

KEIO UNIVERSITY

**The Layers and Limits of Reality:
A Metaphysics of Grounding and Fundamentality**

by

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List of Errata

page, line	erratum	correction
2, 15	well-know	well-known
3, 5	“and <i>in virtue of</i> .”	and “ <i>in virtue of</i> .”
9, note 3	constitutional	constructional
11, 8	grasp the essence of the <i>F</i> s is	grasp the essence of the <i>F</i> s
25, 14	this principle	these principles
26, 1	Factual	Universal
28, 9	on the grounds that that	on the grounds that
49, 7	so	to
49, note 10	O’ Connor and Jacobs (2003)	O’ Connor and Wong (2005)
50, note 13	violable	viable
53, 17	§4.2.2	§4.3.2
53, 24		
54, 5	tailing	tiling
54, 12		
63, 3	⟨the chair is red⟩ because	⟨the chair is red⟩ is true because
65, 24	cannot seen	cannot be seen
66, 15	§1	§5.2.1
66, 24	TWP	TMP
70, 2	use, but the problem	use, the problem
70, 2	remains remains	remains
71, 11	argune	argue
76, 17	neurophysiological	mental
76, 18	mental	neurophysiological
77, 6		
77, 8	D1	Df ₁
77, 19		
83, 12	be difficult to answer These	These
93, 8	possible possible	possible
98, 12	§2.2.1	§5.4.3
98, 16	int	in
98, 23	Df ₄	Df ₃
99, 12	§2.1	§5.3
101, 25	by the so-called	the so-called
114, 3	Carnell	Cornell

Preface

This thesis deals with some basic issues pertaining to metaphysical theorizing about the hierarchical structure of reality as a whole in terms of the notion of grounding—a noncausal, constitutive relation of determination. The first half examines two problems concerning the consistency of the general theory of grounding: internal consistency and consistency with a theory about another hierarchical-structuring relation, the part-whole relation. Through this examination, I defend both types of consistency in such a way as to shed light on some important notions of the theory of grounding and its ramifications. The second half applies the notion of grounding to an old and difficult problem concerning the fundamental feature of reality: how negative truths are ultimately founded upon reality. On the basis of the elucidation and the defense of truthmaker theory, I defend the view that the world as a whole is the truthmaker for all negative truths—that these truths are ontologically grounded in the fundamental fact of the existence of the world. The overall discussion of this thesis shows that the general theory of grounding rests on a firm basis and that the theory is useful for tackling fundamental questions about the layered structure of reality as a whole.

The chapters that constitute the second half of this thesis are based, with modifications and reorganization, on three manuscripts previously published or accepted for publication, each of which is indicated at the beginning of the corresponding chapter.

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Chapter 1

Introduction: Motivation and Aim

1.1 The Layered Structure of Reality and Metaphysical Explanation

One intuitive picture of the overall structure of the world is that various kinds of facts form a hierarchy. For example, it is a familiar thought that psychological facts about our beliefs, perception, and the like are dependent on biological facts about the brain; biological facts are in turn dependent on chemical facts about the matter constituting the body, such as water and proteins; and chemical facts are ultimately dependent on physical facts about elementary particles. The relationship that is expressed by the word “dependent” means that what is going on at higher layers is determined by what is going on at lower layers: if what biological facts obtain is fixed, what psychological facts obtain is also fixed. Entities that are included in the lowest layer, which determines all the facts in the rest of the layers, are the basic ingredients of the world. Particles such as electrons and quarks are arguably such ingredients, on which the existence and the nature of water, our bodies, pain, and other derivative entities are dependent. It is a matter of great controversy how various kinds of facts are related to form a hierarchy and what kinds of entities are the basic ingredients of

the world, but the idea that reality as a whole has a certain layered structure is widely held among diverse disciplines both within philosophy and within science.

This thesis explores the project of articulating the intuitive idea of the layered structure of reality in terms of a noncausal, constitutive relation of determination called *metaphysical grounding*, which has recently become a major concern in studies of analytic metaphysics.¹ A distinctive feature of this project is that, on the one hand, it is modest, in terms of its *nonreductive* characterization of the layered structure—in the sense that it does not explain away the apparent distinctions between the layers by “linking” them together through the relation of identity—while, on the other hand, it is ambitious, aiming to characterize the layered structure using a properly metaphysical, *explanatory* relation, grounding, which is considered stronger than the merely modal relation of supervenience. As Kit Fine acutely pointed out in his classic 1994 paper, modal connection is not sufficient for metaphysical dependence of the kind relevant to the layered structure of reality, even if the former is necessary for the latter.² To take a well-know example, Socrates is necessarily accompanied by, but does not metaphysically dependent on, his singleton; indeed, the correct order of dependence is the other way round. The general moral of this observation is that merely modal relations cannot play the roles of defining properly metaphysical dependence, formulating various views on what depends on what, and characterizing the layered structure of reality. By contrast, grounding is supposed to be a distinctive metaphysical relation that can appropriately play precisely these roles. Claims of grounding can be found in many different areas of philosophy, as illustrated by the following examples:³

- Mental facts obtain because of neurophysiological facts.
- Normative facts are based on natural facts.
- Dispositional properties are possessed in virtue of categorical properties.

¹ The pioneering work on grounding in contemporary metaphysics is [Fine \(2001\)](#). [Correia and Schnieder \(2012\)](#) is a collection of recent discussions on the theme. For the latest survey on this area, see [Bliss and Trogdon \(2014\)](#).

² [Fine \(1994\)](#).

³ [Correia and Schnieder \(2012\)](#), p. 1.

- What accounts for the existence of a whole is the existence and arrangement of its parts.
- A set of things is less fundamental than its members.

As these examples show, claims of grounding are often expressed by explanatory words, such as “*because*” “and *in virtue of*.” Notice that a fact that is thought to ground another is considered to have a metaphysical kind of *priority* over the latter. The project in question seeks to flesh out the idea of the layered structure of reality by characterizing the layers as linked together by such priority relations.

With this attractive project as a major motivation, much work has been undertaken on the nature and utility of the notion of grounding. However, studies both on the general theory of grounding and on its application still have some basic problems that have not been provided with a tenable solution. The aim of this thesis is to clarify, address, and resolve these problems in a systematic way, thereby making an underlying contribution to the pursuit of the ground-theoretical articulation of the idea of the layered structure of reality.

In the rest of this chapter, I outline the structure of this thesis, explaining what is to be achieved in the following chapters.

1.2 The Structure of This Thesis

The discussion of this thesis proceeds as follows. In Chapter 2, I review a metametaphysical application of the notion of grounding and defend it from several objections, thereby providing further motivations for investigating its nature and utility.

Chapters 3 and 4 examine two problems concerning the consistency of the general theory of grounding.

In Chapter 3, I discuss the internal consistency of the theory of grounding. In his recent paper “Some Puzzles of Ground,” Kit Fine claims that a common logical

principle of grounding (together with standard logical assumptions) is inconsistent with some other apparently plausible principles of grounding. This chapter explores how this paradox can be resolved by examining a set of ground-theoretical principles that Fine does not call into question. The basis of my argument is a deflationary account of these ground-theoretical principles: I argue that certain principles involving factive constructions express merely conceptual explanations and are hence metaphysically nonsubstantive. From this, I argue that the paradox in question arises as a result of confusing two different kinds of noncausal explanation, that is, properly metaphysical and merely conceptual explanations. My discussion suggests a uniform resolution for all forms of the Finean paradox, without abandoning any logical assumptions, based on a solidly grounded and illuminating distinction between two different types of noncausal explanations.

In Chapter 4, I discuss the consistency of the theory of grounding with the theory of another hierarchical-structuring relation: the part–whole relation. Recently, Jonathan Tallant has argued that we should reject *priority views*, which hold that some objects are fundamental and others are dependent. Tallant’s argument relies on two proposed mereological possibilities: a *gunky* world, where everything has a proper part, and a *junky* world, where everything is a proper part. This chapter criticizes Tallant’s argument, arguing that neither of these possibilities threatens priority views *per se*; at most, they threaten only particular forms of priority views, which contain certain assumptions that are independently controversial.

Chapters 5 and 6 apply the notion of grounding to a serious problem concerning the fundamental feature of reality: how negative truths are ultimately founded upon reality.

In Chapter 5, I elucidate and defend truthmaker theory. The first half of this chapter gives a precise characterization of the methodological role that truthmaker theory can play in ontological investigations. First, it assesses how closely the alleged principle of truthmaker theory and the realistic intuition on which it rests are related, in order to appreciate the extent to which a general objection against truthmaker theory carries

weight in that regard. Second, this chapter reformulates the principle of truthmaker theory on the basis of this assessment, and argues that truthmaker theory can be offered an important role in identifying entities that are involved in grounding metaphysically non-fundamental truths.

The second half of Chapter 5 conducts a defense of truthmaker theory from the threat of the problem of negative truths: according to some philosophers, (1) if truthmaker theory is true, then all truths have truthmakers, but (2) there are no truthmakers for negative truths—therefore, the theory is false. I defend truthmaker theory by arguing against claim (1). I begin by examining and rejecting a recent attempt to argue against (1). I then present my own argument against (1) by considering the connection between truthmaking and the more general notion of grounding.

In Chapter 6, on the basis of this elucidation and defense of truthmaker theory, I defend the view that the world as a whole is the truthmaker for all negative truths—that these truths are ontologically grounded in the fundamental fact of the existence of the world. I develop a recent proposal by Ross Cameron, arguing that the world as a whole can make all negative truths true, despite an apparent inconsistency in and implausible consequence of Cameron’s account.

Throughout the discussion that follows, I assume the following thesis about the *relata* of grounding:

(FG) Grounding is a relation between facts in general.

I also assume the following standard principles of the logic of grounding:

(Irreflexivity) No fact grounds itself.

(Transitivity) If f_1 grounds f_2 and f_2 grounds f_3 , then f_1 grounds f_3 .

(Well-Foundedness) For any nonempty class C of facts, there exists some fact f such that f belongs to C and no fact belonging to C grounds f .

In other words, grounding is a strict partial order, and no infinitely descending sequences of derivative facts exist. These assumptions are based on the explanatory character of the grounding relation and the intuitive idea that every nonfundamental fact can ultimately be explained by some fundamental fact. It is a matter of controversy whether these principles really holds,⁴ but no crucial points in the following discussion hang on these assumptions; the issues that this thesis deals with are most basic in the sense that any attempt to theorize about grounding and fundamentality must address them, irrespective of how it answers to other basic questions such as the regimentation of grounding claims and the logic of grounding.

To facilitate the discussion, the following terminology will be used: facts that are not grounded by any fact are called *fundamental*; facts that are not fundamental, i.e., those that are grounded by some fact are called *derivative*. Note also that angled brackets are conventionally used to indicate the names of propositions: $\langle P \rangle$ stands for the proposition that P .

⁴ For a survey of these issues, see [Clark and Liggins \(2012\)](#).

Chapter 2

A Neo-Aristotelian Conception of Metaphysics and Its Contenders

2.1 Neo-Aristotelianism versus Quineanism

In his explanation of grounding, [Schaffer \(2009\)](#) defends a neo-Aristotelian view of metaphysics, which characterizes metaphysics as centered on *what grounds what*, as opposed to the Quinean view, in which the task of metaphysics is to state *what exists*. In particular, he endorses this neo-Aristotelian view in connection with a permissive stance on existence, according to which the Quinean questions relating to existence are deemed trivial. Arguing against this claim, [Swetly \(2009\)](#) argues that the Quinean questions are not trivial at all, but that they have substantial and informative contents and cognitive significance. However, a closer examination reveals that this opposition is not real. In this section, I argue that Swetly's arguments fail, and that he misses the point of Schaffer's claim.¹

I begin by summarizing Schaffer's general metametaphysical position and his argument for the triviality of existence questions (TEQ). Second, I present the core of the Swetly's arguments against TEQ, and then demonstrate their failure, thereby revealing that there is no real disagreement between Schaffer and Swetly.

¹ This section draws on [Kitamura and Nishiwaki \(2011\)](#).

2.1.1 Schaffer on Grounding and Permissivism

Schaffer claims that contemporary existence questions, such as whether numbers or properties exist, are trivial. As to the question of whether numbers exist, the affirmative answer can be trivially justified by the following inference:

- (1) There are prime numbers.
- (2) Therefore there are numbers.

In a similar way, (almost) every existence question can be affirmatively answered with this type of inference. Thus, according to this argument, it follows that these existence questions are trivial, and that (almost) everything the existence of which has been viewed as controversial does exist (*permissivism*). Accordingly, metaphysics should not be troubled about *what* exists, but should instead tackle the genuinely substantial question of *how* entities exist, or rather what grounds what.

This conception of metaphysics is plausibly rooted in Aristotle. When he presents a catalogue of types of entities such as substance, quantity and quality, he simply assumes that all of these types of entities exist without any further discussion (*Cat.*1b25–27). Indeed, when he considers the question of whether numbers exist, he immediately gives an affirmative answer: “[t]hus since it is true to say without qualification that not only things which are separable but also things which are inseparable exist [I]t is true also to say, without qualification, that the objects of mathematics exist, and with the character ascribed to them by mathematicians” (*Meta.*1077b31–33).

Aristotle also states that science of being *qua* being examines “not only substances but also their attributes, both those above named and what is prior and posterior, genus and species, whole and part, and the others of this sort” (*Meta.*1005a14–17). He then characterizes his investigation as centered on substance: “[s]ubstance is the subject of our inquiry; for the principles and the causes we are seeking are those of substance” (*Meta.*1069a18–20). Moreover, he explains his notion of substance as follows: “[s]o if the primary substance did not exist it would be impossible for any of the other things

to exist” (*Cat.*2b6–7). On the basis of these descriptions, Schaffer states that the core notion of substance is that of a “*basic, ultimate, fundamental unit of being.*”² Thus, in Aristotle’s view, the task of metaphysics is to study substances and their modes and kinds, and its method is to deploy a means of diagnosing what entities are fundamental and what depends on them.

From these points of view, Schaffer reinterprets various central metaphysical debates. For instance, the controversy of realism and constructivism about the existence of numbers is considered to be over whether numbers are independent of the mind, or based on our concepts, rather than whether we can accept the existence of numbers. In general, there is no dispute about what exists, and metaphysical debates are concerned with the nature of existents, such as mind-dependence and fundamentality.³

2.1.2 The Myth of Existence Questions *Per Se*?

2.1.2.1 Swetly’s Objection

Swetly’s argument against TEQ has two points. First, (i) he points out that there is an example of existence questions that are *not trivial*.⁴ Second, (ii) he denies that we can distinguish between existence questions that are concerned *solely* with the existence of some entities and those that are concerned with their existence *cum* grounding information about them and other entities.⁵

Starting with (i), he presents the questions of whether abstract objects exist as an example of existence questions which have a nontrivial answer. Let us consider the following inference:

(3) There are prime numbers.

² Schaffer (2009), p. 351.

³ Schaffer believes that the best example of the neo-Aristotelian view is found in Fine (1991), which develops “constitutional ontology.” He also finds examples of a hierarchical view of reality in such notions as “ontological free lunch” in Armstrong (1997) and “natural properties” in Lewis (1986).

⁴ Swetly (2009), pp. 71–73.

⁵ Swetly (2009), pp. 74–87.

(4) Therefore, there are numbers.

(5) Therefore, there are abstract objects.

(5) does not follow from (4), because even though nominalists can admit that there are numbers with the trivial inference from (3), they cannot admit that numbers are abstract objects. Consequently, the question of whether abstract objects exist qualifies as an existence question that is not trivial.

Turning to (ii), Swetly presents the following argument:

(6) The meaning of “*F*” is determined by what it is to be an *F*, i.e., by its essence.

(7) Grounding information is indispensable in order to say what it is to be an *F*, or what the essence of the *F*s is.

(8) Therefore, it is impossible to know what is being asked by the question “Are there *F*s?” without using grounding information.

From this argument, Swetly concludes that there are no such questions as existence questions *per se*— as they do not include grounding information in their descriptions of the entities in question, and that it is nonsensical to assume that one can answer an existence question without relying on grounding information.

2.1.2.2 Countering the Objection

As to the first argument against TEQ, neo-Aristotelians can reply simply that the question of whether abstract objects exist is *not* an existence question *per se*. As the abstract nature of entities implies that they are not grounded in the concrete realm, the question of the existence of abstract objects *already includes grounding information*. This is why it is not plausible for nominalists to agree that the existence of numbers vindicates the existence of abstract objects, whereas both realists and nominalists can answer affirmatively, with a trivial inference, that numbers do exist, as the existence

of numbers follows from the mathematical truism “there are prime numbers between 1 and 9.” In general, permissivists can concede that “if a candidate entity is described in such a way as to entail grounding information (e.g., ‘a Platonic number,’ understood as a transcendent substance) . . . one need not remain permissive.”⁶

As to the second argument against TEQ, neo-Aristotelians can accept premiss (6) and premiss (7) while still rejecting the conclusion, (8). Of course, grounding information contributes to describing what it is to be an *F*, but it is only indispensable in order to *fully* grasp the essence of the *F*s is. We can still grasp *partially* what it is to be an *F* without relying on grounding information, because the essence of the *F*s consists not only in the properties concerning grounding information, but also in other properties.

For instance, it is *part* of essence of cats, whether they are mind-independent or not, that they have such-and-such zoological traits. Accordingly, we can meaningfully ask “Do cats exist?” without relying on grounding information concerning their mind-independence. To give another example, *part* of the essence of sets, whether or not they will turn out to be abstract objects, is that they are supplied with the criterion of identity, to the effect that for any sets *A* and *B*, they are the same sets if and only if they have exactly the same members. Accordingly, we can meaningfully ask “Do sets exist?” without relying on grounding information concerning whether they are grounded in the concrete realm or they are residents of the abstract realm.

Therefore, neo-Aristotelians can accept the indispensability of grounding information for grasping the essence of entities in the following way:

(7') Grounding information is indispensable for stating *fully* what it is to be an *F*, or what the essence of the *F*s is.

(8) does not follow from (6) and (7'), because it is possible to know what the question “Do *F*s exist?” is asking by relying on some essential properties other than grounding

⁶ Schaffer (2009), p. 359.

information that concerns fundamental categorial distinctions such as between abstract and concrete entities.

It is now clear that both of Swetly's arguments against TEQ fail. However, I suspect that there is no real disagreement between Schaffer and Swetly. As neo-Aristotelians, characterized by Schaffer, agree that grasping grounding information contributes, although partially, to saying what it is to be an F , accepting the restrictive variant of (7), i.e., (7'), there is no substantial disagreement between Schaffer and Swetly over the metaphysical status of grounding information. That is to say, they agree on the indispensability of grounding information for metaphysical inquiries. The only disagreement between them would be over the *degree* of the indispensability: Swetly claims (7), whereas Schaffer accepts a restrictive variant of this, (7').

This does not mean that it is pointless to claim for the TEQ. The implications of the TEQ relate to the *special emphasis* on the importance of grounding information. As Schaffer's overall aim is to clarify the task of metaphysics and the crucial role of the notion of grounding within it, it is reasonable to make a clear distinction between existence questions *per se* and the question of what grounds what, stressing the relevance of the latter to the specification of the task and the method of metaphysics. It is from this metametaphysical and methodological point of view that we can appreciate the full implications of TEQ.⁷

2.2 Against Neo-Meinongianism

Neo-Aristotelianism, as Schaffer characterizes it, takes a permissive stance on existence, holding that the affirmative answers to Quinean questions about existence can be trivially justified. As a result, on neo-Aristotelianism, the overall domain of quantification becomes expansive: it includes all the kinds of entities whose existence is viewed

⁷ I will discuss the neo-Aristotelian conception of metaphysics in more detail in Chapter 4.

as controversial on the Quinean conception of metaphysics. This is an important feature of neo-Aristotelianism, but it must be recalled here that there is another metaphysical position that accepts an expansive—indeed, maximally expansive—domain of quantification: it is neo-Meinongianism. The core doctrine of neo-Meinongianism is that existence is a full-fledged, substantive first-order property of individuals. In other words, it holds that *there are things that do not exist*. The semantics of quantification employed in this doctrine is supposed to be governed by (a certain restricted version of) the principle of comprehension: for any condition $\alpha[x]$ with free variable x , some object exactly satisfies $\alpha[x]$.⁸ This principle yields a domain of quantification that is expansive enough to include fictional objects, such as unicorns, and even impossible objects, such as a round square. Among all the objects included in the overall domain of quantification, there is a privileged class of objects: those that *exist*. This is analogous to the neo-Aristotelian view that there is a privileged class of entities among all the objects in the overall domain of quantification: those that are *fundamental* or *really* exist. In view of this parallelism, neo-Meinongians, especially those who are suspicious to any noncausal explanatory relation that goes beyond modal relations, might object that the neo-Aristotelian notion of *fundamentality* or *reality* should be identified with their distinctive notion of existence. In the rest of this chapter, I counter this objection by undermining the intelligibility of the very notion of existence employed by neo-Meinongians.

2.2.1 An Ideological Disagreement

Let us call the standard view on the relation between existence and quantification shared by Quineans and neo-Aristotelians *Parmenideanism*, following Berto (2012). The recent wide-ranging literature in favor of a neo-Meinongian ontology seems to have freed neo-Meinongians from the old Parmenidean charge that they are simply conceptually confused. However, the dialectical situation is still unresolved. For most

⁸ Neo-Meinongian theories can be classified according to how they restrict the principle of comprehension, and three types of theories can be found in the literature. See, *inter alia*, Parsons (1980), Zalta (1988), and Priest (2005).

Parmenideans, even if the neo-Meinongian position is formally understandable, the gulf between the two is much deeper than that between other opposing parties in metaontological debates (perhaps even deeper than that between ontological realism and antirealism). They feel that the neo-Meinongian view of existence and its introduction of nonexistent objects are not sufficiently justified for neo-Meinongianism to be even a respectable theoretical option.⁹ For all the great endeavors of the neo-Meinongians to vindicate their core doctrine, the deep gulf seems (at least to the Parmenideans) to remain impassable while there is no justification for the doctrine that is, crucially, more satisfactory than those already presented in the literature. In the following discussion, I examine precisely where the neo-Meinongians and the Parmenideans disagree and clarifies the essential problem that the neo-Meinongians face in vindicating their core doctrine.

The radical disagreement between the neo-Meinongians and the Parmenideans can best be characterized as one about the ideology in which ontological investigation is made, namely, about which primitive notion(s) we should employ in ontological theories. The neo-Meinongians employ two: quantification and existence. By contrast, the Parmenideans do with only the former. In other words, the Parmenideans think that the meaning of existence is captured by quantifiers, whereas the neo-Meinongians take the existence predicate to express a primitive notion that cannot be reduced to quantification. Using this primitive notion of existence, the neo-Meinongians interpret their opponents' reading of quantifiers as restricted versions of their own: there exist ϕ s if and only if there are (existentially neutrally or noncommittally) some things that are ϕ s and they exist.¹⁰

It is important here to regard this disagreement about ideology to be centered on the meaning of existence, rather than that of quantification. To put it differently, it is not the case that the two parties agree on the meaning of existence and disagree

⁹ See, for example, [van Inwagen \(2008\)](#).

¹⁰ As [Berto \(2012\)](#) points out, the attribution of two types of quantifier—the existentially neutral and the existentially loaded—to the neo-Meinongians is misleading. For “the existentially loaded couple is just defined, thus always eliminable, via the Meinongian quantifiers and the primitive existence predicate” (p. 72). See also [Linsky and Zalta \(1991\)](#), p. 439.

over whether we can acknowledge the existentially neutral or noncommittal, wider-ranging quantification. Rather, they share the notion of *unrestricted* quantification but disagree over whether it is only existent things—according to their meaning of existence—that are included in the range of this shared quantification. Lewis (1990) brings out this point on the basis of the consideration of mutual intelligibility: on the one hand, if the disagreement were about the legitimacy of the neutral quantification, the Parmenideans would have to bring against the neo-Meinongians the charge that they are “not quantifying in the one and only way there is to quantify,” which is “altogether unintelligible” for the Parmenideans.¹¹ On the other hand, if we think that the meaning of quantification itself is not at issue and that the disagreement is about the legitimacy of the existent/nonexistent distinction among all the objects quantified over, the desired mutual intelligibility obtains because “the disagreement over whether some alleged distinction is genuine is at least a familiar and intelligible *sort* of disagreement.”¹²

Moreover, this point can be made clear more directly by appealing to the notion of unrestricted *universal* quantification. As van Inwagen (2008) says, the idea of “everything without qualification” is “a pellucid and wholly unambiguous idea,” and both the neo-Meinongians and the Parmenideans “[mean] the same thing by the phrase ‘unrestricted universal quantifier,’ and everyone means the same thing by the unrestricted universal quantifier—that is, by the operator ‘Everything, absolutely everything, everything without qualification,’ . . .”¹³ Hence, the disagreement is not about the meaning of unrestricted quantification but “about which sentences containing unrestricted universal quantification are *true*”:¹⁴ Using “ \forall ” to express absolutely unrestricted quantification, the neo-Meinongians assert, for example, “ $\neg\forall x\neg(x$ is a golden mountain),” whereas the Parmenideans deny this; that is, they assert, “ $\forall x\neg(x$ is a golden mountain).” In other words, the latter take the meaning of *existence* to be

¹¹ Lewis (1990), p. 27.

¹² Lewis (1990), p. 30, emphasis in original.

¹³ van Inwagen (2008), pp. 48–49.

¹⁴ van Inwagen (2008), p. 49, emphasis in original.

grasped by “ $\neg\forall x\neg$,” whereas the former do not. For the neo-Meinongians, (general) existential statements are expressed by the sentences of the form “ $\neg\forall x\neg(F(x) \wedge E(x))$,” where “ E ” is the primitive existence predicate.

Now, given the respective ideologies, what form does the ontological question take from the perspectives of the opposing two parties? For the Parmenidean, it is simply the question “What is there?” In other words, “Are there (unrestrictedly) some F s?” is the ontological question about the kind of objects in question, for any F . For the neo-Meinongians, however, the matter is a bit more complicated. On the one hand, if “ontology” concerns what objects are included in the overall domain of unrestricted quantification, the ontological question takes the same form as that for the Parmenideans.¹⁵ On the other hand, if “ontology” exclusively or at least primarily concerns existence, those who engage in ontological inquiry must ask which of the things that are included in the overall domain of unrestricted quantification have the distinguished status of being existent.

2.2.2 Domain Restriction and the Meaning of Existence

It is now clear that vindicating the core doctrine of neo-Meinongianism—that there are things that do not exist—requires the explication of the allegedly primitive notion of existence and the supposed existent/nonexistent distinction among all the objects (unrestrictedly) quantified over. Without such an explication, the Parmenideans would simply complain that the supposed distinction is unintelligible. Thus, Lewis writes

[W]hen Routley “loads” his quantifiers, he restricts them to the entities which, he says, “exist.” And then we do not understand, because we ourselves make no such distinction among the entities. If “existence” is what he thinks it is—a distinction among the items we are committed to—then we dispense with existence. Our main complaint against Routley is that he sees a distinction that is not really there.¹⁶

¹⁵ Voltolini (2012), for example, uses the term “ontological” in this sense.

¹⁶ Lewis (1990), p. 30.

The point is that although the disagreement is, as quoted above, of an intelligible *sort*, the opponents' allegation that is the bone of contention is still unintelligible. In a similar vein, van Inwagen complains

[W]hat *does* he think “exist” means? I do not know. I say “exist” means “ $\neg\forall y\neg(y = x)$ ”; the neo-Meinongian denies this . . . [The neo-Meinongians] say that “exist” has another meaning, but they have never said what this other meaning is, or at any rate I have not been able to understand their attempts to say what it is.¹⁷

The neo-Meinongians must explicate the meaning of the allegedly primitive notion of existence in some way or other that is convincing enough to dismiss such complaints, or at least to avoid reaching a “fundamental, ground-floor philosophical disagreement.”¹⁸

There seems to be no hope of success for any attempt to give a desired explication, however. The suspicion that I have in mind is incurred by the consideration of the strategy of *domain restriction*. The neo-Meinongians, as stated above, interpret their opponents' reading of quantifiers as restricted versions of their own: ones restricted by the predicate “exist.” Let us consider a *presentist* Meinongian, for example. When he says, “some *F*'s exist,” he restricts his absolutely unrestricted quantifier to the sub-domain that consists of all and only *present* things, which are, given presentism, the only existents. Now, an *eternalist* Parmenidean may ask, “Why not simply *define* the predicate ‘exist’ in terms of ‘is present,’ which plays the role of restricting the unrestricted *existential* quantification over all past, present, and future objects to the sub-domain of present ones?” The supposed existent/nonexistent distinction would then, for the Parmenideans, be paraphrased away in favor of their ideology. In general, no matter how the neo-Meinongians attempt to explicate the allegedly primitive notion of existence, the Parmenideans may invite them to reinterpret its extension as a sub-domain of unrestricted *existential* quantification, the overall domain of which consists of some wider class of objects than the extension in question. The Parmenidean

¹⁷ van Inwagen (2008), pp. 51–53, emphasis in original, but the notation is changed.

¹⁸ van Inwagen (2008), p. 54.

ideology being simpler than that of the neo-Meinongian, this invitation is powerful, and the supposed existent/nonexistent distinction threatens to evaporate. At any rate, it may well seem to be a plausible surmise that this is just a terminological variant of some or other Parmenidean distinction among all the existents.¹⁹

Neo-Meinongians might bite the bullet by appealing to the *neutrality* of their own notion of existence in the first-order debate over its extension: the point of taking existence to be a property irreducible to quantification, it might be argued, is that it enables one to introduce objects that are not in the extension of existence no matter which of presentism and eternalism is true, and no matter how other debates over what exists are determined. However, this reaction does not seem to be convincing. Consider an extremely generous Parmenidean: he admits into his ontology all the controversial objects, including incomplete and impossible objects in particular, and so maintains that all these *exist* (in impossible worlds).²⁰ Given that such an expansive Parmenidean ontology is tenable, there is no cogent reason for making the neo-Meinongian distinction by any primitive notion of existence.

At this point, one might understand the situation the other way around: it is not the case, it might be objected, that the neo-Meinongian distinction between existents and nonexistents threatens to boil down to some distinction among existents, but on the contrary, some of the supposedly Parmenidean ontologies are in fact neo-Meinongian in that they make some distinction corresponding to existent/nonexistent one, if not under this label. According to [Linsky and Zalta \(1991\)](#), the distinction between existence *simpliciter* and the actual existence in Lewis's modal realism gives him a kind of Meinongian ontology. They say

[I]f we focus our attention on the sub-domain of Meinongian objects that

¹⁹ [Lewis \(1990\)](#) rejects such a hypothesis simply upon the principle of charity: “[This hypothesis] squares Routley’s position on loaded and neutral quantification with orthodoxy, but at the cost of making nonsense of Routley’s conviction that his position is deeply opposed to orthodoxy. To suppose that Routley mistakes mere terminological difference for profound philosophical disagreement is to accuse him of stupidity far beyond belief” (p. 30).

²⁰ See, for example, [Yagisawa \(1988\)](#).

contains just the complete objects, then Lewis' "actual" has the same extension as the Meinongian "exists" with respect to this domain. Both predicates range over exactly the objects acknowledged by Russellian actualists Both Lewis and the Meinongians quantify over a wider class of objects that extends beyond such familiar objects, and the predicates "actual" and "exist" are used by these philosophers, respectively, to restrict their quantifier to this same set of familiar objects.²¹

On the basis of this observation, they make the diagnosis that "Lewis' exists/actual distinction is a restricted version of the Meinongian being/exists distinction."²² I take this to be a misdiagnosis. The crucial point is that even if Lewis's "actual" and the neo-Meinongian "exists" picks out the same objects, actuality is not a *primitive* notion for Lewis. True enough, Lewis's "actual" expresses a (relational, extrinsic, and relative) property, and he can, using this property, distinguish the actual and all the rest. For Lewis, however, actuality can be analyzed away simply in terms of spatiotemporal relations and does not constitute any further ideological posit. Hence, given that neo-Meinongian existence is a primitive notion, Lewis's actual/nonactual distinction and the neo-Meinongian existent/nonexistent distinction do not correspond. The same holds for the above-mentioned eternalist Parmenidean: The predicate "present" can be analyzed away simply in terms of temporal location and does not constitute any further ideological posit that corresponds to the neo-Meinongian notion of existence.

To conclude, the most urgent problem that the neo-Meinongians face in vindicating their core doctrine is how to explicate the alleged primitive notion of existence in a way that dispels the suspicion that the existent/nonexistent distinction boils down to some

²¹ Linsky and Zalta (1991), p. 445.

²² Linsky and Zalta (1991), pp. 444–445. They claim that the difference between the neo-Meinongian distinction and Lewis's is merely terminological, *contra* Lewis (see note 19 above): "The Meinongian can adopt Lewis' use of 'exist' and 'actual,' meaning thereby 'has being' and 'exists,' respectively. By doing so, it then does become a 'substantive thesis' . . . that some of the things there are exist. There is a profound philosophical disagreement, but it is not between Lewis and the Meinongian, but rather between both of them and philosophers with smaller, uniform ontologies" (p. 449). Note that the supposed terminological issue is taken to lie in the neo-Meinongian ideology, rather than in the Parmenidean one, as Lewis hypothesizes (and then rejects).

Parmenidean distinction among existents and thereby give a rationale for positing the primitive notion of existence, which is not reducible in favor of Parmenidean ideology.

Chapter 3

Resolving the Paradox of Grounding

3.1 Paradox and Responses

3.1.1 A Simplified Form of the Paradox

According to [Fine \(2010\)](#), a common logical principle of grounding (together with standard logical assumptions) is inconsistent with several other apparently plausible principles of grounding. This principle is Asymmetry: if the fact that P grounds the fact that Q , it is not the case that the fact that Q grounds the fact that P . Grounding is an explanatory relation, and it is commonly assumed that there must be no circular explanations.¹ The paradox can be constructed in various forms, but for the moment I will focus my attention on one representative version that simplifies Fine's formulations. This version is constituted by Asymmetry and the following principles:

¹ Actually, Fine assumes Irreflexivity (the principle that nothing grounds itself) and Transitivity (the principle that the ground of the ground of the grounded also grounds the grounded), which together entail Asymmetry. Fine therefore assumes that grounding is a strict partial order. This standard assumption about the logic of grounding stems from the shared conception of grounding as an explanatory notion; the rejection of Irreflexivity, Transitivity, or Asymmetry requires a revisionary conception of grounding and/or explanation. Throughout this chapter, I use Asymmetry, rather than Irreflexivity and Transitivity, as a premise of the arguments of the Finean paradox. This choice is simply for the sake of simplicity of exposition.

(Existential Grounding) If $F(a)$, then the fact that $F(a)$ grounds the fact that $\exists xF(x)$ (i.e., existential generalizations are grounded in their instances).

(Propositional Grounding) If $\langle P \rangle$ is true, then the fact that $\langle P \rangle$ is true is grounded in the fact that P .

The argument for the inconsistency proceeds as follows:

- (1) \langle There is some true proposition \rangle is true. (Assumption)
- (2) If $\langle P \rangle$ is true, then the fact that $\langle P \rangle$ is true grounds the fact that there is some true proposition. (From Existential Grounding)
- (3) The fact that \langle There is some true proposition \rangle is true grounds the fact that there is some true proposition. (From (1) and (2))
- (4) The fact that \langle There is some true proposition \rangle is true is grounded in the fact that there is some true proposition. (From (1) and Propositional Grounding)
- (5) Contradiction. (From (3), (4), and Asymmetry)

3.1.2 Some Responses to the Paradox

How can grounding theorists respond to this paradox? Abandoning the notion of grounding itself is, of course, not an option. In the following discussion, I will take up several existing and possible responses (including Fine's) and show why they are unsatisfactory.

3.1.2.1 Asymmetry and Equivocation

One might conclude from the paradox that the grounding relation is not in fact asymmetric. However, this conclusion amounts to either a highly revisionary conception of explanation that allows for circular explanations or the complete rejection of the purportedly explanatory notion of grounding. Some theorists, in the context beyond

the Finean paradox, reject the standard assumption that the grounding relation is a strict partial order, but I will not discuss their arguments in the present chapter.² The purpose of the current work is to resolve the Finean paradox *while retaining as much of the standard conception of grounding as possible*; given this purpose, rejecting Asymmetry is the last resort.

One might claim that the above argument for the paradox commits the fallacy of equivocation, as it involves two distinct kinds of relations, both of which are misleadingly called grounding (in ordinary language). The first is the *instantiation* relation between facts, which is involved in Existential Grounding, and the second is the *quasi-mereological parthood* relation, which is involved in Propositional Grounding. More specifically, the fact that ϕ instantiates the fact that ψ if and only if both “ ϕ ” and “ ψ ” are true *and* the former fact can be expressed by removing the quantifier(s) in (the logical expression of) “ ψ ” and replacing the resulting free variable(s) with an appropriate constant(s). The notion of quasi-mereological parthood is somewhat obscure, but it is sufficient here to observe that in each instance of Propositional Grounding, the grounded (the fact that $\langle P \rangle$ is true) *comprises* the ground (the fact that P) in some intuitive sense. Let us write “ $fG_i g$ ” when f instantiates g and “ $fG_p g$ ” when f is a quasi-mereological part of g . Clearly, “ $fG_p g$ ” does not entail “ $fG_i g$,” nor does “ $fG_i g$ ” entail “ $fG_p g$,” because although the fact that \langle There is some true proposition \rangle is true instantiates the fact that there is some true proposition, the latter fact does not comprise the former; indeed, the direction of G_p is the opposite, as stated in (4) above.

If, as the objection states, the notion of “grounding” in the above argument of the paradox actually covers these two distinct kinds of relations, the argument is incorrect, because the application of Asymmetry demands a single relation. The fact that two distinct kinds of relations obtain (in whichever directions) between two distinct facts

² For arguments against Irreflexivity and Transitivity, see [Jenkins \(2011\)](#) and [Schaffer \(2012\)](#), respectively.

does not contradict the Asymmetry of any single relation.³

If this objection is correct, the Finean paradox above simply results from poor reasoning by equivocation. The objection's diagnosis of the argument of the paradox is, however, grossly mistaken.⁴ The argument of the paradox does not designate both G_i and G_p as grounding and thereby claim that these relations *are* both grounding, nor does it deny that the statements of Existential Grounding and Propositional Grounding involve two different kinds of relations. The crux of the argument is that *whatever other relations are involved*, a noncausal explanatory relation (grounding) obtains between the facts relevant to the statements of these two principles, that is, between the fact that $F(a)$ and the fact that $\exists xF(x)$ and between the fact that P and the fact that $\langle P \rangle$ is true. Therefore, the argument of the paradox does not commit the alleged fallacy of equivocation. The objector might not accept the assumption that a noncausal explanatory relation obtains between these facts, but he or she cannot *simply* reject it to resolve the paradox. Because this very assumption, together with Asymmetry, is an element of the supposedly plausible set of premises in the argument of the paradox, he or she must show some principled reason for rejecting it.

3.1.2.2 A Finean Response

Fine points out that, insofar as the above simplified form of the paradox is concerned (and given the acceptance of impredicative domains), adopting the following weaker principle instead of Existential Grounding is an available option:

(Weak Existential Grounding) If $\exists xF(x)$, then there exists some y such that the fact that $F(y)$ grounds the fact that $\exists xF(x)$.⁵

³ Peels (2013) and Rasmussen *et al.* (2013) both form diagnoses on the argument of the paradox that are essentially the same as this objection; however, neither of these papers directly criticize the argument(s) in Fine's paper, but instead challenge that of Whitcomb (2012), which draws on Fine's arguments and presents another version of the Finean paradox to show the impossibility of omniscience.

⁴ However, there is *some* truth in this way of objection. See the discussion below.

⁵ Fine (2010), pp. 108–109.

If Existential Grounding is weakened in this way, the argument for the inconsistency in question will become incorrect, as we will have no guarantee that the fact that ⟨There is some true proposition⟩ is true grounds the fact that there is some true proposition, even though that particular truth is an instance of some proposition being true.

However, as Fine himself points out,⁶ we cannot save ourselves from another form of the paradox in this way, which is generated by adopting the following two principles, one of which corresponds to Existential Grounding and the other of which corresponds to Propositional Grounding:

(Universal Grounding) If $\forall xF(x)$, then the fact that $F(y)$ grounds the fact that $\forall xF(x)$ for all y (i.e., given that everything is an A , then any y 's being A grounds the fact that everything is an A).

(Factual Grounding) If there exists the fact that ϕ , then the fact that ϕ grounds the fact that there exists the fact that ϕ .

Adopting this principle, the form of the paradox in question may be presented as follows:

- (1) Everything exists. (Assumption)
- (2) There exists the fact that everything exists. (Assumption)
- (3) The fact that there exists the fact that everything exists grounds the fact that everything exists. (From (1) and Universal Grounding)
- (4) The fact that everything exists grounds the fact that there exists the fact that everything exists. (From (2) and Factual Grounding)
- (5) Contradiction. (From (3), (4), and Asymmetry)⁷

⁶ Fine (2010), p. 109.

⁷ Fine (2010), p. 102.

Weakening the principle of Factual Grounding cannot save us from this form of the paradox because “we cannot properly take a universal truth to be grounded by some of its instances to the exclusion of the others.”⁸ Thus, this Finean response lacks generality. At best, it offers us an intolerably limited solution that applies only to a specific form of the paradox.⁹

One might want to reject both Universal Grounding and Existential Grounding (or even its weaker form), but no clear, justifiable reason exists for their rejection. Indeed, if the existential and universal truths invoked in the paradox were not grounded in their instances, it is difficult to imagine another source of grounding.

3.2 A Deflationary Metaphysical Interpretation of Factive Grounding

The discussion thus far has suggested that we should call Propositional Grounding (and Factual Grounding) into question. The question that follows is, of course, how we might do so.

3.2.1 Argument for Rejecting Propositional Grounding

One might reject the instances of Propositional Grounding as pseudoexplanations on the basis of *triviality*. This strategy may resort to the following putative principle:

(Nontriviality) If “ ϕ because ψ ” is true, then it is not trivial that “ ψ ” entails “ ϕ ”.¹⁰

However, it is not plausible to suppose that this putative principle actually holds: triviality may well be compatible with truth. As P. Schulte says, “it might be *trivial*

⁸ Fine (2010), p. 109.

⁹ It should be noted that Fine’s own interest in Fine (2010) is not centered on presenting a general solution to the paradoxes of grounding but on relating them to the semantic paradoxes. More specifically, he shows that “there is a natural correspondence between the various approaches to the grounding puzzles . . . and the various approaches to the semantic paradoxes that Kripke has considered” (p. 110).

¹⁰ Akiba (2010) embraces this principle (p. 159).

(in a sense) that the proposition $\langle \text{Aristotle exists} \rangle$ is true because Aristotle exists, but that does not make it *false*.”¹¹

One might also argue that (1) while Propositional Grounding apparently captures the correct intuition that *truth depends on reality*, (2) it in fact fails to capture the intuition correctly. According to R. Cameron, it is not generally true that $\langle p \rangle$ is true because p for the following reason:

... [T]he explanation of the truth of the proposition $\langle p \rangle$ doesn't in general stop at it being the case that p , so it's false to claim that whenever a proposition is true it's true in virtue of the world being as the proposition says it is. The features of the world that do the explaining—and hence the portion of the world that the truth corresponds to—will often lie at a deeper level.¹²

Cameron's remark that “the explanation of the truth of the proposition $\langle p \rangle$ doesn't in general stop at it being the case that p ” is certainly true, but this statement cannot constitute the reason for rejecting Propositional Grounding. We need not regard the explanations expressed by Propositional Grounding to be *ultimate* ones, which cannot themselves be explained. Proponents of Propositional Grounding are free to connect the explanation “ $\langle p \rangle$ is true because p ” to another explanation such as “ p because q .” Thus, we can say that Propositional Grounding correctly captures the intuition that truth depends on reality, unless we interpret the “reality” in question as *ultimate* reality.

3.2.2 Argument for Deflating Propositional Grounding

These considerations suggest that we cannot reject Propositional Grounding. Nevertheless, another strategy may be considered for resolving the paradox: *deflating* Propositional Grounding rather than *rejecting* it. The kind of explanation involved in the

¹¹ Schulte (2011), p. 419, emphasis in original.

¹² Cameron (2008a), p. 123.

instances of Propositional Grounding can be distinguished from that involved in the other ground-theoretical principles, and it may also be considered as *metaphysically nonsubstantive*. In light of this idea, the paradox can be seen as resulting from the confusion of these two different kinds of explanation. It is this strategy that I will pursue and elaborate upon in the present chapter.

3.2.2.1 Schnieder on Truthmaker Theory and Explanation

The above idea stems from the consideration of how truthmaker theorists, who hold that for any true proposition (belonging to a certain class) there exists an entity that grounds its truth, can respond to a general objection against truthmaker theory. B. Schnieder objects to truthmaker theorists on the grounds that that they mistakenly reverse the direction of correct explanation.¹³ Consider the following two sentences:

(S-1) Socrates is pale, because Socrates' paleness exists.

(S-2) Socrates' paleness exists, because Socrates is pale.

We cannot regard both of these statements as true without contradicting Asymmetry. Truthmaker theorists who think that predicational facts are explained by existential facts about tropes (particularized properties) commit to the truth of (S-1). However, Schnieder believes that (S-2) is true, that is, that existential facts about tropes are explained by predicational facts. The case for the truth of (S-2) is, according to Schnieder, is grounded in the relative complexity of the *concepts* expressed by the terms involved in (S-1) and (S-2): the concept of the trope *Socrates' paleness* contrasted with the separate concepts of *Socrates* and *paleness*. He states:

... [A] canonical designator of a trope expresses a *logically complex* concept, the grasp of which requires us to relate it to the concepts expressed by the phrase's components, which will be conceptually more primitive.

¹³ Schnieder (2006).

... Generally, we understand an expression of the form “ x ’s F -ness” to denote a particular instance of F -ness, existing as a feature of x just in case that x is F .¹⁴

The correctness of an explanation such as (S-1) or (S-2) depends, he believes, on whether the explanation correctly tracks the order of complexity of the relevant concepts. A correct explanation is one in which “the *explanans* employs certain concepts which build the layer for the more elaborate concepts employed in the *explanandum*.”¹⁵ Accordingly, Schnieder holds that (S-2), rather than (S-1), should be considered as the correct explanation. The same point applies to any explanation of atomic statements that posits a certain purported truthmaker, including one other than a trope such as a state of affairs (e.g., Socrates being pale). The reason is that such entities “are denoted by logically complex expressions which are understood on the basis of our understanding the components of the atomic statements.”¹⁶ Thus, Schnieder declares truthmaker theory to be a product of a “capital philosophical mistake.”¹⁷

3.2.2.2 Asymmetry and Two Kinds of Noncausal Explanation

How can truthmaker theorists respond to this quite general objection? Their response should be twofold. First, they should distinguish the following two characterizations of noncausal explanation:¹⁸

- *Conceptual* explanation: An explanation is conceptual if and only if it employs less complex concepts in the *explanans* than in the *explanandum*.
- *Metaphysical* explanation: An explanation is metaphysical if and only if it invokes a metaphysically *more fundamental* fact in the *explanans* than in the *explanandum*.¹⁹

¹⁴ Schnieder (2006), p. 40, emphasis in original.

¹⁵ Schnieder (2006), p. 41.

¹⁶ Schnieder (2006), p. 41.

¹⁷ Schnieder (2006), p. 39.

¹⁸ Cf. Liggins (2012).

¹⁹ Liggins (2012) uses the term “determinative” for what I call metaphysical explanation in the present text (p. 262).

Examples of conceptual explanation include (S-2) and “John is a bachelor because he is an unmarried man.” A plausible example of metaphysical explanation would be “Dispositional properties are possessed in virtue of categorical properties.” Note that the distinction between conceptual explanation and metaphysical explanation may not make them mutually exclusive: some examples of noncausal explanation, such as “The singleton of Socrates exists because Socrates exists,” seem to be both conceptual and metaphysical. Also note that there are variations in the way in which a concept is more complex than another. The more complex concept may be introduced by an explicit definition, such as “ x is a bachelor just in case x is an unmarried man,” or an (alleged) implicit definition, such as “The number of F s is the same as the number of G s just in case there exists a one-to-one correlation between the F s and G s.” Alternatively, the relative complexity of the relevant concepts may be able to be grasped directly from the expressions for the concepts, an example being the expression “being red and round,” which is constructed from the two expressions “red” and “round.”

Putting this distinction to use, truthmaker theorists can maintain that even if (S-1) is not a correct conceptual explanation, it is a correct, or at least a possibly correct, metaphysical explanation: the existential fact of Socrates’ paleness is *metaphysically more fundamental* than the predicational fact that Socrates is pale, as the latter *depends* on the former for its existence and nature.

Second, truthmaker theorists should claim that there is no problem in admitting both (S-1) and (S-2) as correct, as such an admission means only that some priority relation between *worldly facts* does not coincide with the priority relation between the *concepts* used to think about those facts. Such a mismatch between these two types of priority relation can be easily found in some plausibly true examples of metaphysical explanation, such as “There is a *chair* because some particles are *arranged chair-wise*.”²⁰

²⁰ Cf. Akiba (2014), chapter 3, §5.2.

Thus, truthmaker theorists need not *reject* (S-2), but must only *deflate* it: they can argue that there is no *metaphysical substance* in explanatory claims that are apparently inconsistent with the explanatory claims of truthmaking.²¹

Two morals can be drawn from this dialectical situation. First, given the above-mentioned distinction between two types of noncausal explanation, there are cases in which the violation of the standard logical principles of grounding is not metaphysically problematic. The combination of metaphysical and conceptual explanations, as characterized above, may *not* yield a strict partial order: in particular, it may well result in the violation of Asymmetry. This issue is not problematic because different explanations are required to track the orders of conceptual and metaphysical priority.

Second, in light of this disunity of noncausal types of explanation, we should be careful in considering which type of explanation is involved in a given explanatory claim and whether the claim qualifies as a correct instance of the type of explanation in question. More particularly, we should note that the merely conceptual priority relationship between two facts is not sufficient for the existence of metaphysical priority relation running in the same direction between these facts. To establish that one fact is metaphysically prior to another, we need to take full consideration of the metaphysical nature of these facts in themselves, rather than the relative complexity of the concepts expressed by the terms involved in the canonical expressions of the two facts, or the order of our understanding of these concepts. For example, in the case of the existential fact of Socrates' paleness and the predicational fact that Socrates is pale, those

²¹ [Schnieder \(2006\)](#) concludes with the following concession: “one may regard my argument against [truthmaker theory] as a *challenge* rather than a defeat. The challenge is twofold. Given that my analysis of [truthmaking] is correct, [truthmaker] theorists can be required to tell us *firstly* what explanatory relation could justify the truth of the explanations they need for their theory to work, explanations such as (S-1). And *secondly* they should either undermine the conceptual explanation I tried to establish with respect to (S-2), or explain how it can be that in this special case, we have an explanation running in both directions” (p. 42, emphasis in original). [Liggins \(2012\)](#) argues that truthmaker theorists can reply to the first challenge by distinguishing two kinds of noncausal explanation and that they can meet the second challenge by rejecting the apparent explanation in (S-2) as a disguised form of a certain set of nonexplanatory claims (pp. 260–264). I do not find his second claim to be convincing, but truthmaker theorists nevertheless need not struggle to establish such a controversial claim. The apparent explanatory circularity resulting from admitting both (S-1) and (S-2) as correct vanishes once the kind of explanation in the former is distinguished from that in the latter—instead of *one* explanation running both directions, there exists *two* explanations of different kinds running in opposite directions.

who embrace the metaphysical priority of the former fact over the latter may claim that the connection of instantiation between Socrates and the property of paleness, which is arguably involved in the latter fact, is too mysterious to be metaphysically fundamental, and must therefore be explained by some more fundamental fact.²²

Let us apply this observation to the paradox being considered. I claim that Propositional Grounding expresses a conceptual, rather than metaphysical, explanation. As Schnieder says,

[Propositional Grounding] is an explanation of a proposition employing a logically elaborate concept, the concept expressed by “true,” by a conceptually simpler proposition. . . . [M]astery of the concept is constituted by the ability to relate statements involving it to statements involving only conceptual resources already at hand.²³

This statement suggests that the explanatory force of Propositional Grounding is underpinned simply by the relative complexity of the concepts involved. In contrast, explanations expressed by Existential Grounding are plausibly metaphysical, not conceptual, because existential facts about *F*s can be *understood* independently of any particular instances of *F*s. (Indeed, there may exist some *primitive* existential fact that cannot be understood on the basis of any simpler concepts.) This situation means that the violation of Asymmetry resulting from the combination of the instances of Propositional Grounding and Existential Grounding is not problematic, as it results from confusing two different types of explanations.

It might be objected that the explanation indicated by Propositional Grounding is metaphysical *as well as* conceptual. As noted above, the distinction between conceptual explanation and metaphysical explanation may not make them mutually exclusive. The existence of the singleton of Socrates, for example, is arguably both conceptually

²² Alternatively, one may resort to ideological parsimony: if the existential facts about tropes are metaphysically prior to the corresponding predicational facts, we need to accept fewer primitive notions into the theory that describes the fundamental features of reality, because the notion of instantiation can then be explained in terms of the notion of existence. See [Cameron \(forthcoming\)](#).

²³ [Schnieder \(2006\)](#), p. 36.

and metaphysically explained by the existence of Socrates. One might ask, then, why not understand the explanation indicated by Propositional Grounding in an analogous way? In response to this objection, we can argue that, metaphysically speaking, the truth of $\langle P \rangle$ is *nothing over and above* the fact that P . In other words, all the metaphysical explanatory work to be done by the former fact can equally be done by the latter fact. Following this line of thought, which may be taken to be a ground-theoretic interpretation of deflationism about truth, we have no principled reason to accept any metaphysical priority relation between the fact that $\langle P \rangle$ is true and the fact that P .

Note that the strategy presented here does not commit us to the rejection of the assumption of asymmetry, one of the explanatory constraints central to the standard conception of grounding, in its entirety. Instead, the strategy restricts its scope to the pairs of grounding statements in which the same kind of explanation is expressed, on the basis of the rejection of the assumption that a single kind of noncausal explanation is expressed by all statements of grounding (in the argument of the paradox).²⁴ Also note that a significant difference exists between the response proposed here and the one considered in §3.1.2.1 (the claim that the paradox commits the fallacy of equivocation). Although both responses hold that the notion of grounding used in the argument of the paradox actually covers two different kinds of relations, the latter response specifies that the two different kinds of relations (instantiation and quasi-mereological parthood) in question are not themselves explanatory, whereas the former specifies them as two different kinds of noncausal explanations. Thus the former response, as opposed to the latter, does not fail to appreciate the crux of the argument of the paradox, namely, that in each instance of Existential Grounding and Propositional Grounding the two relevant facts are connected in a noncausal explanatory link.

This consideration enables us to resolve all forms of the Finean paradox in a uniform way, because each of the forms of the paradox that have been presented essentially

²⁴ The strategy proposed here commits us to the view that grounding is equivocal in that there are multiple priority or dependence notions corresponding to multiple kinds of noncausal explanation. Fine seems to be sympathetic with the view that grounding is equivocal, although none of his multiple priority notions does not correspond to the two different kinds of noncausal explanation described in the present chapter. See [Fine \(2012\)](#).

rest on Propositional Grounding or a closely analogous ground-theoretical principle that involves some *factive construction*. Let us call the ground-theoretical principles that share this feature *the principles of Factive Grounding*. One of example of these principles other than Propositional Grounding is Factual Grounding: if *there exists the fact that ϕ* , then the fact that ϕ grounds the fact that *there exists the fact that ϕ* . We have already seen in §1.2.2 how this principle, together with Asymmetry and Universal Grounding, leads to a version of the Finean paradox. Another version can be constituted by Asymmetry, Existential Grounding, and the following principle of Factive Grounding:

(Knowledge Grounding) If S knows that ϕ , the fact that S knows that ϕ is grounded in the fact that ϕ .

The argument for the inconsistency proceeds as follows:²⁵

- (1) Some person S knows that someone has knowledge. (Assumption)
- (2) The fact that S knows that someone has knowledge grounds the fact that someone has knowledge. (From (1) and Existential Grounding)
- (3) The fact that S knows that someone has knowledge is grounded in the fact that someone has knowledge. (From (1) and Knowledge Grounding)
- (4) Contradiction. (From (2), (3), and Asymmetry)

My claim is that all principles of Factive Grounding (or at least those that lead to some form of the Finean paradox) can be considered as expressing conceptual explanations: they represent explanations of conceptually more complex facts (of the form “the fact that ... the fact that ϕ ...”) by some conceptually simpler fact (the embedded fact that ϕ).

One might object that the abovementioned reasoning for thinking that the explanation indicated by Propositional Grounding is *merely* conceptual does not generalize

²⁵ See Peels (2013) and Whitcomb (2012).

to the case of Knowledge Grounding: obviously, we cannot claim that the fact that S knows that ϕ is nothing over and above the fact that ϕ . However, note that the notion of knowledge is generally viewed as a target of *conceptual analysis*. Suppose for the sake of argument that the traditional JTB analysis is correct. Then, the fact that S knows that ϕ would be nothing over and above the fact that S has the justified true belief that ϕ . Of course, it cannot be claimed that the latter fact is nothing over and above the fact that ϕ , but we can argue that the fact that S has the justified true belief that ϕ contains nothing that qualifies as lying at a higher level than the fact that ϕ .

3.3 Objections and Replies

In the following discussion, I will address three possible objections against my proposal.

3.3.1 Conceptual Explanation as a Kind of Metaphysical Explanation?

The first objection concerns the distinction between conceptual explanation and metaphysical explanation, upon which my deflationary account rests. One might argue that this distinction is illegitimate because the notion of conceptual explanation is too obscure to be distinguished from the notion of metaphysical explanation. Two possible observations might lead to this line of reasoning. First, what I have described as conceptual explanations *do not concern concepts*: they are concerned with worldly facts (e.g., what it is for a person to be a bachelor or what it is for a proposition to be true) rather than their representations. Second, the metaphysical substance of a noncausal explanation cannot be denied even if the relative complexity of certain concepts is relevant to the correctness of the explanation in question; as E. J. Lowe explains, “an adequate concept of a thing of a certain kind should embody a correct grasp of that thing’s nature.”²⁶

²⁶ Lowe (2002), p. 12.

Let us assume that these two points are correct. The explanations that I have called “conceptual” must then be considered as instances of metaphysical explanation. In other words, the objection holds that “metaphysical explanation” is simply another name for noncausal explanation. This claim, however, cannot be established by the two observations above. Even if the explanations that I have called “conceptual” possess metaphysical substance in the sense that they concern the nature of things, and to that extent merit the name “metaphysical explanations,” we can still distinguish a class of explanations that are *not properly metaphysical* from the rest of the “metaphysical explanations” that the objection considers as the only kind of noncausal explanation. Noncausal explanations that are not properly metaphysical have a *conceptual basis*, in the sense that the nature of the relevant concepts (such as “being a bachelor” and “being true”) determines part of the nature of the corresponding properties or objects in such a way as to ensure the correctness of these explanations. Indeed, we can characterize the distinction in question in terms of the very notion that metaphysical explanation may be equated with the notion of noncausal explanation, such that conceptual explanation can be considered as a special case of metaphysical explanation. The fact that (S-2) is true, for example, is metaphysically explained by the nature of the concept of “Socrates’ paleness,” whereas the fact that (S-1) is true is metaphysically explained by the nature of the fact that Socrates is pale, which transcends the nature of the corresponding concept.²⁷ Further work must be conducted to obtain a full and precise characterization of the distinction in question, but it is presently sufficient to realize that an intelligible distinction can be made regarding noncausal explanations.

²⁷ Note that there is nothing incorrect in the thought that a fact about grounding may be itself grounded in another fact; indeed, every such fact *must* be grounded in another fact in view of a certain plausible constraint on the notion of fundamentality. See [deRosset \(2013\)](#).

3.3.2 How Can the Truth of Propositions Be Metaphysically Explained?

The second objection concerns the metaphysical status of the facts about what is true. If the correctness of Propositional Grounding can be seen as a conceptual matter, the following question naturally arises: how are the facts about what is true *metaphysically* explained? The objection arises when this question is answered by again invoking Propositional Grounding, which is interpreted as expressing metaphysical explanations. The objection states that we must resort to Propositional Grounding if we are to metaphysically explain facts about what is true.

In response to this objection, we can argue that to metaphysically explain why $\langle P \rangle$ is true is *nothing more than* to metaphysically explain why P . Invoking the fact that P does not necessarily, therefore, constitute a metaphysical explanation of the fact that $\langle P \rangle$ is true. Rather, it is invoking what metaphysically explains the fact that P that constitutes a metaphysical explanation of the truth of $\langle P \rangle$. For example, we can argue that $\langle \text{This rose is red} \rangle$ is true not because this rose is red, but because the redness trope of this rose exists. In short, the truth of $\langle P \rangle$ does not metaphysically depend on the fact that P , but on the same fact on which the fact that P metaphysically depends.²⁸ It follows, then, that the instances of Propositional Grounding do not qualify as representing genuine metaphysical explanations; they represent pseudoexplanations that should be rejected once the ground of “the fact that P ” is provided. In order to metaphysically explain the truth of $\langle P \rangle$, we should not start with the fact that P and then explain the latter. Instead, we should simply explain why P . The metaphysical explanation of the fact that P itself also immediately constitutes the metaphysical explanation of the truth of $\langle P \rangle$.²⁹

²⁸ This point may be related to the grounding of the facts represented by sentences containing the operator “It is true that,” and the same point applies to the grounding of facts represented by sentences with other factive operators such as “The fact exists that” and “ S knows that.”

²⁹ Instead of rejecting Propositional Grounding, we may countenance it while regarding the circles of grounding that involve its (problematic) instances as *not vicious*: this approach amounts to distinguishing the substantial notion of explanation that obeys Asymmetry and the watered-down notion of it that does not.

Note that the instances of Propositional Grounding relevant here are those in which “the fact that P ” denotes a derivative fact. Not all instances of Propositional Grounding can be rejected: where “the fact that P ” denotes a fundamental fact, we cannot say that the truth of $\langle P \rangle$ is explained by the thing that explains the fact that P , since the latter has no explanation. One might argue that such a partial rejection of Propositional Grounding is completely *ad hoc*. However, we can reasonably countenance the instances involving fundamental facts as consistent with our rejection, because in each instance there is a metaphysically substantive asymmetry between the *fundamental* fact that P and the *derivative* semantic fact that $\langle P \rangle$ is true, which is absent in the instances where the fact that P is also derivative. After all, the ultimate task of metaphysics is to determine what the fundamental facts are and to show how various derivative facts are grounded in fundamental facts, rather than to determine which derivative facts ground which: in this light, there is nothing strange about privileging an explanatory relationship between the fundamental and the derivative.

3.3.3 Factive Grounding not the Issue?

The third and final objection concerns the purportedly essential use of the principles of Factive Grounding in the arguments of the Finean paradox. According to Krämer (2013), if we employ quantification into sentence position and assume that Existential Grounding extends to this kind of quantification, we can construct a particularly simple variant of the Finean paradox that is independent of the assumption of (among other things) the principles of Factive Grounding. The extension of Existential Grounding to sentential quantification is expressed by the following statement (‘ α ’ stands for an arbitrary sentence, and ‘ ϕ ’ represents a suitable sentential context, which is possibly null):

(EG-S) If $\phi(\alpha)$, then $\exists p\phi(p)$ because $\phi(\alpha)$.

The argument of Krämer’s simple variant proceeds as follows:

- (1) $\exists p p$ (Assumption)
- (2) If $\exists p p$, then $\exists p p$ because $\exists p p$ (From (EG-S)).
- (3) $\exists p p$ because $\exists p p$ (From (1) and (2)).
- (4) Contradiction (From (3) and Asymmetry).

One might argue on the basis of this (purported) variant of the Finean paradox that neither rejecting nor deflating the principles of Factive Grounding may yield a general resolution of the paradox, as the use of any principle of Factive Grounding is not essential to the argument of Krämer's variant. The real source of the paradox, the objection states, lies in Existential Grounding or Asymmetry, and it is either (or both) of these principles, not any principle of Factive Grounding, that must be called into question.

The simplest way of replying to this objection is to reject quantification into sentential position as meaningless or to understand it as a mere abbreviation of first-order quantification over proposition. If sentential quantification is meaningless, Krämer's argument is unable to proceed; if it represents a disguised form of another kind of quantification, the argument tacitly rests on Propositional Grounding. I will not counter the objection in this way here (although I am in fact skeptical of the legitimacy of sentential quantification). Let us assume, for the sake of argument, that sentential quantification does have a distinctive meaning in its own right and is not translatable or definable in terms of any other kind of quantification. I believe that the argument of Krämer's variant *goes beyond the context of the Finean paradox* due to a crucial difference between the situations of the two. The heart of the Finean paradox is that a logically and metaphysically plausible set of assumptions about grounding lead to a contradiction; the plausibility of these assumptions consists partly in the fact that *any pair of them is mutually consistent*. In Krämer's variant, by contrast, (EG-S) and Asymmetry are mutually inconsistent because, as shown above, one of the instances of the former is directly at odds with the latter. In view of this point, Krämer's variant

should be taken to show that, given the standard conception of grounding (Asymmetry in particular), *there is ample room for doubt regarding the metaphysical plausibility of (EG-S)*.

Concerning the status of (EG-S), Krämer gives the following statement:

Simply rejecting (EG-S) and insisting that [Existential Grounding] holds for first-order quantification is unsatisfactory, for the motivation usually offered for [Existential Grounding] is not specific to the case of first-order quantification. The principle is sometimes held to command intuitive support . . . ; to the extent that it does so, it seems to me, it does so equally for any sort of quantification. More substantially, the principle is sometimes motivated by appeal to the highly plausible principle of disjunctive grounding—if p , then $[(p \vee q)$ because $p]$ —and the analogy between existential quantification and disjunction This analogy extends to the case of sentential quantification.³⁰

My view is, *pace* Krämer, that the intuitive support for Existential Grounding and the analogy between first-order existential quantification and disjunction does not fully extend to the case of sentential quantification. Crucially, (EG-S) does not mesh with the intuitive and plausible assumption that Fine calls Complex Ground: “Surely there should be a ground, or ‘*simpler*’ truth, in virtue of which any conjunctive or disjunctive truth or any universal or existential truth is the case.”³¹ The instance of (EG-S) that is not in accordance with this assumption is “If $\exists p p$, then $\exists p p$ because $\exists p p$,” as the truths flanked with “because” in this instance are identical and therefore enjoy *exactly the same logical complexity*; it is this very instance upon which the argument of Krämer’s variant rests. Furthermore, if sentential quantification is neither objectual nor substitutional, the nature of the truth of sentential quantificational sentences is

³⁰ Krämer (2013), p. 89, emphasis in original.

³¹ Fine (2010), p. 105, my emphasis. In the same vein, Fine states, concerning logically complex truths of the form “There exists the fact that ϕ ” and “ $\langle P \rangle$ is true,” that “these . . . statements do enjoy a kind of logical complexity, and so it is only natural to suppose that *this complexity should disappear* under a suitable statement of their ground” (p. 196, my emphasis).

hard to understand when compared to that of the truth of objectual quantificational sentences. As P. Hugly and C. Sayward write:

[If sentential quantification is not substitutional, then] a sentential quantification can be true though lacking a true instance. Whence, in that case, its truth? How can it, lacking true instance, come by its truth?

The question is pressing because we seem to have only two ways of understanding the truth of a quantification: Either it gets its truth from another sentence or it gets its truths from the world. In the former case it is substitutional—its ‘values’ do no more than indicate instances. In the latter case its valuables have values—they reach out not merely to words, but to the world.³²

It may be possible to develop a detailed and satisfactory account of the truth of sentential quantificational sentences.³³ Such an account, however, would likely be essentially different from that of the truth of objectual quantificational sentences. Consequently, we have compelling reasons for rejecting (EG-S) while maintaining Existential Grounding.

Thus, it is fair to say that Krämer’s paradox cannot qualify as a genuine variant of the Finean paradox and should be given a separate treatment.³⁴

³² Hugly and Sayward (1996), pp. 259–260.

³³ For a possible account, see Hugly and Sayward (1996), §§12–14.

³⁴ We should consider Krämer’s paradox along the lines of Raven (2013), which contains a good defense of Irreflexivity against the alleged counterexamples offered by Jenkins (2011). However, the discussion of this issue must remain for another time.

Chapter 4

The Ground-Theoretical and the Mereological Hierarchy

4.1 From Fact-Grounding to the Priority Relation between Objects

As noted in Chapter 1, the grounding relation is introduced as a relation between *facts*. However, the intuitive picture of the layered structure of reality as a whole involves not only the explanatory dependence relation between facts, but also that between *entities in general*. Particles such as electrons and quarks are arguably fundamental objects, which other objects are derivative from and dependent on; objects may be derivative from their tropes; tropes may be fundamental entities, to which every other kind of entities are posterior. It is a matter of controversy exactly how fact-fundamentality and entity-fundamentality should be connected, but we can accept at least the following thesis as intuitive and plausible:

(CORR) An entity e is fundamental if e 's existence or its possession of some feature is fundamental.¹

¹ Cf. [deRosset \(2013\)](#), p. 5.

If (CORR) is one of the minimal commitments of any theory that articulates the idea of the layered structure of reality as a whole, the theory of grounding must be accompanied by the thesis that *some objects are fundamental and others are dependent*.

Let us call a view that implies this thesis a *priority view*, following Tallant (2013). According to Tallant, we should reject priority views (PVs, for short). His argument relies on two proposed mereological possibilities: a *gunky* world, where everything has a proper part, and a *junky* world, where everything is a proper part. If Tallant's claim is correct, we must abandon the project of developing the theory of grounding to articulate the idea of the layered structure of reality. In this chapter, I criticize Tallant's argument and argue that neither of these possibilities threaten PVs *per se*; at most, they threaten only particular forms of PV that contain a certain independently controversial assumption.

4.2 Tallant's Argument against Priority Views

Tallant characterizes PVs as the conjunction of the following three claims (430):

- (P1) At least some x exists such that x is fundamental.
- (P2) At least some ys exist such that the ys are derivative.
- (P3) If y is derivative, then y is such that it depends for its existence upon (exists *in virtue of*) [some fundamental object(s)] x (or x s).

PVs, according to Tallant, take one of the following two forms (430):²

Priority Pluralism At least two fundamental objects exist and are mereological atoms (i.e., objects with no proper parts).

Priority Monism Exactly one fundamental object exists and is the whole universe (i.e., the mereological sum of all actual concrete objects).

² Tallant gives no explicit definitions of these two positions, but their intended contents seem to be contextually clear.

Tallant presents two parallel arguments intended to rule out pluralism and monism in turn. Combining the two arguments together and assuming that pluralism and monism are collectively exhaustive, Tallant concludes that we should not endorse any PV.³

The argument leveled against pluralism is called the ‘gunk argument’ (GA) and proceeds as follows (431):⁴

- (1) A gunky world is conceivable.
- (2) If x is conceivable, then x is possible.
- (3) A gunky world is possible.
- (4) Pluralism is false in any gunky world.
- (5) Pluralism is not necessarily true.
- (6) If pluralism is true, then it is necessarily true.
- (7) Therefore, pluralism is false.

Similarly, the argument leveled against monism is called the ‘junk argument’ (JA) and proceeds as follows (431):

- (8) A junky world is conceivable.
- (9) If x is conceivable, then x is possible.
- (10) A junky world is possible.
- (11) Monism is false in any junky world.
- (12) Monism is not necessarily true.
- (13) If monism is true, then it is necessarily true.

³ The assumption of exhaustiveness will be questioned in §4.3.2 and §4.4.1 below.

⁴ The argument is reconstructed in a way that more explicitly explains the assumption about the modal status of PVs. The same reconstruction applies to the JA below.

(14) Therefore, monism is false.

Obviously, (1) and (2) together entail (3), (3) and (4) together entail (5), and (5) and (6) together entail the conclusion (7); the crucial claims in the GA are thus (1), (2), (4), and (6). Similarly, the crucial claims in the JA are (8), (9), (11), and (13).

Tallant simply assumes (6) and (13), which concern the modal status of PVs: “our conclusions about fundamentality ought to be necessarily true, if they are true at all” (p. 431). Claim (4) follows from the facts that the truth of pluralism entails the existence of atoms and that, in any gunky world, there exist no atoms. (Otherwise, some objects would not have a proper part, which contradicts the world being gunky.) Analogously, (11) follows from the facts that the truth of monism entails the existence of the maximal sum of objects (i.e., the whole universe) and that, in any junky world, there exists no maximal sum. (Otherwise, some object would not be a proper part, which contradicts the world being junky.) Regarding the validity of inference from conceivability to possibility and the conceivability of a gunky/junky world, Tallant takes up a possible and natural objection and then rebuts it (pp. 432–3 and pp. 433–5, respectively).

In the next section, I discuss the GA. First, I examine Tallant’s counterargument against the objection to the genuine conceivability of gunk and demonstrate its failure. Second, I question Tallant’s definition of pluralism and argue that pluralism *per se* can be considered consistent with nonatomism. In §3, I discuss the JA. First, I consider and reject the objection that (JA) begs the question in asserting the conceivability of a junky world. Second, I question Tallant’s definition of monism and argue that monism *per se* can be considered consistent with nonholism in a twofold sense. Finally, I present two different interpretations of the possibility of a junky world from the viewpoint of PVs: either the claim that a junky world is possible begs the question against monism, or it is simply unacceptable to proponents of PVs. Although the qualification of conceivability as a guide to possibility is highly controversial, I will not deal with this issue here, as the subject is so involved as to require a book-length discussion.

Arguments may also be raised regarding the assumption about the modal status of PVs, but this issue is also not disputed here.

4.3 Against the Gunk Argument

4.3.1 Infinite Descent and the “Bottom Level”

Tallant considers an objection to the possibility of gunk based on the work of [Williams \(2006\)](#). Williams suggests that we should accept the following principle:

Illusions If scenario w is conceivable, then either it is possible, or there is some genuinely possible world w' that is generating the *illusion* that w is possible.⁵

On the basis of this principle, the objection dismisses the conceivability of gunk as nongenuine in the sense that some possible world in which there is no gunk generates the illusion that gunk is possible. The explanatory burden then incurred on the objector is to identify some possible world containing no gunk to which the illusion of gunk is plausibly ascribable. Williams describes such a possible world as one “where every object is mereologically simple” and “where *mere* co-colocation of objects take place.”⁶ In this world, “there genuinely are infinitely many layers of smaller and smaller particles: it is just that each layer consists of simple objects”⁷

Tallant replies to this objection as follows:

...I concede to the pluralist that this explains the illusion of the possibility of gunk. However, ... [i]f infinite descent is possible, then it does not seem that we have a ‘bottom level’, such that explanation can ‘snake upward from’ this level. ...

⁵ [Williams \(2006\)](#), p. 503.

⁶ [Williams \(2006\)](#), p. 504, emphasis in the original.

⁷ [Williams \(2006\)](#), p. 506.

To be clear, the problem with gunk turns out to be independent of considerations of parthood. What originally drove GA was that there was no bottom *level*. We should grant, of course, that the original argument – GA – derives the conclusion that there is no bottom *level* from a consideration of gunk, and, thus, from considerations of parthood. But if we explain away the illusion of the possibility of gunk, but in doing so continue to deny that there is a bottom level, then we still lack a ground to being; we *still* lack the bottom level from which metaphysical explanation may ‘snake upwards’. We have simply reached the conclusion in a different way (434–5, emphasis in the original).

This reply seems puzzling; it is difficult to determine the meaning of the metaphor “bottom level” here. Supposing that (4) in the GA is justified, the “bottom level” must express something whose existence the truth of pluralism entails and whose nonexistence the world being gunky entails. Mereological atoms (i.e., the “bottom level” of the partial ordering relation of parthood) obviously meet these criteria. If the “bottom level” expresses something “independent of considerations of parthood,” the only candidate would be *explanatorily fundamental* entities; we might therefore regard (4) as justified by the alleged fact that, in any gunky world, metaphysical explanation must result in infinite descent, which is tantamount to a lack of explanatorily fundamental entities, *contra* (P1).⁸ However, it is then totally unclear why an infinite descent of the kind Williams describes must be accompanied by an infinitely descending chain of *explanation*. As quoted above, the infinite descent in question consists of “infinitely many layers of smaller and smaller particles,” each of which is a mereological atom. As such, the descent must be accompanied by an infinitely descending chain of the *smaller-than* relation, but this relation itself (arguably) has nothing to do with explanation. In general, infinite descent does not necessarily involve explanatory relations.

⁸ Even this interpretation has difficulty in establishing a “bottom level” independent of considerations of parthood: to establish that, in any gunky world, metaphysical explanation must result in infinite descent, resorting to a mereological fact supposedly implied by the truth of pluralism seems inevitable, namely, that *the parts are prior to their whole*.

Thus, we need not “continue to deny that there is a bottom level”—in the sense that there exist explanatorily fundamental entities—when we explain away the illusion of the possibility of gunk in the way Williams proposes.

We may therefore obtain a feasible strategy for rebutting the GA if we accept the principle of illusions. This principle however, may be viewed as highly controversial. Tallant deals with the objection based on this principle as one leveled against the (genuine) conceivability of gunk, but it may also be considered to target the connection between conceivability and possibility. Thus, a full consideration of the principle of illusions would involve a discussion of this notoriously complicated connection, which is beyond the scope of this thesis. Instead of arguing for this principle, I will shift my focus in the rest of this section to the issue of whether atomism is the only viable form of pluralism.

4.3.2 The Possibility of Nonatomistic Pluralism

Tallant considers the idea of ascribing fundamentality not to a (mereologically) “top” or “bottom” level, but to a *middle* level: “let us stipulate, entirely arbitrarily, . . . [e]very x that is composed out of molecules will be ontologically dependent on the molecules that compose x ; every y that is a part of a molecule is such that y is dependent on the molecule it is a part of” (p. 435). In this fashion, Tallant considers a *nonatomistic* pluralism, thereby examining the assumption that monism and pluralism as defined above are collectively exhaustive.

Tallant poses two challenges to this idea. First, he finds no principled reason to think that objects other than atoms are fundamental: “for any level, L , why should we think that level is fundamental? Why not the atoms? Why not the electrons?” (p. 436) Second, Tallant claims that it is difficult to treat any given collection of objects at a middle level as fundamental in a way that satisfies what Schaffer (2010a) calls the *tiling constraint*: “the basic actual concrete objects collectively cover the cosmos

without overlapping. In a slogan: no gaps, no overlaps.”⁹ If molecules were treated as fundamental objects, for example, some object would appear not to be a part of, and therefore not dependent on, any molecule, such as “a photon emitted by the sun at the point in its journey to the earth where it has travelled exactly half the distance between earth and sun” (p. 436). Such an object would make molecules, which are allegedly fundamental, unable to collectively cover the cosmos. In general, “[i]t is hard so see that anything at any level in between can manage that trick. There are gaps between the macroscopic into which the microscopic sometimes fall. A bottom level or a top level will generate total coverage; it’s hard to see that can be achieved by anything in between” (p. 436).

Both of these challenges, however, can be addressed. First, there is a good reason to ascribe fundamentality to midlevel objects that have *emergent properties*, a special class of properties that may be possessed by composites. Proponents of the doctrine that emergent properties exist (or who at least advocate what is sometimes called “ontological emergence”) often claim that, although these properties are in some sense dependent on the base properties from which they emerge, they are nevertheless basic or fundamental in that they are “genuinely novel” or “over and above” the base properties and are not determined by them. O’Connor and Wong (2005), for example, state that “it is the thesis of emergentism that some basic properties are had by composite individuals,” where basic properties are those “whose instantiation does not even partly consist in the instantiation of distinct properties by the entity or its parts.”¹⁰ Insofar as this view is tenable, those with a pluralistic view can reasonably regard some composite objects as fundamental in the sense that some of their properties are basic and unexplainable in terms of the properties of their parts.¹¹ Thus, even if the principle of illusions is unacceptable, hence undermining William’s strategy for arguing against

⁹ Schaffer (2010a), p. 38.

¹⁰ O’Connor and Jacobs (2003), p. 664.

¹¹ Note that Tallant does not reject, as such, this property-based way of assigning the “priority” and “fundamentality” of objects. See Tallant (2013), pp. 436–7. It should also be noted that O’Connor and Jacobs (2003) commit themselves to the view that only mereological atoms and those composites that have emergent properties really exist: “[composites] lacking [emergent properties], however much they may appear to be unified to the uneducated eye, are individual objects only by a courtesy born of practical concerns” (p. 547).

the possibility of gunk, those with a pluralistic view can account for the possibility of a gunky world by maintaining that composite objects at some middle level qualify (at least in such a world) as fundamental because of their emergent properties.¹² One might object that a world where only a quantity of *completely homogeneous* gunk exists is possible and that, in such a world, no midlevel objects would have emergent properties. However, each level of decomposition of this allegedly homogeneous gunk can be uniquely characterized by the physical quantities, such as mass and volume, of the parts resulting from the decomposition in question. In principle, nothing is incorrect about the idea that some level of decomposition is privileged in accordance with a certain fundamental law of emergence, to the effect that whenever an entity possesses certain physical quantities, it thereby possesses certain emergent properties. Thus, one cannot assume the possibility of a world where nothing other than *completely* homogeneous gunk exists without begging the question against those who maintain that some midlevel objects qualify as fundamental because of their emergent properties.¹³

Second, in treating a given collection of midlevel objects as fundamental, we need not assume that *only this level* qualifies as fundamental. To continue the example above, we can treat molecules as fundamental while *also* treating those particles that are not part of any molecules as fundamental. In general, there is nothing inconsistent about the view that fundamental objects *range over different middle levels*; that such views must be precluded is an unwarranted assumption. Thus, a nonatomistic form of pluralism, being able to “fill in gaps” between a certain collection of objects at a middle level with objects at some different level, has no in-principle difficulty in satisfying the tiling constraint.

¹² Whether those who employ this argument must regard the middle level in question as fundamental in every possible world depends on whether *every* conclusion about fundamentality, including those about which specific form of pluralism is true, ought to be necessarily true, if true at all.

¹³ In support of the thesis that the only violable form of pluralism is atomism, Schaffer (2010a) argues as follows: “the pluralist might reject Atomism, maintaining that what is basic is mereologically intermediate. But this seems objectionably arbitrary, especially in cases where *there is no natural joint in the mereological structure*. For instance, in the case of a homogeneously pink sphere of gunk, . . . [n]o layer of decomposition seems privileged” (p. 63, my emphasis). Here Schaffer begs the question by assuming that there are “cases where there is no natural joint in the mereological structure.”

4.4 Against the Junk Argument

4.4.1 Is the Assumption of Conceivability Unsupported?

One might doubt that a junky world is really conceivable: it seems to difficult to describe what a junky world is like, whereas we can easily describe a gunky world as one where every object is infinitely divisible. However, according to [Bohn \(2009a\)](#), we can conceive a world in which everything is a proper part by considering the following scenario:

Our universe is a miniature replica universe housed in a particle of a bigger replica universe, which is again a miniature replica universe housed in a particle of an even bigger replica universe, and so on *ad infinitum*.¹⁴

There is room for controversy as to whether conceiving this scenario amounts to conceiving a junky world. [Watson \(2010\)](#) claims that this is not the case:

... [J]ust because there's an infinite series of objects such that every object in that series is a proper part of some other object in that series it doesn't follow that there isn't some further object, outside of that series, of which each of the objects in the series is a proper part.

... [T]here's nothing logically inconsistent about a world that consists of an infinite hierarchy of nested universes and a universal object that is the mereological composition of those nested universes. ... The object that the nested universes compose ... will not be one of the nested universes, but this is perfectly consistent with the description of the possible world that Bohn has given.¹⁵

¹⁴ [Bohn \(2009a\)](#), p. 28. See also [Bohn \(2009b\)](#).

¹⁵ [Watson \(2010\)](#), p. 80.

Watson thus concludes that “the move Bohn makes in arguing from the conceivability of a world [of nested universes] to the conceivability of one where *everything* (unrestrictedly) is a proper part of something else is invalid”¹⁶ He then considers some possible attempts to strengthen Bohn’s argument, one of which is described as follows:

... [W]e grant that it’s consistent that [the world of nested universes] contains a universal object, but that’s because the principle of construction we used to construct [this world] was too weak; if instead we construct a possible world using the strong construction principle “*every* object (unrestrictedly) is such that it is a proper part of a further object,” then that world contains no universal object¹⁷

Agreeing with Watson that “[conceiving the world of nested universes] is not by itself sufficient for conceiving of there not being any biggest universe containing all the others (which is needed for it to be junky),”¹⁸ Bohn (2010) presents another scenario that explicitly involves what Watson calls “the strong construction principle”:

... [I]magine a universe consisting *only* of an infinite series of Russian Dolls such that each doll is nested in a bigger doll *and there is no biggest doll*. . . . There is *nothing* in such a world that can play the role of a universal object having all things as parts. We have conceived it away (partly by the initial universal quantifier).¹⁹

¹⁶ Watson (2010), p. 80, emphasis in original.

¹⁷ Watson (2010), p. 81, emphasis in original.

¹⁸ Bohn (2010), pp.297–298.

¹⁹ Bohn (2010), p. 298. In fact, as Bohn (2010) points out, this scenario is similar to one of the scenarios that Bohn (2009a) (p. 28) originally presented: “[t]he first case I presented was very much like the . . . Russian Doll case: imagine *everything* (bang the table, stamp your foot!) in the world being a spatially extended proper part of something spatially extended. My claim was, and still is, that this amounts to conceiving of a junky world” (p. 298). Watson (2010) also appreciates this point: “[o]n one interpretation of [Bohn’s] argument, [the strong construction principle] is more or less the principle of construction that Bohn does use when creating the world where everything is a half of something else” (p. 81, note 3). Note that, if it is reasonable to suppose that *every* object (unrestrictedly) is a “universe,” especially when considered in isolation from other objects, the scenario of the nested universes can easily be revised in such a way that makes it essentially the same as the case of Russian Doll; the only qualification that would be required is that, for *every* universe (unrestrictedly), there exists a further universe of which it is a proper part.

According to Watson, however, this strategy for strengthening Bohn’s original argument is unsuccessful because “there’s no obvious *step-by-step recipe* for how to build a world that conforms to the strong construction principle; and so while we may have a good reason to think that [the world of nested universes] is possible we don’t have a good reason to think a world that conforms to the strong construction principle is.”²⁰

Although Bohn does not refute this contention,²¹ Watson’s demand that there exist some step-by-step recipe for conceiving a world that conforms to the strong construction principle should be viewed as illegitimate. Using the strong principle amounts simply to a *negation*—the exclusion of anything that lies outside of the infinite series of objects in question. As such, it does not require any particular *step* in the recipe for conceiving a world where everything is a proper part; it only requires to *stop* adding anything other than a certain set of steps into the recipe. Indeed, if Watson’s demand were legitimate, it would be impossible, by the same token, to conceive a world consisting *only* of *Fs*, for any property of being a *F*, which is obviously unacceptable. Thus, Watson’s objection does not succeed in providing a principled reason for doubting the conceivability of a junky world.

4.4.2 The Possibility of Nonholistic Monism

The discussion in §4.2.2 suggests that pluralism *per se* can be considered consistent with nonatomism, thereby proposing that pluralism and monism as defined at the outset are not collectively exhaustive. It follows that a similar argument may apply to monism as considered holistic by definition, thereby further illuminating the nonexhaustiveness in question. However, the “midlevel” strategy cannot be pursued to argue that those with a monistic view can account for the possibility of a junky world in a way parallel to the case of the GA. This situation follows from the obvious fact that any *single* object at any level other than the top fails to cover the cosmos; the tailing

²⁰ Watson (2010), p. 81, my emphasis.

²¹ The rejoinder by Bohn (2010) should be taken to be inadequate in this regard, though I accept his basic line of thought as correct.

constraint thus mandates that any monistic theory must treat the top level as fundamental. Thus, the possibility of a junky world, in which there is no top level, seems to pose a particularly serious problem to those with a monistic view.

Nevertheless, we may reasonably separate monism *per se* from holism by questioning the tailing constraint, especially its “no gaps” aspect. Consider a traditional conception of God, according to which His existence is eternal. Granted that eternal existence is a form of temporal existence, God thus considered is classified into the category of *concreta*. The debate over the fundamental cardinality of the concrete cosmos should thus not preclude the following position:

Theism There is exactly one fundamental object, and it is God.

As God does not, mereologically speaking, cover the cosmos, admitting this thesis as representing a genuine metaphysical position causes us to reject the tailing constraint.

Thus, theism enables those with a monistic view to account for the possibility of a junky world, insofar as they are willing to assert the existence of God. But let us suppose, for the sake of argument, that theism had been dismissed on some independent grounds. Even then, we can consider the JA as innocuous to a certain type of monistic theory. Consider the following two different types of holism:

W-Holism The whole universe, i.e., the *mereological sum* of all actual concrete objects, is fundamental in the sense that only this *sum* instantiates a certain perfectly natural and *singular* property.

P-Holism The *plurality* comprising all and only actual concrete objects is fundamental in the sense that only these objects *taken together* instantiate a certain perfectly natural and *plural, collective* property.²²

Given this distinction, we can straightforwardly discriminate between the following two types of monism:

²² Cf. [Bohn \(2012\)](#).

W-Monism There is exactly one fundamental object, and W-Holism is true.

P-Monism There is exactly one fundamental *plurality of objects*, and P-Holism is true.

Note that W-monism, which is tantamount to monism as defined at the outset, is false in any junky world, but P-monism is consistent with the world being junky insofar as *unrestricted quantification* over the concrete objects existing in this world is available, which ensures a reference to the plurality of objects that collectively cover the cosmos. No maximal sum of objects exists in a junky world, but *one* plurality of objects, i.e., the totality of *concreta*, may well exclusively instantiate a certain basic and plural, collective property. Although P-monism may be regarded as significantly “less monistic” compared to W-monism because it does not commit us to the existence of a genuine “One,” it is still monistic in that it commits us to *one, single, genuinely all-inclusive totality*. Insofar as P-monism represents a consistent and intelligible way of ascribing priority and fundamentality to objects in such a way that satisfies (the plural variant of) the tiling constraint, it enables those with a monistic view to account for the possibility of a junky world without abandoning any substantive assumptions about the nature of metaphysical priority.²³

These considerations reveal that monism *per se* can be considered consistent with nonholism in a twofold sense and that the JA, at best, poses a serious problem only to a particular form of monism (W-monism). In the rest of this section, I will further pursue the prospects of monism by defending W-monism against the JA.

²³ If *Composition as Identity*—the thesis that a mereological whole is identical to its parts taken together—is true, the distinction between W-holism and P-holism vanishes, and with it the distinction between W-monism and P-monism. This fact, however, poses no issue to those with a monistic view who argue against the JA, as the point of the counterargument here is that the truth of P-monism, which is one of the two apparently different positions in question, is consistent with the world being junky.

4.4.3 Priority-Based Interpretation of the Possibility of a Junky World

The most distinctive and crucial claim in the JA is that a junky world is possible; what makes this claim crucial is the fact that a possible world w being junky entails the nonexistence of the maximal sum of objects in w , which contradicts the truth of W-monism in w . Exactly what, however, is meant by the claim that *there possibly exists no maximal sum of objects*? In particular, exactly how are proponents of PVs to understand this claim? To answer this question, we must look to the priority-based conceptions of existence and of the task of metaphysics.

PVs are not simply first-order metaphysical positions; rather, they have metametaphysical implications. Schaffer (2009) calls the metametaphysical position that incorporates the notion of priority at its core *neo-Aristotelianism* and characterises it as involving the following two ideas:

- (i) *The centrality of priority and grounding*: Properly metaphysical investigation concerns what is prior to what or grounding relations among entities.
- (ii) *Permissivism on existence*: Existence questions can be trivially answered affirmatively.

The first idea represents a conception of the task of metaphysics that contrasts with the orthodox Quinean conception. Quine (1948) said that metaphysics addresses the question of “What is there?”. This quite familiar formulation is deeply ill-conceived, according to Schaffer. He claims that a closer look at metaphysical debates reveals that the questions addressed concern not *whether* certain kinds of entities exist, but rather *how* they do; the existence of the entities in question is simply presupposed. For example, the debates between realism and constructivism about numbers, between realism and nominalism about universals, and between dualism and materialism about the mind concern whether numbers are mind-independent, whether universals are derivative from particulars, and whether the mind is based in matter, respectively. In general,

properly metaphysical investigation disputes whether certain kinds of entities, whose existence is assumed, are grounded on other kinds of entities or are fundamental.²⁴

In itself, the idea that metaphysics is centred on grounding and fundamentality provides no insight into addressing existence questions of the form “Are there *F*s?”. It is the second idea of neo-Aristotelianism that concerns this point. According to Schaffer, Quinean existence questions are “trivial, in that the entities in question obviously do exist.”²⁵ For example, the existence of numbers is trivially proved by such an inference as follows:

(15) There are prime numbers.

(16) Therefore, there are numbers.

Similarly, the existence of properties and of mereological composites can be trivially inferred from truisms such as “There are properties that you and I share” and “My body has proper parts (e.g., my hands),” respectively.²⁶ In general, the existence questions upon which Quinean metaphysics is centred can be answered with “a dismissive *yes, of course.*”²⁷

It must be noted that, although these two ideas have their own vindications and are mutually separable in principle, they become more powerful when supplementing each other. Once the principal focus of metaphysical investigation has shifted to grounding relationships among entities, and especially to establishing what is fundamental, existence questions can plausibly be deflated and trivialized: “there is no longer any harm

²⁴ Schaffer (2009), pp. 362–365. In a similar vein, Fine (2009) says: “[T]he intended import of the various realist/anti-realist positions will rest upon adopting a realist stand in the usual sense, i.e. upon supposing that there are *F*. . . . The realist and anti-realist about natural numbers, for example, will most likely take themselves to be disagreeing on the reality of natural numbers—0, 1, 2, . . . ; and this would not be possible unless each of them supposed that there were the numbers 0, 1, 2, Thus, far from being at odds with the anti-realist position, realism—as it is usually understood—will be a common presupposition of the anti-realist and realist positions” (p. 169).

²⁵ Schaffer (2009), p. 357.

²⁶ Schaffer (2009), pp. 356–362. In the same vein, Fine (2009) writes: “[T]he answer to . . . quantificational questions [about numbers and chairs] *are* trivial. Thus given the evident fact that there is a prime number greater than 2, it trivially follows that there is a number (an *x* such that *x* is a number); and, similarly, given the event fact that I am sitting on a chair, it trivially follows that there is a chair (an *x* such that *x* is a chair)” (p. 158, emphasis in the original).

²⁷ Schaffer (2009), p. 352.

in positing an abundant roster of existents, *provided it is grounded on a sparse basis.*"²⁸ The focus on fundamentality yields a neo-Aristotelian reinterpretation of Occam's razor, which "should only be understood to concern substances: *do not multiply basic entities without necessity.* There is no problem with the multiplication of derivative entities—they are an 'ontological free lunch'."²⁹ This reinterpretation enables one to take ordinary and scientific truisms at face value and to accept, without any hesitation, trivial arguments for the existence of any debatable kinds of entities such as those described above. However, once the triviality of Quinean existence questions emerges, we are forced—insofar as concerns serious metaphysics—to "maintain some kind of distance between our ordinary commitment to objects of a certain kind and a distinctively ontological commitment," in Fine's words.³⁰ The shift of focus to grounding and fundamentality can then be employed as a plausible means for "playing up the content of the ontological commitment."³¹ Thus, the first serious stance and the second dismissive one are intertwined and complementary to each other in their justification.

From the neo-Aristotelian viewpoint thus characterized, a number of metaphysical issues permit two different interpretations and treatments depending on exactly how the central question of the issue is construed. Consider, for example, the dispute over the ontological status of concrete objects. If the central question of the issue concerns the *existence* of objects and is formulated as "Do objects exist?", the dispute will be considered trivial and answered with a dismissive "yes." In contrast, if the central question concerns the *fundamentality* of objects and is formulated as "Are objects fundamental?" or "Do objects *really* exist?", the dispute will be regarded as controversial: objects may be argued to constitute a fundamental category of being or to be dependent on properties and reducible to bundles of compresent properties. The same principle applies to the so-called *special composition question* (SCQ): "Under what conditions do some objects compose a further object?". If the central question

²⁸ Schaffer (2009), p. 353, emphasis in the original.

²⁹ Schaffer (2009), p. 361, emphasis in the original. For a further discussion and defense of this formulation of Occam's razor, see Schaffer (forthcoming).

³⁰ Fine (2009), p. 159.

³¹ Fine (2009), p. 162.

of the issue concerns the *existence* of composite wholes and is formulated as “Under what condition does a whole composed of some proper parts exist?”, the SCQ will be considered trivial and answered dismissively in favour of *universalism*, according to which, necessarily, whenever there are some entities, there exists something composed of them. In contrast, if the central question concerns the *fundamentality* of composite wholes and is formulated as “Under what condition does a whole composed of some proper parts qualify as fundamental?” or “When does composition *really* occur?”, the SCQ will be regarded as controversial: a whole composed of some entities may be argued to be fundamental only if the activities of these entities constitute a life,³² or it may be argued that composition never occurs in reality.

Returning to the statement “there possibly exists no maximal sum of objects,” we must first note that the claim permits two different priority-based readings. In the first reading, the statement concerns the mere *existence* of the maximal sum, claiming that it possibly does not exist *simpliciter*. In the second reading, the statement concerns the *fundamentality* of the maximal sum, claiming that it possibly does not *really* exist. The former claim should be understood in the context of the SCQ as interpreted as centering on the existence of composite wholes, providing an example of possibly nonexistent wholes. As such, the claim should be rejected from the viewpoint of neo-Aristotelianism as contrary to the spirit of permissivism on existence. In contrast, the latter claim should be understood in the context of the SCQ as interpreted as centering on the fundamentality of composite wholes, providing an example of possibly nonfundamental wholes. As such, the statement should be treated from the viewpoint of neo-Aristotelianism as a controversial claim open to serious metaphysical examination.

The proponents of PVs, based on the doctrines of neo-Aristotelianism, can therefore counter the JA by placing it on the horns of a dilemma: the argument must specify (10), the claim that a junky world is possible, as implying either that the maximal sum possibly does not *really* exist or that it possibly does not exist *simpliciter*. The former

³² Cf. van Inwagen (1990).

horn cannot be pursued because the claim thus specified is tantamount to the claim that monism is possibly false, which would render the use of (10) as a premise to argue that monism is not necessarily true impossible without begging the question. However, the latter horn is also untenable because the claim thus specified, although it does not beg the question, is unacceptable to proponents of PVs once they have advocated the neo-Aristotelian permissive stance on existence. Supporters of the JA may object that they do not accept the distinction between existence *simpliciter* and existence *in reality*, but this rejection requires independent grounding. Furthermore, this objection is illegitimate to those building the JA and GA into an argument against PVs; their overall argument aims to establish that precisely this distinction is untenable, and hence they cannot resort to the untenability of the distinction as a premise without begging the question.

It must be noted that although PVs as such may be considered independent of the doctrines of neo-Aristotelianism, it is quite natural for proponents of PVs to endorse this metametaphysical position, given the intuitive connection between the notion of priority and the neo-Aristotelian, priority-based conception of existence. Furthermore, insofar as this position provides them with a way to achieve a certain theoretical goal—to counter the JA—the proponents of PVs are eager to build upon it.

Chapter 5

In Defense of Truthmaker Theory

In this chapter, I elucidate and defend truthmaker theory on the basis of the notions of metaphysical explanation and grounding. The first half of this chapter (§§5.1–5.3) gives a precise characterization of the methodological role that truthmaker theory can play in ontological investigations. Then, the second half (§§5.4) conducts a defense of truthmaker theory from the threat of the problem of negative truths.¹

5.1 A Realistic Conception of Truth and the Truthmaker Principle

It is a widespread view among realist philosophers that *propositions are true in virtue of something in the world*, or that *truth depends on reality*. On the basis of this intuitive idea, which I call realistic intuition, truthmaker theory formulates the so-called *truthmaker principle*:

(TMP) For any true proposition belonging to a certain class C , there exists an entity that makes that proposition true (i.e., a *truthmaker*).

¹ This chapter is based on [Kitamura \(2014a\)](#) and [Kitamura \(forthcoming\)](#).

We have different versions of the truthmaker principle depending on how the class C is confined, and we have different versions of truthmaker theory depending on which version of the truthmaker principle is adopted. For example, if we let C contain all true propositions, we have *Maximalism*, which endorses an unrestricted version of the truthmaker principle.² Although there has been a great deal of controversy over whether Maximalism is true and how class C is confined if Maximalism is false, these issues are not addressed in this chapter; the aim of this chapter is to appreciate the theoretical significance (if any) of the notion of truthmakers itself, and this issue can be settled irrespective of what range of truths prove to have truthmakers.

How the relation of truthmaking can be characterized is also a matter of some controversy, but it suffices here to assume that truthmaking entails necessitation: if x is a truthmaker for $\langle P \rangle$, then as a matter of metaphysical necessity, $\langle P \rangle$ is true if x exists. This widely held assumption stems from the fact that truthmakers are introduced to serve as the foundation of truth; for an entity to found the truth of a proposition, the existence of that entity must be incompatible with the falsity of the proposition.

Some philosophers has criticized TMP by pointing out that there is a deep gulf between this alleged principle and the realistic intuition on which it rests.³ This gulf consists in the fact that TMP posits entities that *wholly correspond to true propositions*. Even if the intuition on which TMP rests, which concerns the asymmetric dependence of truth on reality, is admitted, it does not follow from this dependence that, for each true proposition, an entity exists that wholly corresponds to the proposition with a propositional structure. The asymmetric dependence in question can be adequately accounted for without appealing to such propositionally structured entities.

To understand this claim, let us consider an example. Suppose that \langle The chair is red \rangle is true. According to TMP, an entity exists that makes this proposition true, e.g., the state of affairs of the chair's being true. However, according to the criticism that

² The prominent defender of Maximalism is [Armstrong \(2004\)](#).

³ For such criticisms, see [Dodd \(2007\)](#), [Hornsby \(2005\)](#), and [Liggins \(2008\)](#), for example.

is described above, we have no need to postulate such an entity because the truth of the proposition can be accounted for in such a way that invokes a feature of reality that founds the truth, by stating simply that “⟨the chair is red⟩ because the chair is red (or because the chair exemplifies the property of redness).” Thus, the critics claim, to think that an entity with a propositional structure that wholly corresponds to the proposition in question must exist is an unnecessary multiplication of being and a illegitimate metaphysical leap from the realistic intuition.⁴

5.2 Grounds of Truth and Truthmakers

5.2.1 “Truthmaking without Truthmakers”

The above criticism is convincing as far as it goes, but the real issue to consider is whether we can, based on this criticism, deny the legitimacy and usefulness of the notion of truthmakers itself. According to proponents of the doctrine of “truthmaking without truthmakers” (TWT),⁵ the above criticism suggests that, on the basis of the realistic intuition, we should formulate the following principle rather than TMP:

(GT) ⟨ ϕ ⟩ is true because ϕ . (“ ϕ ” is a true declarative sentence.)

This schema of explanation is a generalization of the claims that are implicit in the above criticism, namely that ⟨The chair is red⟩ is true simply because the chair is red, and that this simple explanation is sufficient as an explanation of truth that conforms to the intuition about the dependence of truth on reality. Proponents of TWT claim that (GT) enables us to respect the realistic intuition and that the notion of truthmakers as

⁴ This metaphysical leap is often ascribed to the following two factors: first, a nominalized sentence seems to designate an entity that wholly corresponds to the proposition that the sentence expresses (when we say, for example, that the truth of ⟨This chair is red⟩ is explained by the chair’s being red); second, the expression “make true” seems to designate the relation that connects a proposition and an entity that wholly corresponds to it (when we say, for example, that something exists that makes ⟨This chair is red⟩ true). Nominalized sentences do not have to be seen as designating any entity, and sentences in which something is seen to “make true” can be translated into sentences in the form “ ϕ because ψ .”

⁵ See references in note 3.

entities that wholly correspond to true propositions has no part to play in the context of a metaphysical explanation of truth.

An important point to notice here is that (GT) trivializes a metaphysical explanation of truth. According to (GT), we can automatically derive an explanation of truth for every true proposition. This schema of explanation, as the most straightforward formulation of the intuition about the dependence of truth on reality, involves nothing substantial that is worth calling a metaphysical principle. As such, (GT) cannot play any important role in ontological investigations. In this way, TWT deflates the idea of entities founding truth, which truthmaker theory fleshes out using the notion of truthmakers; as a result, (GT) only deprives the notion of its theoretical significance.

5.2.2 The Notion of Truthmakers Generalized

The main claims of TWT can be summarized as follows:

- (1) It does not follow from the realistic intuition that, for each true proposition, an entity exists that wholly corresponds to the proposition.
- (2) We can derive the theoretical formulation of the realistic intuition by assuming a trivial schema of explanation for the truth of propositions.
- (3) The notion of truthmakers has no significance in the context of a metaphysical explanation of truth.

As noted above, claim (1) is convincing as such. However, it also proves that there is a deep gulf between (1) and (2), and that the apparent plausibility of (3) is the result of overlooking this gulf.

The first key to understanding the fallacy of TWT is to reconsider the connection between the realistic intuition and TMP and to appreciate their closeness. As noted above, TMP is formulated on the basis of the intuition about the dependence of truth on reality. Claim (1) points out the gulf between the alleged principle and the intuition

on which it rests, but it is worth reconsidering how deep this gulf is. Although TMP posits entities the existence of which does not follow from the realistic intuition, we must notice that the alleged principle does not fail completely in formulating the intuition. The reason for this claim is that, even if an explanation of truth does not require us to invoke entities that wholly correspond to true propositions, it requires us to invoke entities of some kind or other. Indeed, this is implicitly admitted by proponents of TWT; when they reject the application of TMP to the truth of ⟨The chair is red⟩ and instead give the simple explanation, “that is because the chair is red,” they admit that their explanation invokes a particular entity, namely the chair. Of course, the existence of the chair does not ensure the truth of the proposition in question; the proposition’s truth requires the chair to be actually red. Nevertheless, the chair itself is an item that is needed in our ontology to explain the truth.⁶ Let us call an entity or entities that need to be (ultimately) invoked in an explanation of the truth of a proposition the *ontological ground(s)* for the truth. Although TMP is open to the criticism of assuming that only propositional entities can play the role of ontological grounds, it correctly assumes that some entity or entities are required for a metaphysical explanation of truth. In short, we should think that the core of the realistic intuition that TMP aims to flesh out concerns the general fact that the truth of propositions has ontological grounds, rather than the view that it is founded upon the existence of entities that wholly correspond to propositions.

The second key to understanding the fallacy of TWT is to understand the relationship between ontological grounds in this sense and the “truthmakers” that TMP requires to exist: the latter should be viewed as a specific case of the former. Although the postulation of entities that wholly correspond to propositions cannot be seen as a direct consequence of the realistic intuition, these entities can be admitted into ontology if the advantage of their postulation can be shown by some independent consideration. Note that adopting (GT) instead of TMP requires independent consideration;

⁶ Even if an object of predication is reducible to a bundle of tropes, the tropes themselves are items in ontology. Note also that if realism about properties is true, the property of redness, in addition to the chair, is a necessary ontological item for explaining the truth in question.

while to posit entities that wholly correspond to propositions inflates the ontology of our metaphysical theory, to invoke only objects of predication (and properties) as the ontological grounds for predicational truths inflates ideology (a set of conceptual primitives employed by a theory) by letting the exemplification of properties become a fundamental fact. Any form of explanation of truth, irrespective of what kinds of entities it invokes, carries a distinctive type of theoretical commitment, and we cannot therefore privilege a particular form of explanation by comparing only one type of commitment. In short, TMP and (GT) are on equal footing as explanations of truth, at least as long as no other considerations are taken into account.

Thus, we can see that TMP has two aspects. One states that we need to invoke some entity or entities to explain the truth of a proposition. The other claims that we can explain the truth of a proposition by positing an entity that wholly corresponds to the proposition—that is, by appealing only to a fact of existence. As noted above, the second needs an independent reason for its justification, whereas the first can be admitted as a consequence from the realistic intuition, even if the criticism in §1 is taken into account. The notion of truthmakers can be preserved as a notion of ontological grounds, presented in the first aspect—as a general notion, of which one specific case is “truthmakers” in the sense that is relevant to the second aspect.

Bearing in mind the distinction between these two aspects, we can reveal the fallacy of TWT. The proponents of TWT claims that TMP does not follow from realistic intuition and that we should adopt (GT) rather than TMP. However, we cannot accept this for two reasons. First, (GT) overlooks the aspect of TMP that states that the truth of propositions has ontological ground: this can be admitted even if we accept that TWP does not follow from realistic intuition. This defect of (GT) becomes clearer when we consider propositions about entities that are reducible to other entities. Suppose, for example, that macroscopic and ordinary objects such as chairs and cats are reducible to the particles that compose them. In this case, the ontological ground for ⟨This chair is made of woods⟩ is not the chair itself but the particles that compose the chair. It is clear in this situation how (GT) is inappropriate as a formulation of the realistic

intuition: the explanation of the form “⟨This chair is made of woods⟩ is true because this chair is made of wood” cannot even implicitly reflect the fact that we need to invoke ontological grounds to explain the truth of propositions. This is because such a trivial form of explanation not only blurs this fact by being provided without any consideration about the content of the proposition in question, but also hides the possibility that certain entities other than those designated by an expression in the *explanans* can be the ontological grounds for the proposition.

Second, the proponent of TWT endorses (GT) only by appealing to the fact that it does not postulate entities that TMP postulates, but (GT) must be seen as competing with TMP in representing *an* answer to the question of the ontological grounds of truth. Although (GT) represents a possible form of explanation of truth, it is only one candidate for the correct specification of how the truth of propositions are ontologically grounded. Thus, by generalizing the notion of truthmakers and recasting it as the notion of ontological grounds, which yields a reinterpretation of TMP and (GT), the conclusion of the argument by TWT can be rejected.

5.3 Truthmaker Theory as Fundamental Ontology

From the examination of the criticism of truthmaker theory, it has been shown that the so-called truthmaker principle has one aspect that should be rejected and another that can be accepted. On the one hand, the idea of postulating entities that wholly correspond to propositions in explaining truth—that is, the idea of claiming that every truth can be explained *solely* by some fact of existence—cannot be admitted as a principle following from realistic intuition. On the other hand, the aspect of stating that we need to invoke an entity or entities to explain a truth—that is, the aspect of claiming that every truth must be explained *at least partially* by some fact of existence—can be accepted as a principle based on realistic intuition. Taking this insight into account, we should reformulate the principle of truthmaker theory in terms of a plural quantification in the following way:

(TMP*) For any true proposition belonging to a certain class C , there exist xx that make it true.

Note that this reformulated principle, with the help of a plural quantification, accommodates the possibility of a plurality of objects collectively grounding the truth of a proposition. As such, TMP* is more modest than TMP.⁷ The proponents of TMP might find this possibility odd. However, as made clear in the previous section, the idea of a singular entity grounding the truth of a proposition by wholly corresponding to the proposition should be seen as a specific case of the ontological grounding of truth.

Moreover, we must also notice that the relation of truthmaking must be re-characterized on the basis of this reformulation. Recall the assumption made in §1: if x is a truthmaker for $\langle P \rangle$, then as a matter of metaphysical necessity, $\langle P \rangle$ is true if x exists. This assumption stems from the idea that a truthmaker for $\langle P \rangle$ must be such that its existence is incompatible with the falsity of P , but the above reformulation (TMP*) forces this assumption to be revised. Suppose, for example, that the ontological grounds for the truth of $\langle \text{This chair is red} \rangle$ are the chair and the property of redness. The existence of these entities is not in itself sufficient to the truth of the proposition. The assumption in question, therefore, must be revised in the following way:

(Necessitation) xx make P true $\Rightarrow \Box(xx \text{ exist} \wedge \phi(xx) \rightarrow P \text{ is true})$

That is to say, a truthmaker for $\langle P \rangle$ must be such that its existence is incompatible with the falsity of P *under some appropriate condition*. In the case of the above example, the appropriate condition would be that the chair exemplifies the property of redness. Note that, although the truth of $\langle \text{This chair is red} \rangle$ requires the chair and the property of redness to be tied together by the relation of exemplification, the explanatory resource in ontology that is required to explain the proposition is exhausted by these two entities.

⁷ Although TMP* is more modest than TMP, it is of metaphysical substance founded upon realistic intuition, and we can use it to argue against certain metaphysical theses. If, for example, TMP* is applied to propositions about the past or the future, we can object that presentism cannot provide truthmakers for these propositions. Therefore, even when TMP* is adopted as the truthmaker principle, whether Maximalism is true remains a matter of controversy.

According to TMP*, for any true proposition (belonging to a certain class) P , we need to invoke some entity or entities to explain the truth of P . The question of what (kind of) entity actually needs to be invoked must be settled by a specific metaphysical investigation corresponding to each (kind of) proposition. Such specific investigation may prove that the explanation of predicational truths requires us to invoke entities that wholly correspond to these propositions, such as states of affairs; alternatively, it may prove that we should employ the notion of exemplification as primitive, rather than posit propositionally-structured entities. It may also prove that truths about macroscopic and ordinary entities such as chairs and cats are explained by truths about the particles composing them—the former are reducible to microscopic and theoretical entities. In any event, the entities admitted into ontology by examining these specific and substantive metaphysical claims would be entities that are ultimately needed to metaphysically explain various phenomena in the world. As such, they are fundamental entities, in the sense that they are involved in the description of the fundamental features of the world—that is, in truths that explain other truths but are not explained. Thus, to develop a truthmaker theory, by determining the scope of the application of TMP* and systematically specifying truthmakers to each (kind of) proposition, is itself to identify fundamental entities.

Thus, we can defend the utility of the notion of truthmakers against TWT by generalizing this notion. In the rest of this thesis, I will concentrate on the ungeneralized notion of “truthmakers,” with the view to defending the theory about it against several other criticisms. However, we must keep in mind that the significance of the traditionally understood notion of “truthmakers” can only be appreciated by viewing it against the background of the generalization proposed in this chapter.

5.4 The Possibility of Truthmaker Non-Maximalism

5.4.1 The Problem of Negative Truths: The First Stage

Although there has been much work on the nature of truthmaking and its theoretical use, but the problem of negative (existential) truths remains unresolved: what makes true statements that say how things are not? What is distinctive of this problem is that it appears to threaten the very prospects of truthmaker theory in its entirety. According to some philosophers, the theory must be rejected since (1) if it is true at all, then all truths, including negative truths, have truthmakers, but (2) there are no truthmakers for negative truths.⁸

The main ground for the denial of the existence of truthmakers for negative truths is that to assign truthmakers to these truths commits us to some peculiar and metaphysically dubious entity or entities, such as *negative states of affairs* and *absences*, which seem to result from the *reification of negativity*. Various attempts to providing truthmakers for negative truths have been argued to be all unsatisfactory from an intuitive or theoretical point of view.⁹ The claim of the necessity of Maximalism—the view that all (contingent or non-analytic) truths have truthmakers—is based on the fact that the intuition motivating truthmaker theory concerns (contingent or non-analytic) *truth in general*.¹⁰ Notice that the core claim of truthmaker theory, namely (TMP), rests on the sweeping idea that truth depends on reality. If, the opponents argue, truthmaker theory embodies this intuition in terms of the very notion of truthmakers indicated by (TMP), truthmaker theorists cannot justify any form of Non-Maximalism, as such a restriction would be utterly arbitrary in consideration of the general applicability of the intuition regarding the dependence of truth on reality.

⁸ See, especially, [Dodd \(2007\)](#).

⁹ For an extensive discussion of why the alleged truthmakers for negative truths that have been proposed in the literature are all untenable, see [Dodd \(2007\)](#), pp. 386–393.

¹⁰ See [Dodd \(2007\)](#), pp. 393–394.

In the rest of this chapter, I argue against (1). I consider the relation between truthmaking and grounding, and argue that truthmaker theorists need not necessarily embrace Maximalism because, *pace* some opponents of the theory, the intuition of the dependence of truth on reality that is supposed to motivate truthmaker theory is independent of the truth of both Maximalism and Non-Maximalism. This discussion enables me to reassess how negative truths matter to truthmaker theory and to emphasize the significance of providing ontological grounding for negative truths.

Throughout the following discussion, I assume *Truthmaker Necessitarianism*, a common assumption that truthmaking entails necessitation: if X is a truthmaker for $\langle P \rangle$, then as a matter of metaphysical necessity, $\langle P \rangle$ is true if X exists.

5.4.2 Truth-Functions and the Logical Validity—Criticizing Akiba’s Argument against Maximalism

I begin by examining and rejecting a recent attempt to argue against (1). [Akiba \(2011\)](#) argues against (1) by claiming that *Maximalism must be rejected* and hence that, quite contrary to opponents’ claims, *truthmaker theorists must be non-maximalists*. According to him, Maximalism has difficulty in accommodating a standard understanding of truth-functions: “if we accept Maximalism, we become unable to affirm the logical validity that we should think certain inferences containing some logical constant have.”¹¹

Before examining this claim in detail, notice that it is an *indirect* argument against (1). As opponents derive (1) from the claim that *Non-Maximalism must be rejected*, the most straightforward and direct argument against (1) would consist of pointing out that Non-Maximalism is a viable position; this is sufficient to reject (1). However, Akiba argues for the stronger thesis that Non-Maximalism is not only viable but it is the only option for truthmaker theorists, claiming that the other position is unavailable.

¹¹ [Akiba \(2011\)](#), p. 125, my translation.

Although Akiba focuses his attention on the necessity of Non-Maximalism rather than its possibility, he also makes, at the end of his paper, a brief remark on how we can embrace Non-Maximalism consistently in the first place, by way of a reply to the objection that Non-Maximalism must be rejected.¹² His response consists of claiming that to give a theoretical formulation in terms of the notion of truthmakers to the intuition concerning the dependence of truth on reality does not, contrary to the objection, forces us to embrace Maximalism. According to him, truthmaker theorists can embody the intuition concerning the dependence in question not by the notion of *having a truthmaker*, but by the notion of “*having an explanation that can be more or less directly traced back to the existence of some truthmaker(s)*.”¹³ For example, he believes, truthmaker theorists can maintain that a true proposition, $\langle P \vee Q \rangle$, depends for its truth on reality *not* in the sense that this proposition has a truthmaker, but in the sense that its truth can be ultimately explained *on the basis of the atomic truths composing $\langle P \vee Q \rangle$ that have truthmakers*. To admit that the dependence of truth on reality may be indirect in this way does not, he argues, deprive the substance of the intuition concerning the dependence of truth on reality, as indirect dependence in question is still dependence on reality.

Thus, by discriminating direct dependence and indirect dependence, Akiba suggests that truthmaker theorists can restrict the truthmaker principle to atomic truths while respecting the general applicability of intuition concerning the dependence of truth on reality on which they base the truthmaker principle. Such a suggestion, however, has obvious problems concerning a specific class of complex truths, namely *negative* truths. Notice that negative truths differ from true conjunctions and disjunctions in that *no entities correspond to the components of negative truths* because these components are *false*. This situation makes it impossible to explain the truth of $\langle \neg P \rangle$ on the basis of the existence of the truthmaker for $\langle P \rangle$, because none exist. Akiba might object that truthmaker theorists can invoke not only the *existence* of the truthmakers for the components of a complex proposition, but also the *nonexistence* of such entities. This

¹² Akiba (2011), pp. 129–131.

¹³ Akiba (2011), p. 130.

move, however, is illegitimate: he cannot maintain that the truth of $\langle \neg P \rangle$ is ultimately explained by the nonexistence of the truthmaker for $\langle P \rangle$, because its nonexistence is itself another negative proposition, namely that there are no truthmakers for $\langle P \rangle$, and as such, it requires further explanation in the same way as $\langle \neg P \rangle$ does. Thus, the invocation of nonexistence leads to an unending chain of explanation.¹⁴

Akiba's response to the claim that Non-Maximalism must be rejected is, therefore, unsuccessful. To make matters worse, I claim, Akiba's main contention that Maximalism has difficulty in accommodating a standard understanding of truth-functions is not correct either. Akiba considers the following two (schemata of) inferences containing a logical constant:

(C) $\langle P \rangle$ is true and $\langle Q \rangle$ is true \Rightarrow $\langle P \wedge Q \rangle$ is true.

(N) $\langle P \rangle$ is not true \Rightarrow $\langle \neg P \rangle$ is true.

As Akiba states, our understating of conjunction and negation as truth-functions partly consists in the affirmation of *the logical validity* of (C) and (N). In other words, “when the antecedent of (C)[/(N)] obtains, the obtainment of its consequent is *unconditionally* ensured *irrespective of how the world actually is in other respects*.”¹⁵ However, according to Akiba, Maximalism makes us unable to affirm that (C) and (N) are valid in this sense—therefore, Maximalism must be rejected. Let us examine, in turn, how maximalists have to understand (C) and (N).

Given Maximalism, the antecedent and the consequent of (C) consist in (C₁) and (C₂) below, respectively:

(C₁) There exists an entity e_1 such that e_1 makes $\langle P \rangle$ true, *and* there exists an entity e_2 such that e_2 makes $\langle Q \rangle$ true.

(C₂) There exists an entity e such that e makes $\langle P \wedge Q \rangle$ true.

¹⁴ I am grateful to Ikuro Suzuki for a helpful discussion on this point.

¹⁵ Akiba (2011), p. 124, emphasis in original, my translation.

Maximalism, therefore, entails that the validity of (C) depends on that of “ $(C_1) \Rightarrow (C_2)$.” However, according to Akiba, “letting the validity of (C) depend on such a principle amounts to abandoning the idea that (C) is a *logically valid* inference,”¹⁶ because “ $(C_1) \Rightarrow (C_2)$ ” is a substantive metaphysical thesis about what exists, and hence the obtainment of its consequent is not *unconditionally* ensured when its antecedent obtains, unlike in the case of (C).

Similarly, given Maximalism, the antecedent and the consequent of (N) consist in (N_1) and (N_2) below, respectively:

(N_1) For any entity e , it is not the case that e makes $\langle P \rangle$ true.

(N_2) There exists an entity e such that e makes $\langle \neg P \rangle$ true.

Maximalism, therefore, entails that the validity of (N) depends on that of “ $(N_1) \Rightarrow (N_2)$.” However, Akiba claims that this conditional is, again, a substantive metaphysical thesis about what exists—hence, Maximalism has to reject the logical validity of (N).

I claim that maximalists can counter both of these arguments. As for the case of conjunction, they can simply revise the truthmaker principle in terms of *plural quantification* (with a suitable revision of Truthmaker Necessitarianism) as follows:

(TMP^*) For any true proposition, there is a plurality of entities that collectively make it true.¹⁷

Given (TMP^*) in addition to Maximalism, the antecedent and the consequent of (C) consist in (C_1^*) and (C_2^*) below respectively:

(C_1^*) There exists a plurality of entities that collectively make $\langle P \rangle$ true, *and* there exists a plurality of entities that collectively make $\langle Q \rangle$ true.

(C_2^*) There exists a plurality of entities that collectively make $\langle P \wedge Q \rangle$ true.

¹⁶ Akiba (2011), p. 125.

¹⁷ I will follow the standard convention of using “plurality” in a liberal sense, counting not only genuine pluralities but also single objects as pluralities.

With the help of the revision of (TMP), therefore, Maximalism entails that the validity of (C) depends on that of “ $(C_1^*) \Rightarrow (C_2^*)$.” Notice that this conditional does not represent any substantial metaphysical principle about what exists, because any *pair of pluralities of entities* one of which collectively make $\langle P \rangle$ true *and* the other of which collectively make $\langle Q \rangle$ true *unconditionally* constitutes a plurality of entities that collectively make $\langle P \wedge Q \rangle$ true. Indeed, Akiba concedes that this might be an available option.¹⁸ The only further disagreement would be whether the position resulting from revising (TMP) as above would still constitute Maximalism. I claim that the core idea in (TMP) is that *the truth values of propositions are determined by facts about existence*, and it is clearly inherited in (TMP*)—therefore, the revised formulation of the truthmaker principle does constitute Maximalism.

As for the case of negation, notice first that (N_1) is equivalent to the following statement:

(E) There is no entity e such that e makes $\langle P \rangle$ true.

As this is a negative truth, it follows from Maximalism that this truth consists in the following statement:

(N_3) There exists an entity e such that e makes $\langle E \rangle$ true.

Maximalism, therefore, entails that the validity of (N) depends on that of “ $(N_3) \Rightarrow (N_2)$.” The crucial point is that this inference is logically valid if any entity that makes $\langle E \rangle$ true also makes, *unconditionally*, $\langle \neg P \rangle$ true, which is plausibly the case. Any entity that makes $\langle \text{There is no entity that makes } \langle \text{There are unicorns} \rangle \text{ true} \rangle$ true, for example, would also make $\langle \text{There are no unicorns} \rangle$ true; unicorns would surely make $\langle \text{There are unicorns} \rangle$ true if existed, after all.

Thus, maximalists have no in-principle difficulty in affirming the logical validity of both (C) and (N).

¹⁸ Akiba (2011), p. 132, note 17.

5.4.3 The Motivations for Truthmaker Theory Reconsidered

Unlike Akiba, I do not claim that Maximalism has any intolerable defect. Instead I claim that the sweeping intuition concerning the dependence of truth on reality does not, as such, support Maximalism or Non-Maximalism because truthmaker theory does not in fact rest on this intuition in the way opponents suppose. In the rest of this section, I discuss how the notion of truthmaking is connected to the notion of grounding, and then reconsider exactly how the truthmaker principle “rests on” the general intuition in question.

5.4.3.1 Truthmaking, Grounding, and Fundamentality

As noted in §1, truthmakers are supposed to be entities *in virtue of* which true propositions are true: they *ground* the truth of propositions. This intuitive characterization of truthmakers does not specifically differentiate “truthmaking” and “grounding.” However, the former can in fact be defined in terms of the latter.

The first point to notice is that although both truthmaking and grounding have to do with *metaphysical priority*, the latter is the more general notion when compared to the former. Truthmaking concerns the priority of the existence of things over truth: the truth values of propositions are determined by what exists. In contrast, grounding concerns the priority relation among facts or (the contents of) true propositions: a certain fact (e.g., a neurophysiological fact) holds in virtue of certain other facts (e.g., mental facts). Thus, in each case of truthmaking, the *explanandum* is the *truth* of a true proposition, and the *explanans* is the *existence* of an entity, whereas grounding, as a relation among *facts in general*, semantic or non-semantic, existential or non-existential, does not exhibit such restrictions.

This leads us to consider the following definition, which some philosophers have proposed:

(Df₁) An entity e makes $\langle P \rangle$ true.

$\stackrel{\text{def}}{\iff}$ The fact that e exists grounds the fact that $\langle P \rangle$ is true.¹⁹

This definition certainly gives a fairly straightforward understanding of truthmaking: in this definition, the truthmaking relation can be simply reduced to the grounding relation between the existence of an entity and the truth of a proposition.

However, (D1) has a defect. Note that (D1) allows for any entity that grounds the truth of a proposition to qualify as a truthmaker, irrespective of the metaphysical status of the entity has. According to (D1), a chair, for example, qualifies as a truthmaker for $\langle \text{There is a chair} \rangle$ even if its existence is *not fundamental*, i.e., its existence is grounded in another fact. This lack of discrimination deprives the notion of truthmakers of its theoretical significance. For this notion serves as the measure of the ontological commitment of a theory/sentence: a theory/sentence commits to the entities that are *ultimately* required to explain its truth.²⁰ For example, “There is a chair” is not ontologically committed to a chair, but to the state of affairs of some aggregate of elementary particles being arranged chair-wise, if the existence of the former is *ultimately* explained by that of the latter.

Therefore, in order to keep the notion of truthmakers theoretically significant and metaphysically interesting, we should incorporate into it the notion of *fundamentality*. Taking this point into account, we can revise (D1) as follows:

(Df₂) An entity e makes $\langle P \rangle$ true.

$\stackrel{\text{def}}{\iff}$ The fact that e exists grounds the fact that $\langle P \rangle$ is true *and* the existence of e is not grounded in any fact.

That is, to claim that a proposition is made true by a certain entity is to claim that the existence of the entity grounds the truth of the proposition *and* that the former fact is fundamental.

¹⁹ See, for example, Correia (2005), §3.2.

²⁰ Cf. Cameron (2010).

5.4.3.2 The Theoretical Status of the Truthmaker Principle

This definition has an immediate implication regarding the theoretical status of the truthmaker principle. As noted above, this principle has been commonly associated with the intuition that *truth depends on reality*. The above definition, however, enables us to see that the principle cannot be taken as an uncontroversial consequence of this intuition, nor as its theoretical formulation or explication in terms of the notion of truthmakers. It should instead be understood as a fairly substantive and controversial metaphysical claim about *what the fundamental aspect of reality is like*. To claim that, for example, predicational truths of the form $\langle a \text{ is } F \rangle$ have truthmakers is to claim that every truth of this form is not ultimately explained by the fact that a is F , but by a fundamental existential fact (e.g., the existence of the state of affairs of a being F). This amounts to the claim that *property instantiation* is not a fundamental aspect of reality but a derivative one explained by or reduced to what exists. Similarly, to claim that propositions of the form $\langle \text{There are no } X\text{s} \rangle$ and of $\langle \text{There were } X\text{s} \rangle$ have truthmakers is to claim that *negation* and *tense* represent derivative aspects of reality explained by or reduced to what exists. Thus, the truthmaker principle, whether it is stated in the unrestricted form or in some restricted form, cannot in fact qualify as a “principle” that is pre-theoretically justified. Note that this does not force us to reject any claims of truthmaking from the outset. Rather, the question of which propositions have truthmakers (i.e., whether predication, negation, tense, and so on represent the fundamental aspect of reality) must be determined on a case-by-case basis through substantive metaphysical investigations.

Truthmaker theory, therefore, does not in fact rest on the intuition that truth depends on reality in the way its opponents suppose. Of course, truthmaker theorists do not deny this intuition, and some of them may actually take the truthmaker principle to be a theoretical formulation or explication of this intuition in terms of the notion of truthmaking. However, given that the notion of truthmaking should be understood as defined in (Df₂), the truthmaker principle cannot be thought of as such a formulation or explication. It is a substantive and controversial metaphysical claim that must be

argued for/against through investigations on the nature of fundamental reality, not just by cashing out any intuition in terms of any theoretical notion. In other words, the intuition concerning the dependence of truth on reality and the truthmaker principle are not related in such a way that the latter must inherit the general applicability to all truths from the former. Thus, the intuition in question—though truthmaker theorists have to accept it—does not, as such, support Maximalism or Non-Maximalism, and truthmaker theorists need not necessarily embrace the former.

5.4.4 Reassessing the Problem of Negative Truths

The discussion so far contributes to reassessing how negative truths matter to truthmaker theory and to appreciating the significance of providing ontological grounding for negative truths.

Opponents of truthmaker theory believe that the difficulties of providing truthmakers for negative truths undermines truthmaker theory. I have discussed why that is not true. Truthmaker theory does not have to be abandoned if we cannot provide truthmakers for negative truths, because truthmaker theorists need not necessarily embrace Maximalism—they may well advocate the view that negation represents a fundamental aspect of reality, unexplainable by existential facts. Thus, negative truths do not make any devastating problem for truthmaker theory. In short, there is no such thing as “the problem of negative truths” in the way that opponents think of it.

Negative truths, however, are still a problem worth taking seriously—or rather, they produce an explanatory project worth pursuing. If negation represents a fundamental aspect of reality, fundamental negative facts abound. Specifically, many negative existential facts such as ⟨There are no unicorns⟩ and ⟨There are no talking donkeys⟩ would be fundamental. By contrast, if negative facts have truthmakers and hence all these negative facts can be ultimately explained by existential facts, we can get a more simple and parsimonious theory about reality. In particular, if we can provide all negative truths with *one and the same* truthmaker, the great parsimony will be achieved—many

fundamental negative facts are ultimately explained by just one fundamental existential fact. Even a theory that assigns each negative fact a *sui generis* truthmaker, such as the absence of unicorns and the absence of talking donkeys, would be *qualitatively* parsimonious. We do not need negation to “write the book of the world,” after all.²¹

Thus, it is worth seeking a successful strategy for providing ontological grounding for negative truths. It is such an explanatory project that I will pursue in the rest of this thesis. Indeed, I defend a demanding view according to which all negative truths have one and the same truthmaker.

²¹ Cf. Sider (2011).

Chapter 6

The Groundedness of Negative Truths

6.1 The Problem of Negative Truths: The Second Stage

In this chapter, I deal with the second claim constituting the problem of negative truth, namely that there are no truthmakers for negative truths.¹ In the first half of this chapter (§6.2), I counter a general objection to some alleged truthmakers for negative truths that have been proposed in the literature. Then, in the second half (§6.3), I develop the proposal by [Cameron \(2008b\)](#) to argue that the world as a whole can play the role of the truthmaker for all negative truths. To vindicate this claim, I explain away the alleged inconsistency in Cameron’s account, and show how to accommodate, in a much more plausible way than Cameron’s account, *de re* modal claims about the world as a whole. My approach to the problem of negative truths will yield a novel understanding of how negative truths are grounded in reality—how “what is not” (*to mē eon*) can be apprehended on the basis of “what is” (*to eon*).²

¹ This chapter is based on [Kitamura \(2014b\)](#) and [Kitamura \(forthcoming\)](#).

² Cf. [Parmenides, *On Nature*](#), fr. 2.

Before entering these discussions, I briefly review how the alleged truthmakers for negative truths proposed in the literature has been viewed as untenable.³

Some philosophers have argued that the truthmaker for a negative proposition is the same as that for a positive proposition that is *incompatible* with the proposition negated by the negative proposition in question. This reasoning represents the so-called *Incompatibility Solution*.⁴ Suppose that ⟨This chair is blue⟩ is true. The truth of this proposition is incompatible with that of ⟨This chair is green⟩, and the truthmaker for ⟨This chair is *not* green⟩ may be identified with that for ⟨This chair is blue⟩ because it necessitates the truth of the negative proposition in question. This strategy is extremely unsatisfactory, however, for two reasons. First, the approach is not generally applicable, as shown by *negative existential truths* such as ⟨There are no unicorns⟩: the existence of a unicorn is apparently compatible with the existence of every actually existing entity. Second, the incompatibility between two given positive truths is itself a negative truth, namely that the truths are *not* compatible, and requires its own truthmaker.⁵

In light of these points, other theorists have posited entities that are tailor-made for the grounding of negative truths. Such attempts face serious problems, however, resulting from *the reification of negativity*: one must ontologically reify negativity in some way to obtain truthmakers for negative truths. The most straightforward way to assign truthmakers for negative truths is to postulate *negative facts* or *negative states of affairs*, such as “this chair is *not* green.”⁶ The questions that naturally arise from such postulation concern the metaphysical nature of these entities. What relationship can unify particulars and properties if not instantiation? What is the causal role (if any) of these entities? How can we perceive them? These questions are difficult to answer in an intuitively and theoretically satisfactory way. Another strategy is to postulate *negative properties*, such as that of *being not-green*, holding that the truthmakers for negative truths are provided by facts or states of affairs composed of particulars and

³ For a more extensive discussion of this issue, see [Dodd \(2007\)](#).

⁴ The original idea can be found in [Demos \(1917\)](#).

⁵ Cf. [Russell \(1918\)](#).

⁶ Cf. [Russell \(1918\)](#).

negative properties. However, this postulation would also raise questions concerning the metaphysical nature of these entities. The same applies for negative tropes such as a chair's *non-greenness*.

Still other theorists have insisted that negativity abounds in reality in a much simpler way through the existence of *absences* or *voids*.⁷ According to such philosophers, for example, the truthmaker for ⟨There are no unicorns⟩ is the absence of unicorns. However, such a postulation appears beset with difficulties no less serious than those of the postulation of negative states of affairs or negative properties. The questions that naturally arise from such postulation concern the metaphysical nature and the place in our experience of these entities. What relationship can unify particulars and properties if not instantiation? What is the causal role (if any) of these entities? How can we perceive them? It seems to be difficult to answer. These questions are difficult to answer in an intuitively and theoretically satisfactory way.

6.2 Is Any Alleged Truthmaker for Negatives Explanatorily Deficient?

The requirement of necessitation tends to burden the postulation of truthmakers with considerable ontological cost. To provide necessitating entities for contingent predicational truths (e.g., ⟨The chair is red⟩), typical truthmaker theorists postulate states of affairs, such as the chair's being red, or tropes (particularized properties), such as the chair's particular redness. If these entities are actually suitable for grounding predicational truths, the supposed ontological cost of positing them is worth paying.

In addition to these kinds of truthmakers, some theorists—especially truthmaker maximalists, who hold that every (contingent) true proposition has a truthmaker—posit far more “exotic” entities to provide ontological grounding for *negative* truths. [Armstrong \(2004\)](#), for example, postulates *totality states of affairs*: according to him,

⁷ See, for example, [Martin \(1996\)](#) and [Kukso \(2006\)](#).

the truthmaker for \langle This chair is not green \rangle is the state of affairs that a certain collection of states of affairs includes all the states of affairs involving the chair. To be precise, when a certain aggregate of entities contains all of the instances of a certain property, those entities are said to “total” that property. The world, according to Armstrong, is the biggest totality state that is formed by the aggregate of all existing states of affairs, which together total the property of *being a state of affairs*. This totality state, Armstrong believes, serves as the truthmaker for all negative truths; in particular, it makes true all negative existential truths, such as \langle There are no unicorns \rangle , by excluding the existence of nonactual entities.⁸

Griffith (2012) argues against some of these alleged truthmakers on the basis of an explanatory constraint that he believes must be imposed on any putative claims of truthmaking. According to Griffith, none of the alleged truthmakers for negatives proposed by Armstrong (2004), Cameron (2008b), or Schaffer (2010b) are sufficient to make true the propositions assigned to them, because they are assigned those propositions that represent *the conditions for their very existence*, thereby failing to *explain* these propositions. If this objection is correct, the cost of these truthmakers cannot be worth paying for an *in-principle reason* apart from their exotic nature.

In the following discussion, I argue against this objection by placing it on the horns of a dilemma: the argument must either specify that the existence condition in question is a conceptual matter or insist that the condition is of properly metaphysical substance. I first argue that the former horn cannot be pursued because it makes the objection irrelevant to the alleged claims of truthmaking. I then argue that the latter horn is also highly problematic because simply insisting on the claim begs the question; appreciating this point leads proponents and opponents of the alleged truthmakers to a substantial debate about the metaphysical nature of these entities and the overall theoretical benefit of their postulation. As Griffith’s reason for believing that the alleged truthmaker for negatives proposed by Armstrong must be rejected is essentially the same as those for rejecting the alleged truthmakers proposed by Cameron and

⁸ Armstrong (1997), pp. 197–201; Armstrong (2004), pp. 72–76.

Schaffer, I will concentrate on Armstrong's totality state; my reasoning can be easily generalized to the other two cases.⁹

6.2.1 Griffith's Argument against Some Alleged Truthmakers for Negatives

Let us see how Griffith's argument proceeds. The argument's first step is to point out that the totality state displays a kind of what Sider (2001) calls "border-sensitivity":¹⁰

...[The totality state] exhibit[s] a *counterfactual* border-sensitivity: [it] would not exist or [it] would not be what [it is] if there were to exist something outside of and distinct from [it]. Conversely, [it] exist[s] or what [it is] only if there is nothing outside of or distinct from [it] (p. 305, emphasis in original).

The second step, based on this distinctive feature of border-sensitivity, is to make an *explanatory* claim about the existence of the totality state. According to Griffith, the truth of ⟨There is nothing outside of or distinct from the totality state⟩ is not only a necessary condition for the existence of the totality state but is also partly *constitutive* of this entity:

[W]hat it is to be the actual totality state is for ... the actual first-order states of affairs ... to be *all* the states there are; ... [This way] of characterizing [the totality state is] really just [a] different [way] of saying that [the actual first-order states of affairs], and *nothing more*, [exist] (p. 305, emphasis in original).

⁹ Schaffer (2010b) rejects the standard assumption that truthmaking entails necessitation, but this difference between Schaffer and the others affects neither Griffith's general argument against the alleged truthmakers in question nor my counterargument against it.

¹⁰ The definition by Sider (2001) is as follows: "A property is border-sensitive iff whether it is instantiated by an object depends on what is going on, intrinsically, outside that object at its borders" (p. 358).

From this claim, Griffith believes, it follows that the totality state is essentially *dependent* on and derivative from the nonexistence of anything more, or that *the totality state exists because there exists nothing more*, not vice versa (p. 305). The third and final step is to describe the conflict between this explanatory claim and the truthmaking claim that the totality state makes true all negative truths, using an appeal to an *explanatory constraint* on truthmaking. Given that truthmakers are supposed to *ground* the truth of propositions, “it is a plausible constraint on truthmaking that *x* is a truthmaker for *p* only if *p* is true *because x* exists” (p. 305). The claim that the totality state makes true all negative truths, therefore, entails that all negative truths are true because the totality state exists; *a fortiori*, it entails that *there exists nothing more because the totality state exists*. This explanation is at odds with the above explanatory claim made by Griffith. As he states, “since [the totality state] depend[s] on and [is] explained by the non-existence of anything more . . . [it does] not plausibly account for [this truth]” (pp. 305–306). Indeed, given the plausible assumption of no circular explanations—the principle of asymmetry of explanation—Griffith’s explanatory claim is logically incompatible with the truthmaking claim in question.

It must be noted that proponents of the totality state have no difficulty in accepting the third step of Griffith’s argument. Although there is no consensus in the literature as to exactly how truthmaking can be defined and whether the notion of explanation relevant to truthmaking can be adopted as a primitive, the explanatory constraint on truthmaking to which Griffith appeals is plausible and innocuous to all truthmaker theorists; indeed, it is because of this assumption that the simple definition of truthmaking in terms of entailment is generally viewed as defective.¹¹ Furthermore, the first step is also perfectly acceptable to proponents of the totality state because the fact described as “counterfactual border-sensitivity” is simply that the totality state necessitates the truth of ⟨There is nothing more than the actual first-order states of affairs⟩; this necessitation is required for the claim that the totality state is the truthmaker for all negative truths.

¹¹ See [Rodriguez-Pereyra \(2006\)](#), pp. 186–188.

The real action, therefore, surrounds at the second step of the argument. The question that follows is how Griffith can justify the claim that the totality state exists because there exists nothing more; the truth of this claim is incompatible with the truth of the claim that the totality state is the truthmaker for all negative truths. Note that the first step of his argument, as such, cannot establish the explanatory claim in question, because the proponents of the totality state agree, as discussed above, that counterfactual border-sensitivity is a distinctive feature of this entity; indeed, these philosophers base the very claim that the totality state makes true all negative truths on this distinctive feature. In addition, we can point out that the necessitation of a fact by another does not ensure any explanatory relationship between the two; an explanatory connection involves something more than does a modal connection.¹²

6.2.2 Drifting into a Dilemma

Recall Griffith's statement that the relevant "nothing more" truth is partly *constitutive* of the totality state. As quoted above, Griffith explicates this alleged constitutivity by

¹² Note that the qualification "explanatory" here signifies a relationship of metaphysical *dependence* between the two relevant facts; the question of whether the necessitation of a fact by another has an explanatory implication should be distinguished from the question of whether such necessitation constitutes an *objective, irreducible, or fundamental feature of reality*—whether it is a modality "in the world" rather than a mere truth involving modal terms. Some philosophers might use "explanatory" to qualify the features of reality relevant in the latter question, but these two questions are separate and mutually independent. That the necessitation of a fact by another does not necessarily have any explanatory implication relevant to the former question is consistent with the modality of the necessitation being irreducible or fundamental in nature; modal primitivists may well admit that an explanatory connection involves something more than a modal connection, which they claim is a primitive aspect of reality. Conversely, even if the necessitation of a fact by another always has an explanatory implication, reductive theories of modality are not precluded. Lewisian reductionists, for example, may hold that explanatory connections involve nothing more than a certain kind of modal fact, which they claim is reducible in terms of quantification over maximal spatiotemporally connected wholes. Fine (2012) provides a negative answer to the former question (pp. 37–38), and I am supposing, in my exposition of Griffith's argument, that Fine's contention is correct. However, it should be noted that even when "explanatory" is interpreted as characterizing the features of reality relevant to the latter question, the corresponding "Finean" claim must also be accepted, given the truth of a reductive theory of modality. The statement that x necessitates the fact that ϕ , as I use the terms "necessitate" and "fact," is simply the statement that necessarily, if x exists then ϕ ; it is not meant to involve any distinctively "ontic" implication indicating the irreducibility or fundamentality of the modality in question. This statement must therefore be treated in the same way as other kinds of modal statements, and any reductive theory of modality must regard such necessitation as not "explanatory." I thank an anonymous referee of *Thought* for pressing me to clarify this point.

stating that the existence of the totality state can be *characterized* as the actual first-order states of affairs comprising all the states that exist, which is equivalent to there existing nothing more than these actual states. It is natural to interpret this talk of “characterization” as indicative of our *conceptual* grasp: the existence of the totality state can be conceptually understood on the basis of understanding that there exist nothing more than actual first-order states of affairs. In other words, the latter fact is *conceptually prior* to the former in that grasping of the concept of the former requires us to understand in advance that of the latter.¹³ If Griffith accepts this interpretation, however, his objection becomes irrelevant to the claim that the totality state makes true all negative truths. This situation arises because the proponents of the totality state can maintain that their claim of truthmaking is grounded by the *metaphysical nature* of the relevant facts, which *transcends any mere conceptual or representational feature* of these facts.

This situation is parallel to that of the general objection to truthmaker theory, which argues that truthmaker theorists mistakenly reverse the direction of correct explanations. [Schnieder \(2006\)](#) argues that the fact that Socrates’s paleness exists can be correctly explained by the fact that Socrates is pale, not *vice versa*, because the *concept* of Socrates’s paleness trope is more complex than the separate *concepts* of Socrates and paleness. In general, any purported truthmakers, such as tropes and states of affairs, “are denoted by logically complex expressions which are understood on the basis of our understanding of the components of the atomic statements [that are purportedly explained by the existence of the alleged truthmakers]”;¹⁴ therefore, Schnieder believes, none of the explanations given by positing these entities are correct. Truthmaker theorists can counter this objection, as [Liggins \(2012\)](#) suggests, by discriminating between the type of explanation relevant to their claims of truthmaking and that relevant to the claims that Schnieder considers as correct in such a way that the correctness of

¹³ It is occasionally argued that the totality state is simply a *disguise* for the negative state of affairs that nothing other than actual first-order states of affairs possess a certain property (e.g., [Molnar \(2000\)](#), pp. 81–82). This talk of “disguise” is somewhat obscure, but one natural line of thought interprets it as indicating that the *concept* of the totality state is complex in such a way that we can only grasp it when we understand in advance the relevant “nothing more” truth.

¹⁴ [Schnieder \(2006\)](#), p. 41.

the former is grounded by the metaphysical, not merely conceptual, nature or relative fundamentality of the relevant facts.¹⁵ Similarly, proponents of the totality state can accept the constitutivity of the relevant “nothing more” truth to this entity, with the qualification that the constitutivity in question is merely conceptual: the existence of the totality state is conceptually, not metaphysically, dependent on and derivative from the nonexistence of anything more. We are unable to understand the concept of the totality state without understanding in advance that there exists nothing more than actual first-order states of affairs. This conceptual priority, however, is irrelevant to claims that the totality states is the truthmaker for all negative truths or that the latter can be explained by the existence of the former in a properly metaphysical sense.¹⁶

Conversely, if Griffith insists that his “characterization” and alleged constitutivity are of properly metaphysical substance, thereby keeping his objection relevant to the truthmaking claim in question, his objection threatens to beg the question. As proponents of the totality state hold that all negative truths can be accounted for by positing this very entity, simply insisting that this way of explanation is incorrect—by “characterizing” the totality state as dependent on a negative truth—cannot justify the rejection of the truthmaking claim; we must present some principled reason for its rebuttal.

Thus, Griffith’s argument is placed on the horns of a dilemma: it must either specify that the alleged constitutivity of the relevant “nothing more” truth to the totality state is a conceptual matter or insist that this constitutivity is of properly metaphysical substance. The first horn cannot be pursued because it makes the objection irrelevant

¹⁵ Liggins (2012), pp. 260–262.

¹⁶ In note 5 of his paper, Griffith denies the suspicion that his objection against several alleged truthmakers for negatives (Armstrong’s totality state in particular) “supplies the materials for a general argument against states of affairs as truthmakers for any truth, positive or negative.” He provides three reasons for this denial, but none of them are convincing to me. In any event, it is unimportant to the present argument exactly how Griffith’s objection against the alleged truthmakers for negatives and Schnieder’s general objection against truthmaker theory are similar; rather, the crucial point in my argument is that these objections can be resisted in essentially the same way if Griffith specifies the constitutivity of the relevant “nothing more” truths to the totality state as a conceptual matter.

to any claim of truthmaking. The second horn, however, is also highly problematic because simply insisting on such a claim begs the question against proponents of the totality state.

One might object that the truthmaking claim given by proponents of the totality state itself lacks a principled reason or justification for its postulation. Such an objection, however, overlooks the point of the truthmaking claim in question: the reason for this claim is that if we posit the totality state as the entity whose existence is independent of any negative truth but metaphysically prior to all such truths, we gain *ideological* parsimony. By allowing the totality state to explain all negative truths, we are exempted from considering the notion of negation as primitive—we do not need negation, in addition to an existential quantifier and other bits of fundamental ideology, to “write the book of the world,” as it were.¹⁷ Furthermore, proponents of the totality state can appeal to ideological parsimony in a way that makes the corresponding ontological cost minimal by claiming that all negative truths are ontologically grounded by *the same* fact of existence: the existence of the totality state. The truthmaking claim in question is thus founded upon the consideration of the overall theoretical costs and benefits of positing the totality state.

This dialectical situation leads proponents and opponents of the totality state into a substantial debate about the metaphysical nature of this entity and whether the ontological cost of its postulation is worth paying. Opponents may argue that higher-order states of affairs such as the totality state are intolerably peculiar and difficult to place in ordinary experience, making the ontological extravagance of positing this state greatly outweigh the supposed gain in ideological parsimony. In reply to this objection, proponents of the totality state may argue that no serious difficulties arise in understanding the metaphysical nature of the totality state and that the ontological cost of its postulation is much lighter than its opponents believe. Both of these claims require detailed examination and settling this debate will require considerable effort. Crucially, however, there is no in-principle reason to reject the explanatory proposal

¹⁷ Cf. Sider (2011) and Cameron (forthcoming).

that the totality state makes true all negative truths—Griffiths argument thus fails to establish its conclusion.

6.2.3 Generalization

Taking the case of Armstrong’s totality state as an example, I have discussed why Griffith’s argument against such alleged truthmakers for negatives fails and revealed what is actually required to argue for/against a particular proposal to provide an ontological grounding for negative truths.

At the end of his paper, Griffith states that his argument is parallel to that in [Sanson and Caplan \(2010\)](#) against certain presentist solutions to the problem of providing ontological grounding for *past* truths. To ground truths such as ⟨Arnold was pale⟩, some presentists postulate irreducibly past-directed properties such as *having been pale*. As Griffith describes, “[w]hat [Sanson and Caplan] object to [such presentists] is that the truth of the proposition ⟨that Arnold was pale⟩ is not properly explained by Arnold’s now having the property *having been pale*, because they think Arnold’s now having the property *having been pale* is appropriately explained by Arnold’s once having had the property *being pale*” (p. 306). To the extent that Griffith’s argument against alleged truthmakers for negatives is parallel to this argument against irreducibly past-directed properties, the present discussion about the former has similar implications for the latter: the alleged properties in question have no in-principle explanatory deficiency, and we must therefore enter into a substantial debate about the metaphysical nature of these properties and the overall theoretical benefit of their postulation. Thus, there is no general strategy for attacking such “exotic” truthmakers, and the question of which are suitable for grounding the truth of the propositions assigned to them must be determined on a case-by-case basis.

6.3 The World as the Ontological Ground for Negative Truths

6.3.1 Cameron on the Nature of the World

Ross Cameron offers a novel solution to the problem of negative truths. According to him, all negative truths are made true by one and the same entity, the actual world.¹⁸

Let me reconstruct Cameron's argument. The argument has two crucial premises. The first is the following claim about the individuation of concrete worlds:

(IndW) For any two possible worlds w and v , the concrete world (the sum of all *concreta*) in w and that in v are identical if and only if all and only the propositions that are true in w are true in v .

This principle entails that *there are no transworld identities between distinct concrete worlds*, since for any pair of distinct possible worlds, there has to be some proposition that is true at only one of these two worlds. In particular, *the actual world*, the sum of all concrete entities that actually exist, is individuated by what is actually true, and does not bear the relation of transworld identity to the concrete world in w , for any merely possible world w .¹⁹

The second crucial premise of Cameron's argument is the following claim about the essential maximality of concrete worlds:

(MaxW) For any possible world w , the concrete world in w is essentially the maximal sum of concrete entities.

¹⁸ Cameron (2008b). Strictly speaking, it is sufficient to provide the truthmaker(s) for all true negative *existentials* in order for us to solve the problem of negative truths. For, as Cameron (2008b) says, "to account for the truth of $\neg p$ we need only point to the truthmaker for (there is no truthmaker for p)" (p. 411).

¹⁹ Cameron himself employs counterpart-theoretic talk for expository convenience. See note 9 in Cameron (2008b).

In other words, “[t]he world is the biggest thing. It is a world because there is nothing bigger than it that it is a proper part of.”²⁰ (MaxW) excludes any proper part of the concrete world in w from representing a way the concrete world in v could have been, for any possible world w and v . Consequently, no proper part of the concrete world in w bears the relation of transworld identity to *the actual world*, for *any* possible world w . Even a duplicate of the actual world cannot, if it is a proper part of some other concrete entity.

Thus, (IndW) and (MaxW) jointly entail that nothing in merely possible possible worlds bears the relation of transworld identity to the actual world. This amounts to the claim that *the actual world has all its properties essentially*. It follows from this that

(NecN) For any actually true negative proposition P , the actual world is essentially such that P is true.

That is, the truth of any actually true negative proposition is ensured by the nature of the actual world, being necessitated by the existence of the actual world. We can therefore regard the actual world as the truthmaker for all negative truths.

Note that there is no obvious problem with Cameron’s proposal as far as the existence of actual world is concerned: it is just a mereological sum of concrete entities, albeit a maximal one. It is not problematic to admit such a sum in ontology if we accept the existence of other ordinary concrete sums such as molecules, cats, and planets.²¹

Cameron’s main aim is to establish that the actual world serves as the truthmaker for negative truths, but it appears that his argument establishes also that the actual world serves as the truthmaker for all truths, both positive and negative. This is

²⁰ Cameron (2008b), p. 417.

²¹ Cameron himself does not claim the advantage of his own account by arguing for the peculiarity of entities such as negative states of affairs and absences, or for the intuitive plausibility of his characterization of the actual world. The advantage he cites concerns the (weaker version of) Humean denial of necessary connections between distinct entities. Although his argument is very interesting, we shall not make inquiry into Cameron’s own point; to do so would involve us in a discussion of the Humean denial of necessary connections, which deserves an extensive and detailed examination, and would take us beyond the scope of the present thesis.

because (IndW) and (MaxW) seem to establish a stronger thesis than (NecN). As we have seen, Cameron's two main claims jointly entail that nothing in merely possible worlds bears the relation of transworld identity to the actual world, and this amounts to the claim that the actual world has all its properties essentially. However, it follows from this that

(Nec) For any actually true proposition P , the actual world is essentially such that P is true.

Accordingly, Cameron's account appears to amount to *Truthmaker Monism*, the thesis that there is only one truthmaker, which seems to trivialize truthmaker theory. Cameron responds to this possible objection that "while the world is a suitable truthmaker for negative existentials it is not a suitable truthmaker for propositions of the form $\langle a \text{ is } F \rangle$,"²² and explicates the unsuitability in question in terms of the dependence of the actual world on its parts for its existence: "the world is the very world it is in virtue of its constituents; were the world to be constituted differently, it would not be the very world it in fact is."²³ That is, the actual world is not a suitable truthmaker for positive truths because the actual world existentially depends on its proper parts, and the existence of these proper parts are sufficient to ground positive truths. By contrast, no proper part of the actual world correspond to any negative truth. Hence, in spite of dependence in question, we can still think of the actual world as the truthmaker for negative truths.

6.3.2 Full Ground and Partial Ground—How to Avoid Inconsistency with Necessitarianism

6.3.2.1 Worlds as Dependent Objects and Necessitarianism

I will first consider whether Cameron's characterization of the nature of concrete worlds is consistent with a certain plausible principle of grounding.

²² Cameron (2008b), p. 418.

²³ Cameron (2008b), p. 418.

As described above, Cameron characterizes (concrete) worlds as *dependent* objects: a world is the very world that it is *in virtue of* its constituents. This dependence, like truthmaking, can be naturally formulated in terms of grounding as follows:

(Df₃) x existentially depends on $y \stackrel{\text{def}}{\iff}$ Some fact about y grounds the fact that x exists.²⁴

The facts about the constituents of a world relevant to grounding plausibly include the existence of these constituents. That is, for any concrete world W , the fact that the constituents of W exist grounds the fact that W exists. More specifically,

(Dep) The fact that the actual concreta exist grounds the fact that the actual world exists.

However, (Dep) and (MaxW) together seem to be inconsistent with a plausible principle concerning the connection between grounding and modality, namely *Ground Necessitarianism*: for any facts f and g , if f is grounded in g , then as a matter of metaphysical necessity, f obtains if g obtains. This is for the reason that (Dep) and Ground Necessitarianism together entail that

(Suf) For any possible world w , if all the actually existing concreta exist in w , then the actual world exists.

At the same time, (MaxW) entails, as described above, that the possible concrete world composed of all the actually existing concreta *plus* unicorns does not bear the relation of transworld identity to the actual world: the actual world does not exist in such a world. This contradicts (Suf).

Thus, the proponents of Cameron's account seem to be presented with an intolerable dilemma: either give up at least one of (MaxW) and (Dep), or reject Ground Necessitarianism. They cannot opt for the first horn without drastically revising their

²⁴ Cf. [Correia and Schnieder \(2012\)](#), pp. 24–25.

view, since both theses are essential to Cameron's strategy for providing ontological grounding for negative truths: (MaxW), combined with (IndW), entails (NecN), which enables us to regard the actual world as the truthmaker for all negative truths; (Dep) prevents the whole-world truthmaker strategy from collapsing into Truthmaker Monism. The second horn is highly problematic too because Ground Necessitarianism constitute a key assumption about the nature of grounding. As such, the rejection of Ground Necessitarianism requires independent reason other than the apparent inconsistency with Cameron's account.²⁵

I claim that this inconsistency is only apparent, not real. The crucial point is that (Suf) does not follow from (Dep) and Ground Necessitarianism once we differentiate between *two different senses of "ground"* in the latter two theses. Ground Necessitarianism is intended to involve the concept of *full* ground: when *f* is fully grounded in *g*, describing *g* is *sufficient* to metaphysically explain *f*. The idea of necessitation involved in Ground Necessitarianism amounts to this notion of sufficiency. By contrast, (Dep) can be construed as involving the concept of *partial* ground: when *f* is at least partially grounded in *g*, describing *g* may not be sufficient, but goes some way towards metaphysically explain *f*. Partial grounding may not entail necessitation. The existence of the set {Plato, Aristotle}, for example, is only partly, but not fully, grounded in the existence of Aristotle; hence it is possible that Aristotle exists without the set existing.²⁶ Accordingly, the proponents of Cameron's account can maintain that the existence of the actual world is only partly, not fully, grounded in the existence of the actual concreta, and hence that (Dep) does not, in conjunction with Ground Necessitarianism, entail (Suf).

²⁵ Notably, Griffith (2012) doubts the consistency of Cameron's account (note 3), though he does not make the assumption of Ground Necessitarianism explicit. In fact, his main contention is that Cameron's account suffers from the serious explanatory deficiency that the actual world cannot qualify as grounding negative truths given its existence condition. Griffith takes this (alleged) deficiency to exemplify a general pattern of failure in providing ontological grounding for negative truths. Although his argument is worth careful examination, this would lead us to issues about the nature of metaphysical explanation more generally, and as such, it is beyond the purposes of this thesis.

²⁶ For the distinction between full ground and partial ground, see, for example, Correia and Schnieder (2012), p. 20. Note that the legitimacy of this distinction is a shared assumption in the literature. Accordingly, the invocation of the distinction here does not constitute a substantial and controversial claim. I thank an anonymous referee of *Annals of the Japan Association for Philosophy of Science* for pressing me to clarify this point.

6.3.2.2 Dependence and Fundamentality

Explaining away the alleged inconsistency in Cameron's account in this way might prompt the following question: if the existence of the world is only partially grounded in the existence of its components, what on earth fully grounds it?

The proponents of Cameron's account can reply that *nothing fully grounds the existence of the world*. However, it might be objected that this move is illegitimate because it is difficult to see how an object can be *both* dependent and fundamental, that is, how an object's existence can be partly grounded in certain facts without there being anything that fully grounds it. There is though nothing in-principle wrong with the move as some philosophical doctrines can plausibly admit this combination of dependence and fundamentality. For instance, consider Timothy Williamson's "*knowledge first*" view. According to him, knowledge cannot be analyzed in terms of other, more fundamental epistemic notions.²⁷ Thus Williamson argues that, on the one hand, knowledge is a *sui generis* mental state, and hence he is committed to the idea that facts about knowledge are not fully grounded in any other facts. On the other hand, however, he emphasizes that the "knowledge first" project is consistent with the traditional idea that truth, belief, and justification are all necessary elements for knowledge. Hence, given that "necessary condition" in this context can be reformulated in terms of the notion of ground, Williamson acknowledges that, for example, the fact that *S* knows that *P* is partly grounded in the fact that *P*. Alternatively, consider the doctrine that there are *emergent properties*: the proponents of this doctrine (or at least, those who advocate what is sometimes called "ontological emergence") often claim that although emergent properties are in some sense dependent on the base properties from which they emerge, they are nevertheless basic or fundamental in that they are "genuinely novel" or "over and above" the base, not being determined by it.²⁸ Some philosophers have felt uncertain about whether emergence is intelligible. It seems to me, however,

²⁷ Williamson (2000).

²⁸ See, for example, O'Connor and Wong (2005).

that this uncertainty is due to confusing the distinction between full ground and partial ground which seemingly leads to contradiction: once we construe the dependence of emergent properties as *being only partially grounded* in the base properties, and the fundamentality of emergent properties as *not being fully grounded* in those properties, the situation becomes similar to that of the “knowledge first” view; and the feeling of uncertainty will most likely disappear. To be sure, it is controversial whether the “knowledge first” view is tenable and whether there really are emergent properties, but insofar as these views are intelligible, we can consistently deny full ground to the existence of the world.

Furthermore, at it turns out, the move in question is not only legitimate, but also *inevitable*. There are two reasons for this. First, it is inevitable because of the *definition* of truthmaking in terms of grounding. We defined truthmakers in §2.2.1 as follows:

(Df₂) An entity e makes $\langle P \rangle$ true.

$\stackrel{\text{def}}{\iff}$ The fact that e exists grounds the fact that $\langle P \rangle$ is true *and* the existence of e is not grounded in any fact.

Recall that the latter necessary condition in the definition embodies the idea that truthmakers are *primitive, ultimate* entities required to explain the truth of a certain theory or sentences. In other words, truthmakers are *indispensable* to “write the book of the world.” We can formulate this indispensability more precisely in terms of the notion of the *lack of full ground*, but not that of the lack of partial ground; an entity whose existence is *only partially* grounded is still needed to give the complete description of the world. Thus (Df₂) can be revised as follows:

(Df₄) An entity e makes $\langle P \rangle$ true.

$\stackrel{\text{def}}{\iff}$ The fact that e exists grounds the fact that $\langle P \rangle$ is true *and* the existence of e is not *fully* grounded in any fact.

Given the revised definition, the proponents of the whole-world strategy *ought to* hold that nothing fully grounds the existence of the world: truthmakers lack full ground by definition.

Second, even if the proponents of Cameron's account do not adopt my definition of truthmaking, hence allowing an entity whose existence is fully grounded to be a truthmaker, the move in question is still inevitable because of the *unavailability* of any fact that, in conjunction with the existence of the components of the world, would fully ground the existence of the world. Suppose that the existence of the world is fully grounded in the fact f in conjunction with the existence of the components of the world. On the one hand, *truthmaker theorists* cannot maintain that f is a *non-existential* fact, such as that the actual concreta *compose* the world, because the core idea in truthmaker theory is, as noted in §2.1, that the truth values of propositions are determined by facts about *existence*; to invoke a non-existential fact in order to provide grounding for negative truths is to abandon providing *ontological* grounding for these truths. In effect, this is to abandon the claim that negative truths have truthmakers. On the other hand, f cannot be an *existential* fact, because the world is the sum of *all* concreta, and there is no other concrete object whose existence would be identified with f . Given that abstract objects are irrelevant to the grounding of contingent truths concerning physical reality, no existential fact, besides the existence of the actual components of the world, is available for the proponents of Cameron's account.

6.3.3 *De Re* Modal Properties of the World

6.3.3.1 Does the World Necessarily Lack the Unicorns?

The second objection against Cameron's account that I shall consider concerns the ways that the actual world could have been. (NecN) amounts to the claim that the actual world is necessarily such that P is true, for any actually true negative proposition P ; the actual world could not have been such that, for instance, ⟨There are talking

donkeys) is true. This line of reasoning seems to collide head-on with the intuitively true claim that the actual world could have been such that talking donkeys existed. The same holds for all other intuitively true negative claims. Thus (NecN) seems to have an extremely counterintuitive consequence about how the actual world could have been. This is the immediate objection that will most naturally arise to (NecN).²⁹

Cameron thinks that the distinction between modality *de dicto* and *de re* enables us to see that the apparent problem is not real one: the intuitively true *de re* modal claim that the actual world could have included talking donkeys is, contrary to appearance, the true *de dicto* claim that talking donkeys are possible. From the fact that there is a possible world *w* in which there are talking donkeys, it does not follow that *w* represents a way that the actual world, the maximal sum of concrete entities, could have been. Nor does it follow, from the fact (according to (NecN)) that the actual world could not have included talking donkeys, that there is no possible world in which there are talking donkeys. The collision of (NecN) with our modal intuition, he believes, can therefore be avoided.³⁰

Cameron's response is coherent, but unsatisfactory. It remains unclear why we can interpret all the apparently *de re* modal claims about the actual world as *de dicto* modal claims. To do so would be to regard a certain range of modal discourse as being systematically disguised in a grossly misleading way: sentences of the form "The actual world could have been such that *P*" would not be a literally true *de re* modal claim. It is difficult to see what about the maximal sum of actual concreta can justify such a general claim.

6.3.3.2 Two Distinct Maximal Sums of All Concreta

I offer a crucially different response: the phrase "the actual world" occurring in intuitively true modal sentences does refer rigidly to *a* maximal sum of actual concrete

²⁹ Akiba (2011) raises such an objection (pp. 126–129), although the theory that Akiba's argument directly attacks (what he calls the "type-W Maximalism") is Truthmaker Monism, not Cameron's position.

³⁰ Cameron (2008b), p. 413.

entities, but this sum is different from the one for which Cameron provides a distinctive criterion of transworld identity by (IndW) and (MaxW). In other words, I claim that there are in fact two maximal sums of actual concrete entities, one of which is what Cameron calls “the actual world,” and the other of which is the entity that the intuitively true modal sentences with the grammatical subject “the actual world” are about. In the following discussion, I continue to use the phrase “the actual world” in the same way as Cameron, while I introduce “the World” with a capital “W” for the referent of the grammatical subject of the intuitively true modal sentences in question. If the actual world and the World are distinct entities, the distinction enables us to catch two hares at once: we can provide the truthmaker for negative truths by accepting Cameron’s account resulting from (IndW) and (MaxW), and we can avoid the collision of the account with our modal intuition so as not to regard intuitively true modal sentences with the grammatical subject “the actual world” as literally false. These sentences can now be interpreted—taking them at face value—as expressing propositions about the World.

The key to make the distinction between the actual world and the World is to think that the actual world constitutes the World, just as a lump of clay constitutes a statue. Clearly, the actual world and the World are related in such a way as to satisfy two necessary conditions for constitution, *spatial coincidence* and *material coincidence*. It is commonly assumed by constitution theorists that constituting and constituted entities share the same spatial location and the same parts. In the case of the actual world and the World, the shared spatial location is all of space, and the shared parts are all actual concrete entities.

Note that the constitution relation invoked here must be of the kind characterized by the so-called *constitution view*. The core claim made by defenders of the constitution view is that *constitution is not identity*: the clay statue is a distinct entity from the lump of clay that constitutes it. Similarly, the World is a distinct entity from the actual world that constitutes it. The idea that constitution is not identity follows from the commonsensical assumption that constituting and constituted entities differ with

respect to their noncategorical properties. Suppose a lump of clay had existed before a statue was constituted by it at t . As the lump existed at t while the statue did not, the two entities differ with respect to their temporal properties. The noncategorical properties in question also include *de re* modal properties: a statue could have been, for example, composed of somewhat different parts, while the particular lump of clay that constitutes it could not. Similarly, the World and the actual world differ with respect to their *de re* modal properties: the World could have been composed such that, for example, it included talking donkeys, while the actual world that constitutes it could not.

I claim that there is no serious problem—intuitive or theoretical—with the proposed distinction between the actual world and the World. There are two reasons for this claim.

First, the assumption of the existence of the World, along with its *de re* modal properties like “possibly such that there are talking donkeys,” can be considered as a *pretheoretical datum*. No *de dicto* modal statement is about any particular ordinary individual, to be sure, but every such statement is about *things in general*. We may call this subject matter, which is implicitly alluded to in each *de dicto* modal statement, the World. In this sense, the World is “the comprehensive subject of possibility of modality *de dicto*,”³¹ and every *de dicto* modal statement trivially qualifies as a *de re* modal statement about it. When we say that it is possibly (or necessarily) the case that P , for any P , we are saying that the World is such that a (or every) possible world that P , which is in turn equivalent to the statement that the World is such that possibly (or necessarily) P . In this sense, the commitment to the existence of the World, along with its *de re* modal properties, represents nothing beyond our pretheoretical commitment to *de dicto* modality in general.

Second, the relationship between the actual world and the World—as I have construed it—is simply an instance of a ubiquitous relationship, namely constitution. As L. R. Baker says, “[c]onstitution is everywhere: pieces of paper constitute dollar bills;

³¹ Yagisawa (2010), p.45.

pieces of cloth constitute flags; pieces of bronze constitute statues . . . strands of DNA constitute genes.”³² Baker herself regards constitution as also applying to persons and bodies, but I have regarded it as applying to the actual world and the World as well. The distinctive feature of these entities is their mereological inclusiveness: they are the biggest things of which all actual concreta are a part. The pervasiveness of constitution, nevertheless, should ensure that the appeal to the concept in the present case does not provoke any incredulity.

One might argue that the constitution view, which is needed to distinguish the actual world and the World, faces serious objections, including the *extensionality objection*, as the constitution view denies the extensionality of parthood, and the *grounding objection*, as there seems to be no ground for differentiating the noncategorical properties of constituting and constituted entities. Other accounts of the problem of material constitution include the view that constitution is identity, which might suggest that there is no such distinction as I am proposing to apply to the actual world and the World. I will not defend the constitution view here. Instead, I will simply stress the fact that the constitution view is an extremely popular view, and that most metaphysicians consider it to be intuitively plausible to a large extent, although not theoretically impeccable. My reasoning assumes the legitimacy of the constitution view, and the difficulties besetting the latter beset the former as well. Nevertheless, the intuitive plausibility and the status of the standard account of the constitution view can be regarded as supporting my method. Alternatively, we may restrict the scope of the constitution view to only the relationship between the actual world and the World, taking it as the limit case of constitution; there is no need to rely on the constitution view in its entirety to provide a solution to the problem of negative truth through my preferred reasoning.

³² Baker (2000), p. 21.

Chapter 7

Conclusion

In this thesis, I have tried to accomplish two distinct tasks. I have defended the consistency of the general theory of grounding—both the internal consistency and the consistency with mereology—and then put the theory of grounding to work for resolving a particular problem concerning the fundamental feature of reality: how negative truths are ultimately founded upon reality. These tasks both constitute a basic and important part of the ambitious—yet modest, in the sense that it is not reductive—project of characterizing the hierarchical structure of reality as a whole in terms of the explanatory notion of grounding. Let me summarize the main points that have been made in each chapter and draw a general conclusion in light of the project that has motivated the whole discussion.

The first two chapters have made preliminaries to the following chapters tackling the two abovementioned tasks. Having described an intuitive idea of the layered structure of reality as a whole and introduced the notion of metaphysical grounding as an attractive tool for articulating this idea in Chapter 1, I have reviewed a metametaphysical application of the notion of grounding, which is called neo-Aristotelianism, and defended it from two objections from alternative theories in Chapter 2. I have first examined an objection from Quineanism against the neo-Aristotelian claim that the Quinean existence questions are trivial, and have revealed that the arguments of

the objection fail to establish the alleged fallacy of neo-Aristotelian view by clarifying how questions about existence can be separated from those about grounding. I have then addressed a possible objection from neo-Meinongianism to the effect that the notion of fundamentality—that of ungroundedness—should be identified with the neo-Meinongian notion of existence, and countered the objection by undermining the intelligibility of the neo-Meinongian notion of existence. These discussions have shown that the notion of grounding yields a distinctive conception of metaphysical investigations and provided further motivations for investigating the nature and utility of grounding.

In Chapter 3, I have discussed the internal consistency of the theory of grounding. I have argued that we can resolve the Finean paradox of grounding by first distinguishing two kinds of noncausal explanation, which are mistakenly considered to correspond to the same relation of grounding, and then by deflating the principle of propositional grounding and other principles of factive grounding, which are essential premises of arguments of the Finean paradox. These ground-theoretical principles can all be considered as expressing merely conceptual explanations, and thus are nonsubstantive from a properly metaphysical point of view. This consideration has revealed that the principle of asymmetry, one of the standard logical principles of grounding, should not be applied across different kinds of noncausal explanations. Thus, I have provided a uniform treatment for all forms of the Finean paradox in the discussion in Chapter 3. Given that each of the existing responses to the Finean paradox is either unappealing or based on a mistaken diagnosis of its arguments, with no other possible forthcoming resolution, we have reason to accept the proposed strategy.

In Chapter 4, I have discussed the consistency of the theory of grounding with the theory of another hierarchical-structuring relation: the part–whole relation. Especially, I have examined Tallant’s claim that considerations on certain kinds of mereological possibilities force us to reject any views holding that some objects are fundamental and others are not—priority views—and argued that neither of the possibilities of gunky nor of junky worlds, upon which Tallant’s argument relies, threatens priority views

per se. I have first defended priority pluralism against the gunk argument: the genuine conceivability of gunk can be plausibly doubted on the basis of the principle of illusions, and even if this principle is false, the possibility of a gunky world poses no devastating problem for pluralism *per se* because it can be considered consistent with nonatomism. Rebutting the gunk argument establishes the tenability of some type of priority view, but I have proceeded to show that the range of tenable forms of priority view is even wider by defending priority monism against the junk argument: the possibility of a junky world poses no devastating problem for monism *per se* because it can be considered consistent with nonholism in a twofold sense. Furthermore, even monism as defined as genuinely holistic can be plausibly defended against the junk argument once the claim of the possible nonexistence of the maximal whole is reinterpreted based on the priority-based conception of existence. Thus, the modal facts about mereology in question threaten, at most, only particular forms of priority view that contain the assumption of atomism.

In Chapters 5 and 6, I have applied the notion of grounding to the problem of the metaphysical foundation of negative truths. In chapter 5, I have defended truthmaker theory from two general and radical objections, with the view to utilizing it as the basis for resolving the problem of negative truths. In the first half of this chapter, I have elucidated truthmaker theory in terms of grounding and defended it from the objection that the notion of truthmakers is useless, arguing that the significance of truthmaker theory can be fully appreciated by recasting it as the theory about how truths are ontologically grounded in the fundamental feature of reality—what kind of entities we should accept into our ontology in order to provide metaphysical explanations of truths. I have then, in the second half of the chapter, defended truthmaker theory from the objection that it is false because truthmaker theorists must advocate a hopeless view called “truthmaker maximalism,” by arguing that the truthmaker principle is not a theoretical formulation or explication of the general idea about the dependence of truth on reality, thereby undermining the reason for the claim that the only possible form of truthmaker theory is maximalism.

In Chapter 6, I have defended the view that the world as a whole is the truthmaker for all negative truths—that these truths are ontologically grounded in the fundamental fact of the existence of the world. In the first half of this chapter, I have countered a general objection to some alleged truthmakers for negative truths. This objection is based on an explanatory constraint on truthmaking and the existence condition of these entities, by placing it on the horns of a dilemma: the argument must either specify that the existence condition in question is a conceptual matter or insist that the condition is of properly metaphysical substance. I have first argued that the former horn cannot be pursued because it makes the objection irrelevant to the alleged claims of truthmaking. I have then argued that the latter horn is also highly problematic because simply insisting on the claim begs the question; appreciating this point leads proponents and opponents of the alleged truthmakers to a substantial debate about the metaphysical nature of these entities and the overall theoretical benefit of their postulation. This discussion shows that the objector’s argument fails to establish its conclusion and reveals what is actually required to argue for/against a particular proposal to provide ontological grounding for negative truths. In the second half of the chapter, I have proceeded to develop the strategy proposed by Ross Cameron to argue that the world as a whole can play the role of the truthmaker for all negative truths. To vindicate this claim, I have explained away the alleged inconsistency in Cameron’s account by differentiating between two different senses of “ground” involved in a certain set of plausible principles of grounding. I have also shown how to accommodate, in a much more plausible way than Cameron’s account, *de re* modal claims about the world as a whole by distinguishing two distinct but coincident entities that can be designated by the phrase “the actual world.” These discussions constitute a novel approach to the old problem of the metaphysical foundation of negative truths and yield a tenable solution based on the clarification of the connection between truthmaking and grounding.

Thus, the overall discussion of the present thesis shows that the general theory of grounding rests on a firm basis and that the theory is useful for tackling fundamental

questions on the layers structure of reality as whole. In light of the project that has motivated the whole discussion in the present thesis, the significance of the tasks that have been accomplished is made particularly clear: any attempt to theorize about grounding must always be careful to keep the theory consistent—both internally and with other venerable metaphysical theories—and the success of the theory partly depends on the extent to which it contributes to resolving the serious problem of how negativity—a remarkably wide-ranging feature of truths—is grounded in the fundamental feature of reality. Of course, there are other basic issues pertaining to metaphysical theorizing about the hierarchical structure of reality as a whole, including the regimentation of grounding claims, the logic of grounding, the connection between grounding and other metaphysical notions such as modality and reduction, and the metaphysical foundations of truths concerning the (allegedly) high-level phenomena such as the mental, the social, and the moral. However, investigations on these issues should be based on the main points made in the present thesis, such as the distinction between metaphysical and conceptual explanations, the relation between the theory of grounding and mereology, and the connection between grounding and truthmaking. I will conduct these investigations on another occasion.

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