WHAT PROPOSITIONS CORRESPOND TO AND HOW THEY DO IT

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Abstract

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My overall project is to develop a metaphysical framework in which a correspondence theory of truth can be adequately developed. I offer a theory of the correspondence relation and of the relata that it relates. I view this project as part of a more general investigation into the nature of facts, propositions, and truth.

In Chapter 1, I discuss what I take to be three of the most challenging metaphysical criticisms of correspondence theories of truth. One is the Problem of Funny Facts, which is the problem of seeing how certain propositions, such as ones that report the non-existence of things, could correspond to a fact. Second, there is the famous Slingshot Argument for thinking that if there were facts, then there could only be one fact. Third, there is the problem of understanding how abstract propositions could correspond to concrete facts. I argue that the standard versions of the correspondence theory are susceptible to these problems because they require that all the objects of correspondence (the things to which true propositions correspond) be concrete or else that they all be abstract (as in abstract states of affairs). I argue that if true propositions correspond to anything, then some correspond to abstract things and others to concrete things.
In Chapter 2, I develop a theory of the objects of correspondence (facts). The gist of the theory is that the objects of correspondence are arrangements of entities. I offer a formal definition of an arrangement and various identity and existence conditions. The theory allows some arrangements to be wholly abstract and others to be concrete.

In Chapter 3, I develop a theory of propositions and of the correspondence relation. I begin by offering three reasons to think that propositions are not concrete. I then put forward the hypothesis that a proposition is an arrangement of individual essences. The theory of propositions allows me to offer an account of the correspondence relation in terms of the "parts" of a proposition being exemplified by the parts of an arrangement in the right order. (I define what "in the right order" means.)

In Chapter 4, I defend the correspondence theory of truth against the metaphysical objections discussed in the first chapter. I attempt to show that each of those objections can be adequately answered if the metaphysical theories in Chapters 2 and 3 are true. For example, to address the Problem of Funny Facts, I identify an abstract arrangement to which negative existential propositions may correspond, and I deal with many other difficult cases, such as counterfactuals, modal claims, universal quantification, and so on.
This is for Quinton, a pursuer of truth.
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CHAPTER 1: PROBLEMS WITH TRUTH AS CORRESPONDENCE

1.1. Introduction

“A judgment is said to be true when it conforms to the external reality.” (Aquinas, *De Veritate* Q.1, A.1&3)

This essay is about truth—more specifically, the correspondence theory of truth. Some philosophers have thought that propositions get to be true by describing or corresponding to the real world or part(s) of it. They would say, for example, that if it is true that the cat is on the mat, that’s because the proposition that the cat is on the mat accurately describes a certain cat and its spatial relationship to a certain mat. On this view, to be true is to accurately describe (match, picture, depict, or correspond to) reality. This view of truth is famously known as ‘the Correspondence Theory of Truth’, or CTT for short.

CTT may sound plausible; indeed, it appears to have been the standard view among philosophers before the twentieth century (putting aside certain idealist philosophers who favored a version of the Coherence Theory of Truth).¹ However, during the last century or so, important and difficult problems for CTT have been identified, and

¹ For some endorsements of the view throughout history, see Plato, *Cratylus* 385b2; Aristotle, *Categories* (12b11, 14b14); Descartes 1639, ATII 597; Spinoza, *Ethics*, axiom vi; Locke, *Essay*, IV.v.i; Leibniz, *New Essays*, IV.v.ii; Hume, *Treatise*, 3.1.1; and Kant 1787, B82.
many philosophers (Ayer 1935, Davidson 1969, Field 1986, Parsons 2006, Merricks 2007, to name a few) are skeptical of CTT as a result.

The goal of this essay is to develop a metaphysical framework in which the most challenging metaphysical problems for CTT may be solved. In this chapter, I will present several problems for CTT and explain why they have not been solved—and cannot be solved—using any extant account of the correspondence relation (of its nature and relata). Or if that is too strong a claim, I claim at least this: there are substantial costs that all these accounts bear. In subsequent chapters, I will develop a metaphysical framework that specifies the nature of the correspondence relation and of the relata it relates. In the final chapter, I will show how the problems for CTT can be solved—the costs dissolved—using the framework developed in the preceding chapters.

My overall goal is not to support CTT over and against competing theories of truth, such as coherentism, pragmatism, identity theory, or deflationary theories. My goal is just this: I wish to show how a certain coherent metaphysical framework allows CTT to adequately answer the most substantial metaphysical objections that have been raised against it.

1.2. Truth as Correspondence

Before I present the main metaphysical problems that have been raised against CTT, I will say more about its contents. As I said above, CTT is a theory about the nature of truth: it treats truth as a relational property. The simplest version of CTT says that truth is the property of corresponding to something(s). More complicated versions analyze truth in terms of that property: for example, some theories offer a recursive
analysis of truth in terms of the truth-bearer’s atomistic parts corresponding to parts of reality (Wittgenstein 1921; Russell 1985). I will refer to the simplest version of CTT—that truth is correspondence to reality—as ‘CTT-’ and the more complicated versions as ‘CTT+’. I will use ‘CTT’ to stand for any theory that is either CTT- or CTT+. This essay is primarily concerned with CTT-, but I will show that many of the problems for CTT- are also problems for CTT+.

Whether one accepts CTT- or some version of CTT+, one is committed to the existence of at least these three things: truth; truths—the bearers or instances of truth; and the things to which truths correspond. I will take a closer look at what advocates of CTT say about each of these items next.

1.2.1. Truth

According to CTT, truth is analyzed in terms of the correspondence relation: for example, truth is the property of standing in the correspondence relation to something.² Perhaps the most common criticism of CTT is that it fails to motivate an adequate account of the correspondence relation. The theory purports to tell us what truth is—to de-mystify it. But we may worry that it merely replaces one mystery with another; it replaces the mysterious notion of ‘truth’ with the mysterious notion of ‘correspondence’. The question remains: what is this correspondence relation?

² I am assuming that only truths (true propositions) can bear the correspondence relation to something. In Chapter 3, I will support this assumption with an account of the correspondence relation. But if things other than truths (maps, say) could stand in the correspondence relation, then CTT should be revised to say that truth is the property of being a proposition that stands in the correspondence relation to something.
Here is a catalogue of three sorts of answers that have been given. One answer, given by G. E. Moore, is that the term, ‘correspondence’, is primitive and unanalyzable, though its referent can be known by our acquaintance with it. (This is, of course, reminiscent of Moore’s famous view about ‘good’.) For Moore, ‘correspondence’ is a name we may give to a familiar relation of which we have all been acquainted when entertaining seemingly true propositions (Moore 1953, pp. 276-77). No further analysis of ‘correspondence’, then, is needed to grasp its referent. Moore would say that regular acquaintance with the correspondence relation is what gives us insight into its unanalyzable nature.

Another answer is to construe the relation of correspondence as an *isomorphism* between truths and facts (see Kirkham 1992, chap. 4). According to proponents of this strategy, correspondence consists in a structural correspondence between truths and the facts to which those truths correspond. The basic idea is that truths and facts have parts (or constituents), and a truth corresponds to a fact by virtue of its parts standing in certain relations to the parts of that fact. Those who have adopted this approach (e.g., Russell 1912, Wittgenstein 1921, Tarski 1944) typically analyze the relations between the parts in terms of semantic properties or intentional properties of our concepts (I have found no exceptions), but such an analysis is not necessary; nor is it correct if truths can exist independently of concepts and language. One task of this essay (in Chapter 3) is to develop an isomorphic analysis of correspondence without reference to semantic or conceptual properties.

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3 By ‘referent’, here I just mean ‘the thing expressed’. One might draw a distinction between the thing a term refers to and the thing it expresses. That distinction has no bearing here, however.
A third answer is to analyze correspondence in terms of familiar notions without construing the relation as an isomorphism. The most notable proponent of this approach is J. L. Austin (1950, pp. 154-5) who argues that the relation of correspondence should be analyzed in terms of the reference of our words, where words refer by virtue of arbitrary linguistic conventions. He argues, furthermore, that truth-bearers do not, in general, bear a structural correspondence to the things they correspond to: truth-bearers are words stated (statements), and statements of any complexity or structure may correspond to any given thing just by virtue of being stipulated to refer to that thing.

In sum, the correspondence relation may either be analyzed in terms of (or reduced to) more familiar relations, or it may be viewed as a basic, unanalyzable relation. One difficulty with taking up the latter option is that it lacks the resources to make CTT attractive to those who find the so-called “correspondence relation” to be intolerably mysterious. I will describe this difficulty in more detail later when I discuss what Peter van Inwagen calls ‘the Lewis-Heidegger Problem’ (1986)—the problem of seeing how an abstract proposition could—by its very nature—correspond (structurally or non-structurally) to concrete material objects or to a state of affairs consisting of material objects. In Chapter 3, I will offer an analysis of the correspondence relation in terms of more familiar relations (such as entailment and exemplification).

1.2.2. Truth Bearers

If there is truth, then there are truths. Truths are the primary bearers or exemplifiers of truth. Believers in truths also believe there are falsehoods: things that are false. I use the term ‘proposition’ to name the category of things that are truths or
falsehoods.\textsuperscript{4} Propositions, then, are things that are either true or false (non-derivatively). I take it that some things people believe, deny, assert, and so on, are things that are true; some are false. Therefore, I take it that some things people believe, deny, or assert are propositions. For example, if I assert that zebras have stripes, I assert something that is true. From here on, whenever I refer to a proposition, I will do so by enclosing a declarative sentence with ‘<’ and ‘>’; thus, for example, ‘<zebras have stripes>’ abbreviates ‘the proposition that zebras have stripes’.

It is not part of CTT \textit{per se} to say what propositions are. It is therefore not surprising that advocates of CTT have held a wide range of views as to what propositions (as truth-value bearers) are. Some of them think they are sentence tokens or classes of sentence tokens (Tarski 1944); others think they are mental states or things that depend upon mental states (Armstrong 1997\textsuperscript{5}; Newman 2002, p. 123); still others think they are abstract necessarily existing things (see Swartz 2006\textsuperscript{6}). Although there are diverse opinions as to the nature of propositions, my defense of CTT will ultimately depend upon treating propositions as necessarily existing, abstract things. Thus, in Chapter 3, I will offer several reasons to think that propositions are necessarily existing, abstract things. For now, I will assume such a view of propositions without argument.

\textsuperscript{4} Or, for those who wish to allow for the possibility of there being propositions that are neither true nor false, I recommend defining ‘proposition’ as the category of things that entail truths or falsehoods, where ‘entailment’ is treated as a primitive term.

\textsuperscript{5} More recently, however, (2004, pp. 15-16), Armstrong favors the view that propositions are instead instantiated properties of beliefs or sentences.

\textsuperscript{6} Although Swartz is not explicit about his own views in “Truth” (2006), he confirmed to be via email (March, 2008) that he accepts CTT and is a Platonist with respect to truth-value bearers.
1.2.3. Objects of Correspondence

True propositions correspond to *things*. What kind of things? According to tradition, true propositions correspond to *facts*. So, I will use the term, ‘fact’, to designate the sort of thing—*whatever it is*—whose instances true propositions correspond to. The term designates a theoretical role. It applies to anything that satisfies that role, be it a state of affairs, a trope (called a ‘moment’ in Mulligan et al. 1984), an accident, an event, or anything else. Facts, then, are the objects of correspondence.

I do not know whether it is part of CTT to say what sorts of things facts are supposed to be. Perhaps a theory may count as a version of CTT even if it says nothing about facts other than that they are not themselves propositions. However, I will argue that advocates of CTT must say more than that if they are to answer certain objections to CTT. Moreover, if facts cannot be analyzed in terms of more familiar categories, then it may be difficult to motivate the view that there are facts (that are distinct from true propositions) in the first place (see Quine 1987, p. 213; Strawson 1950)? In Chapter 2, I will develop a theory of facts that analyze them in terms of a familiar category, Whole (or Mereological Sum).

1.3. Problems with Correspondence

The problems for CTT may be grouped roughly into epistemological and metaphysical problems. (There are semantic and logical problems, too, but I include them under the metaphysical problems.) This essay is limited to the metaphysical problems, though what I say about those problems may be useful for addressing the epistemological ones. I will examine what I take to be the three most serious metaphysical problems (or
types of problems). First, there is the problem of seeing how certain “problem-case” propositions—such as propositions that assert the non-existence of things—might plausibly correspond to anything. Second, there is the problem of adequately characterizing the relation of correspondence. Third, there is the problem of seeing how propositions might correspond to things without falling prey to the so-called ‘Slingshot Argument’—an argument designed to show that if propositions correspond to things, then every true proposition corresponds to one and the same thing.

1.3.1. The Problem of Funny Facts

I will begin with the “problem-case” propositions. Problem-case propositions are propositions whose objects of correspondence have proven difficult to identity. Here is a classic example:

(1) <There are no unicorns>.

It is not easy to see what thing or things (1) might correspond to. Clearly, it does not correspond to unicorns, since there aren’t any—and if there were any, it would be false. The difficulty here is not peculiar to unicorns. The same difficulty arises for any “negative” proposition that reports what does not exist, whether the report is about unicorns, hobbits, or Superman. There is, of course, the equivalent proposition that everything is a non-unicorn, and some have suggested that negative propositions, like (1), correspond to the entire world—the sum of everything. In the next section, I will show why that view (and its neighbors) is not plausible, or bears hefty costs.

Someone might say that (1) simply corresponds to the unanalyzable fact that there are no unicorns, a fact we may name, ‘<there are no unicorns>FACT’. I will examine this
option more closely soon. For now, I will simply record the common conviction that objects of correspondence should be analyzable. If they are not, then facts seem to be too much like true propositions to be considered distinct from them: for example, the unanalyzable fact, \(<\text{there are no unicorns}>_{\text{FACT}}\), appears to be indistinguishable from the true proposition, \(<\text{there are no unicorns}\.>\). The reason \(<\text{there are no unicorns}>_{\text{FACT}}\) appears indistinguishable from \(<\text{there are no unicorns}\.>\) is that the expression, ‘there are no unicorns’, does nothing to tell us what the fact in question is; it reveals no more about the nature of the fact to which (1) corresponds than that it is the fact to which (1) corresponds. We might as well call it ‘(1)’s fact’, or perhaps just ‘Tom’. We wish to know, “What is Tom?”

If we cannot say what Tom is in terms of familiar categories, then we may call Tom a ‘funny fact’ (David 2005). Negative facts, like Tom, are not the only funny facts on the market. Other facts that have proven difficult to analyze in terms of familiar categories are universal generalizations, disjunctive facts, tensed facts, modal facts, and counterfactual facts. The Problem of Funny Facts, then, is the problem of finding things in familiar categories (or things built up from things in familiar categories) to which propositions, like (1), might plausibly correspond; it is the problem of showing how (1) and its ilk might correspond to something that is not a funny fact.

I will argue that (1) does not plausibly correspond to any concrete thing: so, it does not correspond to a substance, a concrete event, an Armstrong state of affairs, a trope, gunk, or anything else built up out of things that philosophers generally consider to be concrete. Yet, if CTT- is true, then (1) must correspond to something. I believe, therefore, that if CTT- is true, then (1) corresponds to something abstract (or what
philosophers would call ‘abstract’). (I will later consider propositions that would seem to correspond to something abstract on any version of CTT.) In Chapters 2 and 3, I will develop a theory of “Tom” and other abstract objects of correspondence. My task here is to critique the various proposals that have been put forward for what Tom and other potentially funny facts (e.g., disjunctive facts, tensed facts, modal facts, counterfactual facts, and so on) might be.

1.3.1.1. Negative Facts

Tom—the fact to which (1) is supposed to correspond—appears to be a negative fact because it pertains to what does not exist. As I indicated above, I do not believe Tom can be concrete given that I do not believe that (1) plausibly corresponds to anything concrete. There are proposals for what concrete thing Tom, and negative facts in general, might be. In this section, I will examine these proposals; I will also examine a proposal for what Tom might be if it is abstract.

The World

One proposal is that Tom is the sum of all things (or a sum of all concrete things, at least).\(^7\) The basic idea is that (1) corresponds to a certain thing, call it E, that contains all things as parts. Proposition (1) corresponds to E because no part of E is a unicorn. We might add that since E exemplifies the property lacking unicorns, E is accurately described by (1). That is, (1) accurately describes, and thereby corresponds to, an object that contains all things yet lacks unicorns. A similar proposal is that (1) corresponds not

\(^7\) Or the sum of all facts. Cf. Wittgenstein 1921, § 1.1.
to a *sum* of all things, but rather to *all things* at once (here, ‘all things’ is a plural reference term that refers to each and every existing thing). I will focus on the proposal that (1) corresponds to a *sum* of all things, as what I say about that proposal equally applies to the proposal that (1) corresponds to the plurality of all things.

I will offer two reasons to think (1) does not correspond to E, supposing there is such a thing as E. First, E does not seem to be the *right sort of thing* for (1) to correspond to. Advocates of CTT typically say that a proposition corresponds only to things (or *facts* built up out of things) it is *about*—things that it, in some sense, describes (see Russell 1912, pp. 127-8; Moore 1953, pp. 276-7; cf., Merricks 2007, p. 173). There is an intuitive sense in which propositions are about things: for example, <Tibbles, the cat, is on the mat> is intuitively about a cat and a mat; <45 is greater than 12> is intuitively about a pair of numbers; <Quine is a philosopher> is intuitively about Quine; and so on. In each of these cases, one grasps (brings to mind) what a proposition is about merely by grasping the proposition itself. In Chapter 3, I will offer a more precise account (a Chisholm-styled definition) of what it is for a proposition to be about things. But here we only need a vague, intuitive grasp of aboutness, I think, to see that (1) is not likely about a sum of all things. If (1) were about a sum of all things, then it would be about my shoelaces, the planets, the quarks, all the plants and animals, my family

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8 It is surely not uncontroversial that there is a sum of everything (or even a sum of just the *concrete* things). If there is not, then let ‘E’ be a plural reference term that stands for all things at once.

9 For those who cannot wait until Chapter 3, here is the definition (to be explicated and motivated in Chapter 3):

(D1) ‘*x* is [directly] about *y*’ =def ‘∃*p* (*p* is a part of *x*, *p* is an individual essence, and necessarily, if *p* is exemplified, then *y* exemplifies *p*)’.

(D2) ‘*x* is indirectly about *y*’ =def ‘

basis clause: *x* is directly about *y*,

recursive clause: *x* is directly about a proposition [or something] that is indirectly about *y*’. 11
members, propositions, relations, and everything else under heaven and in heaven. But (1) does not seem to be about all those things: it seems that one can fully and completely grasp (1) without thereby grasping all those things. Proposition (1) should correspond to the fact that there are no unicorns, and that fact (to be analyzed in Chapter 4) does not seem to be nearly as big as E. Therefore, the fact that there are no unicorns is not identical to E.

Someone might reply by pointing out that (1) is strictly logically equivalent to <everything is a non-unicorn>, which is about all things. She might then suggest that (1) corresponds to E by virtue of being strictly logically equivalent to a proposition that is about E. I see a couple problems with this suggestion. First, notice that for every proposition P, there is a strictly logically equivalent proposition of the form, everything is such that P. For example, <Peter van Inwagen exists> is strictly logically equivalent to <everything is such that Peter van Inwagen exists>. Should we say, then, that every proposition corresponds to one and the same thing, E, merely by virtue of being strictly logically equivalent to a universal generalization? Surely not; no advocate of CTT would (or has). But if not, then we need a principled reason for saying that <there are no unicorns> corresponds E, whereas <Peter van Inwagen exists> does not. The point is this: we should not say that (1) corresponds to E merely because it’s logically equivalent to a proposition that’s about everything.

There is a further difficulty with thinking that (1) corresponds to E by virtue of being logically equivalent to a universal generalization. It is this: one might well doubt that universal generalizations are about E in the first place. Consider that E’s existence is contingent upon what exists in our world, whereas the aboutness (think intentionality) of
a universal generalization seems not to be. For example, the aboutness of "everything is a non-unicorn" would, one might think, be unchanged even if there were no concrete objects at all. But that means that if "everything is a non-unicorn" must correspond to something it is about, then in a world devoid of concrete objects, it is about something non-concrete. That might suggest that "everything is a non-unicorn" is about something non-concrete in our world, too.

That said, I certainly do not consider this first reason to be decisive. The matter of "aboutness" is murky, and someone might not find it entirely implausible to suppose that (1) is in fact about all things, especially if she perceives that supposition to be a consequence of CTT. Alternatively, one might diverge from the tradition and try to explain how a proposition may correspond to things it is in no sense about. I think aboutness considerations present a cost for those of us who find it counter-intuitive that someone’s shoelaces are among the things that "there are no unicorns" is about. However, others may assess the matter differently.

A second, and I think weightier, reason to doubt that (1) corresponds to E relies upon the following principle:

(INVARIANCE) If a proposition P corresponds to an object O, then necessarily, if O exists and is intrinsically unchanged, then P corresponds to O.

The main motivation to accept (INVARIANCE) is based upon the thought that a proposition corresponds to something by, in some sense, accurately describing its intrinsic character. For example, suppose that "Micah clapped his hands" corresponds to a complex that contains Micah and his hands. Then, it would seem that "Micah is

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10 Recall that I am assuming that propositions are necessarily existent (exist in all possible worlds). Arguments in support of this assumption are in Chapter 3.
clapping his hands> accurately describes that complex by virtue of its intrinsic character. If that’s so, then it may seem that the only ways to prevent <Micah is clapping his hands> from accurately describing (and so corresponding to) the complex in question are to change the intrinsic character of the complex or to destroy the complex altogether. It then follows that <Micah is clapping his hands> accurately describes (and so corresponds to) the same complex in every world in which that complex exists and is intrinsically unchanged. This reasoning can be applied to any true proposition, of course, and in light of such reasoning, I suspect that many, though perhaps not all, advocates of CTT would regard (INVARINCE) as a background assumption concerning the nature of correspondence.

I will now explain why E is not the object of correspondence for (1) if (INVARINCE) is true. Let W+ be a world that contains E as a proper part. For example, suppose W+ contains a few more protons than our world does.\textsuperscript{11} Then, if W+ were to obtain, (1) would correspond to E, given (INVARINCE). But if W+ obtained, then (1) would not correspond to E: why E rather than the sum of all things in W+? Or, suppose \( W+ \) is a world that contains E as a proper part plus a planet of unicorns. If (1) corresponds to E in our world, then shouldn’t it correspond to E in every world in which E exists (and is intrinsically unchanged)? It would if (INVARINCE) is true. Yet, (1) clearly does not correspond to E in \( W+ \), for (1) is false in \( W+ \). Proposition (1) is false

\textsuperscript{11} I am assuming here that if E exists, then there is a world in which E is a proper part. This assumption is based in part upon the assumption that if there is a sum of everything, then that’s because mereological universalism is true: every plurality of things forms a sum. I am also assuming here (pace David Lewis) that the very protons that exist in our world might have been accompanied by additional protons. I take it that most advocates of CTT accept these assumptions.
there because there are unicorns there, and (1) says that there are no unicorns. It seems, then, that (1) does not correspond to E in our world, either.

The World’s Lacking Unicorns

A similar proposal to the one above is that Tom—the object to which (1) corresponds—is a concrete (Armstrong) state of affairs of reality’s lacking unicorns (see Moreland and Craig 2003, p. 137; Merricks 2007, pp. 46-7), where ‘reality’, I presume, refers to E, which is the sum of all things (all concrete things, at least). (Or, it refers to the plurality of all the things in the actual world.) Let L be the state of affairs of E’s lacking unicorns. The proposal is that (1) corresponds to L.

The same pair of reasons I offered against the previous proposal count against this one. First, (1) does not seem to be about the parts of L, which it should be if (1) corresponds to L. (1)’s being about L’s parts is no more plausible than (1)’s being about my right pinky finger, but if (1) is about L’s parts, then (1) is about all things, including my right pinky finger. Moreover, it seems implausible that (1) would correspond to the state of affairs of my pinky finger’s lacking unicorns12 were my pinky finger and its parts the only concrete things. These things are implausible, I say, because (1) is not, and cannot be, about a pinky finger.

Second, and more important, if (1) corresponds to L, then (INVARIANCE) is false. For, consider a world that contains E plus a planet of unicorns: in that world (1) is false, 

12 Or to the state of affairs consisting of my pinky finger plus the necessarily existing things lacking unicorns.
yet L still exists *there* (and is intrinsically unchanged). Therefore, it doesn’t look as though (1) corresponds to L in our world.

**The Parts of the World Being Non-Unicorns**

It might be thought that (1) corresponds to a concrete state of affairs of all things being a non-unicorn (cf., Russell 1985, p. 103). (I will later consider the option that (1) corresponds to an *abstract* state of affairs.) The term, ‘all things’, in this case is a plural reference term referring to each and every thing at once.\(^{13}\) The proposal here is that (1) corresponds to many things jointly, rather than to just one thing.

This view faces the same difficulties that the views above face. For example, in a world containing a single pinky finger, (1) corresponds to *the pinky’s being a non-unicorn*. But in the actual world, (1) corresponds to something much different. Therefore, on this view, (1) fails to correspond to the same thing in every world in which that thing exists (and is intrinsically unchanged), which contradicts (**INVARIANCE**). Second, (1) does not seem to be about every single thing under heaven and in heaven, including my shoelaces, my family members, and the number 9; yet, if (1) corresponds to everything’s being a non-unicorn, then (1) would be about every single thing. Therefore, this proposal seems no better than the previous ones.

**The Totality State**

\(^{13}\) If ‘all things’ is instead treated as a universal quantifier, then the state of affairs of *all things being a non-unicorn* would be the state of affairs of *everything’s being a non-unicorn*, and that state of affairs is not concrete (it cannot be concrete because it would still exist even if there weren’t any concrete things, assuming (1) would still be true). I will consider the proposal that (1) corresponds to an abstract state of affairs later.
Merricks (2007, pp. 64, 173-4) thinks that among the unsuccessful proposals for what “negative facts” might be, the most plausible is what Armstrong calls the *totality state*. It is a *second-order* state of affairs of the *first-order* states of affairs being all the first-order states of affairs (Armstrong 1997, pp. 200-1). (Alternatively: the totality state is the state of affairs of the *concrete objects* being all the concrete objects that there are.) Armstrong introduces the notion of a ‘totality state’ to account for *truth-makers* of negative propositions. I am not concerned with truth-makers (not directly), however. My concern here is to see whether the totality state can be an *object of correspondence* for negative propositions like (1).

I have two reasons to think Armstrong’s totality state, call it T, is not an object of correspondence for (1). The first reason begins with the premise that T would not exist if there were fewer than two dogs. T would not exist then because T is supposed to be the object of correspondence (and truth-maker) for *every* negative proposition, including &lt;there are not fewer than two dogs&gt;. As a result, if T *were* to exist in a world containing exactly one dog, then &lt;there are not fewer than two dogs&gt; would still correspond to T (by *(IN VARIANCE)*)) and so be true, which is contradictory. Therefore, if there were exactly one dog, then (1), though still true, would not correspond to T. Therefore, (1) can correspond to something *other than* T. I take this result to be untoward: it seems to me that (1) should not be able to change with respect to the sort of thing it accurately describes, for it seems to me that a defining, unchangeable feature of a proposition is its intentional nature (what it’s about) and that true propositions would only ever accurately describe what they are about. Those who agree (e.g., Merricks 2007) may conclude that (1) doesn’t correspond to T in the actual world (because it accurately describes something
other than T in a world in which there are fewer than two dogs). The argument just given can be stated in premise format as follows:

(M1) T is an object of correspondence for every true negative proposition [reductio assumption].

(M2) Proposition (1) is a true negative proposition [premise].

(M3) Therefore, (1) corresponds to T [from (M1) and (M2)].

(M4) <there are not fewer than two dogs> is a true negative proposition [premise].

(M5) Therefore, <there are not fewer than two dogs> corresponds to T [from (M1) and (M4)].

(M6) There is a world, W, at which there is exactly one dog and (1) is true [premise].

(M7) No proposition can change with respect to what it corresponds to.

(M8) Therefore, at W, (1) corresponds to T [from (M6) and (M7)].

(M9) For any world w, if at w, (1) corresponds to T, then at w, T exists [premise].

(M10) Therefore, at W, T exists [(M8) and (M9)].

(M11) Necessarily, if some p corresponds to some x, then for any world w, if x exists at w, then at w, p corresponds to x [by (INVARINANCE)].

(M12) Necessarily, if some p corresponds to some x, then p is true [axiom of CTT].

(M13) Therefore, at W, <there are not fewer than two dogs> is true [from (M5), (M10), (M11), and (M12)], which contradicts (M6).

A second reason to deny that (1) corresponds to T is that (1) does not seem to be about T (or its parts). If (1) were about T, then surely every true negative proposition would be about T (each negative proposition is an equally poor description of T). That means that <there are no unicorns> and <there are no hobbits> (say) each are about one and the same thing(s). But they don’t seem to be about the same thing(s). These
propositions are intuitively about different things: e.g., one seems to be about Hobbits (or the kind, *Hobbit*), whereas the other seems to be about unicorns (or the kind, *Unicorn*). Therefore, it seems that (1) is not about T and *ipso facto* does not correspond to T.

**A Primitive Negative Fact**

I do not know of any other serious hypotheses concerning what Tom might be if Tom is concrete, *other than* that Tom is unanalyzable (Cf. Beall 2000). However, if we say that Tom is unanalyzable, then why should we think that Tom is distinct from a proposition or something similar to a proposition? The difference between the unanalyzable *fact* that there are no unicorns and the *proposition* that there are no unicorns does not appear to be as stark as the difference between concrete things, such as tables and chairs, on the one hand, and abstract things, such as properties and relations, on the other. Therefore, it seems to me that unless we can analyze Tom in terms of familiar concrete things, we would have no basis for thinking that Tom belongs to an ontological category that is starkly different from the category of Proposition.

Let us put Tom aside for now and consider instead a negative proposition that appears to be solely about abstract objects:

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14 I will motivate the claim that (1) is about the kind, *Unicorn*, in Chapter 4.

15 J.C. Beall offers what he calls ‘the polarity theory’ of negative facts. According to this theory, each *positive* atomic fact can be represent as an ordered set whose elements include a bunch of things plus a relation in which those things stand. (There is already this problem: an ordered set of things and a relation does not represent the order in which the things stand in to that relation. I deal with this problem in Chapter 2.) According to Beall, for each representation of a positive atomic fact, we can represent the *negation* of that fact using an ordered set whose elements are the things that would exist were the positive fact to obtain plus a *polarity* relation—a relation that is basically the opposite of the relation that holds in the positive fact. We should not be misled by Beall’s set-theoretic representations of facts to think that Beall has offered an analysis of negative facts. That is, we should not be misled to think that Beall has given an account of how to construe negative facts in terms of things related: e.g., what things should be related for there to exist the negative fact that Socrates does not exist? Negative facts are still left unanalyzed.
(2) <<there are purple propositions> is not true>.

Proposition (2) is a negative proposition that does not seem to be about any concrete things: (2) is intuitively about a proposition that’s about purple propositions.\(^\text{16}\) (Recall: I am assuming that propositions are abstract things.) But advocates of CTT typically believe that propositions only correspond to things (or facts built up out of things) they are about. Thus, they are committed to thinking that (2) does not correspond to any concrete thing(s) if they accept that (2) is not about any concrete thing(s). If (2) corresponds to anything, it would seem to correspond to something abstract. Therefore, if CTT is correct, then it appears that (2) is true only if at least some negative facts are abstract.\(^\text{17}\) This conclusion is clearly not forestalled by simply treating negative facts as unanalyzable primitives.

\textit{Abstract Negative State of Affairs}

So far, I have argued that Tom is not concrete. I am aware of one proposal for what abstract thing Tom might be (David 2005): Tom is an abstract negative state of affairs, namely, the state of affairs of \textit{there being no unicorns}. According to this view, objects of correspondence are, in general, abstract states of affairs, and true propositions correspond to states of affairs that obtain. (These states of affairs are considered \textit{abstract} because they aren’t built up out of any concrete things.)

\(^{16}\) “How can a proposition be about something that doesn’t exist?” you ask. My answer is that aboutness is not a \textit{relational} property (cf. footnote 9): thus, a proposition could be \textit{about things} without there existing any things that the proposition is about.

\(^{17}\) What I say here does not apply to a \textit{fictionalist} nominalist: she will consider (3), and propositions like it, to be false.
This view has costs. For example, it entails that every true proposition corresponds to something abstract, but many advocates of CTT will find that implausible. They will find it implausible that <the cat is knocking the balls>, say, corresponds to something abstract, for that proposition seems to be wholly about concrete things, and advocates of CTT have traditionally thought that propositions only correspond to things they are, in some sense, about.

A further cost of the view is that it analyzes truth in terms of obtaining. But what is it for a state of affairs to obtain? The whole point of the correspondence theory of truth is to provide an explanation of truth in terms of the correspondence relation. So, if we say that a proposition is true by virtue of corresponding to a state of affairs just when that state of affairs obtains, then we’ve made no progress at all in saying what it is for a proposition to be true rather than false. We now want to know how abstract states of affairs manage to obtain—if you have to appeal to an abstract state of affairs to explain what it is for a proposition to be true, why don’t you have appeal to yet another kind of abstract thing to explain what it is for a state of affairs to obtain? Also, why should an abstract proposition have to correspond to something to be true, whereas an abstract state of affairs need not? If obtaining is not a relational property, then why should truth be? These are difficult questions, and I am skeptical that they have plausible answers. It seems to me that if truth is a relational property, then so is obtaining, and that whatever sort of account might be able to explain what it is for a state of affairs to obtain would be equally capable of explaining what it is for a proposition to be true. Therefore, I’m inclined to doubt that we can satisfactorily explain what it is for propositions to be true in terms of their correspondence to states of affairs that obtain.
1.3.1.2. Other Funny Facts

There are other propositions besides negative ones which do not seem to correspond to any concrete part of reality. I will discuss briefly the following examples:

(3) Universal Generalization: <every emerald is green>.
(4) Disjunctive: <either Sally loves Sue or Sue loves Sam>.
(5) Abstract Reference: <green is a color>.
(6) Tensed: <the Trojans were conquered>.
(7) Modal: <a three thousand story building could be constructed>.
(8) Counterfactual: <if the wind were to pick up, this pile of leaves would scatter>.

Consider (3) first. It is logically equivalent to a negative proposition: <there are no non-green emeralds>. Therefore, one might anticipate that we will have just as much trouble finding an object for (3) to correspond to as we had in finding an object for negative propositions to correspond to.\(^{18}\) (Indeed, it might be thought that every true universal proposition—<every A is B>—corresponds to the same thing as its negative counterpart—<there are no As that are non-B>.) Here is a brief survey of the trouble we will have. Suppose (3) corresponds to a concrete thing. We ask: which thing? The most obvious candidate is a sum G that contains each and every emerald. It is tempting to think that (3) corresponds to G because the maximally connected parts of G are all the

\(^{18}\) Russell and Wittgenstein were well aware of the problems posed by universal generalizations. One solution is to treat facts to which universal generalizations correspond as unanalyzed primitives. This solution admits that such facts are “funny” facts. We want to see, however, if CTT can do without funny facts.
emeralds there are and each is green. Unfortunately, trouble is at the doorstep. If there were exactly one emerald, then G would not exist, yet every emerald would still be green; that is, (3) would still be true. Alternatively, if there were the emeralds in G plus one blue emerald, then G would still exists alright, but (1) would then be false. Or: suppose all emeralds are green, but not essentially green. Then in some worlds G exists without there being any green emeralds. None of these are plausible results in light of (INVARiance). Therefore, (3) does not correspond to G.

But if (3) does not correspond to G, then what does it correspond to? An Armstrongian might suggest that (3) corresponds to the totality state—the state of affairs T of the first-order states of affairs being all the first-order states of affairs that there are. However, this proposal has a familiar problem. To see it, consider <every dog is related to another dog>. This proposition is a universal generalization, and therefore, it corresponds to T if (3) does. But if there were just one dog, then <every dog is related to another dog> would be false; hence, T would not exist. What follows is that if there were just one dog, then (3), though still true, would not correspond to T. Therefore, the Armstrongian proposal entails once again that a proposition can correspond to different things in different worlds, and some might find that to be implausible.

I do not know of any other serious candidates for what concrete thing(s) that T might correspond to. Therefore, I suspect that if (3) corresponds to something, it corresponds to something abstract. In Chapter 4, I will identify an abstract, “first-order” state of affairs (or fact) to which (3) may correspond.

Let us turn to (4). Proposition (4) is a disjunctive proposition. It is expressed by combining two disjuncts: <Sally loves Sue> and <Sue loves Sam>. Proposition (4) is true
if either of its disjuncts is true. Thus, given CTT-, (4) corresponds to something if either of its disjuncts corresponds to something.

What might (4) correspond to? Here’s one proposal: (4) corresponds to whatever it is that <Sally loves Sue> corresponds to whenever that proposition is true or else to whatever it is that <Tom loves Tim> corresponds to whenever that proposition is true. Since one of these two propositions could be true while the other false, this proposal entails that (4) can correspond to different things in different worlds, which I take to be implausible (though others may assess things differently).

What else, then, might (4) correspond to? There are the usual candidates: the sum of everything, the totality state, an unanalyzable disjunctive fact, and so on. But it is not difficult to see that each of these candidates falls prey to the sorts of objections we considered above—by leading, for example, to a violation of (INVARiance) or by positing the wrong kind of thing for (4) to correspond to. It is difficult to see, therefore, what concrete thing(s) (4) might correspond to given CTT-.

Nevertheless, there is a version of CTT that can help us out here: according to the tradition of the logical atomists (Wittgenstein 1921, Russell 191, Armstrong 1997, 2004), disjunctive propositions correspond derivatively.19 That is to say, they correspond by virtue of one of their atomic disjuncts corresponding non-derivatively to something. According to this proposal, propositions can be divided into atomic propositions of the form A is F (or the As jointly stand in R) and molecular ones, which are logical constructions of atomic ones. Then ‘correspondence’ may be defined recursively: for

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19 For an exposition on “derivative correspondence,” see Matthew Roberts 2006.
example, a proposition of the form $P \text{ or } Q$ can be said to correspond to something if and only if $P$ corresponds to something or $Q$ corresponds to something. An atomic proposition can be said to correspond to something if and only if it corresponds (in the non-derivative sense) to something, typically something concrete. This is an example of CTT+, as it is more complicated than the view that truth just is correspondence (in the simple, non-derivative sense) to something. Thus, disjunctive propositions might not pose a special problem for CTT if logical atomism is true.

However, there are many other propositions that logical atomism does not handle so well. For example, there is (3): <every emerald is green>. It is not clear how (3)’s truth conditions might be analyzed in terms of the truth conditions of (3)’s constitutive atomic parts. It will not do, for example, to say that (3) is true if and only if for every emerald in the actual world, there is a true proposition that says of that emerald that it is green. That will not do given that (3) can still be true even if some of the propositions about emeralds in our worlds are false. It appears, then, that (3)’s truth is not analyzable in terms of the truth of atomic propositions about the emeralds in our world. Thus, if (3) is to correspond to something, it must correspond non-derivatively. But as we have seen in our discussion of (3), there appears to be no concrete thing(s) that (3) non-derivatively corresponds to.

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20 I have found just one proponent of logical atomism who (in a dissertation) advocates the position that atomic propositions can correspond to abstract things (Roberts 2006, p. 163).
Therefore, logical atomism fails to offer a plausible account of how (3) might correspond to something concrete.\(^{21}\) The same is so for propositions (5) – (8), as we shall see.

Consider (5), which says that green is a color. Proposition (5) appears to be a necessary truth: it is necessary that green is a color.\(^{22}\) But if (5) is necessarily true, then its object of correspondence is necessarily existent (assuming that (5) cannot correspond to different things in different situations). The problem is that there do not appear to be any necessarily existing concrete things to which (5) might plausibly correspond. Every green object, for example, is surely contingent (non-necessary). The same is so for concrete sums or classes of green objects: they are contingent.\(^{23}\) The traditional candidates for necessarily existing concrete things are the Anselmian God, fundamental particles, and the physical universe. But (5) surely doesn’t correspond to a divine being, a fundamental particle, or the physical universe. Therefore, it is doubtful that (5) corresponds to anything concrete.\(^{24}\)

Someone might suggest that (5) corresponds to a necessarily existent unanalyzable, concrete fact. But if one says that, then one won’t be able to explain why

\(^{21}\) I leave it open for a logical atomist to say that (4) corresponds to something abstract. However, as will become clear in proceeding chapters, if we can find an abstract object for (4) to non-derivatively correspond to, then we will lose motivation to favor logical atomism over the simpler CTT-.

\(^{22}\) I hope no one will object that (5) is not necessary solely because of the thought that the existence of green is not necessary. If someone thinks the existence of green (the property) is not necessary, then she should interpret (5) as saying that if there are green things, then there are colored things. Surely, that’s necessary.

\(^{23}\) Of course, if an advocate of CTT is willing to accept a Lewisian framework of possible worlds, then she may suppose that there is a necessarily existing concrete sum of green objects—of all possible green objects; that is, she may suppose that green objects literally exist within concrete spatio-temporal universes causally disjoint from our own, and that to talk of “possible” objects is to talk of concrete objects in these other universes. I offer no objection to this supposition, though I suspect that a minority of advocates of CTT would accept it.

\(^{24}\) Trans-world sums aside. See previous footnote.
this unanalyzable *concrete* fact falls under a different ontologically category than the *abstract* proposition that corresponds to it. That’s a problem (or cost).

Might logical atomism help us out here? I believe not. Logical atomism can only come to the rescue if the truth conditions of (5) can be analyzed in terms of the truth conditions of certain atomic parts. But the truth conditions of (5) cannot, it seems, be analyzed in terms of the truth conditions of atomic parts: what parts might those be? I conclude, therefore, that (5) probably does not correspond to something concrete on any version of CTT.

Let us turn to (6), which says that the Trojans were conquered. We may call (6) a ‘tensed proposition’ because it is expressible using tense—in this case ‘were’—to say what happened in the past. (I suggest that (6) be called ‘tensed’ regardless of whether or not tensed terms can be translated into tenseless terms.) On some theories of time, it might not be difficult to find a plausible concrete object of correspondence for (6). For example, on the so-called *eternalist* view of time, there are concrete things that are temporally located in the past. An eternalist might suppose that there is a concrete event (perhaps a Kim event or an Armstrong state of affairs) in the past that consists of the Trojan army instantiating (say) the property, *being conquered at a time before (6) was expressed*. Perhaps, then, (6) corresponds to a past event, J, that contains the Trojan themselves.25

That answer is not compatible with *presentism*, however, for presentists do not think that there are any concrete things temporally located in the past. Hence, presentists

25 I will have more to say about this proposal in Chapter 4.
cannot appeal to J as the thing to which (6) might correspond because J does not exist. As a result, it might be argued that presentism is incompatible with CTT (cf. Rea 2006). To reply, Thomas Crisp has proposed that (6) is “grounded by” by a system of relations between abstract times (2007). I will argue in Chapter 4 that this proposal is in the right ballpark if presentism is true. (I will propose a neighbor of it.) But if Crisp’s proposal, or a neighbor of it, is correct, then (6) doesn’t correspond to anything concrete. This seems to be a problem given that (6) appears to be about concrete things—the Trojans. Therefore, tensed propositions present a problem for advocates of CTT who are presentists.

Consider next modal truths. Given certain views about time and modality (i.e., presentism and actualism), modal truths are like tensed truths: both can be about things that do not exist. For example, (6) is about the Trojans, though if presentism is true, the Trojans no longer exist. Similarly, (7) is about a three thousand story building, though unless there are Lewis worlds (causally isolated spatial-temporal universes), no such building exists. Therefore, (6) cannot correspond to something that contains the Trojans if presentism is true, and (7) cannot correspond to something that contains a three thousand story building if there are no Lewis worlds. (I am assuming that a proposition cannot correspond to something that does not exist.) Therefore, the challenge for advocates of CTT who reject Lewisian modal realism is to find an object or objects to which (7) might plausibly correspond to other than concrete buildings.

Turn finally to (8), <if the wind were to pick up, then this pile of leaves would scatter>. Proposition (8) is a counterfactual—a would-conditional. It says what would be true given certain circumstances. What concrete thing or things might guarantee the truth
of (8) by virtue of their existing? The existence of *leaves* doesn’t guarantee the truth of (8): imagine a world in which the wind picks up but the leaves do not scatter because someone holds them in place. It might be thought that the truth of (8) is guaranteed by the existence of a concrete (Armstrong) state of affairs, L, consisting of the leaves having certain dispositional properties (cf. Fumerton 2002, p. 93). Maybe so. However, there is still a problem: (8) can apparently be true even if L doesn’t exist. For example, consider a world, w, in which the following two conditions hold: (i) the leaves don’t have the disposition to scatter in the wind (perhaps because the leaves are tied to a branch); and (ii) there is a crazy man who has the disposition to scatter those leaves (madly pulling them off their branches) if and only if the wind picks up. In w, (8) is true, but L doesn’t exist. Therefore, (8) cannot correspond to L in w. And therefore, (8) does not correspond to L in the actual world (if, as some think, a proposition cannot correspond to different things in different worlds).

There is an additional problem. Propositions ought to correspond to things they are about, but some seemingly true counterfactuals are intuitively not about any existing concrete things. Consider for example,

(9) *<If there were unicorns on top of a 4,000 story building, they would hesitate to jump off>*.

Proposition (9) is intuitively *not* about any existing concrete objects: there are no unicorns, and no buildings are 4,000 stories high (putting aside Lewisian modal realism). One might reply by simply denying that (9) has a truth-value (Fumerton 2002, p. 94). But

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(9) seems to have a truth-value—it seems true. I conclude, therefore, that at least some true would-conditionals do not plausibly correspond to any concrete thing.

In summary, there appear to be many propositions that do not correspond to anything concrete. Therefore, if they correspond to anything at all, it seems they correspond to something abstract. What kind of abstract thing? There has been one proposal: abstract states of affairs that can exist without obtaining. One problem I mentioned with that proposal is that some propositions, when true, seem to correspond to concrete things (for example, <Tibbles is knocking the balls>). Therefore, it would be desirable to have a theory of the objects of correspondence that allows some of them to be concrete and others to be abstract.

1.3.2. The Problem of Matching

As I noted earlier, a common criticism of CTT is that it does not tell us what the correspondence relation is. The main motivation for this criticism is what I call, ‘the Problem of Matching’. This is the problem van Inwagen (1986) calls the ‘the Lewis-Heidegger Problem’. It is named after David Lewis and Martin Heidegger because they each express a concern over how abstract propositions can manage to match up with the concrete world. Heidegger (1967, p. 78-9) puts the problem this way:

We speak of corresponding [übereinstimmend] in various senses. We say, for example, when confronted with two five-mark coins on the table: they correspond with one another. They are in accord by the oneness of their outward appearance. Hence, they have this appearance in common, and thus they are in this respect alike. Furthermore, we speak of correspondence whenever, for example, we state regarding one of the five-mark coins: this coin is round. Here the statement corresponds to the thing. Now the relation holds, not between thing and thing, but rather between a statement and a thing. But wherein are the thing and the statement supposed to agree, considering that the relata are manifestly different in their outward appearance? The coin is made of metal. The statement is not
material at all. The coin is round. The statement has nothing at all spatial about it. With the coin, something can be purchased. The statement about it is never a means of payment. But in spite of all their dissimilarity the above statement, as true, corresponds to the coin. And according to the usual concept of truth this correspondence is supposed to be a matching. How can what is completely dissimilar, the statement, match the coin? …How is the statement able to match something else, the thing, precisely by persisting in its own essence?  

Lewis (1986, p. 180) expresses his concern as follows:

We are now supposing that this making true has nothing to do with the distinctive natures of propositions—they haven’t any—but it still has to do with what goes on in the concrete world. Necessarily, if a donkey talks, then the concrete world makes these propositions true; if a cat philosophizes, it makes those true; and so on. I ask: how can these connections be necessary? It seems to be one fact that somewhere within the concrete world, a donkey talks; and an entirely independent fact that the concrete world enters into a certain external relation with this proposition and not with that. What stops it from going the other way? Why can’t anything coexist with anything here: any pattern of goings-on within the concrete world, and any pattern of relations of the concrete world to the propositions?

Lewis wonders how any proposition that has no distinctive nature of its own should be matched up with a certain concrete thing: how does the proposition “know” which things to match up with? Heidegger wonders how a proposition should match up with concrete things given that the proposition’s nature is so starkly different from the nature of any concrete thing. The Matching Problem, then, in a nutshell is the problem of seeing how truth-bearers should match (or correspond to) things so vastly different from themselves.

I believe the best way to solve the Matching Problem is to offer a precise analysis of the correspondence relation. As I indicated earlier, the analyses offered so far typically define ‘correspondence’ in terms of semantic properties of sentence tokens or intentional

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27 This translation is taken in large part from McNeill’s translation in Heidegger (1998).
properties of our contingently existing concepts. I believe this is a mistake since I believe truth-bearers are necessarily existing things (as I shall argue in Chapter 3).

1.3.3. The Problem of the One Big Fact

It has been argued by various philosophers that given certain standard assumptions about facts and the correspondence relation, we may derive the absurd consequence that every proposition corresponds to one and the same fact. (For a catalogue of such arguments tracing back to Kurt Gödel and others, see Neale 2001.) I will summarize the assumptions of the argument as presented by Mulligan and Correia (2007) and explain why advocates of CTT might accept those assumptions.

I will begin with what I call ‘the semantic assumption’. The semantic assumption can be stated as follows:

(10) Any two propositions correspond to the same fact if they are expressible by semantically equivalent sentences, where

(11) ‘P is semantically equivalent to Q’ =def ‘The only difference between P and Q is that in place of a definite description in Q, P has a definite description that refers to the same thing as the definite description in Q’.

An example will help. Let ‘P’ name the sentence, ‘The star named, ‘Hesperus’, is a planet’, and let ‘Q’ name the sentence, ‘There star named, ‘Phosphorus’, is a planet’. P and Q are semantically equivalent because the only difference between them is that Q replaces the definite description, ‘the star named, ‘Hesperus’’, with ‘the star named, ‘Phosphorus’’, yet those definite descriptions both refer to the same thing—Venus. We may notice that P and Q express similar (some would say identical) propositions. Let’s call the propositions expressed by P and Q, ‘<P>’ and ‘<Q>’ respectively. Both propositions are intuitively about one and the same thing (Venus). It is natural, therefore,
to think that both correspond to the same thing. Moreover, the idea that semantically equivalent propositions correspond to the same thing (or things) falls out of theories that analyze correspondence in terms of an isomorphism between linguistic or conceptual items, on the one hand, and the referents of those items, on the other: for example, a proposition expressed by a sentence corresponds to the things referred to by the terms composing that sentence; or, the propositional content of a thought corresponds to the things that the concepts composing the thought pick out. For this reason, the semantic assumption is attractive to many advocates of CTT.

A certain Russellian might offer the following reply. Sentences P and Q should be translated via a Russellian expansion as follows: P = ‘there is a unique object identical to the star named ‘Hesperus’, and whatever is identical to the star named ‘Hesperus’ is a planet’; Q = ‘there is a unique object identical to the star named ‘Phosphorus’, and whatever is identical to the star named ‘Phosphorus’ is a planet’. Given these translations, it may no longer seem evident that P and Q express propositions that correspond to one and the same thing (see Mulligan and Correia 2007). It may instead seem that the propositions expressed contain distinct universal generalizations and so correspond to distinct facts. In the case of P, what is expressed is a proposition that corresponds to a conjunctive fact that contains as a conjunct, <whatever is identical to the star named ‘Hesperus’ is a planet>$_{FACT}$. Sentence Q, by contrast, expresses a proposition that corresponds to a fact that contains as a conjunct, <whatever is identical to the star named ‘Phosphorus’ is a planet>$_{FACT}$. And these facts may very well be distinct facts. Therefore, we should reject the semantic assumption because it implausibly entails that <P> and <Q> correspond to one and the same fact.
Against the above reply, however, it may seem implausible that P expresses a proposition that is itself a conjunction, one of whose conjuncts is a universal generalization. For example, <the star named, ‘Hesperus’, is a planet> may not seem to be identical to a proposition that contains a universal generalization (namely, <whatever is identical to the star named ‘Hesperus’ is a planet>) plus an additional conjunct (namely, <there is a unique object identical to the star named ‘Hesperus’>). P may not seem to be nearly so complicated. More generally, it may seem implausible that every sentence that uses a definite description to ascribe a property to an object expresses a conjunctive proposition that contains as a conjunct a universal generalization. Therefore, some philosophers might find it implausible that P may be translated as ‘there is a unique object identical to the star named ‘Hesperus’, and whatever is identical to the star named ‘Hesperus’ is a planet’.

Of course, Russell’s theory of definite descriptions has its virtues, and committed Russellians will think these virtues outweigh the consideration just given. I do not wish to get entangled in a discussion on Russelianism. I have registered one reason one may have for doubting the Russelian reply to the semantic assumption, but if someone thinks it better to reject the semantic assumption on the basis of Russelianism, she is certainly free to do so (though, note, that the task of finding adequate objects of correspondence for universal generalizations is all the more pressing if every proposition of the form The F is G necessarily contains a universal generalization). My goal here is merely to indicate why an advocate of CTT might find the semantic assumption plausible, despite the Russelian reply.

The second assumption in the Slingshot Argument is this:
(12) All logically equivalent propositions correspond to the same fact.

If one supposes that propositions correspond to complexes of concrete things (as believers in CTT typically do), then it is easy to see why one might accept (12). Concrete things are normally freely recombinable: that is, for any two concrete things, one can exist without the other. (If there are rare exceptions, that will not matter much, for the Slingshot Argument would still be able to conclude that a significant portion of true propositions correspond to the same fact.) If distinct concrete things are freely recombinable, then any two logically equivalent, true propositions will always correspond to the same concrete thing (or things) as each other, for if they were instead to correspond to different concrete things, then because the propositions are equivalent, the things they would correspond to would not be freely recombinable (assuming (INVARiANCE)). Therefore, if we suppose that the correspondence relation relates propositions to complexes of concrete things, and if we accept that concrete things are freely recombinable, then we are committed to (12). I will call (12) ‘the logical assumption’.

Given the semantic and logical assumptions, it can be shown that every true proposition corresponds to one and the same fact. To see this, let S and T be any two true propositions. Then, we can show that S and T correspond to one and the same fact as follows:

(13) S is logically equivalent to Q, where Q = \(<\text{the philosopher } x, \text{ such that } (x \text{ is Peter van Inwagen and } S \text{ is true}), \text{ is Peter van Inwagen}>\).

(14) Q is semantically equivalent to R, where R = \(<\text{the philosopher } x, \text{ such that } (x \text{ is Peter van Inwagen and } T \text{ is true}), \text{ is Peter van Inwagen}>\).

(15) R is logically equivalent to T.
Therefore, given the semantic and logical assumptions, S, Q, R, and T all correspond to the same thing.

The only premise that deserves further clarification, I think, is (14). Premise (14) states that Q is semantically equivalent to R. To see why that is so, notice that the only difference between Q and R is that Q uses the definite description, ‘the philosopher x, such that (x is Peter van Inwagen and S is true)’, in the place where R uses the definite description, ‘the philosopher x, such that (x is Peter van Inwagen and T is true)’. These two definite descriptions refer to the same thing, namely to Peter van Inwagen. It follows, therefore, that Q and R are semantically equivalent.

The conclusion of the Slingshot Argument is problematic, of course: not every proposition is about the same thing; not every proposition describes the same thing. Therefore, not every true proposition should correspond to the same thing. But according to the Slingshot Argument, the semantic and logical assumptions jointly entail that every true proposition corresponds to the same thing. Therefore, advocates of CTT must reject the semantic assumption or the logical assumption (or both).

As I have explained, the semantic and logical assumptions fall out of certain common views about the nature of correspondence and of the objects of correspondence. A successful reply to the Slingshot Argument, then, will require a theory of correspondence that is not committed to those views. In later chapters, I will develop a theory of correspondence according to which equivalent propositions may correspond to distinct abstract things. Thus, I will argue against the logical assumption.
1.4. Conclusion

I have presented the central metaphysical problems for CTT. I maintained that proposed solutions to these problems are inadequate or bear certain costs. A common defect of many solutions is that they require that the objects of correspondence be complexes of concrete things (such as a sum of all concrete things). This leads to trouble since many propositions do not plausibly correspond to any concrete things. I considered one proposal according to which the objects of correspondence are all abstract states of affairs. But this view, too, leads to trouble given that many propositions seem to be wholly about concrete things. I believe, therefore, that the root problem with contemporary defenses of CTT is that they have failed to articulate an adequate metaphysical account of the objects of correspondence. Developing a metaphysical account of the objects of correspondence is the task I shall turn to next.
2.1. Introduction

“The chief difficulty is to find a notion of fact that explains anything.” (Davidson 1969, p. 748)

In this chapter, I will develop a theory of facts, the objects to which true propositions correspond. The theory in a nutshell is this: a fact is a complex of things that are related to one another in such and such a way. Thus, facts have parts, and facts depend upon their parts being related in the right way. On this account, we might call a fact a ‘complex of things related’, or more simply, an ‘arrangement’. In the following sections, I will say more precisely what arrangements are and what kinds of arrangements there can be.

2.2. Facts as Arrangements

Consider an example: the fact that Tibbles (the cat) is on the mat. (Suppose there is such a fact.) Call this fact, T. I propose that T is a complex of related things. It is an arrangement that exists if and only if Tibbles is on the mat. There are two defining features of T: (i) there is the feature of having parts, and (ii) there is the feature of being
essentially such that its parts are related in the right way. I will next explain what it means precisely for something to have these features.

2.2.1. Having Parts

Consider first the feature of having parts. What I mean when I say that something has parts is simply that there is at least one thing (distinct from it) that is a part of it. To tell you what I mean by ‘is a part of’, I will do no more than point to its ordinary usage: I mean by ‘is a part of’ the same thing the woman on the street means by ‘is a part of’ when she says that her sandwich is a part of her meal; or when Tom says that the paragraph he just read is part of an Internet blog; or when Alex says he heard [something that is a] part of the song; and so on.\(^{28}\) I assume that in each of these examples, the term, ‘is a part of’, means the same thing, or that there is a general meaning in common between them. So by ‘is a part of’, I have in mind the most general meaning that it might have when ordinarily used by ordinary English-speaking folk. I will assume that men and women on the street would find it unintelligible (or at least incorrect) to say that something is a part of itself. So, whenever I talk of parts, I’m talking of proper parts, unless otherwise specified. That is all I have to say about parts here. In a later section, I will say something about what kinds of things can be parts.

\(^{28}\) I’m assuming that ‘x is part of y’ is semantically equivalent to ‘x is something that is a part of y’.
2.2.2. Being Arranged

I hope I have conveyed at an *intuitive* level what it means for things to be arranged into an arrangement. The remainder of this section is devoted to constructing a formal definition that adequately captures and further clarifies that intuitive idea.

Here is a first pass at a definition of ‘arrangement’:

(1) ‘x is an arrangement of the y’s’ =def ‘x is a mereological sum of the y’s, x is not one of the y’s, and $\forall n (n is the number of the y’s, \exists R (R is an n-term relation, such that necessarily, x exists if and only if the y’s stand in R)’,

where

(2) ‘x is a mereological sum of the y’s’ =def ‘$\forall z (if z is one of the y’s, then z is a part of x or z = x)$ and $\forall z (if z is a part of x, then \exists w, (w is one of the y’s and \exists u ((u is part of z or u = z) and u is part of w))’.

Definition (1) says that an arrangement is a complex—a mereological sum—whose existence depends upon and is guaranteed by its parts jointly standing in the right relation. The definition is expressed in terms of ‘x is a mereological sum of the y’s’, which may be translated as basically saying that only the y’s not identical to x plus anything that is part of or made up of only those same y’s are parts of x.

This definition of arrangement may appear to capture the intuitive idea of an arrangement, but upon closer inspection, we will see that it does not. Suppose that Tibbles crawls off the mat and then makes his way under the mat. Now the mat is on top of Tibbles. This situation (or fact) can be represented as follows:

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29 This definition is equivalent to the definition expressed by Peter van Inwagen (2006b, pp. 616 – 17).

30 This definition was suggested to me by Peter van Inwagen.
Notice that in this case the arrow is pointing from the mat to the cat, rather than from the cat to the mat; it is the mat that is sitting on top of the cat this time. Surely, this is a different arrangement than T. T no longer exists now. Notice, however, that the cat and the mat still stand in \(<\text{sitting on}>_R\), where ‘\(<\text{sitting on}>_R\)’ is used to abbreviate, ‘the relation of sitting on’. It is just that the order in which they stand in that relation has been reversed.

Therefore, it is difficult to see what “arrangement” T might be. Consider, for example, a complex T* that has Tibbles and the mat as its only parts and whose existence depends upon its parts standing in \(<\text{sitting on}>_R\). T* counts as an arrangement according to (1). But T* is clearly not T. T* is not as “modally sensitive” as T, for T* exists whether the cat is on top of the mat or under it, whereas T only exists when the cat is on top of the mat. The problem is that nothing as modally sensitive as T seems to count as an arrangement if arrangements are what (1) says they are. The reason is that T’s existence depends not only upon there being a certain relation in which its parts stand, but it also depends upon its parts standing in that relation in the right order.

To build order into the definition, we might try the following modification:

\[
(3) \quad \text{`x is an arrangement of the ys'} =_{\text{def}} \text{`x is a mereological sum of the ys, x is not one of the ys, and } \forall \bar{n} (\text{if n is the number of the ys, } \exists R \exists \bar{O} (R \text{ is an n-term relation such that, necessarily, x exists if and only if the ys stand in R in order } \bar{O})').
\]

The strategy here is to build into our definition of ‘arrangement’ the order in which the parts of an arrangement must stand in for that arrangement to exist. Unfortunately, this strategy has a couple problems. First, (3) uses the term, ‘order’, but it is not clear what an
order is supposed to be. It is not a relation, since things stand in relations to things, but things do not stand in an order to things; rather, things stand in a relation in an order. What, then, is an order? I think things would be clearer if we could define ‘arrangement’ without using the term, ‘order’.

The second problem with (3) is that it precludes the possibility of arrangements having infinitely many parts. This is a problem because it seems conceptually possible for there to be arrangements with infinitely many parts: take, for example, an arrangement consisting of infinitely many overlapping regions of space. We shouldn’t rule out this conceptual possibility by definition, but (3) rules it out because (3) requires that the parts of an arrangement stand in an n-term relation, where n is a finite number.31

I believe (3) is on the right track, however. What is needed is a definition that captures what (3) is intuitively designed to capture and that places no bound on how many parts an arrangement can have. I believe the following definition will do the trick:

(4) ‘x is an arrangement of the ys’ = def ‘∃ys∃Rs (the Rs are binary relations and x is a mereological sum of the ys, x is not one of the ys, and ∃z (z is a proposition that entails a way in which the ys stand in the Rs, such that z entails <x exists>, and <x exists> entails z))’, where

(5) ‘x is a proposition that entails a way in which the ys stand in the Rs’ = def ‘x is a proposition, and

31 Fact theorists have generally not addressed how to express the order in which things exemplify a relation. Consider, for example, an axiom proposed by Zalta in his theory of “situations” (or facts):

Relations: [∀ϕ]∃F∀y1 . . . ∃yn(Fy1 . . . yn ↔ ϕ), where ϕ is an “exemplification condition” that has no free Fs, no encoding subformulas, and no quantifiers binding relation variables (Zalta 1993, p. 405).

Notice that the order in which x1…xn stand in to F is not specified. This means that exemplification conditions are not fine-grained enough to distinguish between (say) the cat being on the mat and the mat being on the cat; it also means that there are no exemplification conditions about an infinite number of things. There are similar limitations to Quine’s theory of predicate functors (1960) and Beall’s theory of negative facts (2000).
Let’s take a closer look at (4) and (5). According to (4), for any given arrangement A, there is certain proposition P that entails a way in which the parts of A stand in certain relations. Proposition P does the work that we tried to do using the term, ‘order’. It does that work because according to our definition, P entails that the parts of A stand in certain relations \textit{in a certain order}. Consider how this definition applies to T. T is an arrangement because it has parts and there is a proposition that entails that those parts are arranged a certain way, such that (necessarily) T exists if and only if that proposition is true. For example, there is the proposition that Tibbles is on the mat, which we may abbreviate as \(<\text{Tibbles is on the mat}>\). This proposition entails that the parts of T are arranged in a certain way, and the proposition is true if and only if T exists.

Definition (5) is a precise statement of what it means for a proposition to entail a way in which things are arranged. It has two main clauses: the first clause basically says that the proposition in question entails of each specified relation \(r\) in the arrangement that a part of that arrangement bears \(r\) to another part of the arrangement; the second clause basically says that the proposition entails of each part of the arrangement that it stands in one of the specified relations to another of the parts or vice-versa. (I included the “vice-

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32 By ‘\(x\) is a proposition’, I mean that \(x\) is a primary bearer of truth and falsity: i.e., \(x\) is something a person may believe, assert, deny, and so on. I assume that this definition of ‘\(x\) is a proposition’ is pre-philosophically intuitive. (That isn’t to say that propositions cannot be further analyzed. In Chapter 3, I will offer an analysis of propositions in terms of arrangements of individual essences. The analysis of propositions in terms of arrangements doesn’t lead to viciously circularity if we can \textit{understand} the analysis of arrangements in terms of propositions without already having to understand the analysis of propositions in terms of arrangements.)
versa” clause because there can be a part of an arrangement that does not stand in any of
the specified relations to something, though some other part of that arrangement stands in
one of the specified relations to it.)

Notice that I expressed (5) in terms of binary relations. I did this to avoid having
to talk about the order in which an arbitrarily complex relation holds. (For some of the
difficulties with defining the order for arbitrarily N-ary relations, see van Inwagen 2006.)
The use of binary relations here depends upon the assumption that given an x, y, and
relation R, ‘x stands in relation R to y’ is meaningful and does not merely mean the same
thing as ‘x and y stand in R’. In other words, I assume that we can build “order”
(direction) into the meaning of expressions of the form, X stands in R to Y. If such
expressions make sense, then (5) should make sense. 33

If someone doubts that ‘x stands in R to y’ is semantically distinct from ‘x and y
stand in R’, then she is free to interpret ‘x stands in R to y’ as meaning the same as ‘x and
y stand in r’ (or as ‘x and y jointly exemplify r’). This interpretation will allow (but won’t
require) there to be arrangements, such as T*, which are less modally sensitive than T. 34 I
do not believe anything crucial to the theory of facts turns on this result.

33 Cian Dorr (2004) has argued that expressions like ‘A bears R to B’ (or ‘A stands in R to B’)
only make sense if there aren’t any non-symmetric relations (cf. van Inwagen 2006). I’m not wholly
opposed to this result. However, one way one might escape Dorr’s argument is to eliminate ‘bears’ (and
‘stands in’) talk altogether, perhaps by converting expressions of the form, ‘A bears R to B’ to ones of the
form ‘A Rs B’ or to ‘A is R B’: for example, ‘Sue bears love to Sally’ becomes ‘Sue loves Sally’; ‘Sue
bears to the left of to Sally’ becomes ‘Sue is to the left of Sally’. If we eliminate ‘bears’ (and ‘stands in’),
than we should modify (5) by replacing ‘x entails <y stands in R to z>’ in clause (i) with ‘x entails <y and z
jointly exemplify R>’, and replacing ‘either (x entails <w stands in r to z>) or (x entails <z stands in r to w>)’
in (ii) with ‘x entails <w and z jointly exemplify r>’.

34 Even without this interpretation (i.e., interpreting ‘x stands in R to y’ as the same as ‘x and y
stand in r’), the definition of ‘arrangement’ allows there to be arrangements like T* if there are disjunctive
binary relations, such as <on top of or below>r. For more on this suggestion, see the next paragraph of the
main text.
Someone might wonder whether there can be arrangements that exist if and only if their parts are related by certain non-binary relations. For example, is there an arrangement consisting of a piece of lint lying between the cat and the mat? My answer is that my definition in terms of binary relations does allow for such arrangements if there are certain binary relations that hold by virtue of the non-binary relation holding. For example, let $P = \langle \text{the lint is between the cat and the mat} \rangle$. If there is (say) a disjunctive, binary spatial relation, $R$, whose disjuncts range over all possible spatial orientations, then $P$ entails a way in which the cat, the mat, and the lint, all stand in $R$. Therefore, we may define an arrangement $A$, such that (i) $A$ is composed of the cat, the mat, and the lint, (ii) $P$ entails a way in which $A$’s parts are related, and (iii) $P$ is true if and only if $A$ exists. In this way, we have defined an arrangement that exists if and only if its parts are related by the relation of between.$^{35}$

Definition (4) is certainly closer to the mark than (3). It does not preclude arrangements from having infinitely many parts, and it does not use the term, ‘order’. I am content, therefore, to accept (4) as the official definition of ‘an arrangement’. I will later (in the section on Identity Conditions) consider a potential complication that might motivate a certain slight modification, however.

To solidify our understanding of arrangements, I will close this section by giving an example of an arrangement that is more complicated than T. The arrangement is represented below:

35 There is an alternative strategy. Treat $<\text{is between}>_p$ as a binary relation that relates one thing to a plurality of end objects jointly. Then, adjust the official definition of ‘arrangement’ so that it is expressed in terms of binary relations between pluralities.
The picture represents an arrangement of people plus a bicycle standing in various relations to one another. Notice that in this arrangement the same relation, \(<\text{loves}>_R\), holds between the same people “twice over”, given that it holds in two different directions, so to speak. A proposition that entails the way in which those things are arranged is this: \(<\text{John loves Patricia, Patricia loves John, Patricia sees the bicycle, Patricia is next to Alex, Alex is the father of Sue, and Sue is on the bicycle}>\). This proposition entails that the existence of the arrangement in question exists, and the existence of the arrangement entails the proposition.

2.3. How to Make an Arrangement

I have said what an arrangement is. I will now discuss what sorts of arrangements there can be. I will begin by considering under what conditions things form an arrangement in general. Peter van Inwagen calls the question of saying what a whole is, ‘the general composition question’, and he calls the question of saying under what conditions things form a whole, ‘the special composition question’ (van Inwagen 1990, p. 20). I will adopt van Inwagen’s naming convention and call the question of saying what arrangements are, ‘the general arrangement question’, and I will call the question of
saying under what conditions things form an arrangement, ‘the special arrangement question’. I take myself to have already answered the general arrangement question, or to have at least transformed that question in terms of the general composition question (by defining ‘arrangement’ in terms of ‘mereological sum’). I will now take up the special arrangement question.

I will begin with an answer expressed by Bertrand Russell: “Given any related objects, these objects in relation form a complex object, which may be called a fact” (Russell 2004, p. 88). In other words, any related things form an arrangement. This view can be expressed as follows:

\[(6) \Box (\forall x \exists y (y \text{ is an arrangement of the } x)).\]

According to (6), it is necessary that for all \(x\), those \(x\)s are parts of some arrangement or other. One motivation to accept (6) is that everything (in every ontological category) seems to bear some relation to something, and if there are arrangements at all, then the simplest view is that any time things bear relations to one another, the related things form an arrangement. In other words, the simplest answer to the special arrangement question is that necessarily, things, just by virtue of being related, form an arrangement.

A second motivation is based upon the conviction of some philosophers (e.g., Russell 1912, p. 127-8; Moore 1953, p. 276-7) that true propositions should be *about* the things they correspond to. But if (6) were not true, then it may appear that some true propositions would fail to be about the things they correspond to. For example, if there were some \(x\)s that failed to form an arrangement, then any true proposition wholly *about* those \(x\)s would fail to correspond to an arrangement of the things it is about.
Despite the above motivations, (6) has a consequence that some may find intolerable. If (6) is true, then an arrangement E consisting of all things would itself be among the things it is an arrangement of—for it is an arrangement of every single thing, including E itself. But it may seem that no arrangement can be one of the very things it is an arrangement of. (Indeed, the official definition of ‘arrangement’ that I gave stipulates that no arrangement is one of the things it is an arrangement of.) This consequence may be avoided by modifying (6) as follows:

(7) $\forall x (\sim \exists y (y \text{ is one of the } x \text{s and } (y \text{ is an arrangement of the } x \text{s or } \exists z (z \text{ is part of } y \text{ and } z \text{ is an arrangement of the } x \text{s})))) \to (\exists y (y \text{ is an arrangement of the } x \text{s})).$

Condition (7) says that every plurality of things form an arrangement, except for any plurality that includes the very arrangement being formed. Thus, it is not the case that all things together form an arrangement, as such an arrangement would include itself among the very things that it is an arrangement of.

I believe the two motivations offered above in support of (6) also support (7). Consider first that (7) allows that things, just by virtue of being related to each other, form an arrangement. That remains true even if the arrangement that things form cannot be one of the very things that form it. Therefore, (7) may be the simplest, coherent answer to the special arrangement question.

Second, (7) can still allow every true proposition to correspond to things that it is about. True propositions about everything are a special case, but as I will argue in Chapter 4, a proposition of the form every $A$ is a $B$ may be viewed as a proposition about the general types, $A$ and $B$, rather than about all the instances of those types; therefore, a
proposition of the form every thing is a B may be viewed as being about the general types, Thing and B. If that’s correct, then no proposition is literally about all things.

There is, however, a certain consequence of (7) that many philosophers have found counter-intuitive: (7) entails that everything is part of something. More exactly, (7) entails the following:

\[ \forall x \exists y (y \text{ is a mereological sum of the } x) \]  

In other words, (7) entails that the answer to the special composition question is that every plurality of things form a mereological sum. David Lewis (1986) calls this view, ‘the principle of unrestricted composition’; van Inwagen (1990, p. 74) calls it, ‘mereological universalism’. A number of philosophers express doubts about mereological universalism because of the commonsense feeling that some collections of objects would be too gerrymandered to form a whole. For example, let O be an object that contains just my left toe plus the moon. Mereological universalism entails that there is such an object. But O is a very strange object: it has exactly two parts and these parts are separated by hundreds of thousands of miles. It is one thing to say that the parts of my kitty cat join together to compose a thing; it is quite another to say that my left toe and the moon join together to compose a thing. To say the first is to express commonsense; to the say the latter is to invite an incredulous stare. Many philosophers, therefore, reject mereological universalism.

Naturally, there is a debate among philosophers over mereological universalism with arguments on both sides.\(^{37}\) I will not enter the details of that debate here. I will

\[^{36}\text{Note that a sum of everything, unlike an arrangement of everything, does not contain itself as a part (a proper part), for ‘sum’ is defined so that a thing is a sum of itself just by being identical to itself.}\]

\[^{37}\]
simply grant that there may be something counter-intuitive about the view. But I will tell a story to explain why I think mereological universalism is only counter-intuitive if no wholes are themselves arrangements. The story is as follows:

There are two fundamentally different types of wholes: arrangements and complex substances. Complex substances are things that have parts but whose existence does not depend upon all its parts existing and being related in a certain specified way. A paradigm example of a complex substance is an animal: it has parts, but it can survive the loss of some of its parts. Other candidates for complex substances include statues, laptops, boats, people, and so on. When we consider examples of wholes, our natural tendency is to first think of candidates for complex substances. As a matter of psychological fact we care more about complex substances than arrangements, perhaps because arrangements of concrete things tend to be fragile by comparison and rarely last long. As a result, when we are asked to consider an object supposedly made up of two arbitrarily chosen objects, such as one consisting of my left toe and the moon, we instinctively recognize that if there were such an object, it would be fundamentally different from the familiar wholes we are fond of—wholes that are complex substances. This recognition of difference inclines us to doubt that the arbitrarily chosen objects compose a whole, since if it did, it would be of a radically different nature from the wholes we naturally bring to mind.

However, if I were to ask someone to take a look at the arrangement of books on my bookshelf, that person would probably not look confused or stare incredulously at my instruction. Nor would that person likely be startled by the suggestion that the books are parts of the arrangement of books. If I then asked the person to consider, for the sake of an experiment, an arrangement consisting of my left toe standing in a certain distance relation to the moon, that person would probably not look confused or stare incredulously. (Or if he did, it would only be because he didn’t know why I was asking him to consider that arrangement.) Nor would the person look confused or stare incredulously if I suggested that my toe and the moon are parts of that arrangement. In other words, the person would not stare incredulously at the idea that there could be an arrangement that has my toe and the moon as its only parts.

The story I just told is not wholly implausible. Indeed, I am inclined to believe that it is a true story; at least there is no weighty sociological evidence against it, as far as I know. The story suggests that the reason we balk at the idea of arbitrary mereological

\[37\text{See van Inwagen (1990, 72-80) for reasons to doubt mereological universalism. For a defense of mereological universalism, see Rae (1998) or McGrath (1998).}\]
sums of things is that we intuitively recognize that they are fundamentally different from complex substances. Nevertheless, if we think of an arbitrary mereological sum as an arrangement of things, then we will not be so inclined to find its existence strange or counter-intuitive. The idea that there could be an arrangement consisting of my left toe and the moon should not strike us as more counterintuitive than the idea that there could be an arrangement of books on my bookshelf. Therefore, I suspect that the reason that mereological universalism seems false is because with respect to complex substances, it is false—or at least, it is counter-intuitive. Yet, our intuitions about complex substances are fully consistent with mereological universalism as applied to arrangements. I conclude that if it is not counter-intuitive to think that there are arrangements, then neither should it be counter-intuitive to think that every plurality of related things forms an arrangement.

2.4. The Parts of an Arrangement

We have considered arrangements consisting of concrete things. But if concrete things can join together to form arrangements, then abstract things should be able to do so, too. After all, abstract things stand in various relations to things. If (7) is correct, then abstract things, by virtue of being related to other things, are parts of some arrangement or other.

Consider, for example, an argument. I think it is sensible to talk about the parts of an argument. It’s not uncommon to hear phrases like, “the argument has several parts”, “which part of the argument didn’t you understand?”, “some parts of the argument are more plausible than others”, and so on. If arguments have parts, their parts would seem to
be propositions. A valid argument is one in which the premisory propositions jointly entail the conclusory proposition. Thus, a valid argument appears to be an arrangement of propositions standing in the entailment relation. If propositions are not concrete things, as I shall argue in Chapter 3, then the parts of this argument are abstract.38

Some arrangements may have a mix of abstract and concrete parts. Consider for example, an arrangement consisting of Tom’s standing in the exemplification relation (supposing there is such a relation) to the property of being a person. This is an arrangement that contains Tom and one of his properties as parts, and it exists if and only if Tom exemplifies being a person.

I am not sure if an arrangement that contains both abstract and concrete things should be considered abstract, or if it should instead be considered concrete. My sense is that a thing that has at least one part that philosophers would typically call ‘concrete’ is also a thing that philosophers would typically call ‘concrete’. I also suspect that philosophers would typically call a thing ‘abstract’ if all of its parts are abstract. Therefore, I suspect that some arrangements will be considered concrete, whereas others will be considered abstract, depending upon what kind of parts they have.

2.5. Arrangements vis-à-vis Armstrong’s ‘states of affairs’

David Armstrong conjectures that everything is either built up out of states of affairs or is an essential part of a state of affairs. For him, states of affairs are the basic

38 Here’s another example: a sentence type. A sentence type appears to be an arrangement of abstract word types.
building blocks of the world, of all that there is. He describes states of affairs in general terms as follows (1997, p. 1):

The general structure of states of affairs will be argued to be this. A state of affairs exists if and only if a particular (at later point to be dubbed a thin particular) has a property or, instead, a relation holds between two or more particulars. Each state of affairs, and each component of each state of affairs, meaning by their constituents the particulars, properties, relations, and in the case of higher-order states of affairs, the lower-order states of affairs, is a contingent existence. The properties and relations are universals, not particulars. The relations are all external relations.

What Armstrong says about states of affairs here and elsewhere suggests that his states of affairs—what I will call ‘A-states of affairs’—are similar to arrangements. A-states of affairs and arrangements are both complex entities that exist by virtue of things being related in a certain way. Although Armstrong nowhere offers a precise definition or answer to the general A-states of affairs question (the question of what A-states of affairs are), I suspect that my answer to the general arrangement question—the official definition of ‘arrangement’—could perhaps be given to the general A-states of affairs question.

However, when it comes to the special arrangement question, my answer is certainly not the answer Armstrong gives to the special A-states of affairs question. Armstrong does not think that any two related things constitute an A-state of affairs. He does not accept (6) or (7) as applied to A-states of affairs. Rather, he says that every A-state of affairs contains at least one particular, where properties and relations do not count as particulars (because they are universals). Thus, for Armstrong, there are things that do not, just by virtue of being related to each other, constitute an A-state of affairs.
What are Armstrong’s reasons for thinking that every A-state of affairs contains a particular? And do those reasons count against (7)? Let’s consider these questions in turn. As I understand it, Armstrong’s central reason for thinking that A-states of affairs always contain particulars is based upon three convictions. The first conviction is that the job of an A-state of affairs is to explain why propositions are true. In other words,

(9) A-states of affairs are posited to guarantee that every truth is explained by the existence of one or more things.

The second is that

(10) Whatever makes a truth true makes any and every truth entailed by it true.

Here is the third:

(11) Propositions about properties, relations, and any other non-particulars are entailed by propositions about particulars.

Given the above three convictions, Armstrong concludes that there is no need for A-states of affairs that do not contain particulars. A-states of affairs that contain particulars, or a mix of particulars and properties, are all that is needed to explain each and every truth. Thus, I believe that Armstrong restricts A-states of affairs to things containing particulars because he wants to avoid multiplying entities beyond what is needed.

Should we do the same for arrangements? Not, I think, if arrangements are the things to which true propositions correspond. If arrangements are the things to which true propositions correspond, then true propositions that are wholly about non-particulars—e.g. <2 is greater than 1>—should correspond to an arrangement of non-particulars. If we deny this, and if we instead say that propositions may correspond to whatever guarantees their truth (cf. 2004, pp. 8, 16), then we must say that every necessary truth, from truths
of geometry to truths about moral obligation, corresponds to (and thus is about) the very same things—namely, my right pinky finger, your shoelaces, my mom, and everything else under heaven and in heaven. I suspect that many would consider that implausible. Therefore, I suspect that many would consider it implausible to place Armstrong’s restriction on arrangements, if CTT is correct.39

I conclude that the answer to special arrangement question ought to be different than the answer Armstrong gives to the special A-states of affairs question. I do not thereby conclude that arrangements fall under an entirely different category than do A-states of affairs. On the contrary, I suspect that arrangements might very well be what Armstrong has in mind by ‘states of affairs’. What I conclude instead is that if CTT is true, then in addition to concrete A-states of affairs, there ought to be abstract ones, where both concrete and abstract A-states of affairs fall under the category, Arrangement.

2.6. Identity Conditions

It is fashionable among philosophers to supply so-called “identity-conditions” when giving a theory of something (e.g., see Chisholm 1996, Armstrong 1997, p. 132-4, Lowe 2006). I will follow the trend. The question I will address in this section is roughly this: By what general principle can we say that arrangements a and b are identical (for any a and b)? That question cannot be answered just by studying our definition of

39 Even if CTT is not correct, there may be other reasons to think that some arrangements are abstract. One reason might be that abstract arrangements can act as the objects we are directly aware of when we form justified a priori beliefs, such as the belief that 4 is greater than 1. Another is that some things appear prima facie to be arrangements of abstract things: for example, a song (or type of song) seems to be an arrangement of types of sounds; an argument seems to be an arrangement of propositions; a sentence type seems to be an arrangement of letter types; and so forth.
‘arrangement’ or by considering our answer to the special arrangement question. One can suppose, for example, that there is some arbitrary number, twelve say, that numbers the arrangements that have Tibbles and the mat as its only parts and that exist if and only if Tibbles is on the mat. Nothing in the definition of ‘arrangement’ rules that out; nor does the answer to the special arrangement question rule it out.

I will seek an answer to the identity question that does not multiply arrangements beyond necessity. Thus, I will look for the answer that entails the fewest number of arrangements and that allows arrangements to play their theoretical role as objects of correspondence.

Consider the example of T—an arrangement that has Tibbles and the mat as its only parts and that exists if and only if Tibbles is on the mat. The proposition that Tibbles is on the mat (abbreviated as <Tibbles is on the mat>) corresponds to T. I doubt there is a true proposition that might correspond to a distinct arrangement that has Tibbles and the mat as its only parts and that exists if and only if Tibbles is on the mat. Therefore, I suspect that if R is an arrangement that has Tibbles and the mat as its only parts and that exists if and only if Tibbles is on the mat, then R is identical to T.

Therefore, I suggest that in general,

\[ (12) \Box (\forall x \forall y \text{ (if } x \text{ and } y \text{ are arrangements having the same parts and } \Box x \text{ exists if and only if } y \text{ exists), then } x = y). \]

Proposition (12) says that if a and b have the same parts and the same existence conditions, then they are identical. I believe this identity condition results in there being the fewest arrangements that there can reasonably be if propositions correspond to arrangements.
However, there are a couple consequences of (12) that some may question. One consequence is that although <Jonny loves Rover> and <Rover loves Jonny> would never correspond to the very same arrangement, <Jonny loves Rover> and <Rover is loved by Jonny> would correspond to the very same arrangement. The reason is that any arrangement that <Jonny loves Rover> corresponds to will have the same parts and the same existence conditions as any arrangement <Rover is loved by Jonny> would correspond to. Thus, both <Jonny loves Rover> and <Rover is loved by Jonny> must correspond to the same arrangement, if they correspond to anything.

Some philosophers may find this consequence objectionable, whereas others may welcome it (e.g., Armstrong 1997, 91). I am on the side of those who welcome it. But to accommodate those who might not welcome it, I will offer an alternative identity condition shortly.

Let us turn to a second consequence of (12), which might cast doubt on (12) even for those who would welcome the consequence just mentioned. Consider the following arrangements: G is an arrangement that <2 is greater than 1> corresponds to, and Y is an arrangement that <2 is not identical to 1> corresponds to. We can construct the following argument against (12):

(13) If (12) is true, then G is identical to Y.

(14) G is not identical to Y because <2 is greater than 1> and <2 is not identical to 1> do not both correspond to the very same thing.

(15) Therefore, (12) is not true.

I will not dispute (14). It does seem to me that <2 is greater than 1> and <2 is not identical to 1> shouldn’t correspond to the same thing: these propositions specify very
different relations, relations that are not even necessarily co-extensive, and thus I believe that the propositions should correspond to different things.

Proposition (13) is *prima facie* reasonable. G appears to be an arrangement consisting of the numbers 1 and 2 that exists if and only if 2 is greater than 1, and Y appears to be an arrangement consisting of those same numbers—1 and 2—that exists if and only if 2 is not identical to 1. If such arrangements have the same parts and same existence conditions, it follows that they are one and the same, if (12) is true.

Nevertheless, upon closer inspection, I have come to doubt (13), for it has become apparent to me that <is not identical to>_R is not a primitive relation: it can, and I think *should*, be analyzed. My hypothesis is that ‘<... is not identical to ...>’ should be analyzed as ‘<<... is identical to ...> is false>’. In other words, I suspect that when we say that one thing is not identical to another thing, what we are saying, fundamentally, is that it is not the case that the one thing is identical to the other. (I defend this sort of hypothesis in more detail in my discussion of negative propositions in Chapter 4.) Here, I only wish to point out that (13) depends crucially upon the denial of the hypothesis just mentioned. For if that hypothesis is correct, then <2 is not identical to 1> seems to be about a certain *proposition* that’s false. That is to say, <2 is not identical to 1> says of <2 is identical to 1> that it is false. If so, then Y should be an arrangement that contains <2 is identical to 1> as one of its parts. Therefore, given the hypothesis in question, Y does not have the same parts as G, and thus, Y is not identical to G.

I offered a specific hypothesis about a specific case to deal with a worry about that case. But there is still a more general worry. The worry is that propositions describing *distinct* relations that necessarily hold between the same things must
correspond to the *same* arrangement (if they correspond at all), which is not plausible. In the above case, it appeared that \(<2\) is greater than \(1\) and \(<2\) is not identical to \(1\) described distinct relations, namely, \(<\text{greater than}>_R\) and \(<\text{is not identical to}>_R\), that necessarily hold between the same two numbers. I suggested that in this case, appearances are deceiving. But are appearances *always* deceiving? They probably are if

(16) At most one primitive (unanalyzable) relation necessarily holds between any two things that form an arrangement.

If (16) is true, then there is a reasonable chance that anytime two propositions *appear* to describe distinct relations that necessarily hold between the same things, one of those propositions will be analyzable in terms of a proposition about one or more *other* things. For example, \(<2\) is not identical to \(1\) was analyzed as \(\langle<2\) is identical to \(1\rangle\) is false>.

I do not plan to defend (16). I merely put it forward as a hypothesis. It might be true, but it might be false. Perhaps, further investigation into a variety of cases would reveal that (16) is indefensible, though I have yet to think of a seriously problematic case.\(^{40}\) Therefore, it is not clear to me that a revision to our identity condition is required.

Nevertheless, for those who think that arrangements should be more fine-grained than (12) allows, I offer the following *fine-grained* identity condition as a “back-up”:

(17) \(\Box (\forall x \forall y \text{ if } (x \text{ and } y \text{ are arrangements having the same parts and same constituents, and } x \text{ exists if and only if } y \text{ exists}), \text{ then } x = y), \text{ where} \)

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\(^{40}\) One potentially problematic case involves propositions about logical relations between propositions. If (16) is right, then there can be at most one primitive logical relation that necessarily holds between propositions. I do not believe this case is problematic, however, since every logical relation can be analyzed in terms of ‘and’ and ‘~’, where ‘and’ is a device for referring to more than one proposition at once, and ‘~’ is a device for expressing a proposition that says of another proposition that it is false (or lacks truth). I suspect that *entailment* is the only primitive relation between propositions.
(18) ‘\(x\) has a constituent \(y\)’ = \(\text{def} \quad (x \neq y, \text{ and } \square \text{ (if } x \text{ is grasped, then } y \text{ is grasped)})\).

According to the above proposal, the identity of an arrangement is determined not only by its parts being related in the right way but also by its having certain constituents. I defined ‘constituent’ by defining it in terms of a conceptual relation, the relation of grasping. I believe ‘grasping’ (‘mentally grasping’) is a common-sense notion. If I say that I mentally grasp things by bringing them to mind, people outside the classroom understand what I mean. (By contrast, I doubt if people outside the classroom understand what I mean if I tell them that an object can have constituents in addition to its parts). Therefore, I do not think it is necessary to offer a definition of ‘grasping’. That is not to say that the relation of grasping cannot, or should not, be further analyzed. It is only to say that philosophers and non-philosophers alike will likely understand what identity condition (17) is designed to express, given (18).

Given (17), we can see how <Jonny loves Rover> and <Rover is loved by Jonny> might correspond to distinct arrangements. Let \(A\) be the arrangement that <Jonny loves Rover> corresponds to, and let \(B\) be the arrangement that <Rover is loved by Jonny> corresponds to. Given (17), it is plausible that \(A\) has <loving>\(_R\) as a constituent and that \(B\) has <is loved by>\(_R\) as a constituent. If these are different relations, then (17) entails that \(A\) and \(B\) are different arrangements.

We can also see how <2 is greater than 1> and <2 is not identical to 1> might correspond to distinct arrangements even if <2 is not identical to 1> is indeed a proposition describing a relation between 2 and 1 (rather than a proposition describing a proposition about 2 and 1, as I suggested above). For, it is plausible that the arrangement that <2 is greater than 1> corresponds to has <greater than>\(_R\) as a constituent, and that the
arrangement that $<2$ is not identical to $1>$ corresponds to has $<\text{not identical to}>_R$ as a constituent. Given that these relations are evidently distinct, it seems that if (18) is true, then $<2$ is not identical to $1>$ and $<2$ is greater than $1>$ correspond to distinct arrangements.

Those who accept (17) may wish to modify our definition of ‘arrangement’ because (17) entails that constituents are essential ingredients of an arrangement. I suggest the following modification:

(19) ‘$x$ is an arrangement’ $=_{\text{def}}$ ‘$\exists y_\exists R_\exists$s (the $R$s are binary relations, the $R$s are constituents of $x$, $x$ is not one of the $y$s, $x$ is a mereological sum of the $y$s, and $\exists z$ ($z$ is a proposition that entails a way in which the $y$s stand in the $R$s, $z$ entails $<x$ exists$>$, and $<x$ exists$>$ entails $z$))’.

Definition (19) differs from what I called ‘the official definition’ by requiring that certain of the relations in which the parts of an arrangement stand are also the constituents of that arrangement. Thus, (19) provides a more fine-grained theory of arrangements.

2.7. Types of Arrangements

In this section, I would like to wrap up the theory of arrangements by offering a catalogue of some general categories under which arrangements may fall. Two most general categories of arrangements are atomic and molecular. A molecular arrangement is an arrangement of arrangements; it has arrangements as parts. An atomic arrangement is an arrangement that is not molecular; it has parts, but none is an arrangement.

We may also classify arrangements based upon the types of parts that they have. For example, those that have only concrete particulars (substances) or arrangements of concrete particulars as parts may be called ‘concrete structures’. These might include
things like chairs, snowflakes, galaxies, molecules, table settings, buildings, and so on. (Of course, if a certain chair, say, is an arrangement, then that chair cannot, *strictly speaking*, survive the loss of a single part. I suspect, however, that there might be a *loose* way of speaking according to which one can correctly say that a chair survived the loss of a part by (say) being replaced by a sufficiently similar chair.\textsuperscript{41} Others may have different suspicions. Fortunately, our theory of arrangements is compatible with a variety of views regarding the ontological status of artifacts.)

Arrangements that have no concrete particulars as parts may be called ‘abstract structures’. For example, an *argument* might be an abstract structure that relates premissory propositions to a conclusory proposition. A song might also be an abstract structure: it might be an arrangement of types of sounds. Consider numbers: they stand in various relations to each other, thereby forming various arrangements. Thus, arrangements of numbers appear to be abstract structures. A shape might be an arrangement of lines (or points), and since lines (and points) do not seem to be concrete particulars, shapes might be abstract structures. Here are some other interesting candidates for being an abstract structure: a story, a painting, a “visual field”, a complicated situation, and the annual department meeting.

Let us turn, finally, to arrangements that have a mix of concrete particulars and things that are not concrete particulars. Here is an example: an arrangement that contains Micah and the property, being hairy, and that exists if and only if Micah is hairy. I will

\textsuperscript{41} There is going to be vagueness here. How similar *exactly* must the new chair be to the old for someone to correctly say (loosely) that the chair maintained identity through the loss of certain parts? My opinion is that the vagueness is fundamentally *epistemic*: it is unknown to any given person which type of chair exactly her utterances and thoughts about particular chairs actually pick out. (The vagueness is surely *semantic*, too, but I believe that semantic vagueness ultimately reduces to epistemic vagueness.)
call an arrangement that has as parts a mix of concrete and abstract things a ‘heterogeneous arrangement’.

2.8. Conclusion

I have developed a theory of facts as arrangements. The theoretical motivation for accepting this theory lies in its ability to account for how true propositions correspond to facts. In Chapter 4, I will put this theory to use when I defend the Correspondence Theory of Truth.
3.1. Introduction

“In what is the agreement of the thing [fact] and the statement [proposition] supposed to consist, given that they present themselves to us in such manifestly different ways?” (Heidegger 1967, p. 180)

In this chapter, I will offer a theory of the nature of correspondence between propositions and facts (or arrangements). I will begin by developing an account of propositions. I will then use that account to articulate an account of the correspondence relation. In the final section, I will draw a connection between the nature of truth and the nature of falsehood. Understanding this connection will prove useful in the next chapter when I give an account of the objects of correspondence for negative propositions.

3.2. Propositions and Things Proposed

Recall from Chapter 1 that by ‘proposition’, I mean the primary bearers of truth and falsity. Propositions might also be viewed as things that people propose (or assert, accept, reject, and so on), since some things people propose are true and others are false. It is an open question at the outset whether a proposition can exist independently of its actually having been proposed. I wish to make it clear, therefore, that I use the term ‘proposition’ to refer to an ontological category that has members that can be proposed; I
do not require that propositions have actually been proposed. In the next section, I will consider whether propositions can exist prior to their being proposed.

3.3. Propositions are not Concrete

There are philosophers (Tarski 1944, Higginbotham 1991, Armstrong 1997, to name a few) who have suggested that all propositions are concrete things, such as token sentences or brain states, or sums (or classes) of token sentences or brain states. In this section, I will offer three related reasons why I think this view of propositions is mistaken. My goal is not to present a knock-down case; I aim merely to motivate a theory of abstract propositions that will serve as a foundation for a theory of the correspondence relation.

3.3.1. Reason One

Some propositions seem to be, in some sense, necessarily true. Take, for example, the proposition that if 1=1, then 1=1. I will argue that propositions that are necessarily true are abstract. To begin, let ‘P’ abbreviate a sentence that expresses (or is identical with) a proposition that is a necessary truth. For example, we may let ‘P’ abbreviate ‘if 1=1, then 1=1’. Let ‘<…>’ abbreviate ‘the proposition that …’. Every instance of <P> is abstract, I say, by the following argument schema:

42 For Tarski, a “proposition,” understood as the primary bearer of truth, is a class of sentence tokens (p. 14, footnote 5).

43 Armstrong (1997, pp. 131, 188) takes propositions to be classes of mental state tokens, where classes are spatially located. More recently (2004, pp. 15-16), he favors the view that propositions are instantiated properties of beliefs or sentences. In either case, propositions are spatially situated.
(1) □P.

(2) □P → □□P.

(C₁) Therefore, □□P.

(3) □ (□P → it is true that P).

(4) □ (it is true that P → <P> is true).

(5) □ (<P> is true → <P> exists).

(C₂) Therefore, □ <P> exists [by the Distribution Axiom: □(A→B) → (□A→□B)].

(6) <P> is concrete → <P> is essentially concrete.

(7) <P> is essentially concrete → ~ □ <P> exists.

(C₃) Therefore, ~ (<P> is concrete).

The first part of the argument attempts to derive the necessary existence of <P> from <P>’s being necessarily true. The second part says that <P> is not concrete on the grounds that no necessarily existing concrete thing is a proposition. Let’s review each of the premises and then consider some objections.

Premise (1) makes use of the symbol ‘□’, which I take to abbreviate ‘it is necessary that’.⁴⁴ Thus, if ‘P’ abbreviates ‘if 1=1, then 1=1’, then (1) expresses this proposition: <it is necessary that if 1=1, then 1=1>. I have nothing to say in support of (1), for I assume that the vast majority of philosophers (and non-philosophers) would accept it.

Premise (2) is an instance of S₄, which says that if it is necessary that P, then it is necessary that it is necessary that P. In other words, the necessity of P is itself necessary.

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I take this to be highly plausible and relatively uncontroversial. (If there are doubts about $S4$, the good news is that we can do with out it if $<P>$ is a theorem in $K$. For then (2) is an instance of the Necessitarian Rule in $K$. Therefore, as long as one accepts a logic as weak as $K$, one is committed to accepting instances of (2) that are theorems in $K$.) Given (1) and (2), it follows that $\Box \Box P$.

Turn next to premise (3): $\Box (\Box P \rightarrow \text{it is true that } P)$. This premise says that as a matter of necessity, if it is necessary that $P$, then it is true that $P$. In other words, necessity entails truth. I suspect that for most of us, this sounds plausible (if not undeniable).\(^\text{45}\)

Premise (4) says that if it is true that $P$, then it follows that the proposition that $P$ is true. Someone may deny this if she thinks that there are no such things as truths: e.g., although it is true that snow is white, there doesn’t exist anything that is true. However, the purpose of this dissertation is to develop a framework compatible with a correspondence theory of truth, and it is part of the correspondence theory of truth that there are such things as truths. Therefore, I will take it for granted that there are such things as truths, things I call “propositions.” Given this assumption, it is plausible that (necessarily) if it is true that $P$, then there is a corresponding item that is true, which we may call, ‘$<P>$’. The argument for premise (4), then, is this: (i) there are truths; (ii) if there are truths, then (necessarily) if it is true that $P$, then there is a truth, namely, $<P>$; (iii) therefore, (necessarily) if it is true that $P$, then $<P>$ is a true.\(^\text{46}\)

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\(^\text{45}\) Premise (3) seems no less plausible when stated in terms of possible worlds: for every possible world, $w$, if ‘$P$ is true at every world’ (i.e., ‘it is necessary that $P$’) is true at $w$, then ‘it is true that $P$’ is true at $w$.

\(^\text{46}\) I am treating ‘$<P>$’ as a rigid designator. Thus, I take (4) to entail that one and the same proposition is true at every world at which it is true that $P$. However, someone might consider (4) more plausible if ‘$<P>$’ is non-rigid. Then, (4) entails that at every world at which it is true that $P$, a “counterpart”
Premise (5) says that necessarily, if $\langle P \rangle$ is true, then $\langle P \rangle$ exists. The idea is that $\langle P \rangle$ cannot be anything, not even true, unless it exists. (One might view this as an implication of Quinean meta-ontology: e.g., if $\exists x \ (\text{True}(x)$, then the value of the bound variable, $x$, actually exists.)

From premises (1)-(5) it follows, by the Distribution Axiom in $K$, that it is necessary that $\langle P \rangle$ exists. (The Distribution Axiom states that if $A$ entails $B$, then if it is necessary that $A$, then it is necessary that $B$.)

Premise (6) says that if $\langle P \rangle$ is concrete, then it is essentially concrete. In other words, if it isn’t abstract already, then it couldn’t be abstract. I take that to be relatively uncontroversial.

The final premise is (7): $\langle P \rangle$ is essentially concrete $\rightarrow$ $\sim \Box \langle P \rangle$ exists. This, too, I take to be relatively uncontroversial, for I take it to be relatively uncontroversial that there can be barren worlds—words devoid of token sentences, brain states, and anything else that might be a concrete proposition. For example, sentence tokens on paper can be erased or destroyed by fire. Brain states can be damaged by oxygen deprivation. Mereological sums (or classes) of brains states or of sentences can dwindle away, though the process may take awhile. Someone might think that there are fundamental physical

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Of $\langle P \rangle$ is true, where a counterpart of $\langle P \rangle$ is something that satisfies the definite description, ‘$\langle P \rangle$’. For someone who finds (4) more plausible if ‘$\langle P \rangle$’ is non-rigid, I recommend the following argument against $\langle P \rangle$ being concrete: (i) if $\langle P \rangle$ were concrete, all its counterparts across possible worlds would be concrete; (ii) $\langle P \rangle$ has a counterpart at every possible world [because it is necessary that it is true]; (iii) but there can be barren worlds—words devoid of token sentences, brain states, and anything else that might be a concrete proposition; (iv) therefore, $\langle P \rangle$ is not concrete.

47 If $\langle P \rangle$ is treated as a non-rigid designator, then the claim is that if $\langle P \rangle$ is concrete, then all $\langle P \rangle$’s counterparts are concrete. See footnote 4.
entities—superstrings, say—that cannot fail to exist. But surely no proposition is a superstring or any other fundamental particle. I conclude, therefore, that if there are necessarily existing propositions, then those propositions are most likely abstract entities.  

How might someone reply? I will consider next the most significant objections to the sort of argument I’ve given.

**Objection 1:** \(<P>\) is necessarily true by being *essentially* true.

Perhaps we can interpret ‘\(<P>\) is necessarily true’ as ‘\(<P>\) is essentially true’. If we do, then when we say that a proposition is necessarily true, what we say is equivalent to saying that it is true if and only if it exists. (A contingent proposition, by contrast, would be true in some, but not all, worlds at which it exists.) If that’s how things are, then perhaps a proposition can be necessarily true without also having to necessarily exist; thus, \((C_2)\) is called into question.

In response, I will argue in a spirit of irony that the objection’s central thesis—namely, that being necessarily true is equivalent to being essentially true \((T)\)—is potentially plausible only if \((C_2)\) is true. Consider first that \((C_2)\) is compatible with the \((T)\): it is compatible with \((C_2)\) that all propositions are necessarily existent, and if all propositions are necessarily existent, then \((T)\) follows; for then all necessary truths are

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48 Someone might resist this conclusion by supposing that propositions form a *sui generis* class of necessarily existing, concrete entities that aren’t reducible to particles or their sums. But that theory of propositions is close enough for my purposes. The theory of propositions I will end up working with requires that propositions have un-exemplified properties as parts. That would be problematic if propositions were built up out of sentence tokens or brain states or other typical concrete things. But it doesn’t seem problematic if they form a *sui generis* class of non-material entities, whether or not those entities deserve the label, “abstract”.

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essentially true and all essentially true propositions are necessary truths. Thus, (T) is not implausible given (C₂).

On the other hand, (T) is implausible if (C₂) is false. If (C₂) is false, then presumably that’s because propositions are contingent, concrete things. But then, as Alvin Plantinga (2006) has observed, there seems to be too many necessary truths. Consider, for example, <there are brains>. That proposition does not seem to be necessarily true. Yet, if propositions are concrete things that depend upon brain states (say), then clearly <there are brains> cannot exist unless it is true. In other words, <there are brains> would be essentially true, which means that it would be necessarily true. The result is the same if propositions depend instead upon sentence tokens: <there are sentence tokens> would be essentially true and so necessarily true. What we have here is the dubious consequence that the existence of brains or sentence tokens (or whatever other concrete things propositions might depend upon) is a matter of necessity. Surely that’s not plausible.⁴⁹

**Objection 2**: It is not necessary that whatever is true exists.

Perhaps we can deny (5) by supposing that it is possible for <P> to be true even if <P> does not exist. According to this reply, it is possible for something to have a feature or be the subject of a predicate even though it doesn’t exist. I see two ways of interpreting the claim that something can have a feature without existing. One way is to view the claim as saying that there can be something that has a feature (or be the subject of a predicate) and yet doesn’t exist. Thus, there can be something that doesn’t exist (by

⁴⁹ Someone might reply that although it is necessary that P, it doesn’t follow that <P> is a necessary truth. I will address this reply in Objection 3.
adjective dropping), which is a violation of actualism—the thesis that there cannot be anything that doesn’t exist. Worse: there can be concrete particulars (propositions) that do not exist. I suspect that hardly any believers in concrete propositions would be willing to accept that.

There is, however, an alternative way to understand the claim that something can be true without existing. It is based upon a distinction introduced by Kit Fine (1985) between ‘inner truth’ and ‘outer truth’. A proposition has inner truth relative to a world only if it exists in that world; it can have outer truth relative to a world whether or not it exists in that world. An outer truth is supposed to be a truth that correctly describes a world without necessarily being in that world. It is true at that world, but not necessarily in it. (Thus, every proposition that is true in a world is true at that world, but not every proposition that is true at a world is true in it.) Using this distinction, perhaps we can say that <P> is necessarily true in the sense that it correctly describes every world, even though it is not in all of them. <P>, like every necessary truth, is outwardly true relative to every world, though <P> only exists in a few worlds (see Iacona 2003).

I see two problems with this way out. First, it is difficult to see how to define ‘inner truth’ and ‘outer truth’. The only definitions I’ve seen that I personally understand are these: ‘a proposition p is true relative to a world w’ means the same as ‘if w were actual, then p would be true’, and ‘p exists in a world w’ means the same as ‘if w were actual, then p would exist’. But those definitions imply that every outer truth just is an inner truth. To see why, suppose p has outer truth relative to w. Then, if w were actual, p would be true. But if p were true, then p would exist, since p cannot be anything, not even true, without existing. That means that if w were actual, then p would exist, which is what
I would have guessed was meant by ‘p exists in w’. Thus, if p has outer truth relative to w, then it also has inner truth relative to w. Therefore, the definitions I understand are incorrect. Of course, someone might understand other definitions that capture the meaning of ‘outer truth’ and ‘inner truth’; I won’t rule out that possibility.

Still, even a minimal understanding of ‘inner truth’ and ‘outer truth’ leads to trouble—trouble that appears to have gone unnoticed in discussions of inner and outer truth. The trouble consists in there being fewer necessary truths than there seem to be. For example, if <P> is a necessary truth, then it seems <P is a necessary truth> should also be a necessary truth. (Or, perhaps more modestly: if it is necessary that S, then it is necessary that it is necessary that S, where ‘S’ abbreviates a sentence.) But that cannot be so if necessary truths exist contingently. I’ll explain. Let P be any contingently existent proposition that correctly describes every world. Let CHAOS be a possible world in which there are no sentence tokens, brain states, or anything else that contingently existing, concrete propositions might be. In other words, <there are no propositions> correctly describes CHAOS. (I trust it isn’t controversial to assume that such a world is possible.)

We may then deduce a contradiction as follows:

(8) P is a necessary truth.

(9) If P is a necessary truth, then so is <P is a necessary truth>.

(10) Therefore, <P is a necessary truth> is a necessary truth.

(11) Every necessary truth correctly describes every world.

50 Since writing this, a similar argument to the one given below has appeared in Carmichael (forthcoming).

51 Or at least that such a world is possible on the assumption that there are contingent things at all. I’m targeting those who think that there are contingent things, and that propositions are among them.
(12) Therefore, <P is a necessary truth> correctly describes every world.

(13) Therefore, <P is a necessary truth> correctly describes CHAOS.

(14) If P is a necessary truth, then P is a proposition [a truth-value bearer].

(15) If P is a proposition, then there’s at least one proposition.52

(16) Therefore*, <There’s at least one proposition> correctly describes CHAOS.

(*) The inference from (13)-(15) to (16) is justified by this schematic rule: if p implies q, then if <p> correctly describes w, so does <q>.

But then both <there’s at least one proposition> and <there are no propositions> are true at CHAOS, which is contradictory.

A way out is to suppose that although P is a necessary truth, <P is necessary truth> is not. But that is a costly way out.

**Objection 3**: Sentential operators, such as ‘it is true that’ or ‘it is necessary that’, do not ascribe properties to propositions.

Perhaps sentential operators do not act as predicates. For example ‘□ (1=1)’ doesn’t say of <1=1> that it is necessarily true. Similarly, ‘it is true that (1=1)’ doesn’t say of <1=1> that it is true. Rather, ‘□ (1=1)’ simply says that it is necessary that (1=1), and ‘it is true that (1=1)’ says no more than that it is true that 1=1. These locutions are not to be interpreted as saying anything about propositions (whatever propositions might be). If that’s correct, then one may deny the inference from

\[(\alpha) \Box P\]

52 To be clear: the inference from ‘P is a proposition’ to ‘there is at least one proposition’ does not presuppose the controversial premise that if P is true at a world, then P exists at that world (for any world). It relies instead upon the more modest schematic premise that if <P is Ø> is true at a world, then <P exists> (more exactly: <there is at least one proposition>) is true at that world (for any world). This latter premise merely requires that if it is true at a world that a proposition has a feature (e.g., being true at every world), then it is also true at that world that proposition exists (or that there is a proposition). This is plausible because it is plausible that there are no worlds at which both something is a Ø thing and there are no Ø things.
to

(β) it is necessary that <P> is true,

thereby blocking any argument that attempts to show that if it is true that □P, then it is necessary that <P> exists.

One reply strategy in the literature (Plantinga 2006, Carmichael forthcoming) is to challenge those who deny the inference from (α) to (β) to explain to us what ‘□P’ means if it does not mean that <P> is necessarily true. The goal of this reply is to show that every candidate account of what ‘□P’ (or ‘◊P’) might mean is problematic. A drawback of this strategy is that it leaves open the possibility of finding a new, successful account of ‘□P’ or of leaving ‘□P’ (or ‘◊P’) unexplained.

I think a more suitable strategy for our purposes is to argue that if a correspondence theory of truth is correct, then the inference from (α) to (β) is plausibly valid. An argument for this is already contained within the main argument for abstract propositions, which is as follows:

(1) □P

(2) □P → □□P.

(C1) Therefore, □□P.

(3) □ (□P → it is true that P).

(4) □ (it is true that P → <P> is true).

(β) Therefore, □<P> is true.

53 See, for example, Speaks’ “On Possibly Non-existent Propositions.”
The key premises are (3) and (4), both of which are plausible given a correspondence theory of truth. Premise (3) is plausible because if there is such a thing as truth at all, then it is surely plausible that if it is necessary that P, then it is true that P. This is plausibly so for every possible world: for all worlds w, if ‘it is necessary that P’ is true at w, then ‘it is true that P’ is true at w. Premise (4) is plausible because if there are such things as truths at all, then it is surely plausible that if it is true that P, then there is a corresponding item that is true, an item which we may call ‘the proposition that P’. This can be put in terms of possible worlds: for all worlds w, if it is true that P correctly describes w, then <P> is true correctly describes w. Therefore, given a correspondence theory of truth, (β) appears to be a plausible inference from (α).

3.3.2. Reason Two

Consider, <there are no people>. Intuitively, that proposition does not entail that there are people. That is to say, if that proposition were true, that wouldn’t guarantee that there are people. Yet, if there were no people, then there would be no token sentences or brain states, or anything else that a concrete proposition might be identified with. In other words, if there were no people, then there would be no true propositions. Thus, <there are no people> would not be a true proposition. Hence, if <there are no people> were true, then there really would be people—the existence of people would be guaranteed. But that’s not plausible; therefore, it is not plausible that all propositions are concrete things that depend for their existence upon people.54

54 The argument just given is murkier if propositions are essential elements of a necessarily existing divine person. For then, if there are no persons, every proposition is trivially entailed. That’s
How might someone reply? The best reply I have seen is to say that <there are no people> does not entail that there are people because it merely describes situations or worlds in which people do not exist, despite the fact that the proposition itself would not exist were there no people. This reply makes use of the distinction between inner and outer truth: that is, <there are no people> has outer truth but not inner truth relative to situations in which people do not exist.

I have already said why I do not think a distinction between inner and outer truth will help. I said that the distinction, if intelligible at all, has the counter-intuitive implication that a proposition \( p \) can be a necessary truth true even if <\( p \) is a necessary truth> is not. Here, I will express an additional concern. The concern has to do with what it might mean to say that a proposition describes, or is true relative to a situation or world. The relation of describing sounds somewhat like the relation of corresponding to. In this case, however, the object being described is not a fact; rather, it is a situation or world. I ask, “What is a situation or world?” And, “What is it to accurately describe a situation or a world?” If someone asked me those questions, I would answer thus:

A situation is an abstract state of affairs (or proposition). A world is a big—maximally big—state of affairs. A proposition accurately describes a situation by being entailed by it, that is, by being such that were the situation actual, the proposition in question would be true. Perhaps there is also an important sense in which a situation mereologically includes any propositions that describe it.

Alright, though, because if propositions are elements of a divine person, then they are sufficiently abstract for our purposes.

Another reply, suggested to me by Alexander Pruss, is to suppose that we have confused <<if people never existed> were true, then there would be people> with <if people never existed, then there would be people>. It might be thought that the later proposition, unlike the former, can be false even if propositions depend for their existence on people. It may be argued in reply that the former proposition seems false, too, even after it has been distinguished from the latter one.
Of course, that sort of answer is of-limits to the advocate of concrete propositions: first, because she will surely not include proposition-like abstract states of affairs in her ontology, and second, because she cannot allow there to be an abstract state of affairs (for example, one in which there are no people) that bears the entailment relation to a proposition while also entailing the non-existence of all propositions. But then, what answer can she give? What concrete things are situations or worlds, and how do propositions manage to describe such things?

David Lewis has a well-known answer to the first question: worlds are causally isolated spatial-temporal universes, and situations (or “Lewis-propositions”) are sets of worlds. If an advocate of concrete propositions accepts the existence of Lewis worlds, she can say that concrete propositions describe concrete worlds or sets of concrete worlds.

Still, how do propositions manage to describe Lewis-worlds? Someone might attempt an answer in terms of intentional properties of sentence tokens or brain states: for example, a proposition describes a world by virtue of being intentionally directed at that world. However, it is difficult to see how intentional properties could grab on, so to speak, a particular world out of the sea of infinitely many similar worlds that neighbor it. We cannot say, for example, that an intentional property grabs onto a world by virtue of a certain causal connection between a world and a token sentence (say), for worlds are causally isolated by definition.

Someone might suggest that propositions describe worlds by virtue of corresponding to them (in the way that true propositions correspond to facts). But then there is the equally difficult problem of seeing how concrete propositions should
correspond to Lewis-worlds. I will offer an analysis of the correspondence relation according to which propositions may, in principle, correspond to Lewis-worlds, but as we will see, my analysis entails that propositions are not concrete. It seems to me, therefore, that the prospects for finding an account of how concrete propositions might describe worlds or situations are grim. At any rate, advocates of concrete propositions who wish to employ the distinction between inner and outer truth have some explaining to do.

3.3.3. Reason Three

So far, I have given reasons to think that at least some propositions—those that are necessarily true—are abstract. It might be plausible to infer on the basis of a principle of uniformity that all propositions alike are abstract; it would be odd, after all, if every instance of \(~S \text{ or } S~\) were abstract, while some instances of \(<S>\) were not.

Here is a further reason to think that no propositions are concrete. Let \(p\) be any proposition that can be true. Suppose for reductio that \(p\) is concrete and that therefore there is a possible world at which \(p\) doesn’t exist. Then, there is a possible world at which \(p\) isn’t possibly true, for \(p\) cannot be anything, not even possibly true, unless it exists. This is a problem if one thinks that \(p\) should be possibly true at any world accessible to our world. (We can run virtually the same argument for propositions that cannot be true by replacing occurrences of ‘true’ with ‘false’.)

One might reply by challenging the inference from

\((\omega) \Diamond S\)

to

\((\psi) <S>\) is possibly true.
One may then maintain that although there are instances of \(<◊S>\) that are true at all possible worlds, it does not follow that there are instances of \(<S>\) that are possibly true (and thus that exist) at all possible worlds.

An advocate of the correspondence theory of truth should not be impressed by this reply, however. For, as I argued earlier, if there are such things as truths, then \(<□P>\) entails a proposition that says of a truth, namely \(<P>\), that it is necessarily true. And if that’s correct, then it is plausible that \(<◊P>\) is similar in that it entails a proposition that says of \(<P>\) that it is possibly true. Therefore, an advocate of the correspondence theory of truth will likely accept the inference from \((ω)\) to \((ψ)\). From there, she may conclude that true propositions exist at every possible world at which they are possibly true—that is, at all of them.

The argument admittedly requires the assumption that if something is possible, then it is necessary that it is possible. I suspect that many philosophers would (and do) find that plausible, but others may demur. This third reason against concrete propositions, then, should appeal to those advocates of the correspondence theory of truth who accept that whatever is possible is necessarily possible.

3.4. Propositions as Arrangements

If propositions are not concrete, then what kind of things are they? Here is a hypothesis that will prove useful later on when I give an account of the correspondence relation:

\[ (17) \Box \forall x \ (x \text{ is proposition} \rightarrow x \text{ is an arrangement of properties that are individual essences}), \]
where

\[ (18) \ 'x \text{ is an individual essence'} =_{\text{def}} '◊ \exists y (y \text{ exemplifies } x, \Box (y \text{ exists } \rightarrow y \text{ exemplifies } x), \text{ and } \Box \forall z (\text{if } z \text{ exemplifies } x, \text{ then } z = y))'. \]

According to this hypothesis, propositions are themselves arrangements of properties—specifically, of individual essences. It might also be that every arrangement of individual essences forms a proposition (in which case we could analyze propositions as arrangements of individual essences), though the hypothesis under discussion here leaves that open.

To better understand the hypothesis, let us consider an example: \(<\text{Tibbles is on the mat}>\). That proposition, according to (17), is an arrangement of individual essences. Which ones? These, perhaps: \textit{being Tibbles} and \textit{being the mat}. (I have not said anything precise about what \textit{being Tibbles} or \textit{being the mat} are. One might wonder, for example, if \textit{being Tibbles} is the property of \textit{being the thing named by ‘Tibbles’ in the actual world}, or if it is the property of \textit{being the one cat I got from my Grandma in the actual world}, or something else. Perhaps the answer depends upon which proposition ‘Tibbles is on the mat’ is supposed to express. Nothing I say here turns on how these details are specified.) Thus, \(<\text{Tibbles is on the mat}>\) is an arrangement of the properties, \textit{being Tibbles} and \textit{being the mat}.

The arrangement consists of \textit{being Tibbles} standing in a certain relation \(R\) to \textit{being the mat}. One feature of \(R\) is that it is a relation that \textit{being Tibbles} bears to \textit{being the mat}, such that anyone who grasps \(R\) thereby grasps \(<\text{sitting on}>_R\). Here is another feature:

\[ \text{Cf. Plantinga 1974, pp. 70-71.} \]
R is a relation $r$, such that necessarily, if an $x$ bears $<\text{sitting on}>_R$ to a $y$, then every individual essence of $x$ bears $r$ to every individual essence of $y$.

One virtue of treating propositions as arrangements of individual essences is that it allows us to understand propositions in terms of the familiar category, *Mereological Sum*: a proposition is a mereological sum of individual essences arranged in a certain way.

An interesting implication of treating propositions as arrangement of essences is that propositions *themselves* may be objects of correspondence for “higher-order” propositions. For example, if $<\text{Tibbles is on the mat}>$ is an arrangement consisting of *being Tibbles* and *being the mat*, then there may be a proposition that corresponds to that arrangement. For example: $<\text{being Tibbles bears } R \text{ to being the mat}>$, where ‘$R$’ is a relation $r$, such that necessarily, if an $x$ bears $<\text{sitting on}>_R$ to a $y$, then every individual essence of $x$ bears $r$ to every individual essence of $y$. This implication may help us appreciate why there are propositions in the first place. There are propositions because there are arrangements whose parts exemplify individual essences, which themselves form arrangements that are propositions.

I’d like to address a couple worries that one might have concerning this view of propositions. First, there are many types of propositions (negative, counterfactual, tensed, and so on), and one might wonder whether (17) can hold for every type of proposition under the sun. We will have to wait until Chapter 4 to answer this worry; there I will seek to show that (17) is compatible with the most challenging test-cases.

A second worry is that (17) makes use of individual essences. Some philosophers are skeptical that there are such properties (e.g., see Menzel 2008). They are skeptical in
part because it is difficult to see how individual essences might be analyzed (either in terms of more familiar, qualitative properties or in terms of their exemplifiers) and in part because their inclusion into one’s ontology adds unwanted metaphysical complexity. (One might have additional difficulties with there being unexemplified individual essences.) My purpose here is not to defend the existence of individual essences against objections (as such a defense would surely require an entire essay in itself). Instead, I will offer a reason to think that individual essences are no more (or less) problematic than singular propositions—propositions that ascribe a feature to a particular individual. Individual essences are no more (or less) problematic because they may be analyzed as a type of singular proposition. Here’s how:

\[(19) \text{‘x is an individual essence’ } =_{\text{def}} \text{‘(x is a singular proposition about something, such that x is true if and only if what } x \text{ is about exists’}.}\]

I am assuming that we understand at an intuitive level what it means for a proposition to be about something. Suppose that is so, and suppose that one has no objection to the existence of singular propositions. Then I do not see why one would object to the existence of those singular propositions called ‘individual essences’—those propositions that report the existence of a particular thing. We can say that such propositions/individual essences are “exemplified” just by being true.\(^{57}\) I conclude here that although the existence of individual essences is a potential cost of our theory of propositions, it is only actually a cost if the existence of singular propositions is a cost, too.

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\(^{57}\) It may have been noticed that if individual essences are singular propositions, then there is no hope of analyzing propositions as arrangements individual essences without circularity. However, there is still the option of analyzing propositions that are not individual essences as arrangements of propositions that are individual essences.
3.5. About Aboutness

If propositions are arrangements of individual essences, then we can explain what it is for a proposition to be *about* something (in the sense that propositions are about the parts of the facts they correspond to): we can say that a proposition is *about* a thing, \( t \), by virtue of containing as a part an individual essence that only \( t \) could exemplify. To be more precise, we can say the following:

\[(20) \ \text{`x is about y'} =_{\text{def}} \exists p \ (p \text{ is a part of x, } p \text{ is an individual essence, and } \square (p \text{ is exemplified } \rightarrow y \text{ exemplifies } p)).\]

Proposition (20) analyzes aboutness in terms of individual essences. This leads to circularity if we analyze individual essences in terms of singular propositions *about* things. But we certainly do not have to analyze individual essences as singular propositions. The reason I offered an analysis of individual essences in terms of singular propositions was to show that it is no more problematic to include individual essences in our ontology than it is to include singular propositions: both are equally suited to be the building blocks for propositions. Still, one way to test a theory of correspondence (to be given next) is to see if the theory entails that true propositions correspond to things they are about. The purpose of this section, then, is to offer an account of aboutness so that we can later test more precisely whether true propositions correspond to things they are about. However, this account of aboutness is not essential to our metaphysical account of propositions or to the correspondence relation.

Think again about (17). Notice that (17) does *not* entail that when a proposition is about something, there *is* a thing that the proposition is about. When I say, for example, that a proposition is about Socrates, according to (17), what I am saying is that the proposition contains one of Socrates’ individual essences. To say *that* does not commit
me to saying that Socrates exists. This is a favorable result because there is an intuitive sense in which propositions can be about things that do not exist: take for example, \(<\text{Socrates died}>\), which is about Socrates even if (assuming presentism) Socrates no longer exists.

It will also be useful to talk about propositions being *indirectly about* things. For example, consider \(<\text{James believes } \langle \text{Socrates is wise} \rangle>\). That proposition is primarily about a *proposition*, namely, \(<\text{Socrates is wise}>\). But there is also a sense in which it is about Socrates. That sense might be spelled out *recursively* as follows:

\[
(21) \text{‘} x \text{ is indirectly about } y \text{’} = \text{def } \exists z (x \text{ is about } z \text{ and } z \text{ is about } y), \text{ or } \exists z (x \text{ is about } z, \text{ and } z \text{ is indirectly about } y).
\]

A virtue of this analysis of aboutness is that it seems to yield favorable results for propositions *as well as* for things that are not propositions. Consider, for example, *thoughts*. Suppose that a thought is the grasping of a proposition. More precisely, suppose a thought is an arrangement consisting of a mind bearing the grasping relation (or some relation in the neighborhood) to a proposition. Take an example: I have the thought that Tibbles is on the mat. We may analyze this situation as an arrangement consisting of me bearing the grasping relation to \(<\text{Tibbles is on the mat}>\). Given this analysis, \(<\text{Tibbles is on the mat}>\) is part of my thought. (It is the *content* of my thought, as they say.) Since *being Tibbles* and *being the mat* are parts of \(<\text{Tibbles is on the mat}>\), by transitivity, they are also parts of my thought. And since these parts are themselves individual essences of

\[\text{\textsuperscript{58}}\]

\[\text{\textsuperscript{58}}\text{ If we give that analysis, then we probably should say that ‘those thoughts are the same thought’ is equivalent to ‘those thoughts have the same propositional content’}.\]
Tibbles and the mat, it follows from our account of aboutness that my thought that Tibbles is on the mat is about Tibbles and the mat. That’s a desirable result.

I believe we can get a desirable result for concepts, too. Suppose that a concept is a grasping of (or a disposition to grasp) an individual essence. That is, suppose that a concept is an arrangement consisting of a mind bearing some mental relation—such as grasping—to an individual essence. Then, every concept has an individual essence as a part and is thereby about whatever might exemplify that individual essence. For example, my concept of Tibbles is about Tibbles by virtue of containing a unique and essential description (an individual essence) of Tibbles as a part.

Of course, one may certainly question whether my analysis of thoughts and concepts is correct. Nevertheless, I do not believe the analyses are unreasonable, and those who accept them have additional reason to accept our account of ‘aboutness’. 59

3.6. The Nature of Correspondence

At this point I have offered an account of propositions (arrangements of individual essences) and of facts (arrangements). I am now in a position to develop an account of how propositions correspond to facts. Here is the proposal:

\[(22) \, \text{`x corresponds to y'} =_{\text{def}} \forall p (\text{if } p \text{ is a first-order part of y, then } \exists q (q \text{ is a proper part of x and } p \text{ exemplifies } q)); \forall p (\text{if } p \text{ is a proper part of x, then } \exists q \]

59 This theory of aboutness also may provide a helpful framework for a theory of meaning and reference: for example, if words are stipulated to signal (call up, bring to mind) concepts, then we might say (i) a word refers to whatever the concept signaled by it is about (or to whatever the concept stipulated to be signaled by it is about); (ii) a word expresses the individual essence that is part of the concept signaled by it; (iii) two words mean the same thing if and only if they express the same thing; (iv) sentences are built from words, and they signal thoughts; (v) a sentence refers to an arrangement that the thought it signals is about; (vi) a sentences expresses a proposition that the thought it signals contains as a part; (vii) two sentences mean the same thing if and only if they express the same proposition.
(q is a first order part of y and q exemplifies p)); x entails <y exists>; <y exists> entails x', where

‘p is a first-order part of y’ =def ‘p is a proper part of y, and ~∃q (p is a proper part of q and q is a proper part of y’).

Definition (22) says that a thing x corresponds to a thing y if and only if the first-order parts of y exemplify the proper parts of x, x entails the existence of y, and the existence of y entails x. (Someone might wish to add if x corresponds to y, then there is a derivative sense in which x also corresponds to the first-order parts of y.) Definition (22) has desirable results: (i) it entails that true propositions correspond only to things whose (first-order) parts they are about, and (ii), it entails that the truth of a proposition is guaranteed by the existence of the thing it corresponds to. I introduced the expression, ‘x is a first-order part of y’, because I wish to say that a proposition about macro-sized objects corresponds to an arrangement of those objects without requiring that the proposition be about all the parts of those macro objects.

Take an example: <Tibbles is on the mat>. That proposition corresponds to an arrangement A that consists of Tibbles and the mat and that exists if and only if Tibbles is on the mat. To see this, consider the (proper) parts of <Tibbles is on the mat>, which are being Tibbles and being the mat. These parts are exemplified by the first-order parts of A, namely, Tibbles and the mat, respectively. Moreover, A exists if and only if <Tibbles is on the mat> is true. Therefore, the conditions specified in (22) are met. We will see how (22) fares with respect to more sophisticated examples in Chapter 4.

Definition (22) is only understandable if we are able to understand ‘truth’ (as correspondence) in terms of ‘entailment’ without first needing to understanding ‘entailment’ in terms of ‘true’. I suggest that we can and do understand ‘entailment’
without first having to understand ‘truth’. To motivate this suggestion, I simply point to an example of entailment: <The object has shape> entails <The object has size>. The idea here is that perhaps we can understand ‘entailment’ by *immediately grasping* the entailment relation that holds between the example propositions. Everyone has primitive terms, and the suggestion here is that an advocate of CTT may treat ‘entailment’ as primitive.

### 3.7. The Nature of Falsehood

I have explained what it is to be *true* if CTT is correct, but I have said nothing about what it is to be *false*. It might be thought that if we can say what it is to be true, then saying what it is to be false will be easy—trivial even. Unfortunately, that is not so. The thought that it is easy to define falsehood in terms of truth might come from the thought that we can define falsehood like this:

\[(23) \text{‘} x \text{ is false’} =_{\text{def}} \text{‘} x \text{ is not true’}.\]

But (23) will not do: it implies that *you* and *me* are false given that we are not true; but surely *we* are not false. Suppose, then, we add the following “fix”:

\[(24) \text{‘} x \text{ is false’} =_{\text{def}} \text{‘} x \text{ is a proposition, and} x \text{ not true’}.\]

This is only slightly better. There are still two difficulties. First, I identified propositions as the bearers of truth and falsity. So if I define ‘false’ in terms of ‘proposition’, then that means I have identified *propositions* as things that are true or false *propositions*, which is clearly an unhelpful identification. A second and more serious difficulty is this: (24) does not define ‘false’ in terms of ‘true’; rather, it defines ‘false’ in terms of ‘not true’. We
may ask, “What is the relationship between ‘true’ and ‘not true?’” More generally: “What is the relationship between ‘is F’ and ‘is not F’?”

Here is a tempting answer:

(25) ‘x is not F’ =_{def} ‘not (x is F)’.

Unfortunately, that answer will only help if we know what a sentence of the form, ‘not (A is F)’ expresses. If propositions are themselves arrangements, then the most natural thing to say here is this: a sentence of the form, ‘not (A is F)’ expresses ‘<A is F> is false’, which is an arrangement consisting of the property of being <A is F> standing in the relation of exemplification to the property of being false. In other words, (25) should be translated as

(26) ‘x is not F’ =_{def} ‘<x is F> is false’.

But then, (24) will be translated as:

(27) ‘x is false’ =_{def} ‘x is a proposition, and <x is true> is false’.

And clearly that will not do: it is patently circular. What are we to do?

I suggest we do the following: we interpret ‘not (A is F)’ as ‘A lacks F’. Thus, (24) becomes:

(28) ‘x is false’ =_{def} ‘x is a proposition, and x lacks being true’, where ‘lacks’ expresses the relation of lacking.

According to (28), a proposition is false by bearing the lacking relation to the property of being true. The relation of lacking is a relation a thing bears to something just in case it does not bear the having (exemplification) relation to that something. Put another way: for every property P and every thing T, either T exemplifies P or T lacks P. (This is not a definition of ‘lacks’ of course: ‘lacks’ is as much a primitive here as ‘has’ or ‘exemplifies’.) On this account ‘not’ gets analyzed in terms of ‘lacks’. If treating ‘lacks’
as a primitive is a cost, that cost is offset, I think, by the benefit of not having to treat
‘not’ as a primitive; everyone has to treat one or the other as a primitive.

That takes care of the difficulty of explaining the relationship between ‘true’ and
‘not true’. What about the difficulty of saying what propositions are without circularity?
To handle that difficulty, I suggest that we identify propositions using the following
definition:

\[(29) \text{‘} x \text{ is a proposition} \text{’} =_{\text{def}} \exists y (x \text{ entails } y)'.\]

The idea here is that propositions are things that entail things. In other words, the mark of
a proposition is that it stands in the relation of entailment. As I explained above, an
advocate of CTT may treat ‘entailment’ as a primitive: she may maintain that we grasp
the relation of entailment by virtue of seeing (being conscious of) one thing entailing
another.\(^{60}\)

Therefore, an advocate of CTT may define ‘false’ in terms of ‘true’. It may not be
trivial to do so, but fortunately, the task is not impossible.

Before closing this section, I’d like to point out an interesting implication of our
account of falsehood. The account entails that every proposition is either true or false;
that is, it entails bivalence. Some philosophers may regard this to be a virtue of the
account, whereas others may regard it as a cost. I will not defend bi-valence against the

\(^{60}\) Alternatively, one may treat ‘proposition’ as primitive. Then, one might define ‘entailment’ in
terms of ‘proposition’ as follows: ‘\( x \) entails \( y \)’ =_{def} \( \exists r (x \text{ stands in } r \text{ to } y; \forall p (\text{‘} p \text{ is a proposition and } p \text{ is not a proposition} > \text{ stands in } r \text{ to } p; \forall q (q \text{ does not stand in } r \text{ to every proposition})). \) If there is more than one relation that satisfies the
conditions on \( r \), then let \( r \) be the determinable (or disjunction) of all such relations.
charge of being a cost (as that would be a dissertation in itself). I only wish to point out that bivalence may be a consequence of CTT given the following argument:

(30) If CTT is true, then truth is analyzable.

(31) If truth is analyzable, then so is falsehood.

(32) Falsehood can only be analyzed as being a proposition that lacks truth.

(33) Therefore, any proposition that lacks truth is false.

(34) If (33) is true, then bivalence holds;

(35) Therefore, bivalence holds.

3.8. Conclusion

The primary task of this chapter was to develop a coherent theory of the relation of correspondence. I tried to do this by defining ‘correspondence’ using terms that may be reasonably treated as primitive by an advocate of CTT, such as ‘exemplifies’ and ‘entails’. My goal was to come up with a definition that relies upon the fewest primitive terms and that has the following desirable features: (i) it entails that true propositions are intuitively about the things they correspond to, (ii) and it entails that true propositions are entailed by the existence of the things they correspond to. As I explained earlier, a definition that exhibits (i) and (ii) is this: ‘a proposition P corresponds to an arrangement A’ is defined as ‘the first-order parts of A exemplify the proper parts of P, <A exists> entails P, and P entails <A exists>’.

Now that we have an account of propositions, facts, and the relation of correspondence between them, we are ready to put these accounts to the test by seeing if
they allow CTT to withstand the objections raised against it. That’s the subject of the next chapter.
4.1. Introduction

“To say of what is that it is, and of what is not that it is not, is true.” (Aristotle, *Metaphysics* 1011b)

In this chapter, I will defend the correspondence theory of truth (CTT) against its most substantial metaphysical objections. My strategy is to show how the metaphysical framework developed in the preceding chapters can be used to solve (or at least make more tractable) the metaphysical problems that were raised against CTT—i.e., the Problem of Funny Facts, the Problem of Matching, and the Slingshot Argument.

I will begin with a brief review of the major features of the metaphysical framework developed in Chapters 2 and 3. In Chapter 2, I provided an account of facts—the objects to which true propositions correspond. There, I analyzed facts as *arrangements*, where an arrangement is (roughly) a complex of things related in a certain specified way. Arrangements resemble Armstrong’s states of affairs, but unlike Armstrong’s states of affairs, arrangements can be built up wholly out of abstract things, such as properties and relations. Thus, arrangements may consist of items falling under any ontological category.

In Chapter 3, I offered several reasons to think that propositions are abstract entities, and I proposed that propositions are themselves arrangements: they are
arrangements of individual essences (or haecceities). This proposal allows for a characterization of the correspondence relation in terms of the exemplification of the parts of a proposition by the parts of a certain arrangement. More precisely, I proposed that ‘P corresponds to A’ can be analyzed to mean that the first-order\(^{61}\) parts of A exemplify the (proper) parts of P, \(<A \text{ exists}>\) entails P, and P entails \(<A \text{ exists}>\). Propositions, then, correspond to reality by virtue of having parts that are exemplified by parts of reality in the right order.

4.2. The Problem of Funny Facts

In Chapter 1, we examined a number of troublesome propositions—propositions whose objects of correspondence have proven difficult to identify. Here, I will consider each of those propositions again and propose what arrangements they might correspond to.

4.2.1. Negative Facts

Before looking at a negative proposition, I will start with a positive one:

(1) \(<\text{there are giraffes}>\).\(^{62}\)

There is a sense in which (1) is about giraffes. But it is not about any particular giraffes. This is because for any particular giraffes, the Gs, (1) could be true even if those Gs

\(^{61}\) ‘\(p\) is a first-order part of \(y\)’ \(=_{\text{def}}\) ‘\(p\) is a proper part of \(y\) and not a proper part of any proper part of \(y\)’.

\(^{62}\) As in earlier chapters, I am using the convention that ‘\(<…>\)’ abbreviates ‘the proposition that…’.
didn’t exist. Instead, (1) is about giraffes in general. Thus, I suggest that (1) is about the general kind, Giraffe. Put differently, it is about the property, being a giraffe. Therefore, I propose that we interpret (1) as follows:

(2) <being a giraffe is exemplified>.

Proposition (2) describes a relationship between two properties: it says of being a giraffe that it exemplifies being exemplified. Thus, if (2) were true, it would correspond to an abstract arrangement consisting of being a giraffe bearing the exemplification relation to being exemplified. According to the classifications offered in Chapter 2, this arrangement is an abstract structure. (The abstract structure is contingent; thus, one interesting implication of this proposal is that there can be contingent abstract objects.)

I should make clear that when I say that (2) corresponds to an abstract structure and not to any particular giraffes, I am not thereby implying that particular giraffes cannot serve as truth-makers for (2). It is compatible with what I say about the objects of correspondence that something can be a truth-maker for a proposition without that proposition corresponding to it. For example, someone could believe that the existence of the particular giraffes in the actual world are what make (2) true in the actual world. That belief is compatible with the view that (2)’s being true consists in its corresponding with an abstract structure and not in its correspondence with any particular giraffes.

Let us turn now to the notorious negative propositions. Recall this one:

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63 I am assuming here that (i) propositions correspond to things they are about and that (ii) propositions cannot change with respect to what they are about. I take these assumptions to be built into the Correspondence Theory of Truth (see Chapter 1, pp. 11, 13).

64 Some philosophers make a distinction between kinds and properties. Here, I use the term, ‘property’, in a broad sense to include both natural kinds as well as properties that are not natural carvings.
(3) <there are no unicorns>.

I argued in Chapter 1 that if (3) corresponds to something, what it corresponds to is not a thing (or things) that philosophers would ordinarily call ‘concrete’. I also argued that it does not correspond to an unanalyzable abstract state of affairs of there being no unicorns. What, then, might (3) correspond to?

I will offer two possibilities. The first depends upon the hypothesis that (3) is the same proposition as:

(4) <it is not true that there are unicorns>.

which in turn is the same as

(5) <<there are unicorns> lacks truth>.

Let us begin with the first part of that hypothesis: (3) is the same proposition as (4). The idea here is that (3) is directly about a proposition and only indirectly about unicorns; proposition (3) says of a proposition, <there are unicorns>, that it is not true.

Why think (3) might be about something other than particular unicorns? I see two clues to an answer: one is metaphysical and the other linguistic. Consider the metaphysical clue first. Proposition (3) is, by virtue of being a proposition, about something. But (3) is not about any particular unicorns: (3) contains no individual essences of unicorns, and there are no particular unicorns whose existence is guaranteed by the truth of (3). The next best guess, I think, is that (3) is about something abstract—such as a proposition about unicorns, or else the general kind, Unicorn.

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65 For a precise account of the distinction between ‘x is about y’ and ‘x is indirectly about y’, see Chapter 3, section 3.5.
There is a linguistic clue suggesting the same conclusion. To see it, consider the following sentences:

(6) ‘There are tall rabbits.’
(7) ‘There are rabbits that are tall.’
(8) ‘There are angry rabbits.’
(9) ‘There are rabbits that are angry.’
(10) ‘There are no rabbits.’
(11) ‘There are rabbits that are no’.

It is reasonable to translate (6) as (7) and to translate (8) as (9). By contrast, it makes no sense at all to translate (10) as (11). This suggests that ‘no’ plays an importantly different role in (10) than ‘tall’ and ‘angry’ play in (6) and (8). Sentence (10) does not ascribe to rabbits the attribute of no. This is a clue (only a clue) that (10), unlike (6) and (8), is not ascribing a property to rabbits; (10) is not saying anything directly about rabbits. Similarly, (3) is not saying anything directly about unicorns. But if (3) is not saying something about unicorns, then (3) is saying something about something else: for example, it is saying of <there are unicorns> that it is not true.

Suppose, then, that (3) is the negation of <there are unicorns>. The second part of the hypothesis says that the negation of <there are unicorns> is (5). That is, (5) says of <there are unicorns> that it lacks truth. Recall from Chapter 3 that ‘lacks’ expresses a relation r that holds between things and properties, such that for any property, everything either exemplifies it or else bears r to it. I argued in Chapter 3 that this account of negation has the virtue of allowing us to give a non-circular account of falsehood. I propose, then, that an advocate of CTT may understand (4) as (5).
If one accepts that (3) is the same as (5), then one is of course committed to accepting that (3) corresponds to whatever (5) corresponds to. Consider (5): "<there are unicorns> lacks truth>. That proposition says of <there are unicorns> that it bears the lacking relation to the property being true. An advocate of CTT may suppose that (5) corresponds to an arrangement consisting of <there are unicorns> bearing the lacking relation to the property being true. That is, (5) corresponds to an arrangement that has <there are unicorns> and being true as parts and that exists if and only if the first part mentioned bears the lacking relation to the second.

Notice that the parts of the arrangement (5) corresponds to are all abstract things: they include a proposition and a property. This follows from the idea that (5) is directly about just abstract things. The good news is that (5) is about a proposition that is in turn about unicorns in general—that is, the kind, Unicorn; therefore, (5) is still about unicorns in general, though indirectly.

A second hypothesis is that (3) is about a property (or kind) that all and only unicorns exemplify, namely, being a unicorn. Proposition (3) either says of that property that it lacks being exemplified or else that it has (exemplifies) the negation of exemplification. I prefer the hypothesis that being a unicorn lacks being exemplified because it seems to me simpler. Given that hypothesis, (3) is

(12) <being a unicorn lacks being exemplified>.

We now have two hypotheses as to what (3) says. One is that (3) says of a certain proposition that it lacks truth; the other is that it says of a certain property that it lacks being exemplified. Given either hypothesis, it is not difficult to identify an arrangement that (3) may correspond to. For example, (3) may correspond to an arrangement that
consists of <there are unicorns> bearing the lacking relation to the property, *being true*. Alternatively, (3) may correspond to an arrangement that consists of the property, *being a unicorn*, bearing the lacking relation to the property, *being exemplified*. These are plausible candidates if (3) is the same as (5) or the same as (12).

The account I’ve offered for (3) can be generalized for all negative facts, of course. The idea is that all negative facts are relationships of things connected by the *lacking* relation: the mark of a negative fact is the presence of the lacking relation. So in general, an instance of

(13) <X does not exist> [or, <there are no Xs>].

is the same as an instance of

(14) <<<X exists> lacks truth> [or, <<<there are Xs> lacks truth>].

or as an instance of

(15) <being X lacks being exemplified> [or, <being an X lacks being exemplified>].

In either case, it is not hard to find an abstract structure that the negative proposition in question may correspond to.\(^{66}\)

4.2.2. Universal Generalizations

Consider the following universal generalization:

(16) <every emerald is green>.

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\(^{66}\) Peter van Inwagen has suggested to me that someone might consider <There are no unicorns> to be more like <Everything lacks the property of being a unicorn> than like <<<There are unicorns> lacks the property of being true>, where ‘being true’ is defined as ‘corresponding to some arrangement’. In other words, she might find it more plausible that <There are no unicorns> is a universal generalization than that it is what I say it is. Such a person is certainly welcome to treat <There are no unicorns> as a universal generalization (the account of which I will discuss next).
It is equivalent to the following negative proposition:

(17) <there are no non-green emeralds>.

It might be thought that (16) corresponds to whatever (17) corresponds to. One is welcome to think that. However, I do not find it plausible that (16) and (17) correspond to one and the same thing. For it seems to me that (17) is saying that certain things do not exist, whereas (16) seems to me to not be saying anything concerning what doesn’t exist. Therefore, I will assume that (16) and (17) do not correspond to the same thing.

Consider the following clue as to what (16) is saying. It seems that no one could grasp (16) without first (or also) grasping the general kinds, Emerald, and Green. For example, if I tried to explain to a child that every emerald is green, she could only grasp what I was saying if she already had some idea of what an emerald was and what green was. It is also evident that if one grasps the kind Emerald and the kind Green, one can grasp (16) rather easily. This suggests to me that (16) is a rather simple statement about the kinds, Emerald and Green. Therefore, I propose the following hypothesis: proposition (16) is analyzable as

(18) <Emerald implies Green>

or

(19) <being an emerald implies being green>.

For, as Peter van Inwagen has suggested to me, it may seem implausible that the trivially interderivable sentences, ‘∀x (Ex → Gx)’ and ‘∃x (Ex & ~ Gx)’ should express propositions that are radically different in their ontological structure.

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67 For, as Peter van Inwagen has suggested to me, it may seem implausible that the trivially interderivable sentences, ‘∀x (Ex → Gx)’ and ‘∃x (Ex & ~ Gx)’ should express propositions that are radically different in their ontological structure.
The proposal is that *implies* is a relation that a property may bear to a property just in case instances of the first are (or tend to be) instances of the second. We may generalize for all propositions of the form

(20) \(<\text{every } A \text{ is } B>\)

by translating them as

(21) \(<\text{being } A \text{ implies being } B>\).

Given this proposal, a statement of the form, ‘\(\forall x \ (Fx)\)’, expresses a proposition of the form, *being a thing* implies \(F\). For example, ‘everything is immaterial’ would express \(<\text{being a thing implies being immaterial}>\).

One advantage of the proposal is that it allows us to resolve a certain paradox that seems to result when considering the following proposition:

(22) \(<\text{every proposition that is not about itself is interesting}>\).

Ask: is (22) about itself? If it *is* about itself, then since (22) seems to be saying something about just those propositions that are *not* about themselves, it would seem that (22) is not about itself. But if (22) *is not* about itself, then since (22) seems to be saying something about all propositions that are *not* about themselves, it would seem that (22) is about itself. Therefore, it would seem that (22) is about itself if and only if it is not about itself. Thus, it seems we have a paradox (not much unlike one of Russell’s famous paradoxes). It seems to be a paradox because it seems that there should be propositions like (22), yet the existence of (22) seems to entail a contradiction.

Fortunately, we can resolve the paradox using the *implies* relation by supposing that (22) is the same as:

(23) \(<\text{being a proposition that is not about itself implies being interesting}>\).
Proposition (23) says of a certain property that it bears the *implies* relation to a certain property. Thus, (23) is about certain properties. The situation can be expressed using the account of aboutness I offered in Chapter 3. There, I suggested that a proposition is about something if it contains an individual essence of it as a part. Thus, (23) is about the two properties in question if it contains individual essences of those properties as parts, which is just what I propose. Given that those properties are not themselves *propositions* about things, (23) is not even indirectly about whatever some propositions might be about. So, as long as (23) contains no *other* individual essences, there is no sense in which (23) is about itself (assuming the theory of aboutness I proposed in Chapter 3). Therefore, we can explain why (23) is not about itself by supposing that (23) is about a couple of properties that stand in the *implies* relation.

This resolution to the paradox relies upon treating *implies* as a relation that can hold between properties. Therefore, our account of universal generalizations in terms of the *implies* relation enjoys a theoretical benefit. It seems, then, that unless there are outweighing theoretical costs, an advocate of CTT may accept—even welcome—the suggestion that (16) is the same as (19).

If we grant that (16) is (19), then it is not difficult to find an object of correspondence for (16). Proposition (16) corresponds to an arrangement consisting of *being an emerald* bearing the *implies* relation to *being green*. More generally: a true proposition of the form X implies Y corresponds to an arrangement consisting of X bearing the *implies* relation to Y.

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68 However, we may still say that (23) is about propositions that aren’t about themselves in general by virtue of being about the property of *being a proposition that isn’t about itself*. 
4.2.3. Conjunctions

Although conjunctive propositions do not pose a special problem for CTT, I include a section on them because our account of disjunctions will depend in part upon what we say about conjunctions. Consider, then, the following conjunction:

(23) <Sally loves Sue and Sue loves Sam>.

It is a conjunction of two propositions: <Sally loves Sue> and <Sue loves Sam>. Given our account of propositions as arrangements of individual essences, (23) is a mereological sum of <Sally loves Sue> and <Sue loves Sam>: it includes the individual essences contained within <Sally loves Sue> and in <Sue loves Sam>. Therefore, (23) corresponds to a combination of the arrangements its conjunctive parts correspond to.

We have a choice here: we may say that (23) corresponds to two distinct arrangements jointly, or we may say that (23) corresponds to a mereological sum of two arrangements. More specifically, (23) may correspond to the combination of whatever <Sally loves Sue> and <Sue loves Sam> each correspond to. Or else, (23) may correspond to a sum of whatever <Sally loves Sue> and <Sue loves Sam> correspond to. I will leave that choice open. In general, then, a conjunctive proposition will either correspond to a sum of whatever its conjunctive parts correspond to, or else it will correspond jointly to whatever its conjunctive parts correspond to (or perhaps both).

4.2.4. Disjunctions and Beyond

Consider the following disjunctive proposition:

(24) <either Sally loves Sue or Sue loves Sam>.
The simplest theory of correspondence, CTT-, does not analyze correspondence in terms of the correspondence or lack of correspondence of atomic parts. Therefore, advocates of CTT- will need to find an object that (24) corresponds to *as a whole*. I have a proposal for how this might be done. It begins with the following hypothesis:

(25) A proposition expressed by a sentence that contains a logical operator o, can be expressed by a sentence that instead uses ‘not’ and/or ‘and’.

The hypothesis is that any proposition expressed using logical operators may be expressed using just the operators ‘not’ and ‘and’. We might find this reasonable if we think that the precise meanings of expressions containing complex operators are ultimately analyzable in terms of expressions that contain ‘not’ and ‘and’. Given this hypothesis, we may translate (24) as

(26) <not (not, Sally loves Sue, and not, Sue loves Sam)>.

which in turn translates to

(27) <<<Sally loves Sue> lacks truth> and <<<Sue loves Sam> lacks truth> lack truth>.

Notice that (27) is a conjunctive proposition. As such, (27) may either correspond to a sum of whatever its conjunctive parts correspond to, or it may correspond jointly to whatever its conjunctive parts correspond to. For simplicity, I will assume the first option. Now it is not difficult to identify the arrangements that (27)’s conjunctive parts may correspond to. The first conjunct may correspond to an arrangement that consists of <<<Sally loves Sue> lacks truth> bearing the lacking relation to truth. The second may correspond to an arrangement that consists of <<<Sue loves Sam> lacks truth> bearing the lacking relation to truth. Proposition (27) may correspond, then, to a sum of those arrangements.
At this point, one might notice that sentences that contain logical operators other than ‘and’ express propositions that are themselves about propositions (or properties). This should not be surprising. Logical operators operate on propositions, to speak loosely. I have given a metaphysical account of how they operate on propositions: ‘not’ is used to say of a proposition that it lacks truth; ‘or’ is used to say of a couple of propositions that their negations do not both lack truth; every other logical operator is analyzable in terms of ‘and’ and ‘not’. Therefore, it is plausible to suppose that in general, logical operators are used in sentences that express propositions about propositions.

Notice that ‘and’ is treated somewhat differently from the other logical operators. The ‘and’ operator conjoins two propositions into a bigger conjunctive proposition, but the conjunctive proposition is not generally about other propositions. It is not about propositions because the conjuncts of a conjunction do not become described (so to speak) by virtue of being conjoined. By contrast, if we say that something is not the case, then what we say does seem to describe a proposition: we say of a proposition that it is not the case (or that it lacks truth). All the other operators are defined in terms of both ‘not’ and ‘and’ and so are naturally going to be about propositions. Therefore, I do not think it should surprise us that ‘and’, unlike the other operators, is not used to conjoin propositions into a proposition that is itself about propositions.

Before I close this section, I would like to make explicit a certain assumption about logical equivalence, namely, that logically equivalent propositions do not necessarily correspond to the same thing. I make this assumption because it seems to me implausible that instances of \(<S>\) correspond to the same thing as instances of \(<\text{not } (\text{not } S} \ldots}
or not S>, despite the fact an instance of the first is logically equivalent to an instance of
the second.

Given this assumption, no one should be tempted to complain that our account of
the logical operators entails that every proposition is about propositions. That is to say, no
one should complain that every proposition of the form

(28) <x is F>
can be translated as a proposition of the form

(29) <not (not (x is F)>.

No one should make that complaint, for my reply is now evident: an instance of (28) does
not correspond to the same thing as all its logically equivalent neighbors. I take this to be
a virtue of the theory. For I consider it plausible that when someone expresses a
proposition, the proposition she expresses is not about the very same things that any and
every logically equivalent proposition is about. Similarly, I consider it plausible that an
instance of (28) is not about the very same things as an instance of (29). After all, an
instance of (29), unlike instances of (28), seems to be only indirectly about x and F;
moreover, an instance of (29), unlike instances of (28), seems to be saying of certain
propositions that lack they lack truth (given the account of ‘not’ proposed in Chapter 3).

4.2.5. Abstract Reference

Consider the following proposition:

(30) <green is a color>.

Given our account of arrangements, it is not difficult to find an arrangement that (30)
may correspond to. Consider this one: the arrangement that has being green and being a
color as its only parts. (Or if you prefer the fine-grained theory of arrangements, consider an arrangement having those parts, plus the relation of exemplification as a “constituent.”) Thus, (30) may correspond to an abstract structure of properties. Interestingly, unlike the abstract structures considered above, this one seems to exist necessarily. If that’s so, then (30) is not only true, but it is necessarily true.

4.2.6. Tensed

Let us turn to propositions expressed by sentences that contain tensed terms, such as “was”, “will be”, “is now”, and so on. Here is an example:

(31) ‘The Trojans were conquered’.

Suppose, first, that eternalism is true. On the eternalist view, there are things that are temporally located in the past. For example, the Trojans exist back in the past. Given this, an eternalist might say that the proposition, CONQUERED, expressed by (31) corresponds to an arrangement consisting of the Trojans themselves—for example, Trojans with spears in their bellies.

That’s a start. But the eternalist will need to explain what makes CONQUERED about the past rather than about the present or the future. A de-tenser—someone who translates tensed terms into tenseless ones—might say that CONQUERED says of a certain past event, E (e.g., one consisting of Trojans with spears in their bellies), that it is earlier than the time, Tₚ, at which CONQUERED was expressed. Thus, CONQUERED corresponds

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69 Recall from Chapter 2: ‘x is a constituent of y’ =def’ (if y is grasped, then x is grasped).

70 Or the arrangement consists of Trojans that have temporal parts that are themselves bellies plunged by spears.
not merely to an arrangement of Trojans and spears but also to an arrangement of times (or events). None of this is problematic as far as CTT goes.

Someone might raise a problem on a different front. Consider the proposition that E is earlier than T_P. That proposition seems to be true at all times, for it seems that E is never later than or simultaneous with T_P. If that’s so, then CONQUERED—which we are assuming is the proposition that E is earlier than T_P—is true at times before any Trojans were born. That means, paradoxically, that “<the Trojans were conquered>” was true even at times before any Trojans were born. Of course, any token sentence of the same type as (31) that exists before there are Trojans would express a different proposition—one that’s false. But what’s of interest is not a sentence token but the proposition—the primary bearer of truth—expressed by (31), which, according to the de-tenser, is something that was true before there were Trojans. Some might find that implausible.

Be that as it may, the problem isn’t one for CTT. It is a familiar problem for eternalists who are de-tensers. My concern here is to defend CTT, not eternalism. If CONQUERED truly is a proposition that is true at all times, then it’s not hard to find an arrangement to which it might plausibly correspond. So, CTT fairs well.

Of course, eternalists are not committed to saying that CONQUERED is true at all times. Eternalists may, for example, deny that there is any such thing as CONQUERED (perhaps because (31) doesn’t by itself express a truth). In that case, there is obviously no need to say what CONQUERED corresponds to. Another option is to take tense seriously and say that CONQUERED is expressed by a sentence that contains tensed terms that

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71 And they are not without reply options. Perhaps the most popular option is to suppose that although the proper content of (31) is an eternally true proposition, there is a “semantic aspect” (such as a Kaplan “character”) expressed by (31) that changes with respect to various times (see 2005, p. 411).
cannot themselves be translated into tenseless terms (cf. Zimmerman 2005, pp. 406-13). An eternalist who takes this option is in the company of the majority of non-eternalists, for non-eternalists generally consider tensed terms to be irreducible to tenseless ones. I turn to non-eternalism next.

The most popular alternative to eternalism is presentism. Presentists believe that there are no past objects; so, there are no Trojans temporally located in the past. For this reason, it has proven difficult to identify an object that propositions about the past might correspond to. I believe that the difficulty results from thinking that propositions about the past are about concrete objects and should therefore correspond to concrete objects. I will explain why a presentist may consider propositions about the past to be merely indirectly about concrete objects while directly about the past, which consists of abstract times and their parts.

To begin, consider what it means to say that something exists at a time. What is a time? And how do things manage to get inside of times? Here is a hypothesis proposed by Crisp (2007, pp. 99-100):

(32) ‘\( x \) is a time’ =_def_ ‘For some propositions, the \( ps \), such that the \( ps \) are maximal and consistent, \( x = \langle \forall y (y is one of the ps \supseteq y is true) \rangle \), where

(i) ‘the \( xs \) are maximal’ =_def_ ‘for every proposition \( q \), either \( q \) or its denial is one of the \( xs \),

(ii) ‘the \( xs \) are consistent’ =_def_ ‘possibly, every one of the \( xs \) is true’.

One is welcome to try out alternative proposals. For example, van Inwagen (2009) has suggested that times are such properties as being an event that is one year later than B, where ‘B’ names some event. I believe a presentist may adopt van Inwagen’s account of times if events are assumed to be abstract (Chisholm) events or if an event can be “one year later than B” even if B doesn’t exist. I leave it to the reader to see how CTT fairs on such a proposal.
According to (32), a time is a proposition of a certain maximal sort. Thus, we can say that something is at a time if that time is about it because we can say that times qua propositions are about a thing by virtue of containing its individual essence as a part. (Recall from Chapter 3 that a proposition is about a thing by virtue of containing one of its individual essences as a part.) I recommend this account to the presentist for two reasons: (i) it allows the presentist to talk about times that are about things that do not presently exist (for example, there are times in which certain dinosaurs roam the earth); (ii) it makes use of a familiar category, namely, Situation, or Proposition, and it is not implausible that talk of the past is talk of presently existing situations that did obtain or of presently existing propositions that were true.

Sometimes talk about the past is talk about past times. For example, I might say that the year 1980 was a splendid year. In that case, the presentist may say that I’m talking about a time, or rather, a series of times. But not all talk of the past seems to be talk of anything as sophisticated as a time. For example, if I say that the Trojans were conquered, I do not seem to be talking about any particular time; when I bring to mind CONQUERED, I do not seem to bring to mind any particular time. I propose instead that CONQUERED is about a proposition, or perhaps about a short series of temporally related propositions. For example, the presentist might say that (31) expresses the following proposition:

(33) <<the Trojans are conquered> exemplifies having been true>.

Or if the subject is a series of propositions, (31) might express something in the neighborhood of this:
(34) "<many Trojans have swords in their bellies> is shortly before <many Trojans are dead>, which is shortly before <the Trojans are running from battle>, which exemplifies having been true." 73

Notice that (33) and (34) are both about a proposition that in turn is about the Trojans. Thus, there is an indirect sense in which (33) and (34) are about the Trojans. This is good, because intuitively there is some sense in which "<the Trojans were conquered> is about the Trojans. Therefore, I recommend that presentists interpret (31) as expressing something in the neighborhood of (33) or (34).

It is not difficult to identify arrangements to which (33) and (34) may correspond. Proposition (33) may correspond to an abstract structure consisting of "<the Trojans are conquered> bearing the exemplification relation to the (tensed) property of having been exemplified. And proposition (34) may correspond to an abstract structure consisting of a series of propositions (parts of times) standing in the earlier than relation joined together with a proposition that stands in the exemplification relation to the property of having been exemplified. Thus, on either account, we have a working solution to the problem that tensed propositions poses for presentist advocates of CTT. 74

A non-eternalist who isn’t a presentist has a choice: she may join the presentist and say that true propositions about the past (or the future) correspond to arrangements consisting exclusively of abstract entities, such as times or propositions, or she may say

73 To be clear, when I say that x is shortly before y, I am not saying that x exists shortly before y. For according to presentism, everything exists now. Rather, the claim is that x presently bears the shortly before relation to y. For more on temporal relations between abstract entities, see Crisp 2007, p. 106.

74 Although a bit unorthodox, a presentist may wish to be a de-tenser. For example, she may wish to translate the predicate ‘having been exemplified’ as ‘is earlier than whatever time is true’, where ‘is true’ is treated as a tenseless term. For an articulation and defense of this option, see Crisp 2007, pp. 98-105. She is welcome to do this. If she does, then she may say that CONQUERED corresponds to an arrangement consisting of "<the Trojans are conquered> bearing the exemplification relation to the property, being earlier than whatever is true."
that they correspond to arrangements consisting of concrete things that exist in the past (or the future).

4.2.7. Modal

Consider the following proposition:

\( (35) \) \(<\text{a three thousand story building could be constructed}>\).

Proposition (35) seems to be about a three thousand story building. But there is no such thing. This is a clue that (35) is not directly about any particular building; it is instead about a proposition, namely, \(<\text{a three thousand story building is constructed}>\). Therefore, I suggest that (35) be translated as

\( (36) \) \(<\text{a three thousand story building is constructed}> \text{ is possible}>\).

The next step is to say what it is for a proposition to be possible. I see two options here. One is to treat ‘possible’ as a primitive term that expresses an unanalyzed modal property. Thus, to say that a proposition is possible is just to say that it exemplifies the unanalyzed property, being possible. The other option is to analyze possibility. Someone who is a fan of Lewis worlds may analyze possibility in terms of existence in a causally isolated spatio-temporal universe. Here is another option:

\( (37) \) \(\text{x is possible} \equiv \text{not, x is impossible}\), where

\( (38) \) \(\text{x is impossible} \equiv \text{x entails <x lacks truth}>\).

These are some options, then, for how one might analyze possibility.\(^75\)

\(^75\) In an earlier draft, I proposed \(\text{x is impossible} \equiv \text{x entails every proposition}\), but van Inwagen brought to my mind the definition in the main text, which I take to be simpler (and cuter).

\(^76\) One might think that analyzing possibility in terms of ‘entails’—which is taken to be a modal primitive—is no better than taking ‘is possible’ to be a modal primitive. That may be so. However, in
If we do not analyze possibility, then the object of correspondence is easy to identify: it will be an abstract structure consisting of a proposition bearing the exemplification relation to the property of being possible. On the other hand, if possibility is analyzed, then identifying the object of correspondence is nearly as easy. Here’s how to do it if possibility is analyzed in terms of entailment. Suppose proposition P is possible. Then <P is possible> is the same as

(39) \(<P \text{ entails } <P \text{ lacks truth}>\) lacks truth>.

The arrangement to which (39) would correspond to is one consisting of <P entails <P lacks truth>> bearing the lacking relation to \textit{being true}.

4.2.8. Counterfactuals

Consider the following proposition:

(40) If the wind were to pick up, then this pile of leaves would scatter.

In Chapter 1, I argued that (40) cannot correspond to anything concrete since no concrete thing can guarantee the truth of (40). It might be guessed what I will say here: (40) is about propositions. Specifically, (40) says of <the wind picks up> that it \textit{counterfactually implies} <the pile of leaves scatter>. Thus, if (40) is true, it corresponds to an arrangement consisting of <the wind picks up> bearing the \textit{counterfactually implies} relation to <the pile of leaves scatter>. Proposition (40) is still \textit{indirectly} about the wind and the leaves by virtue of being about propositions that are themselves about those things.

Chapter 3, I offered definitions of ‘proposition’ and ‘x corresponds to y’ that treat ‘entails’ as primitive, and someone who accepts those definitions may wish to analyze possibility in terms of ‘entails’ rather than to introduce a new primitive. (I am assuming that ‘entails’ cannot be defined in terms of ‘is possible’ together with ‘implies’, where ‘implies’ expresses a relation that can hold between properties.)
It remains to be said what *counterfactually implies* is. Fortunately, one may analyze that relation however one pleases (or leave it unanalyzed). Any analysis one might give will be in terms of logical and modal operators, and I have already shown how to find arrangements for propositions expressed by logical and modal operators. Therefore, counterfactual propositions do not pose a special problem for CTT given our framework.

In summary, if we allow there to be abstract arrangements, then the Problem of Funny Facts becomes tractable. The problem arose because there do not seem to be any *concrete* things to which certain “funny” propositions correspond to. The traditional solutions fall prey to weighty objections—for example, a modal objection according to which one and the same proposition would be about different concrete things in different worlds.\(^77\) But if there are *abstract* arrangements, then we can posit objects of correspondence for the “funny” propositions without being rebuffed by those objections.

4.3. The Problem of Matching

The Problem of Matching is the problem of seeing how abstract propositions should *match up* with concrete material things. It might seem mysterious how an abstract, colorless, shapeless proposition should be able to match (describe, be about, correspond to) a purple pen sitting on the table, say.

\(^77\) See Chapter 1, section 1.3.1.1.
My solution to the Problem of Matching is simply to offer an analysis of correspondence. In Chapter 3, I analyzed correspondence in terms of exemplification. Recall:

\[ (41) \text{‘}x\text{ corresponds to } y\text{’} =_{\text{def}} \forall p \text{ (if } p \text{ is a first-order part of } y, \text{ then } \exists q \text{ (} q \text{ is a proper part of } x \text{ and } p \text{ exemplifies } q)\); } \forall p \text{ (if } p \text{ is a proper part of } x, \text{ then } \exists q \text{ (} q \text{ is a proper part of } y \text{ and } q \text{ exemplifies } p)\); } x \text{ entails } <y \text{ exists}>; <y \text{ exists} \text{ entails } x', \text{ where} \]

\[ \text{‘}p \text{ is a first-order part of } y\text{’} =_{\text{def}} \text{‘}p \text{ is a proper part of } y, \text{ and } \neg \exists q \text{ (} p \text{ is a proper part of } q \text{ and } q \text{ is a proper part of } y)\’. \]

For example, <the purple pen sits on the table> corresponds to an arrangement consisting of a purple pen sitting on the table; it does so because the (first-order) parts of that arrangement exemplify the (proper) parts of that proposition. This account not only explains how a proposition manages to correspond to something very different from itself, it also explains why it should correspond to the particular arrangement that it does. Therefore, given our account of correspondence, it is no more (or less) mysterious that propositions should match up with certain arrangements than that properties should connect to their exemplifiers.

Someone might complain that it is mysterious how properties can connect to things by way of exemplification. But this is a general problem for everyone who thinks that things exemplify properties; the problem is not unique to CTT. Therefore, I will only offer a brief suggestion in response. I suggest that instances of properties be viewed in commonsense terms as examples of abstract kinds. For example, the red ball exemplifies redness by virtue of being an example of the abstract kind, Red Thing. I conclude that

\[ ^{78} \text{Thus, the account explains more than the following account: for every proposition } P, \text{ } P \text{ corresponds to something if and only if the property of } being such that P is true \text{ is exemplified.} \]
given the proposed analysis of correspondence, the Problem of Matching is only a problem if there is a problem with thinking that there can be examples of things. And I do not believe there is a problem with that.

4.4. The Problem of the One Big Fact

Recall that believers in CTT who accept the semantic and logical assumptions are committed to saying that every true proposition corresponds to one and the same thing. To review, the semantic assumption is this:

(42) Any two propositions correspond to the same fact if they are expressible by semantically equivalent sentences, where

(43) ‘P is semantically equivalent to Q’ =def ‘The only difference between P and Q is that in place of a definite description in Q, P has a definite description that refers to the same thing as the definite description in Q’.

And the logical assumption is this:

(44) All logically equivalent propositions correspond to the same fact.

Given these assumptions, any two propositions S and T correspond to the same thing by the following Slingshot Argument:

(45) S is logically equivalent to Q = <the philosopher x, such that (x is Peter van Inwagen and S is true), is Peter van Inwagen>.

(46) Q is semantically equivalent to R = <the philosopher x, such that (x is Peter van Inwagen and T is true), is Peter van Inwagen>.

(47) R is logically equivalent to T.

(48) Therefore, given the semantic and logical assumptions, S, Q, R, and T all correspond to the same thing.

I have already explained why I think we should reject the logical assumption. We should reject it because it is implausible that every pair of true, logically equivalent
propositions correspond to the same thing—for example, that every instance of <S> corresponds to the same thing as a negative proposition of the form, <not (not S or not S)>.

Nevertheless, it might still be the case that some types of logically equivalent propositions correspond to the same thing. In particular, it might still be the case that S and Q correspond to the same thing. In order to see if they do, I will need to take a look at what sort of arrangements Q and S might correspond to.

To begin, let us consider what proposition Q is. Q says that the thing that satisfies a certain description, D, is the thing that is Peter van Inwagen. Q doesn’t say that there is a thing that satisfies D. It does not, for example, say of Peter van Inwagen, that he is identical with something that satisfies D. If it said that, then Q would be guaranteed to be false if Peter van Inwagen were not to exist, assuming that Peter van Inwagen cannot be identical with something if he doesn’t exist. But Q is supposed to be equivalent to S, and S might well be a proposition that can be true even if Peter van Inwagen doesn’t exist (e.g., S might be <the cat is on the mat>). Therefore, it seems that Q is not a de re proposition about Peter van Inwagen. I suggest that what Q is saying, instead, is that whatever satisfies D also satisfies the description, ‘being Peter van Inwagen’, and vice versa. If that is correct, then we may treat Q as a conjunction of universal generalizations. Then, given the analysis of universal generalizations I suggested earlier, we may suppose that (12) corresponds to a sum of the following two arrangements: (i) an arrangement consisting of D bearing the implies relation to being Peter van Inwagen, and (ii) an arrangement consisting of being Peter van Inwagen bearing the implies relation to D.

What about S? Does it, too, correspond to the arrangement I just described? No. Whatever S is, it’s very different from Q. For example, S might be <Tibbles is on the
mat>, in which case S surely does not correspond to an arrangement containing the property of being Peter van Inwagen. Therefore, it should now be clear that S and Q aren’t forced to correspond to the same thing. Therefore, the Slingshot Argument fails.

4.5. Conclusion

I have attempted to defend the Correspondence Theory of Truth against the strongest objections (of the metaphysical variety) raised against it. My overall strategy was to introduce a metaphysical framework in which there are arrangements of both concrete and abstract things, including arrangements of individual essences (a.k.a. propositions), and then to show that this framework allows advocates of CTT to adequately answer the objections. In Chapter 1, I argued that CTT cannot be adequately defended on traditional metaphysical frameworks. A new framework was required, specifically one in which some facts (objects of correspondence) are concrete and others abstract. What this reveals is that if CTT is true, then a non-traditional metaphysical framework, one which includes both abstract and concrete facts, is correct. That’s an interesting and potentially far-reaching implication. Of course, I have not offered any reasons in this essay to think that CTT is true. That’s a project for another time.


