, the "One-All." The effect of the paradox is rather to *split* the One-All into two interpretive hypotheses, and force a decision between them. *Either* we may reject the "All" of totality while *preserving* the "One" of consistency – this is Badiou's solution – or, alternatively, we may preserve the All of totality while *sacrificing*, at least in certain cases, the One of consistency. This alternative, as I shall demonstrate, essentially defines the possibility of a different theoretical/critical orientation, one which certainly shares with Badiou's "generic" orientation his essential rejection of both constructivism and traditional metaphysics, but is nevertheless capable of underlying very different critical positions and results.

VII

In a suggestive chapter from his 1998 book *Briefings on Existence*, Badiou describes what he sees as three possible "orientations in thought."[64] In each of the orientations, as Badiou notes, what is at stake is the relationship of thinking to being itself, the relationship famously named by Parmenides in the assertion that "The Same is there both for thinking and for being" or that "being and thinking are the same."[65] Each 'orientation,' then, regulates this relationship, or this possibility of thought to comprehend the infinite totality of being, by authorizing in different ways the inscription or assertion of existence:

> I call an "orientation in thought" that which regulates the assertions of existence in this thought. An orientation in thought is either what formally authorizes the inscription of an existential quantifier at the head of a formula, which lays out the properties a region of Being is assumed to have. Or it is what ontologically sets up the universe of the pure presentation of the thinkable.[66]

Since each orientation thus preconditions the thinkability of being as a whole, we may indeed take them to amount to a series of positional total relations to the infinite totality of what is, or what is sayable of it.

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[64] Badiou (1998b), chapter 2.

[65] Badiou (1998b), p. 52.

[66] Badiou 1998b, p. 53.

And then we may see in philosophy a privileged domain of reflection on what is involved in these different ways of being oriented toward being itself, of "setting up" or "laying out" what it means to be. So, what are the possible orientations in thinking, understood as possible relations to the totality of being as such, or as sayable? Badiou distinguishes among three, two of which we have already encountered. The first is what Badiou calls the "transcendent" orientation:

> The … transcendent orientation works as a norm for existence by allowing what we shall coin a 'super-existence.' This point has at its disposal a kind of hierarchical sealing off from its own end, as it were, that is, of the universe of everything that exists. This time around, let us say every existence is furrowed in a totality that assigns it to a place.[67]

What Badiou terms the transcendent orientation, thus, sets up the totality of beings by reference to a privileged being, a "super-existence" that assures the place of everything else, while at the same time obscuring its own moment of institution or the grounds of its own authority. Thus, the totality is conceived as the determined order of an exact placement of beings, while it is covertly regulated by an exemplary Being, conceived as superlative, transcendent to the order of things, and ineffable in its terms. Here, in a gesture typical of philosophy from Plato up to Nietzsche, the being of norms is assumed in the figure of a privileged, sovereign Being, while the basis of their authority is not further examined. Here as well, infinity is thinkable only in terms of such a sovereign Being, as the transcendence or ineffability of a singular Absolute wholly beyond the finitude of human life and existence, whose excess is simultaneously cloaked with the aura of obscurity. Without further ado, we may appropriate Heidegger's term (and indeed his whole description of it) for this orientation: thus, we term it the "onto-theological."[68] The second orientation is also one we have already discussed. It is the one that is implicit in traditional nominalism, as well as in some forms of critical thought since Kant, but reaches its full methodological expression only with the twentieth-century linguistic turn. This is the orientation that relates to the totality of what is sayable about Being by means of an explicit tracing of the structure and boundaries of language; Badiou terms it "constructivist":

> [The constructivist orientation] sets forth the norm of existence by means of explicit constructions. It ends up subordinating existential judgment to finite and controllable linguistic protocols. Let us say any kind of existence is underpinned by an algorithm allowing a case that it is the matter of to be effectively reached.[69]

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[67] Badiou 1998b, p. 55.

[68] Though the terms in which Heidegger describes the historical structure of thought that determines beings by reference to some one superlative being are thus useful for the current project, I do not treat Heidegger's own "being-historical" critique of metaphysics and presence in any detail here.

[69] Badiou 1998b, p. 55.

Here, with the "constructivist" (or, as we have termed it, "criteriological") orientation, the totality of the sayable is regulated by the discernable protocols of meaningful language, comprehensible in themselves and capable of distinguishing between the sayable and the non-sayable. Thus, reflection on the (presumably determinate) structure of language yields a kind of critical enterprise that involves the drawing of a regulative line between sense and nonsense, or between the sayable and what cannot (by means of the determinate norms definitive of language as such) be said. In some of its most exemplary forms, this is the project of a kind of limitative *policing* of the sayable; the verificationism of Carnap and Ayer is a prime example. Here, the totality of the sayable is itself understood as comprehended by the determinate syntactical rules for the use of the language in question, and thus as not only a *bounded* but a *finite* whole, outside of which it is possible for the theorist or the inventor of languages unproblematically to stand. The methodological correlate of this orientation is thus the conventionalism that sees the totality of *a* language as wholly perspicuous from outside its determinate bounds, but forecloses or ignores the question of the possibility of *language*, or meaning, *as such*. Since it is always possible to stand outside a determinate language and specify its principles, it is always possible to exceed a determinate, bounded language with another one. Thus, the criteriological (constructivist) orientation can grasp infinity only as the *potentially* infinite openness of a successive hierarchy of types, or meta-languages, each one of which can grasp all of those beneath it, but at the cost of its own possible capture by a still higher language. Finally, Badiou poses as the third possibility the "generic" orientation that determines his own project in *Being and Event* and elsewhere. This orientation differs from the other two, at least, in insisting upon the relevance of actual and multiple infinities to our understanding of being as such. Arising in this way from the event of Cantor's discovery of multiple infinities, it takes into account (where the other two do not) the radical implications of the representation of the infinite totality within itself, what is figured in the possibility of diagonalization:

> The third orientation posits existence as having no norms, save for discursive consistency. It lends privilege to indefinite zones, multiples subtracted from any predicative gathering of thoughts, points of excess and subtractive donations. Say all existence is caught in a wandering that works diagonally against the diverse assemblages expected to surprise it.[70]

Thus, applying no norm *other than formal consistency*, the generic orientation relentlessly pursues, along the diagonal, the existence of all that which escapes constructivism's limitative doctrine of thought. Indeed, it is one of the most impressive accomplishments of Badiou's *Being and Event* rigorously to formalize both the constructivist and the generic orientations in terms of set theory. Badiou thereby shows how the apparatus of set theory leaves open the possibility, beyond anything constructivism can

[70] Badiou 1998b, p. 55.

allow, of the "generic set" which, though real, is completely indiscernible within ontology, and hence also the possibility of the extension of any determinate situation by means of a generic "forcing" of the indiscernible. This is the *coup de force* involved in Badiou's appeal to Cohen, which he takes to authorize the doctrine of the Event that shows the inherent limitation of any constructivist doctrine and which ensures, for Badiou, that there can indeed be a doctrine of the advent of the radically new, beyond what any existing language can possibly figure.[71]

Badiou's generic orientation is thus one that takes account of the paradoxical possibility of total self-reference, indeed passing through such self-reference to generate the doctrine of multiple infinities and draw out the transformative consequences of Cohen's technique of forcing. In so doing, though, Badiou takes the generic orientation to refute any critical appeal to the structure or nature of language (which he assimilates uniformly to the constructivist orientation). Does it in fact do so, though? Or is there, in fact, *another* possible method by which thought, figuring the radical paradoxes of self-belonging and totality that find expression in diagonalization, Russell's paradox, and Gödel's theorem, can relate to the totality of what can be said, or of what is?

In fact there is another orientation, one that is fully cognizant of these paradoxes and yet does not refuse the relevance of internal linguistic reflection in the way that Badiou's generic orientation does. We have already met it: it is the *paradoxico-critical orientation* that operates by tracing the de-totalizing implications of the paradoxes of self-reference at the boundaries of the thinkable, or sayable. That this orientation is indeed fundamentally different from Badiou's, despite its common passage through the paradoxes of self-reference, is already suggested by the very different relation it bears to the analysis of the structure of language: that is, whereas Badiou's generic orientation (officially at least) positions itself beyond or before all reflection on language and its structure, the paradoxico-critical orientation depends

[71] The generic orientation seems to be substantially original with Badiou, but there are important anticipations of its view of Truth as the result of the diagonalization of particular situations, particularly in the views of some of the mathematicians and formalists on whom he draws. The most significant of these is probably Gödel himself, who took his own incompleteness theorems to establish the necessary existence of truths that, although they could not be proven by any formal system, were nevertheless accessible to human mathematical intuition (see chapter 7, below). There are also significant anticipations of Badiou's position in certain pre-WWII philosophers of mathematics, for instance Leon Brunschvicg and the philosopher and resistance fighter Albert Lautman, who sought in his "Essay on the Mathematical notions of Structure and Existence" to undertake a "positive study of mathematical reality," drawing on the results of Gödel and the metalogical methods suggested by Hilbert's formalist program. (Lautman 1938).

crucially, as we have seen, on the possibility of language self-referentially to figure itself by displaying its own structure (even if this figuring will necessarily be partial and paradoxical).[72]

With this in mind, we can now specify the most basic distinction between Badiou's generic orientation and the paradoxico-critical one. It is this: given the paradoxes that force a choice, whereas Badiou's generic orientation decides *for* consistency and against completeness, the paradoxico-critical orientation is based on the decision *for* completeness and against consistency. Thus, whereas Badiou's generic orientation maintains the methodological aim of consistency at all cost, up to the point of denying the existence of a whole or totality at all, the paradoxico-critical mode typically works by *affirming* the existence of a totality (of all that can be said, or of the world, or of Being) and tracing the contradictions and antinomies that thereby arise at its boundaries. It does *not* necessarily seek a resolution of these contradictions, but indeed finds them to be necessary to the structuration of the relevant totalities that it considers. Thus, by contrast to Badiou's decision against the One, paradoxico-criticism can be considered to be committed to the relentless *affirmation* of the One, regardless of its being constitutively rent by the paradoxes of in-closure at its boundaries. It is in this fashion that it performs its critical work, tracing and documenting the complex topology of in-closure *without* attempting to resolve it into a univocally consistent doctrine of being.

By arranging the four orientations, we obtain the following schema, which displays some interesting symmetries and relations.

[72] Thus, Hallward (2004b) perceptively suggests that the relationship between language and inconsistency motivates Badiou in his discussion of "presentation" and "representation": "It is no accident that Badiou is especially careful to circumscribe the most obvious link between what we are and how we are presented, namely language. If fundamentally we *are* speaking beings, and if language is advanced as the most general medium of our presentation, then the rigid demarcation of consistency from inconsistency collapses in advance; it is exactly this consequence that Badiou's steadfast refusal of the linguistic turn is designed to forestall."

Language captures Truth	***Truth exceeds language***
Paradoxico-Critical: Completeness, inconsistency	**Generic:** Consistency, incompleteness
Criteriological/Constructivist	**Onto-Theological**

We can also give brief definitions of the four orientations, differentiated according to their attitudes toward the totality of language, the thinkable, or being:

Paradoxico-critical: Any position that, recognizing reflexivity and its paradoxes, nevertheless draws out the consequences of the being of the totality, and sees the effects of these paradoxes always as operative within the One of this totality.

Generic: Any position that, recognizing reflexivity and its paradoxes, denies the being of the totality and sees these paradoxes as traversing an irreducible Many.

Criteriological: Any position that attempts to delimit the totality consistently from a stable point outside of it.

Onto-Theological: Any position that sees the totality as complete and consistent in itself, though beyond the grasp of finite cognition.

On the one hand, the paradoxico-critical orientation is clearly distinct, as we have seen, from the criteriological orientation that seeks to delimit being by means of an investigation of the fixed structure of language. Rather than promote such a limitative doctrine, it takes account of the paradoxes of self-inclusion (which make it impossible to preserve both consistency and completeness simultaneously) in order to trace the fundamentally paradoxical structure of limits and limitation, up to the paradoxes involved in the fact that language appears in the world at all. A closely related distinction concerns the question of a metalanguage, for instance a language *distinct* from English in which it would be possible to

describe the structures of truth and meaning exhibited by the English language itself. As we have seen, the criteriological orientation of Russell and Carnap, which begins by attempting to specify the bounds of a single language by means of a description of its rules, invokes not only one, but indeed a whole hierarchy of distinct metalanguages, each one necessary in order to describe the constituent structure of the one underneath. Paradoxico-criticism, by contrast, refuses to countenance any such metalanguage, affirming (though it may indeed lead to paradoxes) that a natural language such as English bears within itself all the resources (problematic though they may be) for talking about its own constituent structures.

On the other hand, the paradoxico-critical orientation is also distinct, as we have also just seen, from the generic orientation. In particular, these differ fundamentally in how they consider the status of totality: whereas the generic orientation saves consistency by denying completeness, the paradoxico-critical orientation *affirms* an inconsistent totality, documenting the inconsistencies that inherently arise when language ventures (by a necessity of its own structure that can hardly be denied) to speak the whole as One. In some recent remarks on Badiou that criticize mildly his formulation of the generic orientation, and suggest the elements of an alternative, Slavoj Žižek emphasizes the way in which this paradoxico-critical thinking of the One necessarily differs from the emphasis on multiplicity that Badiou's generic orientation and other orientations of contemporary thought share:

> What the … extolling of multiplicity is missing is the noncoincidence of the One with itself, the noncoincidence which makes the One the very form of appearance of its opposite: it is not only that the complexity of its situation undermines every One – much more radically, it is the very oneness of the One which redoubles it, functioning as the excess over the simple one. The function of void is crucial here: what explodes every One from within is not a complexity which subverts its unity, but the fact that a void is a part of every One; the signifier-One, the signifier unifies/totalizes a multiplicity, is the point of inscription into this multiplicity of its own void. This is why every name is ultimately tautological: a 'rose' designates an object with a series of properties, but what holds all these properties together, what makes them properties of the same One, is ultimately the name itself. Consequently, the One as the "empty signifier" is the point at which, as Lacan put it, the signifier falls into its signified.[73]

As Žižek suggests, the ultimate point of the paradoxico-critical orientation is not really to insist upon the One rather than the many, but rather to show how the most rigorous One essentially *becomes* many as soon as it passes through the "unifying" function of language, thus producing the gulf between the sign

[73] In Johnston (2009), pp. 192-93.

and its reference.[74] This radical gulf, present and unforeclosable beneath every ordinary use of language, is figured by the paradoxes of self-inclusion and self-reference that occur at the point of the manifestation of language itself, the point of a necessary indistinction between signifier and signified, where the very logic of language is manifest syntactically. This problematic point, traced variously in the diverse structuralisms and systems of the twentieth century, locates both the system's inherent excess and its possible disruption. Here, it is apparently possible to speak, as Derrida once did, of an *event* consisting in the "rupture" and "displacement" of structure as such, at the point of redoubling that is also its very core.[75] It remains to be seen how we should understand the relation of this kind of linguistically defined event to Badiou's kind, stripped from any relation to language and verified by the uncompromising formalism of mathematics itself. But such, it now seems, are the stakes of the still poorly understood *fact* of the appearance of language in the world, and of the questions of formalism and action that problematically manifest it.

The two orientations at the top of the diagram both thus have it in common that they result from *differing* reactions to the paradoxes of total self-inclusion; in this respect they are distinct from the two orientations at the bottom, which must both, thus, be considered to be pre-Cantorian in maintaining the possibility of jointly preserving consistency and completeness. However, the two orientations on the left also share something, despite being respectively pre- and post-Cantorian in these respects; in particular, both share a critical motivation grounded in reflection on the structure of *language*. For both of these orientations, it is necessary, in understanding the possibility of speaking being at all, first to pass through (and do we ever emerge?) a deep reflection on language and its formal structure; it is in this way that they both figure the

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[74] Compare, also, these critical remarks on Badiou, in which Žižek seems to occupy, very clearly, the position of paradoxico-criticism with its denial of a metalanguage position and its constitutive assertion of the 'internal' gap introduced by the One's relation to itself: "…there is a Kantian problem with Badiou which is grounded in his dualism of Being and Event, and which needs to be surpassed. The only way out of this predicament is to assert that the unnameable Real is not an external limitation but an *absolutely inherent* limitation. Truth is a generic procedure which cannot comprise its own concept-name, a name that would totalize it – as Lacan put it, 'there is no meta-language' (or Heidegger: 'the name for a name is always lacking') and this lack, far from being a limitation of language, is its positive condition. It is only because and through this lack that we have language. So, like the Lacanian Real which is not external to the Symbolic but rather makes it non-all from within (as Laclau puts it: in an antagonism, the external limit coincides with the internal one), the unnameable is inherent to the domain of names…The true materialist solution is thus that the Event is *nothing but* its own inscription into the order of Being, a cut/rupture in the order of Being on account of which Being cannot ever form a consistent All." Accordingly, Žižek says, "we should assert" from a Lacanian position that "the ultimate ontological given is the gap which separates the One from within." (Žižek 2004b), pp. 178-79. For more on this (paradoxico-critical) criticism of Badiou, see chapters 10 and 11, below.

[75] "Perhaps something has occurred in the history of the concept of structure that could be called an "event," if this loaded word did not entail a meaning which it is precisely the function of structural-or structuralist-thought to reduce or to suspect. But let me use the term "event" anyway, employing it with caution and as if in quotation marks. In this sense, this event will have the exterior form of a *rupture* and a *redoubling*." (Derrida 1966), p. 278.

relationship of formalism to what is. For the two orientations on the right-hand side, Badiou's generic orientation as well as the traditional onto-theological one, by contrast, the structure of language ultimately determines neither what *is* nor of what can *appear*; whatever is consequent upon the structure of language *per se* is itself secondary to the existence of beings and truths which may transcend or escape it. Of course, Badiou's generic orientation is not thereby equivalent, either, to the onto-theological doctrine of transcendence; whereas the (pre-Cantorian) orientation of onto-theology lodges truth in the privilege of a singular, obscure and transcendent super-Being, Badiou's generic orientation sees truth only in the infinite procession of multiplicities, without end or higher synthesis.

Thus we may group the two orientations on the left as *critical* doctrines of language; whereas those on the right are *dogmatic* doctrines of truth. (I do not mean this term to be pejorative, here, but simply to indicate the point of their common *insistence*: that there must be some truth beyond language, whereas the orientations on the left are linked in refusing to consider truth outside its possibility for linguistic expression, however this possibility may manifest itself.)

Finally, there are also revealing connections along the diagonals. The diagonal from constructivism to the generic represents the common norm of *consistency*. This is as much a norm for (for example) Carnap's constructivism as it is for Badiou's relentless pursuit of mathematical structures; it is marked in both in the absolute privilege of logical rules and the assumption that language, in order to discern a realm of Being, must maintain its consistency at all points. From onto-theology to paradoxico-criticism, on the other hand, we may draw the line of *totality* (or completeness); for both orientations involve the assertion of an actually existent whole. This is evident, for instance, in the very direct way that paradoxico-criticism interrogates the position of the sovereign Being that assures the order of the totality within onto-theology; for in order to interrogate the force and authority of such a sovereign, it is necessary first to acknowledge and then to interrogate its actual relationship to the whole (of which it is, invariably, also an element). Just as profoundly, the diagonal line of consistency that links constructivism to the generic orientation denies or forecloses the existence of the totality by asserting the non-all, whether in the form of constructivism's infinite open hierarchy of metalanguages or the generic orientation's infinite procession toward the multiplicity of truths. The point of crossing of the two lines is, once again, the paradox of self-inclusion (in its Cantorian, Russellian, Gödelian, or Tarskian forms), which makes it impossible to preserve consistency and completeness simultaneously.

More generally, I believe it is possible to describe philosophical/political thought about signs and meanings, finitude and infinitude, as today standing at the junction of a *critical either-or* between the two

post-Cantorian orientations, that of the generic and the paradoxico-critical. The two orientations touch on almost every important question of contemporary political theory, but they can be traced in terms of their divergent responses to a common beginning: the fixed point of the symbolism of self-reference. In the following chapters (3-10) of this work, I attempt to display the stakes of this "either-or" through an interpretive analysis of some of the most important representatives of each of the two orientations. In chapters 3-7, I explore the paradoxico-critical orientation as it is developed in different forms by Derrida, Deleuze, Agamben, and Wittgenstein. Chapters 8-10 then oppose the generic and the paradoxico-critical orientations, demonstrating both the depth of their agreement on the relevance of formalism to philosophical and political theory and the extent of their disagreements, for instance about the relative roles of language, mathematics, reflexive thought and subjectivity itself. Finally, in chapter 11 I draw out some of the further political consequences that can be gleaned from what is common to both orientations, and also what is divergent between them.

VIII

I have argued for the necessity of a pursuit of formal reflection that is simultaneously both political and logical, operating as a consideration on the lived consequences of formalism, and hence on the reflexive possibilities and limits of the formalization of formalism as such. If this kind of reflection is indeed pursued further, several consequences could result.

The first of these would be, as we have seen, a new kind of broadly critical thought about political structures. This kind of thought is already evident, in fact, in Agamben and Badiou, and we can recognize it retrospectively as already determinative in the thought of Wittgenstein and Derrida. It is a thinking of the possible forms of political life that passes through a profound reflection on formal structures, their application, and their limits. The aim of this kind of thought is not (as it is sometimes today thought) to "ontologize" politics but rather simply to demonstrate the implications of general phenomena such as inclusion, representation, organization and the desires for consistency and totality, as these are thought and modeled formally, for the questions of political life. Moreover, in its rigorous *demonstration* of formal structures and their interrelationships, this kind of political thinking offers to demystify, as well, any instance of power that still operates by shrouding its being behind the mysticism of theology, or the assumed privilege of a sovereign One.

At the same time, though, even beyond its capacity to demystify sovereign figures of the One, the new political thinking of logic also offers to comprehend and interrogate in a much closer way than has hitherto been possible the more complex and diffuse structures of power that operate through the

formalization of life in today's "late capitalist" and post-industrial cultures, as these structures expand their claims of power and totality around the globe. As has been noted, the primary manifestations of the strategies and claims of power in the age of so-called "globalization" are no longer, for the most part, single sovereign or totalitarian figures of the One, but rather the much more diffuse and pervasive flows and networks of information and capital, as they are interlinked with networks of corporate, technical, and military power. Because these networks depend on the innovations of computational and communicational technology that are themselves the outcome of the radical experience of logic that has transformed the twentieth century, the politics of logic as I have described it is well suited to understand the basis of their power and the foundation of their effectiveness.

As I have argued, the *essential* innovation of a thinking of politics that inherits the formal innovations of the twentieth century, and thus marks it off from the political-philosophical orientations that have hitherto existed, is its consideration of the paradoxes of self-inclusion and self-reference whereby the systematic law of the totality is reflected and figured at a specific, fixed point within it. By acknowledging the necessity of these paradoxes and tracing their implications, it seems, it may be possible for a futural thinking of community to transcend the very terms in which the twentieth-century debate over the foundation and potentialities of community has hitherto been conducted. For to affirm the radical paradox of nomothesis is to acknowledge the untenability of *either* a naturalist *or* a conventionalist account of the origin and institution of language and norms. It is thus to begin to discern a radical alternative to the debate between the (typically leftist) politics of contingent historical conventions, on one hand, and the (typically rightist) politics of an assumed "human nature" on the other. Indeed, as I have argued, if the originary structure of logic can be grasped as the locus of a politics of agreement or attunement that can (as Wittgenstein suggests) be understood as *preceding* the possibility of any empirical (whether sociological or biological) agreement or disagreement on conventions or norms, then it becomes possible to overcome the whole debate about the fixedness or relativity of what are understood as norms, regularities, or principles. That is, if, as I have suggested, the politics of logic can articulate and trace the orientations of onto-theology and constructivism as founded only upon their own suppression of the paradoxical position of reflexivity that is actually constitutive for anything like a political order as such, then it can just as thoroughly overcome, through its acknowledgment of the paradoxes, the political versions of these two pre-Cantorian orientations. These are, respectively, sovereignty and conventionalism; and if the romance of the political thought of the twentieth century (beginning with Nietzsche and continuing through Foucault and Rorty) has been that of the demystifying replacement of sovereign forces and positions with the adumbration of contingencies, the "libratory" demonstration of the "actual" historical foundations of the presumptive institutions of force previously cloaked with the

mystifying aura of onto-theology, it is therefore possible to begin to anticipate that twenty-first century political thought is today moving toward a discussion of quite different problems, and structures.